

# A Complete Bibliography of Publications in *IEEE Spectrum* (2010–2019)

Nelson H. F. Beebe  
University of Utah  
Department of Mathematics, 110 LCB  
155 S 1400 E RM 233  
Salt Lake City, UT 84112-0090  
USA

Tel: +1 801 581 5254  
FAX: +1 801 581 4148

E-mail: [beebe@math.utah.edu](mailto:beebe@math.utah.edu), [beebe@acm.org](mailto:beebe@acm.org),  
[beebe@computer.org](mailto:beebe@computer.org) (Internet)  
WWW URL: <http://www.math.utah.edu/~beebe/>

18 January 2020  
Version 1.00

## Title word cross-reference

<p><b>\$100</b> [And10a, And10i, Sch16a]. <b>\$10000</b> [Pat12a]. <b>\$2</b> [Per17b]. 2 [Hel12b]. 2× [KZ16]. 3 [And10b, And19c, Ano10a, Ano11a, Ano11-59, Cho18, Cou13b, Cou13a, Cou14h, Cou17a, Har10a, Har11, Joh19a, Kar10h, Koz18b, Pos12, Sal19, Sch14a, Str13g, Wal10]. <b>\$35</b> [Ano13-54, Ano19-65]. <b>\$4</b> [Nor19a]. 4 [Che10a]. <b>\$40</b> [Cas13a]. <b>\$5</b> [Ste11c]. 2 [Wag18]. · [Joh19a].</p> <p><b>-D</b> [And10b, Ano10a, Ano11a, Ano11-59, Cou13b, Cou13a, Cou14h, Har10a, Har11, Hel12b, Pos12, Sch14a, Str13g, Wal10].</p> <p><b>.africa</b> [Nor16d].</p>	<p><b>000-km</b> [Cou16c].</p> <p><b>1-ton</b> [Cou12b]. <b>1.8</b> [Nor19a]. <b>1.8-GW</b> [Nor19a]. <b>'10</b> [Ano10-38]. <b>100</b> [Kum16b]. <b>100-percent-renewable</b> [Fail7b]. <b>12</b> [And17e]. <b>15</b> [Fos11]. <b>16</b> [Jon14]. <b>1878</b> [Ano19-70, Smi18b]. <b>1880s</b> [Ano15-54]. <b>1888</b> [Ano18-36, Ano18-73, Smi18f]. <b>1908</b> [Ano18g]. <b>1918</b> [Ano18-66]. <b>1958</b> [Ano18-56, Ano18-67, Smi18d, Smi18e]. <b>1960s</b> [And18c]. <b>1B</b> [Per17d].</p> <p><b>2.0</b> [CC15]. <b>2016</b> [And16b]. <b>2019</b> [PA19]. <b>20th</b> [Has16e]. <b>20th-century</b> [Has16e]. <b>20W</b> [Kum16b]. <b>21st</b> [Wei12, BR14]. <b>2D</b> [Cho17a].</p> <p><b>30</b> [Ano15-41]. <b>31st</b> [Lau13a]. <b>3D</b></p>
--	---



[Bou17b, HT18, Per17e, Wal16a]. **3E** [Ano18-38].

**4** [Jon19a]. **4-Bit** [Cas18a]. **400-km** [Sta18]. **4G** [Plu12, Ble14a, Ble14b, Lau15a].

**5-nanometer** [Moo19a]. **555** [Cas14c]. **5G** [Ble13a, Ble14b, Ble18, Hig18a, Koz18c, Nor17e, You15a]. **5G-whatever** [Nor17e]. **5th** [Ano19-100].

**6581** [Cas19c].

**707** [Ano18-67].

**8** [Fos11]. **8-mm** [Wri16]. **800-km** [WK16]. **'80s** [Cas16e]. **841** [Har13b].

**9/11** [Has11a, Kin11c].

= [Sch17g].

**A-Bomb** [Gal19a]. **Aakash** [BDF12]. **ABB** [Ano19a]. **ABCs** [Mar18e, Mit11]. **Abecasis** [Kar13b]. **Aboard** [Ano14a, CS12]. **Abode** [Jon11b]. **above** [Sch14a]. **Absolute** [HA11]. **Absolutely** [Wal11a, Koz18e]. **absurd** [And19e, Fai19a]. **abuse** [MWL18, Pat18b]. **AC** [Ack16]. **academies** [MWL18]. **Academy** [Sch12e]. **accelerator** [Cal11d]. **access** [Fai16h, Gol10c]. **according** [Zac12e]. **accuracy** [Moo16a]. **accurate** [Ano14c, Moo17b]. **achieve** [Jon19b]. **Achilles** [Ano19d]. **Acoustic** [Cas18b]. **across** [Ano18-54]. **act** [And19a, Kus17, LM14, MJ13, O'D16, Pec15, Rus19]. **Acting** [Kar11a]. **action** [Dia15, Swe10a]. **actuators** [Gui19b]. **Ad** [Sch18a]. **Adam** [Ano19-108]. **adaptability** [Sam17]. **Add** [Cas19f, McM18]. **Addicted** [Per18a]. **addiction** [Dol18, Wal17b]. **Adding** [HT18]. **Addio** [Ano16a]. **ADHD** [Wip19]. **adjudication** [Cha18c]. **Admiring** [Ano11b]. **Adobe** [GG12a, GG12d].

**adopted** [Pat11e]. **adopter** [Hec16a]. **Adrian** [Str13a]. **advance** [Ble13d]. **advanced** [Cha18b, Jon14, Ble13d]. **advances** [Pat17]. **advantage** [Chi12b]. **adventure** [Ano16w, Per16a]. **Adventures** [Luc11a]. **Advertisement** [Ano11c, Ano14b, Ano16b, Ano17c, Ano17b, Ano17a, Ano17d, Ano17e, Ano17f, Ano17g, Ano17-50]. **advice** [And19e, Luc11b]. **adviser** [Ano17-59]. **Aeolus** [Fai18b]. **affordable** [Ack16i]. **Afghanistan** [Has11c, Zor11]. **Africa** [AS18, CBS17, Cot13, Dol15a, Har14a, JM16, Str19b, Zac13a, Zac13f, Zac15f]. **African** [Str19b]. **Africans** [Zac12a]. **After** [Ade10a, Ano19b, Ano11-40, Kin11c, Koz18c]. **Aftershoot** [GG12a]. **Ag** [Wal13a, Dol18]. **again** [Sch12a, Tes12, Wal13d, WH18]. **against** [Dya19, OCIR19, Pat14a]. **Age** [Ack16k, Kar10i, Lam15, Ano16-36, Ano18b, Cas14b, The13, Str16d, Swe12a, Tat18, And10l, Fai17h, Mcf10a, Kar10d]. **agencies** [Nor16b, Swe10b]. **agency** [Kum10b]. **agent** [Nor17b]. **agents** [Str19a]. **ages** [Ano15-84, Cas18g]. **Agile** [Mcf17a]. **agility** [Gui19a, RWK19]. **aging** [Pat11a]. **ago** [Shi19]. **Agrawal** [Str16g]. **Agriculture** [Pat16, And16a]. **Aha** [Ros18b]. **Ahead** [Tea10a, Boy11a, Fai10f, New14, Pat11h, Per19b, Sam17]. **Ahoy** [Hoc10]. **AI** [Ano17h, Ano18-54, Ano19d, Ano19c, Bou18c, Boy19b, Cas16n, Cas19n, CBS17, EW19, EWRA19, GHB18, GP18, Hsu17a, Hsu17b, Koz19a, Kum18b, Per19b, Rus19, Str13c, Str18b, Str18d, Str18e, Str19a, Str19d, Str19g, Zac15c]. **AI-enabled** [Koz19a]. **aid** [Wan17]. **Aided** [Boy19b]. **aids** [Ano15y]. **ails** [Zac17a]. **aims** [Cot13, Cou17d, Pat19b, Scu19, Shr19, Str19c, Per19a]. **Air** [Ano10-88, Ano16c, Ano17i, Cas16a, Obe10b, Sch17a, Ano10-87, Cas14l, Lau17, Ong19, WK16]. **Airbnb** [Per19d]. **Airbus** [Fra16]. **aircraft** [And19f]. **airline** [And19f]. **airports** [Scu17]. **Airships** [Hoc10]. **airspace** [Vos13].



**airwaves** [Til19]. **AIs** [Ano15-57, Str19g]. **Akili** [Str14a]. **alarm** [Jon10c]. **albatross** [TNS13]. **Albert** [And17a]. **Albright** [Swe10b]. **Algae** [Nor18a]. **algorithm** [Fai14a, Moo19e, Ste18]. **Algorithms** [And19a, And18c, Har12b]. **alien** [Cou12g]. **aliens** [Str18g]. **Alienware** [Tea10b]. **alike** [Fai18d]. **alive** [Cas16m]. **all-electric** [Voe19]. **All-natural** [Sav15]. **Allan** [Str12f]. **Allen** [Cho14a]. **Allies** [Pau19]. **Allison** [Ano19f, Ano18-40, Ano18-61, Ano18-71, Ano19-38, Ano19n, Ano19o, Ano19-63, Ano19-82, Ano19-85, Ano19-87, Ano19-98, Mar18d, Mar18e, Mar19a, Mar19b]. **allow** [Ano19a]. **Almost** [Luc10a, Cou16c, Spi11]. **alone** [Zac15f]. **also** [Ano19-102, BM19, Jon19a, Koz18b]. **Altair** [Cas18c]. **Alternative** [And15a, Lam15, Smi12]. **altmetrics** [Mcf12b]. **Always** [Rom15, Wal13a, Sas14, Smi11]. **Alzheimer** [Str14a]. **am** [Ano14-43]. **amazing** [Chr14]. **Amazingly** [Ano14c]. **Amazon** [Ano18c, Gib17a, Ros18b]. **Ambient** [Ano14d]. **Ambiguity** [Ano19d]. **America** [Swe10b, Fai12c, HM13, Joh14b]. **American** [Ano15a]. **amid** [Fai15e]. **Amit** [Str16g]. **among** [Dol19]. **amplifiers** [Sav10e]. **Anafi** [Ack18]. **Analog** [Ano13a, Cas15b, Dum16, Pau19, Tsi18, Zor16]. **analog-to-digital** [Pau19]. **Analogies** [Rom15]. **Analysis** [Nor16b, Fra12, Har15a]. **analytics** [Nor16c]. **Analyzing** [Ano15b]. **Ancient** [Dum18a, Cou16h]. **Andrew** [Per10a]. **Android** [Pro11]. **Anecdotal** [Ano16-56]. **Angle** [Ano17f, Sav11d]. **Anglissimo** [Ano17f]. **animal** [Ano17-55, Str17k]. **Animals** [Smi19, Dol19]. **anniversary** [Has18]. **annotated** [HM13]. **annual** [Cas16k, Ros13b]. **anodes** [Sch19f]. **anomaly** [TT12]. **Anouk** [Cas16b]. **answer** [Ano18d, Luc14a, Pec12a]. **answers** [Ano19-108]. **antenna** [Cha18a, HT18]. **antennas** [Cou16h, HT18]. **Anthropocene** [Ano15-46]. **anti** [Ble11a]. **anti-Facebook** [Ble11a]. **antidrone** [Sch19d]. **Antifragile** [Luc13b]. **Antigravity** [Gib14a]. **antimissiles** [Ros13c]. **Antineutrinos** [Pat15d]. **anxiety** [Ano13-40]. **any** [Zeh13]. **anything** [Ano19k, Nor17d, Rom10b, Sav11c]. **anytime** [Zac16d]. **anywhere** [Rom10b]. **Apartment** [Ano10b]. **Apes** [Sch12j]. **apex** [Cas15b]. **apocalypse** [Ano10b]. **Apollo** [Cas14e, Sch19e]. **Apollo-era** [Sch19e]. **App** [Cas13g, Ack19a, Fai13a, Kum19c, Str14j, Wal17b]. **Apple** [And12d, Cas16g, Per18a]. **applications** [Cal11b]. **apply** [Ano16-55]. **approach** [Cas15h, Lau19c, Mel18, Ste12b]. **approval** [Moo12b]. **approves** [Wal17b]. **apps** [Mac19, Plu11, Sch12j, GG12d]. **April** [Ano15-41]. **Arc** [Kum16b]. **Arcade** [Ano18f, Wal11c]. **archaeology** [Mar18a]. **architect** [Jon14]. **architectures** [Ano19-68]. **archive** [Cas18e]. **archives** [Per18d]. **archiving** [Str16k]. **Arctic** [Lev13c]. **Arducopter** [Wal12a]. **Arduino** [Alt18, Fri19]. **Arduino-compatible** [Alt18]. **Ardutouch** [Alt18]. **area** [Lau19b]. **argues** [Dya19]. **Argument** [Fai12a]. **Ari** [Nor16c]. **arith** [Cas18a]. **arith-matic** [Cas18a]. **ARM** [Ano19-100]. **Armageddon** [Luc10d]. **armchair** [Cas15c]. **armed** [Gui15b]. **Arms** [Pec13, Swe10b]. **arrays** [Fai10e]. **arrived** [Ack16d]. **arrives** [PZ13]. **art** [Cla16, Jon10d, Nor18b]. **Artifacts** [Cal11a, Smi19]. **artificial** [Ano10-40, GHB18, Has17a, Lev11b, Str16l, Str17e, Str17k, Str19c]. **artificial-intelligence** [Str19c]. **artist** [Cas18k]. **arts** [Pat14a]. **ASCII** [Koz19e, Cas16l]. **Ashok** [Rao15]. **Asimo** [Gui10h]. **ask** [Mac10b]. **asks** [Cas18f]. **assembly** [Cas17h, Cou12h]. **assets** [Nor17h]. **Assignment** [Ano11d]. **assistance** [Mag12]. **asteroids** [Mat12, Zac15b]. **Astra** [Sch18a].



**Astrobotic** [Pat19c]. **Astronaut** [Ano15-44]. **astronauts** [Ano19-42, Cas15c, Fou17]. **At-home** [Str17a]. **Atari** [Per16c]. **ATH** [Zor17d]. **ATH-IM70** [Zor17d]. **Atlantic** [Smi18a]. **atom** [Mir12]. **Atomic** [Ack16k, And18a, Cas15a, Lod14]. **atoms** [PL17]. **attach** [And18b]. **Attack** [Ano10-93, Jon10d]. **Attackers** [PHS16]. **attacks** [Fai16d]. **attention** [Cas13k, Cha11a, McF14d, Mcf10e, Wip19]. **auctions** [Ano18-44, Laz13]. **Audio** [Ano10w, Kum13a, Mar18a, Ano18-38, Geil3, Joh19a, Koz18a, Sch14c, Zor16, Zor17d, Ano18-38]. **audio-technica** [Zor17d]. **augment** [Cru19]. **Augmented** [Ano15-58, Ble13b, FL19, Kar13a, Per17c, Sch11a, Fur16, SL15]. **Augmented-reality** [Ble13b, Sch11a]. **August** [Ano18g]. **Australia** [Koz19b, Tuc13]. **authors** [Ano17-51, Cas16n]. **autism** [Kus11a]. **Auto** [Cha18b]. **autobahn** [Ros15c]. **automata** [Noc17]. **Automate** [Wal14a]. **Automated** [Lau19a, And19a, Har15a, Sta19a]. **automation** [Har15e]. **automotive** [Sam17, Voe13b]. **Autonomous** [Ano19g, Lev17, Wei11, Ano19c, Pat19c, Til19]. **autonomous-vehicle** [Ano19c]. **available** [Nor19b]. **avant** [Cas16e]. **avant-garde** [Cas16e]. **Avatar** [Gui10i]. **Averting** [Pat15a]. **avoid** [Har15d, Str16g]. **awakening** [Wal13d]. **Awards** [Ano16-72]. **away** [Obe12, Per10e, Sch10l, Str14k]. **axes** [Jon10g]. **axial** [ML19]. **axial-flux** [ML19].

**B** [Gal19a, Pat11d]. **B-School** [Pat11d]. **B4UFLY** [Ack19a]. **babies** [Ano19-89]. **Baby** [Lee15a, Ano15-38, Gui10e]. **Back** [Ano10-87, Ano10-88, Ano10u, Ano10-57, Ano10-56, Ano10-39, Ano10-66, Ano11d, Ano11b, Ano11e, Ano11r, Ano11a, Ano11-33, Ano11-34, Ano11-32, Ano11-37, Ano11-35, Ano11-45, Ano12v, Ano12-41, Ano12-43, Ano12-44, Ano12-45, Ano12-48, Ano12-49, Ano12-46, Ano13b, Ano13r, Ano13-32, Ano13-33, Ano13-35, Ano13-36, Ano13-37, Ano13-40, Ano13-42, Ano13-44, Ano13-50, Ano13-53, Ano14t, Ano14-35, Ano14-41, Ano14-40, Ano14-45, Ano14-46, Ano14-53, Ano14-61, Ano14-64, Ano14-62, Ano14-47, Ano14-81, Ano15-44, Ano15d, Ano15u, Ano15w, Ano15-47, Ano15-52, Ano15-62, Ano15-67, Ano15-65, Ano15-80, Ano15-85, Ano15-87, Ano16d, Ano16u, Ano16-38, Ano16-39, Ano16-43, Ano16-45, Ano16-52, Ano16-58, Ano16-56, Ano16-71, Ano16-46, Ano17j, Ano17l, Ano17-43, Ano17-42, Ano17-47, Ano17-45, Ano17-54, Ano17-55, Ano17-61, Ano17-62, Ano17-78, Ano17-57, Ano18f, Ano18d]. **Back** [Ano18-42, Ano18-43, Ano18-52, Ano18-65, Ano18-70, Ano18-79, Ano18-89, Ano18-77, Ano18-75, Ano18-96, Ano19b, Ano19-42, Ano19-46, Ano19-49, Ano19-67, Ano19-74, Ano19-75, Ano19-79, Ano19-97, Ano19-96, Ric11, Ano10-64, Ano11-43, Ano12-47, Ano15e, Ano15-51, Ano19-107, Cla12, Cot13, Cou13f, Cou14g, Fai15b, Fai19a, Lea12, PHS16, Sch17e, Sch18e, SZ19, Ube17]. **backbone** [Koz18c]. **backlash** [Zac11c]. **Backstory** [Ano12a, Ano12b, Ano12-63]. **backward** [Boy19a]. **Backwards** [KB10]. **bacteria** [Wal17a]. **Bad** [CC10a, Ano19h, Ano19-108, Lau17]. **bags** [Kum14d]. **Balancing** [MJ13]. **ball** [Gib14a, Jon11e, Ros13b]. **ballistic** [Ano16e]. **Balloon** [Tur11a, Koz19c]. **Balloon-borne** [Tur11a]. **Baltic** [Fai15c]. **Bamboo** [Cou15a]. **Bamboo-like** [Cou15a]. **ban** [Cas14d]. **bandages** [Cho19]. **bands** [Cas18e]. **Bandwidth** [WW13, Koz18b, KZ16]. **Bang** [Cou14b]. **bar** [PN15, Tes12]. **Bare** [GI19]. **Barefoot** [Str16b]. **Barometer** [Pop13]. **Barr** [Ano19-108]. **Barrier** [Boy19b, Ano14q]. **base** [Str19f, Cas19l, Pat19c]. **baseball** [CH19, Wal15c]. **based** [MWL18, Sch15d, Wal16a, Zha19]. **basic**



[Cas19a, Ros18b]. **bat** [Kum12b]. **Batteries** [Ano13c, Pat10a, Sav11a, LC18, Nor19d, Sam17, Sch19f, WK16, Zac16d]. **battery** [And19f, Cou12i, Fai14b, Gal18a, Kum12a, LSD18, Pat18a, Ros13a, WK16, Yan17, Zac16d]. **battery-powered** [And19f, Gal18a]. **Battle** [Ano13d, Ros17a]. **battles** [Fai16h]. **Battling** [SHS15]. **Batts** [Ano19j]. **Baxter** [Ano12-63]. **bazaar** [Ano11-37]. **be** [Ano17-46, Ano19a, Boy19a, Bur13, Cas15p, Cas18f, Dya19, Fai13a, Fai14b, Fai16a, Fai17a, Gar11, Gom16, GP18, Gui18, Has19, Hei18, Hua15, Hur19, Jon19b, Kin12b, Koz18f, Kum19c, LC18, LMY18, Nor19b, PW17, Per10e, PN15, Ros18d, Rus19, SH19, Smi18c, Str18e, SZ19, Wal16a, YEK19]. **beacons** [Sch13b]. **Beagle** [Mar19a]. **beams** [Ano15e, Koz18b]. **bean** [Per14b]. **bearing** [Ros18b]. **beast** [Fai17a]. **beat** [Pec16]. **beautiful** [And10l]. **beauty** [Ano19-38, Cas19g]. **Become** [Cop19, And17c, Nor17f]. **Becoming** [Car12]. **Bee** [PT16]. **Beehackers** [Wal11b]. **been** [Ano18-95, Cas19j, Noc17]. **Before** [Ack16a, Cho18, Sal19, SH19, Wal19, Zac15c]. **began** [Ano14-42, Sin19]. **beginning** [Zor12]. **behavior** [Str19a]. **Behind** [Bay15, Ano15-53, Cas19e, Pat12e, Per14c]. **being** [GP18]. **Belgian** [ML19]. **believe** [GP18]. **bell** [Gib14a, Lap13]. **bell-bottom** [Gib14a]. **belongs** [Sam17]. **belts** [Cho14a]. **benchmarking** [And11a]. **bending** [Cas16e]. **Beneath** [PBG11]. **Bertha** [DAB14]. **Bespoke** [Moo17a]. **Best** [Lee15b, And18c, Ano17-76, Hua19, Per18i, Ste10d, Str19c]. **bet** [Cor10a, Gom15, Rom12b]. **Beth** [Kar16b]. **bets** [Hel16a, Str11c]. **Better** [And11a, Ano14t, Che10b, PN15, Ack14, And14c, Ano18q, Ano18h, Cas17b, Han15, Har15a, HM15, Lod14, MG14, Per17h, Per17f, Pro11, Shi19, Wal11e, Zac16d, Zac17b]. **Betting** [Kus11b, Cas14n]. **between** [Fai16e]. **beverages** [And14c]. **beware** [Ack19a]. **Beyond** [And13a, Ble14c, Cas16c, Cas17c, Kav10, Swe12b, Koz19e, Mck14, Moo18e, SRGD13]. **Beyong** [Ano17j]. **BFFs** [And17c]. **Bicycle** [Pop13, Fai17f]. **bicyclist** [Sch18d]. **bid** [Lau19b]. **Big** [Ano10d, Ano10e, Ano10-89, Ano11s, Ano11-36, Ano11-39, Ano11-43, Ano11-63, Ano11-61, Ano12-42, Ano13a, Ano13d, Ano13e, Ano13c, Ano13-45, Ano13-55, Ano13-52, Ano14-44, Ano14-43, Ano14-50, Ano14-60, Ano14-65, Ano14-79, Ano15e, Ano15g, Ano15-45, Ano15-48, Ano15-82, Ano15-89, Ano16c, Ano16s, Ano16w, Ano16-41, Ano16-42, Ano16-47, Ano16-49, Ano16-55, Ano16-57, Ano17-37, Ano17-40, Ano17-38, Ano17-56, Ano17-60, Ano17-75, Ano17-79, Ano18-37, Ano18-39, Ano18-35, Ano18-53, Ano18-57, Ano18-63, Ano19h, BK10, Cas13b, Fai15a, Kei14, Lau17, Pee15, Str14b, Wal13a, And10f, And10k, Ano10b, Ano10c, Ano12c, Ano12d, Ano12e, Ano12f, Ano12g, Ano12h, Ano12w, Ano14-38, Ano15f, Ano16-44, Ano17i, Ano17k, Ano18-34, Ano18-60, Ano19i, Ano19-109, Cas14c, Dol18, Fai19b, Kum12a, Kum19b, Lev13c, Lin10, Moo19e, Nor16c]. **big** [Nor17c, Pat13a, Rom12b, San19a, Str15b, Tur10c, Whe15, Cou14b]. **big-data** [Nor16c]. **biggest** [Cou17b, Jon18, Rom11]. **bike** [Sch18d, Wal15a]. **billion** [Hel16a, Joh19d, Nor19a]. **billionaires** [SZ19]. **Bioacoustic** [Ham19b]. **bioball** [CH19]. **Biochip** [Str14c, Zha19]. **Biocomputer** [Wal17a]. **biodegradable** [Cho19]. **Biofoolish** [Sch10b]. **Biofuel** [Sch10c, Sre13]. **biological** [Lau12, LA11]. **biology** [Str16j]. **biomarkers** [Ble15]. **biomedical** [PWM18]. **biometric** [Lau18a, Moo16a]. **biometrics** [Gom15, Rom11]. **Bionic** [Ano13e, Car12, Ups11, DMS15, Som13]. **biosystems** [Pat15g]. **Bird's** [Ano10f, Mar19b]. **Bird's-Eye** [Ano10f].



**birth** [Pre14, Ste18, Too11, Wis15]. **Bit** [Cas18a]. **Bitcoin** [CP17, Fai17a, Pec13, Pec15, Pec16]. **Bitcoinages** [Ano15h]. **bite** [Moo19e, Str18a]. **bite-size** [Moo19e]. **bits** [Cas14l, Kus10, Moo19e, SHS15]. **Black** [Luc10b, Joh15, Kav10, Str18e]. **Blackouts** [Rom12a]. **blade** [Ano10-67]. **Blastoff** [Cas15c]. **bleached** [Boy19b]. **bleeding** [Str17g]. **block** [Cas19d]. **block** [Ano14-39]. **Blockchain** [Fai17a, Pec17a, Ano16f, Nor17d, Nor17f, Nor17h, Pec16, PM17, PW17]. **Blockchains** [Pec17b, Nor17h]. **Blood** [Str12a, AK19, Ano14q]. **blood-brain** [Ano14q]. **bloodhound** [Nat15]. **bloodstream** [Wal19]. **bloom** [Bir12]. **blossoming** [PM17]. **blowing** [Ano18d]. **Blue** [KS18, Ano19-92, Har19]. **Bluefin** [Smi17a]. **Bluegrass** [Kar10a]. **Blueprints** [Ano18i, Ano18-45, Ano18-93, Ano18-94, Dol18, Eis18, Gol18, Hei18, Koz18f, Kum18c, Nor18a, Ros18c, Ros18d, Smi18c, Wag18]. **blues** [Hec16a, Ros13a]. **Bluetooth** [Str13b]. **blur** [BR10]. **Board** [Tur10a, Ano18-38, Bug18]. **boards** [Cas16f]. **boat** [Ano17l, SGC19]. **Body** [Cas15d, Ari16, GP18, Per15a, RWK19]. **body-cam** [GP18]. **Boeing** [Ano18-67, Fou17, Fra16, Hsu18a, Ros13a, Smi16a]. **boil** [Sch12b]. **bold** [Cas14i]. **bolts** [Cas19i]. **Bomb** [Gal19a]. **bomber** [Cas19m]. **bombs** [MDM12]. **Bombshell** [Cas18d]. **Bonaverde** [And14c]. **bonded** [GI19]. **Books** [And11g, Ros10f, Swe12b, Wal11d, Wal12e, McF15b]. **Boom** [Ano15u, Cas14j, Lam13b, Pec18, Str16g]. **booms** [KM15]. **Boost** [Sac19, Koz18b, Sch19f]. **boots** [Ano15-80]. **Booze** [Bou17b]. **Booze-sniffing** [Bou17b]. **borked** [SHS15]. **borne** [Tur11a]. **boss** [Per17g]. **Boston** [Ano13-50, Ano16b, Gui19a]. **Bot** [Ano16s, Ano13d, Hsu18e, Kas16, SMK14, Str16e]. **Both** [Gom18, Ano18-54, Mac10c]. **bots** [Sch15b]. **bottleneck** [Jon10e, Moo16b, WW13]. **bottlenecks** [Cot13]. **bottom** [Gib14a, Str12h]. **bounds** [Gui19a]. **Bowers** [Zor17a]. **box** [Ano14-38, Ano15-89, Hin19, Kav10, Str18e]. **Brad** [Ano18c]. **Braden** [Kar10d]. **Braille** [And13c]. **Brain** [PTdRM17, Str14d, Ade10b, And12i, Ano12u, Ano14q, Fur12, Gom17, Has17a, Haw17, Hsu14, Kei14, KT17, Kum17, Mei17, Moo19f, Pat15c, RWK19, Ros17a, Rot17, Scu19, Str13i, Str17b, Str17h, Str17j, Str17k, Str17i, Str18c, Tha14, VC10, Wip19, Zor17b]. **brainpower** [EWRA19]. **Brainprint** [Moo16a]. **brass** [Ano16-44]. **Braving** [Ano10s]. **Brazil** [Sre11, Sre13]. **Bre** [Cou13b]. **Breaching** [Ano14q]. **Break** [Ano18q, Cho18, Gom17, Str17e]. **Breaking** [Dol18, Moo16b]. **breaks** [Moo19e, Sav11e]. **Breakthrough** [And10l, Pal12b]. **breakthroughs** [Moo19c]. **breathe** [Sav11a]. **Brew** [Ano14r]. **Brewbot** [And14c]. **brewing** [And14c]. **Brexit** [Joh19b, Joh19c]. **brick** [Per16a]. **brick-and-mortar** [Per16a]. **Bricks** [Ano19j, Kus10, Mat17]. **bridge** [Nor16a]. **Bridging** [JM16]. **brief** [Sur12]. **Briefs** [Jon10g, Obe10a]. **Bright** [BK10, Ano15e, Cor10c, Poo11]. **brights** [Ulr13b]. **Brillant** [And10l]. **bring** [Ack13a, Ano15e]. **bring-your-own-device** [Ack13a]. **Bringing** [MDM12, San19a, Bar17b, Str13g]. **brings** [EkK15]. **briny** [Fai16c]. **Britain** [Joh19b]. **brite** [Hei10]. **British** [Ano14s, Joh19c]. **Broadband** [Nor17a, JM16, Koz19b, Pal12b]. **broadcast** [Cas18e, Cla12]. **broiler** [Ano16e]. **broke** [Fai16g]. **broken** [Fai18f]. **broker** [Sch14f]. **Brooks** [Gui15b]. **brought** [Ano19-83, Lea12, Tat18]. **Browse** [NA14]. **Brussels** [Ack16g]. **Buck** [Bro14]. **Buddhas** [Ano15e]. **budget** [Cas16k]. **budgets**



[Cas19b]. **buffer** [Kum13e]. **bug** [Mel18].  
**Build** [Cop19, Fur13a, Gib17a, KB10,  
 Sch11b, Sch18c, Sch18b, Sch19b, Ack15a,  
 Alt18, And19c, Cas14c, Fur12, Gib14a,  
 Har18, Has17b, Per17f, Str16l]. **builder**  
 [Ano16s]. **Building** [Ano14t, Cas17b,  
 Cas18e, Cou17b, DMS15, Han15, Has16a,  
 LSD18, Nat15, Som13, Wall1c, GK18, PA19,  
 RWK19, Str14k, Ups10a]. **builds** [Jon14].  
**Built** [Ack17a, Ack19b, Wall17a]. **bulb**  
 [Stel1c]. **Bullet** [Kar11c]. **Bulletproofing**  
 [Twe14]. **bullets** [And12h]. **bumps** [Fai10f].  
**bunny** [Wei17]. **burgers** [Ros18b]. **burned**  
 [Per18d]. **Burning** [Kar16a, Kar18, SGC19].  
**bury** [Fai18e]. **Bus** [SDK10, Ano14-64].  
**business** [Ano11-60, Luc11b]. **bust**  
 [Fou19a, Nor17a]. **busts** [KM15]. **button**  
 [Sch16b]. **buttress** [Bou17c]. **buy**  
 [PW17, Zac16d]. **buzz** [Ano19-63, Str17h].  
**bye** [Cha11b, Str12e]. **bylines** [Zor14b].

**C** [Pep19a]. **C-suite** [Pep19a]. **cable**  
 [And10i]. **cache** [And13b]. **caged** [PL17].  
**calculator** [Tat18]. **calculators**  
 [Ano18-96, Tat18]. **Calculus** [Dum10].  
**California** [Gal18a]. **call**  
 [Ano15-46, Hut19, Str16i]. **called**  
 [Ano17-75]. **caller** [MB19]. **Calling** [GK18].  
**calls** [And11d, Nor16g]. **cam** [GP18].  
**camcorder** [Sin19]. **Camera**  
 [Ano15u, Sch10d, Ano18-73, Ano19-74,  
 Har11, Luc15c, Sch13e, Tal16, Wri16].  
**Cameras** [Ano18r, And10f, Boy19b, Cas19f,  
 Cho18, Lin10]. **Cameron** [Kar11b].  
**Camino** [Ano16-38]. **Campbell** [Kar10i].  
**Campus** [Him11a]. **cams** [Ari16]. **Can**  
 [Ack16b, Ack19a, And11b, Ano12x, Ano16t,  
 Ano19k, Cal10, Cas19a, Cho14a, Cou16a,  
 EWRA19, Gom17, Goo16, Gra15, GP18,  
 Has17a, Haw17, KT17, Kro16, Kum17,  
 Mei17, Rot17, Str12b, Str13c, Str17j, Str17k,  
 Zac17a, Zor17b, Adi19, And18b, And19c,  
 Ano14b, Ano18-54, BM19, Boy19b, Bro18,  
 CS11, Cas18f, Cho18, CTM19, Dun11,

Fai15d, GHB18, Has16a, Hsu17b, Joh19d,  
 Koz18c, LC18, Lin10, Nor19d, Pec17a,  
 Pep19b, PHS16, Ros14b, Sto18, Str18b,  
 Str18e, Zac13f, Zac17d, KT17]. **Canal**  
 [SF13, Sta18]. **cancer**  
 [Bar19, Naa16, Nor16c, Wal19]. **Candidates**  
 [Ano13-43]. **Canon** [Cas19f]. **can't**  
 [Bur13, PZ15]. **capacitance** [PT16].  
**capacitor** [EkK15]. **capital** [Zac16d].  
**capitalists** [Cas14n]. **Captain** [Per13a].  
**Capture** [Wri16, Wip19]. **captures**  
 [Sch13e]. **Car** [Ano15-67, Fai13a, Kar11c,  
 Ano12v, Ano19-46, CL14, Car18, DW17,  
 Fai17g, Gom16, Goo16, Nat15, Ros14b,  
 Ros17a, UF13, Voe10]. **Carbon**  
 [Ano16u, Cou15b, McF10f, SWM16, UF13,  
 And15b, Ano14-56, Ano19l, Cal10, Eis18,  
 Fai16b, Hel18, Moo19c, Sch19a, Smi18c].  
**carbon-eating** [Eis18]. **carbon-free**  
 [Sch19a]. **carbon-nanotube** [Moo19c].  
**Carbonated** [Ano10t]. **card** [Svi12]. **care**  
 [Ack16e, Ack17e, GHB18, Has15a, Shr19,  
 Str18e, Str19d]. **Carebots** [Kar10b]. **career**  
 [Cha13a, Pep19a, Sac19]. **Careers**  
 [Ano11-42, Ano16-54, Bar15, Bar17a, Bla12,  
 Cas15g, Joh19b, Joh19c, Kar13b, Kar16b,  
 Lev13a, Nor16c, Nor17b, Nor17f, Pat10d,  
 Pat10e, Pat11a, Pat11d, Pat11g, Pat12b,  
 Pat12c, Pat12f, Pat13c, Pep17, Pep19a,  
 Per19c, Per19d, Rao15, Ano19c]. **Cargo**  
 [Hsu18b]. **Caroline** [Nor16c]. **carried**  
 [Jon19a]. **Carroll** [Fea10]. **Cars**  
 [Ano15v, Cha18b, Ulr11, Ulr15, Voe11b,  
 Ack16i, Ano19c, Bro17f, CNB18, Fai17f,  
 Gre16, Has17c, Luc14c, RS10, Ros19a,  
 Smi16b, Ton18, Ulr12a, Ulr13a, Ulr14,  
 Ulr16b, Ulr17, Ulr18, Ulr19a, Ulr19b].  
**cartography** [McF14c]. **cartoonist**  
 [And19e]. **case** [Dya19, Str12g]. **cases**  
 [Str18d]. **cash** [Bro12, Pec12a, Zor12].  
**Cashing** [Wol12]. **Casio** [Cas16e]. **Casting**  
 [Ano11r]. **Cat** [Ade10b, Ano10u, Ano14b].  
**Cat-brain** [Ade10b]. **catalog** [GK18].  
**catch** [And19a, Sav12c]. **Catching**



[Ano15w, Tha14]. **causing** [Mac19]. **caveman** [Pat10b]. **CeBIT** [Cas16c]. **Celebrating** [Has18, Zac16a]. **celebration** [Luc12c]. **cell** [Eis18, Nam17]. **cello** [Kum15, Zor17c]. **Cellphone** [Mis10, And13c]. **cellphones** [Lin10, Smi17f]. **cells** [Ble13h, Gal18a, Kum19a, LC18, Sam17, Wal19]. **cellular** [Per13a]. **cellulose** [Ste13a]. **Censorship** [Ano10v]. **censuses** [And13d]. **Center** [Ano11s, CFKP17, DEGG19, Mar12]. **centers** [Lun18, Sta19b]. **Centimeter** [Boy14]. **Centimeter-scale** [Boy14]. **Century** [And10l, Lau13a, Ano19l, Has16e, Shi19, Wei12, BR14]. **CEO** [Ano19-100]. **cerebral** [And10g]. **certification** [Per19a]. **certified** [Tur10a]. **CES** [Cas16d, Cas18l]. **chair** [Ack16l]. **challenge** [Cas19a, Fra16, GA15, Jon18, Pos12, Til19]. **challengers** [Cou11a]. **challenges** [Lev18]. **Chambard** [Cas14i]. **champs** [Jon11a]. **change** [Cas17i, Pec17b, Per16b, Str19b, Jon19a]. **Chang'e-4** [Jon19a]. **Changing** [Ano15x, Ste13b, AK19, Joh19b, Str18h]. **channel** [Kum13b, Ste13b]. **channels** [Ye16]. **chaos** [Mac19]. **charge** [Ack16n, Ano18c, Pat11h, Ulr12b, Voe19]. **Chargers** [Ano12-50]. **Charging** [ASC13, Ano19m, Boy19a, Fai10f, Kum16b, Voe19]. **chart** [Cas13l, Pec17a]. **chasing** [Str19g]. **Cheap** [PP15, Moo17a, Sch12h]. **cheaper** [Ano14-63, Har15d, Sch10m, Sch17b]. **check** [Ano12w, Per15a]. **Checkerred** [Swe11]. **chemicals** [Moo18f]. **chemistry** [Bou17a]. **Chenyang** [Ano13-47]. **Cheok** [Str13a]. **Chernobyl** [Ano11-58]. **chess** [Ano19o]. **Chet** [Cou14a]. **Chevy** [Voe11a]. **chic** [Per12b]. **Chickens** [Ano10-93, Str19g]. **chief** [Ano19c, Per18b]. **Child** [Kar11b, Che12a]. **Children** [Has15b, Wip19]. **chill** [Pat15e]. **chillers** [Sta19b]. **chimp** [Str19c]. **Chimps** [Dol19]. **China** [Ano16v, Boy19a, Cal11c, Cal11b, Cal12, Can11, Cas15e, CP17, Cou16b, Cou16c, Fai11a, Fai16h, Fai16g, Fai19b, Fou18, Fra16, Jon18, Jon19a, Jon19b, Moo11b, Str11b, Str12g, Str13d, SF13, Str13f]. **Chinese** [Jon19b, Str12c]. **Chip** [Ano17b, Cas19c, Jon11a, KZ16, Ack17f, Ano18-54, Bou17c, Bou18a, Boy18, Cal11d, Cas17c, Cou14c, Cou14h, Cou15a, Cou17e, Gom17, KW15, Loh16, MWW15, Moo19b, Moo19e, Per17f, Sav10b, Sch13e, Sre11, Ste17, Str14h]. **chip-scale** [Cal11d, Ste17]. **chip-wiring** [Cou14c]. **chiplets** [GI19]. **Chipmakers** [Cor10a]. **Chips** [Pec11, Cou14b, Gor12a, Moo17a, Moo18a, Pat15e, Sav16]. **Choose** [Ano16w]. **Chop** [VT13]. **Christiansen** [Zor14f]. **Christmas** [Ano12-39]. **Chrome** [Ade10c]. **chute** [Ano14-65]. **cigarettes** [Pec18]. **Circuit** [Cas16e, Bug18, Cas16f, Cas19d, Fra12]. **Circuit-bending** [Cas16e]. **circuitous** [Kar10d]. **circuitry** [Kar10d]. **Circuits** [Jon11a, Ste13a, Cas15p, Mel18]. **Cisco** [Cas14b, Str11c]. **citing** [Hsu18c]. **City** [BK10, McF14b, Mcf14a, Per18i, Str11c]. **Civility** [Swe11]. **Clad** [Sch13a]. **claimed** [Nor16d]. **Clamorous** [McF13d]. **Classic** [Cas16f, Cas16m]. **Claude** [Zac16a]. **Cleaner** [Fai12b]. **cleaning** [Nor16g]. **cleared** [Pat16]. **Clickphobia** [Luc11d]. **Climate** [Swe11, Per16b, Swe10a]. **clinics** [CBS17]. **clock** [Lod14, Sch18c, Wall11d]. **clocks** [And18a]. **Cloning** [Luc14b]. **Close** [Cou15c, DEGG19, Lau19c]. **Closer** [Alb13a, Hel16b, Tho15]. **closet** [Gei16, Kar11g]. **Cloud** [And10h, Kel16, Ano12-62, Ano14-56, BM14, CS11, Cas14g, Hsu19, Luc17a, Lun18, Sta19b, Tea10c, GG12d]. **cloud-gaming** [Hsu19]. **clouds** [Chi10a, Gui11a, Per16b]. **Co** [Lau19c, Wag18]. **Co-OPS** [Lau19c]. **coal** [Cas13f, Fai12b, Fai13c, Fai15g, Fai16h, Ano19-72]. **Cobalt** [Bou18a, Cou14c]. **cockpit** [TIU14]. **Code**



[Cas15f, And11f, Ano15b, Ano15x, Ano15-61, Cas17i, Cas19e, Cas19h, Ker17, Kin12b]. **Coded** [Ano19n]. **coders** [Per19c]. **coding** [Cas17h]. **coexistence** [Ble13e]. **Coffee** [Ano12x]. **Coffee-Can** [Ano12x]. **Cognitive** [Ano18r, Liu11, Zac16b, Lio13]. **Cohen** [Kar11b]. **coils** [Bug18]. **coin** [Bro17a]. **coin-op** [Bro17a]. **Cold** [Ano19o, Ano17-47, HA11, Koz18e]. **collaboration** [Der14]. **Collection** [Gro13]. **College** [Ano16-52, Pat12a]. **collide** [Ano19-104]. **Collider** [Ano15-60]. **colliding** [And19a]. **Color** [Ano10w]. **Colorado** [Twe13]. **colors** [Loh16]. **Comac** [Fra16]. **combat** [Jon14]. **combined** [Sav13b]. **combines** [EWRA19]. **combustion** [Smi16e]. **Come** [Sch11e, Ano18-55, Cru19, Per16c, Str16f, Ube17, Voe19]. **Comeback** [Ups10b, Cas16f, Cou12c, Fail3e]. **Comedy** [Kar10g]. **Comes** [Alb13a, Cas19n, CBS17, Koz18c, Nor17e, Sch12b, Sta19a, Str14b, Str16j]. **Comic** [Kar10j]. **Comic-Con** [Kar10j]. **coming** [Ano19-100, Boy14, Hec18a, Kum14b, Lew14b, Lio13, McF11d, Moo17b, Nor19a, SZ19, Str19e]. **commemorates** [Cas18k]. **commercial** [Kum19c, Moo19c, Nor19b]. **communicate** [Scul19]. **communicating** [Jon18]. **Communication** [Wil16, Dol19, Rom12d]. **communications** [Koz19d, Nor16h, Shr19]. **communicative** [Ton18]. **Community** [Smi18d]. **Companies** [And10e, Hsu18c, Jon19b, Str16k]. **companions** [Hut19]. **company** [Ack18, And17b, Ano18c, Ano18-54, Bar17b, Fou19b, Nor19b, Per16c, Per18f]. **compass** [Jon10a]. **compatible** [Alt18, Boy19a, Fri19]. **compete** [Ano14-48]. **complete** [Cou16c]. **completed** [Ano18g]. **complex** [Cho17a, Wal16a, Zac12c]. **complexities** [Luc18a, Zac17c]. **Complexity** [Luc17b, Ano11r, Cas19k]. **complicated** [Gal19a]. **component** [Bre18]. **components** [Cas19g, Koz18b]. **Compound** [Ano14u]. **compression** [Ano18-52, PWM18]. **comput** [Buf18]. **compute** [Gui10b, Moo18b, PZ15]. **Computer** [Ano19-65, Bro15, And16a, And18a, Ano10u, Ano19-68, Bou17c, Bro14, Bro17a, Cas16m, Cou17e, GP18, KW15, Luc10c, Mcf14a, Mei17, Mor19, Sch15d, Shi19, Tsi18]. **Computerized** [Ano15y]. **computers** [Bou17e, Bou17a, Bre18, Dya19, GI19, Mor19]. **Computing** [AH18, Lam10, Mar18b, Moo12a, Mor14, Pat10b, SWM16, Sri10, And17c, And19d, Ano14c, Ano14-56, Ano19-100, Ano19-102, Bro17e, Cal11a, Cas18a, Cou15g, Cou17d, Dya19, EWRA19, Fra17, Gom18, Hel14, Hsu13, Kel16, McF13d, Per18f, PN15, SCG13, SH19]. **COMSOL** [Ano16b, Ano17c]. **Con** [Kar10j]. **conceives** [Ano18-56]. **concerns** [Hsu18c]. **conductive** [Ano14r]. **conductor** [Sta19b]. **Conference** [Ano16b, Jon11a]. **Conflict** [Str11d]. **Confusion** [Joh19b]. **connect** [Fit18]. **Connecting** [Ano13r, Sar10]. **Connection** [Ano17-50, Koz19d, MD17, Tyl16]. **conqueror** [Ade10c]. **Consciously** [Mor14]. **consciousness** [KT17]. **consequences** [Cha19]. **conservation** [MB12]. **Consider** [Cou12a]. **conspiracy** [Kra14]. **constructed** [Dya19, Koz18b]. **construction** [Ano19-40]. **Consumer** [Cas13c, Ack18, Hua19, MB12]. **consumers** [Ros18b]. **Consumption** [McF12d]. **consumption** [Cas13b]. **contacts** [Ano10-37]. **container** [Ano19-44]. **Contemplating** [Luc10c]. **content** [O'D16]. **content-delivery** [O'D16]. **Contents** [Ano10x, Ano12y, Ano12z, Ano13s, Ano18s, Ano18t, Ano18u, Ano19p, Ano19q, Ano19r, Ano19s, Ano19t, Ano19u, Ano19v, Ano19w, Ano19x, Ano19y, Ano10-80, Ano10-81, Ano10-82, Ano10-83, Ano10-84, Ano10-70, Ano10-71, Ano10-72, Ano10-73, Ano10-74, Ano10-75, Ano10-76, Ano10-77, Ano10-78, Ano10-79, Ano11-46, Ano11-47, Ano11-48, Ano11-49, Ano11-50, Ano11-51, Ano11-52,



Ano11-53, Ano11-54, Ano11-55, Ano11-56, Ano11-57, Ano12-52, Ano12-53, Ano12-54, Ano12-55, Ano12-56, Ano12-57, Ano12-58, Ano12-59, Ano12-60, Ano12-61, Ano13-56, Ano13-57, Ano13-58, Ano13-59, Ano13-60, Ano13-61, Ano13-62, Ano13-63, Ano13-64, Ano13-65, Ano13-66, Ano14-66, Ano14-67, Ano14-68, Ano14-69, Ano14-70, Ano14-71, Ano14-72, Ano14-73, Ano14-74, Ano14-75, Ano14-76, Ano14-77, Ano15-68, Ano15-69, Ano15-70, Ano15-71, Ano15-72, Ano15-73, Ano15-74, Ano15-75, Ano15-76, Ano15-77, Ano15-78]. **contents** [Ano15-79, Ano16-59, Ano16-60, Ano16-61, Ano16-62, Ano16-63, Ano16-64, Ano16-65, Ano16-66, Ano16-67, Ano16-68, Ano16-69, Ano16-70, Ano17-63, Ano17-64, Ano17-65, Ano17-66, Ano17-67, Ano17-68, Ano17-69, Ano17-70, Ano17-71, Ano17-72, Ano17-73, Ano17-74, Ano18-80, Ano18-81, Ano18-82, Ano18-83, Ano18-84, Ano18-85, Ano18-86, Ano18-87, Ano18-88, Ano19-94, Ano19-95]. **Contest** [Per17b, Ano19-106, Hua19, Str19c]. **continent** [Nor16d]. **continue** [Cha19]. **continuing** [Cou13g]. **Contributors** [Ano10y, Ano10z, Ano10-27, Ano10-28, Ano10-29, Ano10-30, Ano10-31, Ano10-32, Ano10-33, Ano10-34, Ano10-35, Ano10-36, Ano11t, Ano11u, Ano11v, Ano11w, Ano11x, Ano11y, Ano11z, Ano11-27, Ano11-28, Ano11-29, Ano11-30, Ano11-31, Ano12-27, Ano12-28, Ano12-29, Ano12-30, Ano12-31, Ano12-32, Ano12-33, Ano12-34, Ano12-35, Ano12-36, Ano12-37, Ano12-38, Ano13t, Ano13u, Ano13v, Ano13w, Ano13x, Ano13y, Ano13z, Ano13-27, Ano13-28, Ano13-29, Ano13-30, Ano13-31, Ano14v, Ano14w, Ano14x, Ano14y, Ano14z, Ano14-27, Ano14-28, Ano14-29, Ano14-30, Ano14-31, Ano14-32, Ano14-33, Ano15z, Ano15-27, Ano15-28, Ano15-29, Ano15-30, Ano15-31, Ano15-32, Ano15-33, Ano15-34, Ano15-35, Ano15-36, Ano15-37, Ano16x, Ano16y, Ano16z, Ano16-27, Ano16-28, Ano16-29, Ano16-30, Ano16-31, Ano16-32, Ano16-33, Ano16-34, Ano16-35, Ano17y, Ano17z, Ano17-27, Ano17-28, Ano17-29, Ano17-30, Ano17-31, Ano17-32]. **Contributors** [Ano17-33, Ano17-34, Ano17-35, Ano17-36, Ano18-32, Ano18-33, Ano18v, Ano18w, Ano18x, Ano18y, Ano18z, Ano18-27, Ano18-28, Ano18-29, Ano18-30, Ano18-31, Ano19z, Ano19-27, Ano19-28, Ano19-29, Ano19-30, Ano19-31, Ano19-32, Ano19-33, Ano19-34, Ano19-35, Ano19-36, Ano19-37]. **control** [Aud15, Fai16a, Gol10b, Sch17a, Sch17f, Tyl16, Swe11]. **controlled** [Gib17a, Sta19a]. **controller** [Cas13d, Spi16]. **controls** [Fai18f]. **controversy** [Sch12b, Sch13a]. **converter** [Pau19]. **converters** [Zor16]. **Cool** [Ano17-37, Ack16a, Ack16l, Sta16b, Str11e]. **cooler** [Sta19b]. **coolest** [GK18]. **cooling** [Lam14]. **cools** [Sta19b]. **cooperative** [Lau19c]. **Coping** [Cas15g]. **copper** [Cal10]. **copy** [Gom17, Gui10d, Has17a, Haw17, KT17, Kum17, McF10f, Mei17, Rot17, Str17j, Str17k, Zor17b]. **coral** [Boy19b]. **cord** [Wal13d]. **Cordless** [Ano18-34]. **cords** [Ano17-58]. **core** [Pat10f, Str16f]. **Corel** [GG12a]. **corner** [Ano16-58]. **Coronary** [Dum10]. **cortex** [And10g]. **Cortisol** [Per18h]. **cosmos** [Cou16h, Str16f]. **cost** [And12c, Ano12-39, Ano14-56, Cha18b, Has11c, Per15c, Spi16]. **Costly** [Cha19]. **costs** [Cha18b]. **cotton** [Sav12a]. **Could** [Gui10h, JL16, Pre11, Sch12a, And19a, And19d, Ano14-63, Ano18-90, Ano19a, Ano19-102, Bou17c, Bou18a, Cho18, Cho19, Cou14c, Cou16i, Fai13a, Fai17g, Gui16, Har19, Hua15, Kum19c, McM18, Moo19f, Nor17c, Pat15d, PWM18, PN15, Str17a, Str18d, Ton18, Uhl19a, Wal13d, YEK19, Zha19]. **couldn't** [Cas15p]. **count** [Cal10]. **Counterfeit** [Gor12a, BM19]. **counterfeiting** [Bro12]. **Countering** [BM19]. **counterintuitive** [Luc17a]. **Counters** [PT16]. **country**



[Ano16u, Pat11e]. **countrywide** [Shr19]. **counts** [Mir12, Wal19]. **course** [Fra12]. **Courses** [Ano13-39]. **Cover** [Ano12k, Ano12l, Ano12m, Ano12n, Ano13m, Ano13n, Ano13o, Ano14p, Ano15p, Ano15q, Ano15r, Ano15s, Ano15t, Ano16m, Ano16n, Ano16r, Ano10l, Ano10m, Ano10n, Ano10o, Ano10p, Ano10q, Ano10r, Ano11f, Ano11g, Ano11h, Ano11i, Ano11j, Ano11k, Ano11l, Ano11m, Ano11n, Ano11o, Ano11p, Ano11q, Ano12o, Ano12p, Ano12q, Ano12r, Ano12s, Ano12t, Ano13f, Ano13g, Ano13h, Ano13i, Ano13j, Ano13k, Ano13l, Ano13p, Ano13q, Ano14e, Ano14f, Ano14g, Ano14h, Ano14i, Ano14j, Ano14k, Ano14l, Ano14m, Ano14n, Ano14o, Ano15i, Ano15j, Ano15k, Ano15l, Ano15m, Ano15n, Ano15o, Ano16g, Ano16h, Ano16o, Ano16p, Ano16q, Ano16i, Ano16j, Ano16k, Ano16l, Ano17m, Ano17n, Ano17o, Ano17p, Ano17q, Ano17r, Ano17s]. **cover** [Ano17t, Ano17u, Ano17v, Ano17w, Ano17x, Ano18-46, Ano18-47, Ano18-48, Ano18-49, Ano18-50, Ano18j, Ano18k, Ano18l, Ano18m, Ano18n, Ano18o, Ano18p, Ano19-51, Ano19-52, Ano19-53, Ano19-54, Ano19-55, Ano19-56, Ano19-57, Ano19-58, Ano19-59, Ano19-60, Ano19-61, Ano19-62]. **coverage** [Lau19b]. **Covering** [Has11b]. **cows** [Smi17c]. **cozy** [Hut19]. **Cozying** [Luc17b]. **CPU** [Moo19c]. **CPUs** [KK11]. **crack** [Lea12, Str18e]. **Cracking** [Str11d]. **Crash** [Fail9c, CL14]. **crash-proof** [CL14]. **craze** [Str17i]. **Crazy** [Zor17c]. **create** [Leu18, San19b]. **created** [Bou17d, GG12c, Sch14c]. **creates** [Ano14-49, HT18, Str18g]. **creating** [And18c, Bre18, Pau19, Per18d]. **creative** [KF14, GG12d]. **creator** [Ano19-65]. **creep** [Tea11]. **crew** [Lea12, Hsu18a]. **crime** [Mis10, Sri10]. **criminal** [Per17h]. **crisis** [Cha13b, Has16f]. **CRISPR** [Wal16b]. **criticized** [Fou19a]. **Crop** [Lau19a]. **Crossing** [Smi18a]. **crow** [Str19c]. **crowd** [Das11, Luc14a]. **Crowdfunding** [Der15a]. **crowdsourcing** [Nor16e]. **crowned** [Har12b]. **Cruel** [Ano19-38]. **Cruise** [Ano19c]. **Crunch** [Cou16d]. **cryptoanarchist** [Pec12a]. **cryptography** [And19d, Lam13a]. **Crystal** [Ste10a, Kum19c, Ros13b]. **crystals** [Cou15a]. **CS101** [Sil17b]. **CT** [Sav13b]. **CubeSat** [Cha18a]. **Culinary** [Ano13-32]. **culture** [Mcf10d, Nor16e]. **Cup** [HM13]. **Curating** [Ano16-36]. **Curb** [Hig18a, Cho18]. **cure** [Zac17a]. **Curiosity** [Luc12a, Cou12b]. **curious** [Ros18a]. **currencies** [Bir12]. **currency** [Cou12j, Pec16]. **current** [SGC19]. **Curse** [Ano15-55]. **curve** [Zac15e]. **custom** [Cas13d]. **Customers** [Fail7b]. **cut** [Bro17f, Fail9a]. **cuteness** [Ano19n]. **cuts** [Wal12b]. **Cyber** [Luc10d, Per17h]. **cyber-criminal** [Per17h]. **cyberattacks** [Cha11a]. **Cybersecurity** [Ano16-73, Fail6a, AP18, Pat14a]. **Cyberspace** [Pat14a]. **cyberwar** [Jon12, Raul13]. **Cyborgs** [Str16c]. **cycle** [Ups10e]. **cycling** [Sch15d, Smi17d]. **Cypher** [Nor16g]. **CyPhy** [Pat15f].

**D** [Swe10b, And10b, And19c, Ano10a, Ano11a, Ano11-59, Cho18, Cou13b, Cou13a, Cou14h, Cou17a, Har10a, Har11, Hel12b, Hsu13, Joh19a, Kar10h, Koz18b, Pos12, Sal19, Sch14a, Str13g, Wal10]. **D-printed** [Koz18b]. **D-Wave** [Hsu13]. **D2** [Zor17c]. **DACs** [Zor16]. **Daiichi** [Zor14c]. **daily** [Cru19]. **damage** [Ham19a]. **dams** [Pat19b]. **Dance** [Ano17-38, Ano18-35]. **danger** [Cor10b]. **danger-sensing** [Cor10b]. **dangerously** [Hsu13]. **dangers** [SL15]. **dark** [Ano16f, Cou14e, MA17, Pat14a, Ste10b, Str14e]. **dark-horse** [Ste10b]. **Darkness** [And10l]. **darling** [LMY18]. **DARPA** [Til19, Ano19-106, GA15, Scu19, Zac12e]. **dashes** [Sch10k]. **Data** [Ami11, And10e, And12a, And12c, And12d,



And12b, Ano10-91, Ano19-39, Bru12, Cal11b, Cas13c, Cas13f, Cas13h, Cas13i, Cas13k, Cas14d, Cas14p, Che10c, Ele13, Kin11e, Kin12a, Kin12b, Lau13a, Mac10a, Mit11, Pat11b, Pat11e, Pat11h, Pat13b, Pre11, Swe12a, Tim17, WW13, And12g, Ano10t, Ano12-40, Ano13a, Ano18-52, Ano19-64, Ano19-97, Che11a, CFKP17, DeT11, Hec18b, Hsu18f, Koz18c, Lau17, Lun18, Mac10b, McF11d, McF11e, Moo11b, Nor16c, Pat13a, PWM18, Pep19b, Per19a, PZ15, Pri15, Rad14, Raf19, SL13, Sch15a, Scu18, Sta19b, Str14b, Str15b, Str16k, Wal13c, Zac16e].

**Dataflow** [And14a, Cas13n, Cas14b, Cas14h, Cas14f, Cas14j, Cas14k, Cas14n, Cas14a, Cas14m].

**datasexual** [Mcf13b]. **datasheet** [Cas17c].

**date** [Ano19-47]. **Dating** [Ano10-69].

**David** [And16b]. **Dawn** [Lea12, Rot17].

**Day** [Ade10d, Mcf10b, And13d, Ano11-33, Ano13-33, Ano13-54, Ano14-39, Kar10c, Kum14a, Zha19]. **daze** [Sch10i]. **Dead** [Ano15-58, Ano17-39, Cas14h, CTM19, Luc10c, Mcf10b, Mel18]. **deadly** [Moo18f, Str17b]. **Death** [Mcf16b, Zac15a, Svi12, Joh19d]. **Deaths** [Ano16-37]. **Debugging** [Cas15f]. **debut** [Gal18a, Nor17c, Ros19a, Scu17]. **decade** [Cot13, Ros11a, RRJ<sup>+</sup>11]. **decade-long** [Cot13]. **decades** [Pat19b]. **December** [Ano18-36]. **decentralization** [Ano17-49]. **decide** [Ack19a, GA16]. **deck** [Cor10a].

**Declarations** [Jon12]. **declares** [Pec12b].

**deco** [Glo15]. **Decoding** [Ano15-38].

**Deconstructing** [Ano19-40]. **decorations** [YY17]. **Deep** [Ano15-39, Luc18a, Pee15, Wan17, Ano18-54, Boul7e, Cou14g, Fai16c, Hsu16b, KW19, LE16, Str11b, Wei10].

**Deep-dish** [Pee15]. **deep-learning** [KW19].

**Deeper** [Sch17b]. **deepest** [Str14e].

**Defense** [Pat14a, Kus11a, Sch11d]. **defined** [Cas13a, Cas13m, Cas19c]. **Defining** [Per19a]. **definitely** [Koz18e]. **Deflate** [Ano10-63]. **Deflecting** [Mat12]. **Defying** [Sch15a]. **degree** [Pat12a, Pat13a]. **degrees** [Pat14a]. **delayed** [Boy12]. **delicate** [Ack17g]. **delight** [Cas19k]. **delights** [Fea10]. **deliver** [Cou16a, Lau19c]. **delivering** [Koz19b]. **delivers** [Ano18-41, Boy18, Ham19a, Pag17]. **delivery** [Ack17c, AS18, AK19, Ano14-62, Gal18a, O'D16, Ros18b, Sch17a]. **delivery-** [Ack17c]. **deluge** [McF11d, SL13, Sch15a]. **demand** [Ble12a, Per19c]. **demands** [Koz18c]. **demonstrated** [Moo12a, Str19a]. **demos** [And19b]. **denser** [LSD18]. **departments** [GP18]. **depends** [Fou19a, Gom16, Mac10b]. **deploy** [Raf19]. **deployed** [Str18e]. **deposed** [Ano19-72]. **depression** [Moo12b, Str17a, Str17h]. **Deserve** [Ano14-51, Ano14-34]. **deserves** [Ano19-46]. **design** [Kar11e, Moo19b, Per17h, Per17f, Shi19]. **designing** [Luc16a]. **designs** [Ano13-44, Cas14i, Cas16c, Sch14c]. **desktop** [And17b]. **Despite** [Fou19b, Fur16]. **destination** [Cas13n]. **destruction** [KF14]. **detect** [Fai16a]. **detecting** [BM19]. **detection** [Kum19c]. **detective** [Han15]. **Detector** [Lew15, Sch14b, Str14e]. **detectors** [Kum19c]. **detects** [Per18h, Wal19]. **Deus** [Cas18f]. **develop** [Scu19]. **developer** [Ano19-86, Nor17f]. **developers** [Koz19e, Nor16e]. **device** [Ack13a, And17b, Ano19-100, HM14, Jon10g, McM18, PN15, Sav10e]. **devices** [Raf19, San19a, Scu19, Smi16b, YEK19]. **devilishly** [Wal16a]. **Diabetes** [Ros15a, Cos15]. **diagnosing** [Str14a]. **Diagnostic** [Ano10-37, Ano15y]. **diagram** [Str13i]. **diagrams** [Cas19d]. **dial** [Dri16, Zac12a]. **dial-up** [Dri16]. **dialect** [MA17]. **diamonds** [Che10b]. **Diego** [Per18g]. **Diesel** [Smi17b, SGC19]. **diesel-burning** [SGC19]. **diet** [Ano16a]. **different** [Sch10a]. **digi** [Kum14a]. **digi-key** [Kum14a]. **Digital** [Alt18, And11c, Ano19-41, Kar11d, Man17,



TC11, Tor17, Ano16-36, Cou12k, Der15b, Gib15b, Kar11f, Lau19c, Mal14, Mor19, Nor16a, Pau19, Pep16b, Str18c, Tat18, Wri16, YY17, Zor16, Cas16g]. **digital-to-analog** [Zor16]. **digitally** [Dum18a]. **digitizer** [Her17]. **dilemma** [Ack13a, Hel18, Mul14, Mcf11a]. **Dim** [Cor10c, Kin11b]. **dimension** [Ano10-59, Cou14f]. **diminishing** [Ste11b]. **Diodes** [Sav11b]. **Diplomacy** [Sch18a]. **DiPrima** [Cas19i]. **Dirac** [Koz18a]. **direct** [SGC19]. **direct-current** [SGC19]. **direction** [Sch10k]. **Directions** [Moo18a, Swe12c]. **directly** [Scu19]. **director** [Ano19-68]. **disabilities** [Bar17a]. **disability** [Str14f]. **disappear** [Sav14c]. **Disappearance** [And10l]. **disasters** [Chi12b]. **Discharged** [Ros10a]. **disco** [Gib14a]. **disco-ball** [Gib14a]. **disconnect** [Fai15c]. **disease** [Han15]. **diseased** [CTM19]. **dish** [Pee15]. **disk** [Ano19-88, Nor19c]. **disorders** [Str18c]. **display** [Cas19m, Cop19, DM19, Moo18d, O'D16, Per10e, Rom10b, Zor13a]. **display-** [Per10e]. **displays** [Ano14-63, Hei10, Lew14b, Moo19d, Pat12e, Pool2a, Pool3, Pool4]. **Disposable** [Fit18, Luc12b]. **dissects** [Cas19g]. **distance** [Cou13e, Lam13a, Sav14a, Sch10l]. **distant** [Ano19-64, Lun18]. **distinguish** [Boy19b, Bro18]. **distraction** [Luc10e, Luc17e]. **distress** [Str16i]. **distributed** [Lam13b]. **distributed-energy** [Lam13b]. **distribution** [Ano19a]. **diva** [Kar11d]. **dive** [Fai18d]. **Diver** [Ano18-37]. **diverse** [Smi19]. **diversity** [Pag17]. **dives** [Str11b]. **divide** [JM16, Lau19c, Nor16a]. **divination** [Tim17]. **Divine** [Kar10d]. **Diving** [Ano15-39, Ano19-42]. **divinity** [Kar10d]. **DIY** [Ano12-41, Cos15, Gib16, Her17, Lew15, Sch10f, Sch10e, Sch14b, Sch14c, Sch16b, Spi16, Tur11b, Tur12, Wall16a, YY17]. **Diypro** [Ano18-38]. **DNA** [Oss15, SL13, Str16d, Str16k]. **Do** [Ano11-60, Ano19-43, Has17b, Kar10o, Pec17a, Ano14-47, Ano18-54, Ano19-108, Ano19-102, Bro17b, Hsu19, Hur19, Mal14, Rom10b, Zor13a]. **do-anything** [Rom10b]. **do-it-all** [Ano18-54, Zor13a]. **Doc** [Str16e]. **doctor** [Smi11, Str18h, Zha19]. **doctor-engineers** [Str18h]. **doctors** [Ano17h]. **Documentaries** [Cas17d, Cas18d, Cas18j]. **documents** [Ano13r]. **Does** [Ack16c, Gui10b, Per18f, Ano19-64, Fai17a, Joh19d]. **doesn't** [Pag17]. **Dog** [Lee15b, Ano13e]. **Dog's** [Ano18-39]. **Dog's-Eye** [Ano18-39]. **dolphin** [Str16i]. **Dolphins** [Dol19]. **domain** [Nor16d]. **dominate** [Poo14]. **Donald** [Zor14f]. **Done** [Ano14-34]. **Don't** [Ano18-67, Sch16c, Smi15b, Smi15c, Smi15a, Smi15d, Smi16a, Smi16b, Smi16c, Smi16d, Smi16e, Smi16f, Smi16g, Smi17a, Smi17b, Smi17c, Smi17d, Smi17e, Smi17f, Smi17g, Smi17h, Smi18a, Smi18e, Smi18f]. **doodad** [Ano19-98]. **doom** [O'D16, Pat15a]. **door** [Gui11b, Hel14]. **dose** [Sav10d]. **dots** [LMY18, Naa16, Pat12e, Poo14, Sar10]. **doubles** [Fai11a, Sre13]. **Doubt** [Swe11]. **Doug** [Ano19-102]. **Down** [Str11d, Ano10v, Ano19a, Cal10, Fai11a, Gui14a, Hsu18c, MB19, PN15, Sch19d, Sre13]. **Download** [Ano14-34]. **Downsizing** [Fai10a]. **DQSM** [Zor17c]. **Dr.** [Ack17b, Kei15]. **Dragon** [Hsu18a]. **dragonfly** [Ano18-78, Zor16]. **DRAM** [Chi10b, Sav10f]. **draw** [Cas13f]. **Drawing** [Sav11b]. **Dream** [APS<sup>+</sup>11, Ano10-38, Ano13-34, Ano17j, Ble13b, Ble13g, Kum13a, PPC<sup>+</sup>12, Per13b, Sch13d, SSBP14, Bro13, Bro16]. **dreams** [Boy12, Ros10b]. **Dreamworker** [Per10b]. **dress** [Cas16b]. **Drilling** [Swe12c]. **drive** [Boy19a, Luc14c, Nor19c, Ros14b]. **Driven** [Luc10e]. **driver** [Cor10b, Ste11a]. **driverless** [Luc14c]. **drivers** [Ano17-40, Ros19b]. **Driving**



[CNB18, Wei12, Ack16h, Ack16i, Ano19c, Fai17f, Gom16, Goo16, Gre16, Has17c, Ros19a, Scu17, Ulr19b]. **Droid** [Ano17-40, Ano17-56, Sch11c]. **Drone** [Ack19a, Ano14-35, Ham19a, Ack18, Ano18-37, Dia15, Dum17, Ros18b, Sch15a, Sch15c, Sch17c]. **Drones** [Ack17c, Boy19b, AS18, AK19, Cas16c, Hsu18b, Pat16, Pat18a, Pat19c, Ros14a, Ros18b, Sch14e, Sch17a, Sch17d, Sch17g, Sch19d]. **drought** [Kum10a, Pat12d]. **drove** [Ano19-65]. **drugs** [BM19, Zha19]. **dry** [Ano18-53, Sin10, Twe13]. **Dubai** [Nor17d]. **Dudley** [Bro14]. **due** [Ano14-41, Ano16-43, Fai16a]. **dummies** [And11e]. **Dunking** [CFKP17]. **Dunlop** [Ano18-36]. **Duo** [Cas13e]. **dust** [Str16a]. **dust-size** [Str16a]. **Dying** [Hua15]. **Dynamic** [Joh19a, Cas16b]. **Dynamics** [Gui19a]. **dynamak** [Ano14-36].

**e-books** [McF15b]. **e-cigarettes** [Pec18]. **e-ink** [Cop19]. **E-mail** [And12b, Sch16c]. **E-Waste** [Ano10-91]. **E-word** [Zac11a]. **E.T.** [Sch16a]. **each** [Cho18]. **ear** [Ano14-80]. **Early** [And18a, Raf19, Ano15y, Hec16a, Mor19, Wall15a]. **early-adopter** [Hec16a]. **early-warning** [Wall15a]. **Earning** [Sch17c]. **Earphone** [Zor17d, Zor17c]. **Ears** [Joh19a, Cru19]. **earth** [Jon10e, CC15, Fai17h, Koz19d, Kum14b, LJ10, Mck14, Ube17]. **Earth-imaging** [Kum14b]. **earthquake** [PP15]. **Earthquakes** [Fai11b]. **ease** [Cou14c]. **easier** [Moo19f]. **East** [AS18, Lev13d, Ups10c]. **Easy** [Fai10b, Alt18, And11g, Cou17a, Sch18d, Zac11d]. **easy-to-build** [Alt18]. **eating** [Eis18]. **eats** [Ade10f]. **Ebola** [Bro15]. **Echo** [Gib17a]. **Economic** [Smi18d]. **Economics** [Lev18]. **Eddie** [Joh19a]. **Edgar** [Ano14-55]. **edge** [Cas19n, Cou13b]. **edges** [Fur16]. **Edison** [Fai11c, Mar18c]. **Edition** [And10c, Kum16b]. **educated** [Ano18e].

**Education** [And17e, Cas19d, Fra12, Gal19a, Kar10k, Pat11c, Pat12a, Sch13d, Sil17b, Ube17, Str18h]. **educator** [Per13b]. **EE** [Luc18a]. **EEG** [Wip19]. **EEs** [Has18, Pat14b]. **efficacy** [Ano19-76]. **efficiency** [Lev12b, New14, Smi16e, Ste12b]. **efficiently** [Sto18]. **effort** [Boy19a]. **egg** [FLP16]. **eggs** [Jon19a]. **Egypt** [Nor19a]. **eight** [Pat19b]. **Einstein** [And17a, Kin11a]. **Election** [Ano13-43]. **elections** [Har12c]. **Electric** [Ano16c, Ano17-41, Ano19-44, Car18, Cas15d, Cho19, KS18, Ong19, Str17b, Voe10, Voe13a, And19f, Bye17, DW17, Fai10f, ML19, Neu16, Sch12c, Smi18f, Sto18, Str17a, SGC19, Tra13, Ulr19a, Ulr19b, Voe19]. **Electric-car** [Voe10]. **electric-motor** [Ulr19a]. **electric-vehicle** [Fai10f]. **electrical** [Fai14a, Luc16c, Wall13d]. **Electricity** [Ano18-40, Ano16-51, Ano17-44, Boy13, Cho19, Fai16e, Fai17a, Fai17d, Koz18f, Str16b]. **electrification** [Fai18c, Fai19c]. **Electrifying** [Lau13b, Wall13d]. **electrodes** [Moo19f]. **Electromagnetic** [Moo12b, Rad14]. **electromagnetism** [Ano14-41]. **electromechanical** [Cas19k]. **Electronic** [Cas19d, Gro13, Sav12a, Sch17d, Bou17b, Cas19h, Cho19, Has16e, Raf19, Ste16b]. **Electronics** [Sav11c, ST10, Ano14-59, Cas13c, Cou17g, Hua19, KM15, Luc12b, Luc13c, Luc18b, Sav15, VT13]. **Electrons** [Sch10l]. **elegist** [Cas18k]. **Elektro** [Mar18d]. **Elements** [Ano13-35]. **Elephants** [Dol19, Ano16-37]. **elf** [Cas15m]. **eligibility** [Tes12]. **embedded** [Cas17i]. **Embodied** [Smi16b]. **emerge** [Per18f]. **emergencies** [Fai18f]. **emergency** [Sch16b]. **emergent** [Str19a]. **emission** [Gal18a, Gal19c]. **emotion** [Voe13a]. **emotions** [Adi19]. **empire** [Cla12]. **Employee** [Gui17]. **employers** [Per19c]. **employment** [Ano19-107]. **enabled** [Koz19a]. **enables** [Fai18f]. **encounter** [Cou15c]. **Encounters**



[Ano17-78, DEGG19]. **encrypted** [Sch16c]. **End** [And10d, BR10, Bro12, Cou13c, Luc16b, Moo19a, Sav10b, Str14f, Zor12]. **endangered** [Str16i]. **Ending** [Has16b]. **ends** [Ano12-44, Ano18-66, Cho18]. **Endures** [Ano15-52]. **enduring** [Cha19]. **enemy** [Ros15a]. **Energy** [Ano19-45, Fai11b, KF14, PW17, Poo15, Swe10a, And19b, Ano10-90, Ano14s, Ano14-50, Cou14g, EkK15, Fai12c, Fai19a, Gal19b, Has16b, Koz18e, Kum14d, Lam13b, Lau12, Lev11a, Nuw15, Pat11h, Sil17a, Smi12, Smi15d, Smi16b, Str13f]. **Engaging** [Ano15-40]. **Engelbart** [Ano19-102]. **engine** [Car18, Har19, Mit11, Per15a, Smi17b]. **Engineer** [Kar10e, Pat10c, Cas19i, Kar16b, Sch14c, Str17j]. **Engineered** [Zac15a]. **Engineering** [Ano10-61, Ano16-39, Kar10f, Pet10, Str19b, UVG<sup>+</sup>15, Zac14, Ano17-59, Ano19-107, Bla12, Cou17a, Has11c, Has16e, Kar11h, Kum18a, Luc16c, MWL18, Pat11g, Pat18b, Zor10, Zor11]. **Engineers** [Ano16-72, Ano19c, Bar17a, Bru12, EW19, Hsu18c, Kar10g, Moo19b, Pep19b, Ack19b, Ano18e, Ano19e, Ano19-108, Bar15, Bar16a, Bar16b, Bla11, Bre15, Cas17d, Cas18d, Cas18j, Der14, Kar10k, Luc16a, Moo18e, Pat11f, Per10g, Per18i, Str16i, Str18h, Zac17d]. **English** [Mcf12c]. **enhancement** [Zac16b]. **enhancer** [Ano17-38]. **Enigma** [Cas15o]. **enlightened** [Kum16a]. **enormous** [Fai17a]. **Enough** [Ano10-85, SCG13, Smi17a, SZ19]. **Enrichment** [Ups10b]. **ensure** [Hsu17a]. **entanglements** [Das11]. **Enter** [Ano14-36, And19f]. **enters** [Str16d]. **enthusiasm** [Hig18a]. **Enthusiasts** [Cas18e, Cas19k, Cas16m]. **enticing** [Wal16a]. **entire** [Cas18e]. **Entitlement** [Kar10i]. **Enviro** [Bar17b]. **ephemeral** [Luc10f]. **Epidemic** [Kar10i]. **equal** [GG12c]. **Equations** [Rau14]. **equipment** [Adi19]. **ER4** [Zor17d]. **Era** [Lam10, Ano12-44, RZ11, Sch19e]. **Eric** [Cas19g]. **Erico** [Ano12-63]. **Errata** [Ano15-41]. **Error** [Lam10]. **Error-Tolerant** [Lam10]. **Escaping** [Mcf17b]. **eschew** [Cas16l]. **essentials** [Tur11b]. **etched** [EkK15]. **eternity** [Kus11d]. **Ethereum** [Fai19a]. **ethical** [Hsu18c]. **ethics** [Ano19-104, Goo16, Has16d]. **Ettore** [And10l]. **etymotic** [Zor17d]. **EU** [Joh19d]. **Europe** [Ano14-37, Ano18-41, Bla10, Cas13h, Fai12c, Fai14a, Fai14b, Hel16a, Hsu18f, Pat12c]. **European** [Smi18d]. **EUV** [Ade10d, Moo18c]. **EuXFEL** [Ano18-41]. **EV** [Boy19a, Fai13a]. **Even** [Ano19-46, Car18, Has19, Lod14]. **Ever** [Tho15, Fai17a, Jon11e, Luc16c, Per10e]. **ever-evolving** [Luc16c]. **Every** [Str13h, Cas16k, Eis16, Fai19c, Jon10a, Koz18c, Mir12, Pep19a, Per18f, Str18a, Gui17]. **everyday** [Fit18, Ulr19b]. **everyone** [Zac17b]. **Everything** [Wal13a, Har12d, Zac13c, Ano18-51, Hig18a, Hig18b, Hig18c, Hig18d]. **everywhere** [Ano14d, Hsu19, Laz15, Pep18a]. **Evidence** [Ano16-56]. **Evil** [Swe10b]. **evolution** [Sin19]. **evolutionary** [YEK19]. **evolving** [Luc16c]. **EVs** [ML19]. **Ex** [Ack19b, Cas18f]. **Ex-NASA** [Ack19b]. **Exabytes** [MGKT18]. **exascale** [Cou16b, Hsu15, Hsu16d]. **exceeded** [Ano17-77]. **excellence** [Ano15-63]. **exceptionalism** [Ano15a]. **exclusive** [Gui19a]. **excuses** [Cas14o]. **Executes** [Jon10b]. **Exist** [Kar10o]. **Exit** [Ker17]. **exoplanet** [Sch14b]. **expect** [Sch16c]. **expectancy** [Ano19-73]. **Expectations** [Kin11b]. **expected** [Moo19d]. **expecting** [Hsu18a]. **experience** [Joh19a]. **experiments** [Pat19b]. **experts** [You15a, Joh19d]. **expiration** [Ano19-47]. **Explaining** [Ste11b]. **explains** [Ano19-65]. **exploding** [Cas15e, Nor19d]. **exploiting** [MB19]. **exploits** [And17b]. **Explore** [Cas18a]. **explores** [And18a]. **Exploring**



[Zor14a]. **explosives** [BM19, Sav14a].  
**extend** [Gal18a]. **Extraordinary** [And10].  
**Extraterrestrial** [Jon11b]. **Extreme** [Sch10e]. **extremely** [Pal12a]. **Eye** [Ano10f, Ano18-39, Ano18-42, Ano14-35, Ble13f, CTM19, Sch10f, Sch12d]. **Eyes** [Ble10a, Cal11e, CTM19, Ano18-64, Bar17c, Har10a, Lau19a, Lev13c, PBEC15, Sal19, Tal16]. **ezPixel** [Bur18].

**F** [Jon14]. **F-16** [Jon14]. **FAA** [Ack19a]. **fab** [Cas18h, Wall11a]. **fabric** [GI19, Moo19b]. **fabrication** [Bar19]. **fabs** [Moo18c]. **fabulous** [Per10a]. **Face** [Str17c, Ack13b, Ano19-92, Hsu16a, Zor10]. **Facebook** [Ble11a, Kar10i, Nor19b, Per11a, Per18c, SH11]. **faces** [Bla11, Cas19e, Fai11h, Nor18c, Twe13]. **Facing** [Str19b]. **fact** [Ano14-81]. **factory** [Ano18-51, Ano19-81, Str19e]. **fading** [Cas18k]. **Fail** [Rom15, Ano15y, Laz13, Nor19d]. **failed** [And19d]. **fails** [Ano15-88, Chi10b]. **failure** [Ano16-51, Voe13b]. **failures** [Ano12-62, Cha19]. **fair** [Cas18d]. **Fake** [Str17d, Cha18c, Str18b]. **fall** [Ano14-59, JL16]. **fallout** [Cas13l]. **Fame** [Ano17b, Cas19c, Hua19]. **familiar** [Str16g]. **family** [Gui15a]. **Famine** [Laz10]. **Famous** [Zor14b, Bro17d]. **fancy** [Cas16l]. **fans** [Sta19b]. **Fantastic** [Plu12, Cou15e]. **Fantasy** [Ano11-32]. **far** [Ano19-100, Fai17c, Jon18, Jon19a, Kum19c, Lun18, Nor15, Sch10l, Str18b]. **far-off** [Lun18]. **Fare** [Ano17i]. **fares** [Kin11c]. **Fares** [Ano19-48]. **Farm** [Ano14-38, Gol13, Ano18-43, Kus11b, Sch19a, Sta19a]. **Farming** [And10d, Ble13c]. **farms** [Gol18]. **fascinating** [Cas18d]. **fashion** [Cas16b]. **Fast** [Rom11, Smi17a, Zac17e, Ano17-41, Car18, Gui10g, NK14, Voe19, WH11, Sch12i]. **fast-charge** [Voe19]. **Faster** [Kar11c, Plu11, Bou18c, Cho19, Gui10g, OT11, Sch12i]. **Fastest** [LJ10, Ano10-95, Gui10g, Nat15, Per12b]. **fastest-growing** [Per12b]. **fat** [Ack16c]. **fates** [Cas13n]. **Father** [Tsi18, Per11b]. **Favorite** [Hua19, Cas16n, Zor14d]. **FBI** [Har15a, Nor17b]. **FDA** [Wal17b]. **Fear** [Rad14]. **feature** [Koz18b]. **features** [Cas19f, Cha18b]. **February** [Smi18b]. **feed** [Zac13f]. **Feeding** [Fai17a]. **Feel** [Ano16-40, Ano14b, Ano16-73]. **felt** [Cas14a]. **female** [Bar16b]. **fence** [Cha11b, KB10]. **Ferroelectric** [Bou18b]. **fertilizer** [Dol18]. **festival** [And12j, Cas16m]. **Fetching** [Obe10a]. **fever** [Ade10b]. **few** [Bro18, Moo18a]. **Fewer** [Cou14d, Hsu17a, Koz19b, Nor16f]. **Fi** [Adi19, Ano15-40, Lau19c, Loh16, Tat18, Ano14-48, Cas17e, Cou12k, Hig18d, Ngo16, Sch17g]. **Fiber** [Nor15, Alb14, Koz19b, Lev18]. **fiber-optic** [Koz19b]. **fiction** [Ano14-81, Ano19-79]. **fideliy** [Koz18a]. **FIEFDOMS** [Fai14a]. **Field** [Ano10-64, Luc16c, Rom12d]. **fields** [Str17b]. **fight** [Bar19, Him11b, Nor16d, Nor19c, Per16b, PHS16, Str16i, Str17b, Str18d, WGB17]. **Fighting** [Ano17-42, Cas13f, Naa16]. **files** [Smi18f]. **filig** [Ano14-52]. **Film** [Kar10h, And12j, Her17, Wri16]. **filters** [JL16]. **final** [Cas13g, YEK19]. **Finally** [Ack16d, Moo19c, Kum16c, Kum19b, Moo18c, Pat16]. **Financial** [Nor17h]. **find** [Ano19-106, Pat19c, Str19c]. **Finding** [Hsu16a, TT12]. **finds** [MWL18, SGC19]. **fine** [Pal12a, Tyl16]. **fingerprints** [Cou14b, Str18c]. **Finish** [Cou17c]. **fire** [LC18]. **Firefighters** [Cho14b]. **fires** [Cas14e]. **firing** [Ano19-107]. **firms** [Dum13, Joh19c, Nor17h]. **firmware** [Cas19f]. **First** [And12h, Ano18g, Ano18-67, And13c, And19f, Ano19-107, Bre18, Cal11a, Fou19b, Has18, Joh14c, Jon19b, Sal19, Shi16, Smi18b, Smi18e, Ups10c, Ano18-66]. **fish** [Ano18-65, Sta19a]. **Fishing** [Hsu18d]. **Fisker** [Voe13b]. **fission** [Fai16f, Swe13].



**fission-fusion** [Swe13]. **fit** [Lin10]. **fits** [Ano19-81]. **Five** [Tra13]. **Fix** [Wal11d, Cha18b, HT18, Ngo16, WGB17]. **Fixing** [Ano18-44, Fai11d, Kum12b, Swe11]. **fizzes** [Fai16f]. **Flag** [Ano14-53]. **Flagship** [Joh19d]. **flames** [Har13d]. **Flash** [Chi12a, Cou11a]. **flat** [Cou12c, Cou13d]. **flavor** [Boy11b, Ste16b]. **flavors** [Ano18-54]. **Fleming** [Swe11]. **flexible** [Bur13, Cas15h, Cou17g, WH11]. **flies** [Ong19]. **flight** [Ack17h, AS18, Ano11-36, Ano11-39, Ano16-47, Kot16, TNS13]. **flip** [Bre18]. **flip-flop** [Bre18]. **float** [Fai17c]. **floating** [Mak11, Pat19b]. **Flood** [Rom12c]. **floor** [Ano18-43, Ano19a]. **floors** [Str19e]. **flop** [Bre18]. **flops** [Kog11]. **Flow** [Cas13f, Cas13h, Cas13i, Cas14p, Ele13, Pat13b, WW13, Cas13c, Cas13k, Cas14d, Ext18, Pat10a]. **flown** [Ham19a]. **flux** [ML19]. **Fly** [Bye17, Neu16, Ros17b, Ack19a, Cas17i, Cou13i, Cre12, Fou17, Jon19a, Sto18]. **Flybot** [Ano11-33]. **flyer** [Ano16-41]. **Flying** [Ade10e, Ano11-34, Ano19-49, Nam17, Sch15b, Smi16c, Obe10b, Smi15b, Has19]. **Flywheels** [Fai11e, Fai15b]. **fMRI** [And12i]. **focuses** [Fai12a]. **Focusing** [Har12d]. **fog** [Wei11]. **Fold** [Nor17c]. **Fold-up** [Nor17c]. **folds** [Fai11g]. **Foldscape** [And18b]. **Follow** [Ano17-43, Moo15]. **Food** [Ano18-45, Him11b, Mcf13a, Smi16d, Zac13a, Ack16m, And16a, Cas13b, Hei18, Per11c]. **fools** [Boy11b]. **Footfalls** [And11d]. **force** [Ano16-40, Has16e, Obe10b]. **Ford** [Ano18g, Joh14a, Jon10b]. **Fore** [Ano13-36]. **forecast** [Chi10a]. **Forecasting** [And14a, McC15]. **forecasts** [HM15]. **foreign** [Str16g]. **foreseeable** [Dya19]. **forest** [Str14b]. **forests** [Fai12c]. **Forever** [Chi12a, Ade10h]. **Forget** [Ano18-63, Sch13b, Ano13-42, Per17c, Sal19, Ano11-60]. **Forget-me-not** [Sch13b]. **forgets** [KW15]. **forgetting** [Lau15b]. **Forging** [Nor18c].

**forgotten** [Joh14b, Ram15]. **Form** [Ano19-50, Ano17-77]. **Formfitting** [Ano10-40]. **formula** [Lau13b, Lau15d, NK14, Per10a]. **Forney** [And16b]. **Forum** [Ano10-41, Ano10-42, Ano10-43, Ano10-44, Ano10-45, Ano10-46, Ano10-47, Ano10-48, Ano10-49, Ano10-50]. **Forward** [Ack16g, Ack16b, Ack16c, Ack16d, Ack16f, Ack16j, Ack16k, Ack17a, Ack17b, Ack17e, Ack17g, Ack17h, Ano17-53, Ano17-77, Ano18h, Ano18-40, Ano18-61, Ano18-71, Ano19-38, Ano19n, Ano19o, Ano19-63, Ano19-82, Ano19-85, Ano19-87, Ano19-98, Bro17a, Bro17e, Bro17b, Mar18a, Mar18c, Mar18d, Mar18f, Mar19a, Mar19b, Ano17-58, Bro17d, Mar18e]. **Forward<sub>by</sub>**[Ano19f]. **found**[Sav13b]. **founder**[Cou13b, Kus17]. **Fo** [Kar10d, Che10a]. **G** [And16b]. **Gabriele** [Cas18f]. **gadget** [Gib17a, San19b]. **gadgeteer** [Hod13]. **Gadgetry** [Sch10g]. **Gadgets** [Ano12-50, Hua19]. **gaining** [Lau19b]. **Gains** [Ano10-65]. **gallium** [Ste10d]. **galloping** [Ano19-70]. **gambit** [Ano18-68, Gui15b]. **gamble** [Cal11c]. **Game** [Ano16-42, Kar11e, Kar12a, AK19, Cas13d, Cas19a, EWRA19, Pro15, Sin19, Str14a, Wal11c, LE16]. **game-friendly** [Sin19]. **gamechangers** [Cas18d]. **Gamer** [Cas13e]. **games** [Ano10a, Ano19-78, Cas15c, Cas17h, Hsu19, Kus11b, Liu11, Str18f]. **Gaming** [Ano10-53, Fri19, Hsu19]. **gamp** [Ano19-63]. **Ganges** [Str16i]. **gap** [Cas15f, Lev12b, Nor19d, Str16b]. **garage** [Cas18h, Eis16]. **garde** [Cas16e]. **garden** [Fea10]. **Gardner** [Fea10]. **gas** [Ano19-93, Fai16e, Lam13b, Smi15a]. **gasoline** [Car18]. **Gasping** [Vos13]. **Gateway** [Fou19a]. **gauge** [Adi19]. **gave** [Pau19]. **gear** [Nor19b]. **Geek** [And10d, And11f, And11i, And12i, And12j, And18c, Ano17-39, Cas16f,



Cas16d, Cas16m, Cas17g, Cas17h, Cas18e, Cas18i, Cas18k, Cas19c, Cas19e, Cas19g, Cas19j, Cas19m, Che13, Dum18b, Glo14, Kar10g, Kar10j, Kar11a, Kar11f, Kar11g, Kar11h, Kar12b, Lew14d, Man17, Per14a, Per16b, Per16c, Sch14c, Sch17c, Str14d, Per12b]. Geeklife [Pat15b, Str18g]. geeks [Pri15]. Geel [Cas19k]. Gell [Mur10]. Gell-Man [Mur10]. Gemma [Cas17i]. gen [And14c, Bou17c]. gender [Cas15f, MWL18]. gender-based [MWL18]. Gene [Ano13-37, Str13e]. generally [Str19g]. Generation [Ano15-66, Sie12, Cas19c, Poo13]. genetic [Scu18]. Genetics [MS13]. Genius [And10l, Swe10b]. Genome [Has13, And10a, And10j, Ano15-38]. genomics [PWM18]. geopolitics [SZ19]. Geothermal [Lev11a]. Germany [Bla11, Fai11g, Fai13b, Pat11b]. Gessen [And10l]. Gestures [Tea11]. Get [Ano12-42, Ano18-38, SDK10, Scu18, Cho14b, Fai15b, HDC14, Joh19d, Kum16c, Pec15, Per18g, Smi18c, Ste10c, Str13c, Str18b, SZ19, Swe12a]. Gets [EW19, Ack13b, Ami11, Ano14-48, Ble14a, Cou12j, HA11, Kum10b, Lig16, Tes12]. Getting [Ano13-37, Cou14e, Per19b]. Ghost [Ano14-40]. Giant [Sta19a, Cas14c, Str12c]. giants [Gom15, Har18]. Giffis [Kar14]. Gift [BK16, CZS13, Cas17a, Sch10g, Ano14-58, Cas19b]. Gifts [And10m, Sch10g, Cas19b]. gigabits [Ble12b]. girl [Per12b]. girls [And17e]. girly [Per12b]. Give [Ano16-72, Cas15i, Sch19f, Tyl16]. given [Chi16]. Giving [Ano14-41, Ano16-43, Boy15, Kar18, Per15a, PBEC15, EW19]. Gizmo [Lin10]. glass [Ano17l, Ano15-58, Fur13a, Fur13b, Scu16]. Glassdoor [Ano19-107]. glasses [Per17c]. Gliders [Ano10-54]. Glimmer [Sav13a]. glitches [Cla16, Fou19b]. glitter [Gib14a]. Global [Swe11, Ano19-102, Boy19a, Fai18b, Zac13b]. globally [Pat11e]. globe [Gel15]. glory [Cas18k]. glow [Ano10-96, Ano18-89]. Go [Cre12, SMK14, Ano11-59, Ano12-42, Ano19-83, Bou16, Cha15, Fai17a, Has13, Joh19d, Koz19e, Pat10a, Pec18, Sch12c, Str16c, Str17a, Str17f, Zac13e, Zac16b]. Go-bot [SMK14]. goal [Jon11e, Kum16b]. goals [Fai12c]. Godson [Cal11c]. Goes [Ano15-87, Ano19-69, Ble18, Cou11b, Cou13e, Kum19b, MWL18, Per16d, Str12c, SG13, Str17c]. Gogh [Ano14-80]. Going [Pat12b, Ano19-48]. Gold [And10d, PJD10, Ble18, McF11e, Str16c]. Golden [Fai17h]. Goncalo [Kar13b]. Gone [Ano10-55, Sch11d]. Good [Ano13-38, ABCS11, Cou12d, Fai10c, SCG13, Str12e, Ano18-97, Ano19-90, Ano19-108, Ble15, Cha11b, Cla16, Hua15]. Good-bye [Str12e, Cha11b]. Good-enough [SCG13]. Goodbye [Ano15-50, GI19]. goodies [And12f]. Google [Ack13b, Ano15-58, Cas19n, Cou17c, Cou17d, Fur13a, Fur13b, Gom16, Har15b, Hsu19, Lau15b, Oss15, Per11a, Per12b, Per19d, Ric11, SH11, Scu16]. got [Ano10-96]. Govern [Nor17d]. Government [Zac16d, Cha19]. GPS [Alb13a, Boy14, Moo17b, Per18b, PHS16, Sch12b, Sch19e]. GPS-interference [Sch12b]. GPUs [Moo19b]. Grab [Ano16-44]. Grade [And10e]. graduate [Pat14a]. grand [Til19]. grandmother [Per11a]. granted [Ros12b]. Graphene [Bou17c, Cou13e, Sav12b, ST10, EkK15, Joh15, Joh19d, Sav10e, Joh19d].



graphics [Cas16l]. gravity [Cho18].  
 Great  
 [Ano13-39, Hec16b, Laz10, Ano18-38,  
 Ano19-46, Ano19-77, Cas19a, Fai15c,  
 Kra14, Per12c, Tat18, Boy19b, SF13].  
 greater [RWK19]. greatest  
 [Ano19-102]. greatness [Luc16d]. Green  
 [Fai11b, PJD10, Ups10a, Ano12-42,  
 Boy12, Gol18, Kar10a, Mul14, Ste10b,  
 Ste10c, Ton18]. Green-building  
 [Ups10a]. greenest [Kum13d].  
 Greening [Ulr10, Per10c]. Gremlins  
 [Ack16j]. grew [Jon19a]. Grid  
 [Ano17-44, Fai10b, Gal18b, Ami11,  
 Ano19-83, Bla10, Blu10, Boy13, Fai11d,  
 Fai11e, Fai13d, Fai15d, Fai16d, Fai16h,  
 Fai16g, Fai17d, Fai18f, Fai19b, Fai19c,  
 Gal19b, Gel15, Has16b, Heb17, Hin19,  
 Jhu17, Kro16, Kum12a, Kum13c,  
 Kum13d, Kum13e, Kum16c, OCIR19,  
 Twe14, Yan17]. grid-friendly [Hin19].  
 grids [And10n, Ano19a, Fai16e, Fai17b].  
 grip [HDC14]. Ground  
 [Ano10-65, Cho18, Sch18d]. grow  
 [Cou12f, Lau19a]. Growing  
 [Sch19d, Gal19c, Lev11b, Per12b].  
 grows [Cha18a]. growth  
 [Cas15e, Pat13b]. growths [LC18].  
 Guide [BK16, Cas17a, Ano14-58,  
 CZS13, Cas19b, Str17j, And10c]. Gulf  
 [Ano10-54, Ble10b]. gulp [Str18a]. guns  
 [Hec18a]. guru [Nor16c, Ups10a]. guts  
 [Cas18a]. Guy [Joh19a]. GW [Nor19a].  
  
 H [Per17d]. H-1B [Per17d]. habits  
 [Ano18q]. Hack [Cas19f, Sch18d,  
 And10k, Cho14a, Tat18]. Hackers  
 [Cas16h, Kus11c]. Hacking  
 [Ano15-42, Ano19-106, Gol10a, Mcf10c,  
 Sch10d, Str14d]. hacks [AGPE19].  
 Hadron [Ano15-60]. Haiku [Lea12].  
 Hail [Ack17d, Per14a]. Haiti [Gol10c].  
 half [Shi19]. Hall  
 [Ano17b, Cas19c, Hua19, Zac13b].  
 Halloween [Cas17i]. Ham  
 [Ano19-64, Cas16i]. Hamlet [Pre11].  
 hammer [Hsu18e]. Hand  
 [Hod13, Sch13f, Wal13b]. Handful  
 [Swe11]. handheld [Fri19]. Handle  
 [Ack16e]. Hands  
 [Alt18, Ano19-64, Bre18, Bur12,  
 Cas13a, Cas14c, Cas14l, Cas14o,  
 Cas15j, Cas15m, Cas16e, Cas16i,  
 Cas17b, Cas17e, Cas17f, Cas18c,  
 Cas19f, Cas19h, DM19, Fri19, Fur13a,  
 Gei12, Gib14b, Gib15a, Gib17a,  
 GG12b, Gui11b, GA17, Kar10o, Kus12,  
 Loh16, Mel18, PT16, Sch10d, Sch10h,  
 Sch10m, Sch11a, Sch11b, Sch11c,  
 Sch11e, Sch12d, Sch12e, Sch12h,  
 Sch13b, Sch13c, Sch13d, Sch14a,  
 Sch14d, Sch17e, Sch17g, Sch18d,  
 Sch19b, Sch19e, Spi16, Tur10c, Tur11a,  
 Tur11b, Tur11c, Tur12, Wal10, Wal11b,  
 Wal11c, Wal11f, Wal12b, Wal12c,  
 Wal13c, Wal14a, Wal16a, Wri16].  
 Hands-free [Gib14b]. Hands-on  
 [Sch13d]. Hanford [Gal19a]. Hans  
 [Ste18]. Happens [Mur10, Lun18].  
 Happiness [SGC19, YLC12]. haptics  
 [Tyl16]. harassment [MWL18, Pat18b].  
 hard  
 [Ano19-44, Ano19-88, GA15, Has16a,  
 Has19, Kas16, Sav12d, Swe12a].  
 hard-knocks [Kas16]. hard-to-get  
 [Swe12a]. harden [OCIR19]. harder  
 [Has19, Per19b, Smi18c]. hardware  
 [Ano19-64, Cas16m, Der15a, Per17h,  
 TGB17]. harmonics [Cas14i]. Harvest  
 [Poo15]. harvesting [Lau12]. hashing  
 [Ste18]. Hashtag [McF13e]. hates  
 [McF16c]. haul [CC10b]. hazards  
 [Ano18-58, Per19b]. HBO [Ano18-52].  
 HD [And10c, Hec15, Sch17g].  
 headband [Str17a]. headed [Moo18a].  
 heading [Gal18a]. headlights [Lew14a].  
 headphones [Zor17a]. headpiece  
 [Wip19]. Heads



[Per16b, Fai13d, Gui11a]. headset  
 [Fur16]. Heal [Cho19, Str19d]. healing  
 [Ste17]. health  
 [Ano19-90, Ble15, Dol15b, Has15a,  
 Shr19, Str18e, Str19d, Zac15f]. healthy  
 [CTM19]. hear  
 [Ack16b, Ano19-80, Nor16g]. Hearables  
 [Cru19]. hearing [Wan17]. Heart  
 [GKNT19, Adi19, Ano19-96, Tra14].  
 heartbeat [New13b]. hearts [Str17e].  
 Heating [Smi16e]. heaven [Obe10a].  
 Heavy [Fai10d, Har19]. heel [Ano19d].  
 heeled [Ano19-103]. Helicopter [LJ10].  
 Helicopters [Sch12c]. Helium  
 [Ano10-63]. Helium-3 [Ano10-63].  
 Hello [Ano17-45, GI19, Hor16]. help  
 [Ano19-102, Bro18, Cho18, Cou15a,  
 GP18, Has11b, Lau19c, Nor16c,  
 Pat19c, Per19a, SZ19, Zac13f]. helped  
 [Ano19-102]. helping [Nor16g]. helps  
 [Bar15, Kum13e, Wal16b]. Hennessy  
 [Per12a]. herald [Cas15e]. Here  
 [Ano17-46, Cru19, Nor17e, AK19,  
 Ack19a, Glo14, Gom18, Hec15, Joh19d,  
 Sch13g, WS11, Dya19, PHS16, Rad14].  
 Heroes [UVG<sup>+</sup>15, Zac14]. heroic  
 [Ano18b]. HI [Scu19, Cas17e]. Hi-Fi  
 [Cas17e]. HI-RES [Scu19]. Hidden  
 [Lew14a, Cas19g]. hide [Str19a].  
 hide-and-seek [Str19a]. Higginbotham  
 [Ano18-51]. High  
 [And10e, Ano13-40, Ano17-42,  
 Ano18-53, Glo15, Koz18a, And12c,  
 Ano13-41, Ano15-43, Ano18-54,  
 Cas16b, Cas19k, Cou12e, Cou16f,  
 Koz19d, Lau19c, Lev17, Mel18, Per15c].  
 High-fidelity [Koz18a]. high-frequency  
 [Mel18]. high-performance [Cou16f].  
 high-precision [Ano18-54]. high-speed  
 [Koz19d, Lau19c, Per15c]. High-Tech  
 [And10e, Cas19k]. Himalaya [Kum16b].  
 himself [Gui10d, Pro15]. Hinder  
 [Fai11b]. Hint [Per18i]. hire [Bar16a].  
 hiring [Ano19-107, Zac13b]. History  
 [And17a, Mag12, Ros10f, Swe11,  
 Vin16, Ano19-75, CH15, Mod16,  
 Ram15, Sur12]. hits [Moo16a]. Hitting  
 [Ano16-45]. Hold [Sch17e, Fai18a].  
 holding [Cot13]. Holiday  
 [Ano14-58, BK16, Cas17a, Cas19b].  
 Hollywood [Kar16b]. Holographic  
 [Lew14b]. HoloLens [Fur16]. Home  
 [Ano15-43, Han10, Has19, Per17e,  
 And10b, And14c, Cas15i, Gib16, Hut19,  
 Koz19d, Sch19c, Str17a, Wal14a].  
 homegrown [Cal12]. homes [Ano19-83].  
 Homespun [Ano13-41]. Homesteading  
 [Hut19]. Homing [Has15a]. honor  
 [Cas16f, And16b, Per10a, PA19]. hood  
 [SH11]. hope [Lau19a]. Hopkins  
 [EW19]. horse [Ano19-70, Ste10b].  
 hospital [Per17f]. Hospitals  
 [Str18d, Scu17]. Hot  
 [Ano14-45, Ano17-47, Sch17f, Ack16f].  
 hotel [Ano15g]. hours  
 [Ano10-55, Ano15-38, Str11a].  
 household [Fai19c]. houses  
 [Smi16e, Whe15]. HP [Per18d]. HPE  
 [Cou16a]. HR [Per19b]. Huang  
 [Per18e]. Hubble [Kar10h]. hubs  
 [Chi12b]. huggable [Str13a]. human  
 [Ano15-42, EWRA19, Ham19a,  
 Lau13d, Str14h, Str18b, Tyl16, Zor10].  
 humanity [Gol10a, Rus19]. humanlike  
 [PBEC15]. Humanoid  
 [Gui10h, Ack19b, Noc17]. humans  
 [Cas19e]. humble [EW19]. hunt  
 [CC15, LA11]. hunter [Kle11]. hunting  
 [Dum17, Smi16f]. hunts [Kum18b].  
 hurdle [Moo19d]. hurls [Cas19i].  
 hurricane [Str11f]. hurricanes  
 [OCIR19]. Hussein [Ano19c]. hybrid  
 [Fai17g, Gal19c, Joh14c, SGC19].  
 hybrids [Gal18a, Voe11a]. hydro  
 [Fai15h]. Hydrogen  
 [Gal18a, Gal19c, Sam17]. hydropower  
 [Twe13]. hype [Wal16b]. Hyperloop  
 [Ros16a]. hyperspectral [Boy19b].



I8 [Zor17c]. IBM [Ano18-54, Hsu14, Str19d]. IC [Ano18-56, Cas14c]. Icarus [Ano14-44]. ice [Ack16l, Lau15c, PBG11]. Iceland [Ros18b]. ICs [Cou12f, Cou17a]. ICU [GHB18]. id [Moo16a, MB19, Rom11, Sch19d]. idea [Wal11e, Wal16a]. Ideapad [Tea10a]. identification [Ham19b]. Identifying [Sav14a]. identity [Rom12b]. ids [Lau18a]. IEEE [And16b, PA19, Ano13-43, Has18, Jon11a, Ano10l, Ano10m, Ano10n, Ano10o, Ano10p, Ano10q, Ano10r, Ano10g, Ano10h, Ano10i, Ano10j, Ano10k, Ano11f, Ano11g, Ano11h, Ano11i, Ano11j, Ano11k, Ano11l, Ano11m, Ano11n, Ano11o, Ano11p, Ano11q, Ano12k, Ano12l, Ano12m, Ano12n, Ano12o, Ano12p, Ano12q, Ano12r, Ano12s, Ano12t, Ano12i, Ano12j, Ano13f, Ano13g, Ano13h, Ano13i, Ano13j, Ano13k, Ano13l, Ano13m, Ano13n, Ano13p, Ano13q, Ano13o, Ano14p, Ano14e, Ano14f, Ano14g, Ano14h, Ano14i, Ano14j, Ano14k, Ano14l, Ano14m, Ano14n, Ano14o, Ano15p, Ano15i, Ano15j, Ano15k, Ano15l, Ano15m, Ano15n, Ano15q, Ano15o, Ano15r, Ano15s, Ano15t, Ano16m, Ano16n, Ano16g, Ano16h, Ano16o, Ano16p, Ano16q, Ano16i]. IEEE [Ano16j, Ano16k, Ano16l, Ano16r, Ano17a, Ano17m, Ano17n, Ano17o, Ano17p, Ano17q, Ano17r, Ano17s, Ano17t, Ano17u, Ano17v, Ano17w, Ano17x, Ano18j, Ano18k, Ano18l, Ano18m, Ano18n, Ano18o, Ano18p, Ano19-67, Zor14b, Zor14f]. If [Ano14b, Cas18f, Fai17a, Pec17a]. II [Cas13m]. I'll [Sal19]. Illinois [Nor17d]. illuminate [Rom12a]. illuminated [Kum15]. Illuminating [Cas19h]. illustration [Joh19a]. I'm [Mcf12a]. IM70 [Zor17d]. image [Har15a]. imagers [Kum19c, Sav10d]. imagines [And19e]. imaging [Kum14b, Sav11d]. imbued [Tyl16]. imitation [Pro15, LE16]. immersive [Joh19a]. imminent [Svi12]. Immutable [Rom10a]. impact [Fai11f, Mcf12b]. imperfect [Ano18-97]. Imperial [Cas19m]. implants [Cho19, Moo19f, Str16a]. Impossible [Ano19-82]. improbable [Bro17c]. improve [Shr19, Zac15f]. improved [Car18]. improver [Ano19-66]. In-demand [Per19c]. In-wheel [WH18]. Inc. [Zac12b]. inches [Cou16b]. incident [Ros18a]. included [Ano13c]. Incredible [Mur10, Ano16-73]. incurring [Ham19a]. indefinitely [SZ19]. India [Ano17-48, Fai19c, Lau18a, Rom12a, Rom12b, Shr19, Str16b, Str16g]. Indian [Fai19c]. individuals [MWL18]. Indoor [Gol13]. indoors [Per12c]. Industrial [MS13, Ano19-71, Fai16a]. industries [Pat14b]. industry [Ano19c, Ano19-40, Ano19-65, Har12c, Hsu18b, Per16b, Sch19d, Sre11]. Inevitable [Mcf15a, Luc16e]. infections [Cho19]. inference [Ano18-54]. infiltrated [Ano19-65]. infiltrating [Ulr19b]. Infinitely [Bal14]. infinity [SRGD13]. inflatable [Ano18-36]. influence [Cas14a]. information [And16b]. initiate [And17b]. initiative [Dol19, Sch16a]. injury [CH19]. ink [Ano14r, Cop19, PA19]. inner [Kum13b]. innovating [Zac13e]. Innovation [Ano14-55, Cas13h, Fai15e, Tes12, Zac17e, Ano15-88, Ano19-104, Ros12b, Wis15, Zac11b, Zac12a]. innovator [Cas12a]. Innovega [Har13c]. ins [Sch12g]. Insect [Ano15-45]. insight [Ano12-48]. insoles [Ack16l]. inspire [And18a]. inspired [Boy13]. instability



[And17b]. install [Pat19b]. instant [Per18h]. Institute [Ano19-67, Pre14]. instrument [Cas16e, Mar19b]. instruments [Str18g]. insulators [Moo11a]. insults [McF11f]. integrated [Cas15p]. integrating [Has16a]. integrity [BM19]. Intel [Ano19-68, BG13, Bou17d, Cou13f]. intelligence [GHB18, Nor16b, Str17k, Str19c]. intelligent [Haw17, Str19g]. intensity [Ano19-45]. intensive [GHB18]. interconnect [GI19, Moo19b]. interface [Hor16, Wip19]. interfaces [Scu19, Tea11]. interference [Laz16, Sch12b]. International [Lau15e, Cal11b, Hsu18a, Jon11a]. Internet [Koz19e, Lau19c, Ano10-95, Ano18-51, Ano19-100, Boy13, Cas14b, Cas15j, Cas17c, Cic16, Cot13, Dol19, Fit18, Fou19b, Gol10c, Har18, Has15c, Hel16b, Hig18a, Hig18b, Hig18c, Hig18d, Luc16e, MSL13, Nor16d, Nor16f, Nor17g, RBB17, Rus13, Spi11, Str13a]. Internet-inspired [Boy13]. internets [Bla14]. Interplanetary [Alb13a]. intersections [Ton18]. interstellar [Cas13n]. intervene [Pat18b]. intractable [EWRA19]. intro [The13]. Introducing [EkK15]. intrusions [Fai16a]. invaders [Clo10]. Invasion [TGB17]. invented [Joh14a, Luc11c, Pat11e]. Invention [Ros10d]. inventor [Ano18b]. investment [Ano17-76]. Investments [And10e]. investors [Str16g]. inveterate [Bar17a]. invisible [Zac16c]. ion [LSD18, LC18, Nor19d, WK16]. IoT [Ano18-64, Ano18a, Ano19-69, Ano19-71, Hig18b, Lau19b, Nor18d, Shr19]. IP [LMS10, Str12g]. iPad [Rom10a, Tur11c]. iPads [Che10b]. iPods [Che10b]. IPv4 [Ano19-64]. IR [Sch12d]. Iraq [Fai18a]. IRE [Luc12c]. Ireland [Joh19b]. iris [CTM19]. iris-recognition [CTM19]. Iron [Kar11g, Str19e]. Ising [Cou17e, McM18]. Island [Ros10b, Ano11-58, Zor14c]. isms [McF12f]. Isn't [Ano10-85, And12b]. IsoPlexis [Bar19]. Issue [The13, Ros13b]. Issues [Swe11, Per19b]. Italian [Mor19]. Italy [Mor19, Nor18d]. items [Fit18]. It'll [Smi18c, PW17]. itself [Zac13f]. J [And10l, Kar10i, Swe11]. Jack [Mod16]. jacked [Ros11a]. jacked-in [Ros11a]. Jakob [Ano13-48]. January [Smi18d]. Japan [Ano15-59, Ano17-52, Boy12, Boy14, Boy19a, Fai11d, Fai11h, Smi15c, Str12b]. Japanese [Har15c]. Jargon [Mcf13a]. Jason [Ano13-49]. Jerktech [McF17c]. jetpack [Ack16d]. Jhunjhunwala [Rao15]. job [Ano14-47, Pat13b, Per19c]. Jobless [Zac11b]. Jobs [APS<sup>+</sup>11, Ble13b, Ble13g, Kum13a, PPC<sup>+</sup>12, Per13b, Sch13d, Ano10-38, Ano13-34, Ano19c, Joh19c, Pat10e, Pat11g, Pat12f, Pat13c, Pat14b, Pat15h, Pep16a, Pep17, Pep18b, Pep19b, SSBP14, Zac11d]. Joe [Cas19i]. Johansson [Joh19a]. John [Che11b, Per12a]. Johns [EW19]. join [Ano14u]. joins [Ano19-67]. Jonathon [Str18g]. Jose [Per18i]. Journal [Ham19b]. Journey [DEGG19, Mar12]. Jr. [And16b]. judge [Smi15a]. judgment [Str18b]. juice [Str16h]. July [Ano18-56]. jump [Fai13b, Kar16b]. jump-starts [Fai13b]. June [Ano19-70]. Junk [Mcf13a, Hsu18d]. just [Cas19a, Cha11a, McM18, MWL18, Ano11-60]. Kanojia [Cou14a]. Keats [Str18g]. Keep [Smi15b, Cas16m, Cou15a,



Faille, GHB18, Moo18e]. Keeping  
 [Ano15-47, Ano19-71, PL17, Ano17-60].  
 keeps [Str14j]. Kepler  
 [Cou13g, Nor16h]. kerosene [Smi16c].  
 Keser [Kar16b]. key [Bro18, Joh19a,  
 Kum14a, Per18h, Ste11c, Cas16n].  
 Keyboard [Gui10a]. Khan [Sch12e].  
 Kick [Gui10h]. kidney  
 [Ham19a, Str16l]. Kilby  
 [Ano18-56, Mod16]. kill [GA16]. killer  
 [Fai13a, Kum19c, Plu11, Zac15b].  
 killing [And12b]. kills [Wal19].  
 kilogram [Cou12a, Cou16d]. kilometers  
 [Ham19a]. kind [Cou15c, Poo16,  
 Sch10a, Str11e, Str16h]. Kindle  
 [Rom10a]. king  
 [Har12b, Kar10j, Ano19-72, Mar18c].  
 kingdom [Kar10m]. Kira [Kar15]. kit  
 [Alt18, Cas15j, Cas18a, Kum16b, Sin19].  
 kitchen [Gui10f]. kite [Cre12]. kites  
 [And19b]. kits [Ano14-59]. km  
 [Cou16c, Sta18, WK16]. knocks  
 [Kas16]. Know [Wal13a, Hsu18f].  
 knowledge  
 [Ano19-47, Ano19-102, LL13, PHS16].  
 known [McM18, Mod16]. Kodak  
 [Ano18-73, Har14b]. Korea [Zac12b].  
 Korean [Ble13d, Str11c]. Kurt [PA19].  
 Kurzweil [Ren10].

**L** [Per12a]. Lab  
 [Ano19-68, DMCP19, Alb14, Ano17-55].  
 Labor [Per18d]. labs [Ulr19a]. Lack  
 [Ano10-63]. lament [Ano18-57]. landed  
 [Mar19a]. landers [Pat19c]. landing  
 [Fou19a]. Landslide [Jon10c]. language  
 [Cas17h, Man17, McF15b, Nor17g].  
 languages [Cas14m, Kin11e]. laptop  
 [HC15]. Large [Ano15-60, And19d].  
 large-scale [And19d]. largest [GK18].  
 Laser [Lev13c, Ups10b, Wal12b,  
 Wal12c, Wal19, Ano11-38, Ano18-41,  
 EkK15, Sav10a, Sav14b, Ste10b].  
 laser-etched [EkK15]. Lasers  
 [Bec14, Ste10c, Ack17h, And10i,  
 Koz19d, McM18, Ulr13b]. lasso  
 [Ano19-87]. last [Dum18b, Fai10c,  
 Fai12b, Gab17, Gal19b, Lev18,  
 Moo18a, Moo19d, Nor19a, YEK19].  
 last-meter [Lev18]. latest  
 [Ano19-65, Lin10, Per16a, Str17i].  
 launch [Ano18-59, Fou19b]. launches  
 [Cou14d, Nor18d, Obe10b, Pat18a].  
 Lauren [Cas19d]. Law  
 [Ano15-41, Cou15d, Har13a,  
 Ano19-101, Gre16, Moo19a, Ano14u,  
 Cou17f, Cou17g, EkK15, Hua15, Koo10,  
 Mac15, Moo18a, Per18e, YEK19].  
 Lawn [Ack17e]. Laws [Rom10a].  
 lawsuits [Lau18a]. lazy  
 [Ack17e, MB12]. LCD [Gro12]. LCDs  
 [Poo11]. lead [Che12a, Pep19a]. leads  
 [Ano18c, Pat11b]. leaf [Lev11b]. Leak  
 [Lew15]. leap [And11b]. leaps  
 [Gui19a, Hec16b]. learn  
 [Haw17, Hur19]. learned [Ano18-59].  
 Learning [Ano17d, And17c, Ano18-54,  
 Ano19k, Ano19-91, Bou17e, Fri19,  
 Hsu16b, KW19, LE16, Per19b, Sch17b,  
 Sch19c, Str18b, Wan17, Zac15e]. Leave  
 [Ack16h]. leaves [Jon19a]. Leaving  
 [Per14c]. led  
 [GP18, Hsu19, PA19, Ste11c]. LEDs  
 [Ste11b, Ste12a]. left [Pat19c]. legal  
 [Ano18-58, Sch15c]. legend [Cas16f].  
 legendary [Per16c]. Lego  
 [Mat17, Spi16]. Legos [Ano10-56]. legs  
 [Gab17]. Leibniz [Dum18b]. Lenovo  
 [Tea10a]. lenses [Wri16]. Less  
 [LC18, Ami11, Ano14-50, Cas13k,  
 Fai11i, Nor16b, Per10e, Ste12a, Tuc13,  
 Voe13a]. Lessons [Ano18-59, Rom12c,  
 Zac12b, Ano19-96, Ble10b, GA15]. Let  
 [Bir12, Hei14, Zac15c, San19b, Scu19,  
 SZ19, Wal13d]. lets  
 [Cas17i, Cas19m, Lew14c]. level  
 [Car18, Cas17h]. Levelup [Cas12a].  
 leverage [Sac19]. levitating [Gib14a].



levitation [Cas18b]. Lewis [Fea10].  
lexicon [Whe15]. Li [Ano14-48]. Li-Fi  
[Ano14-48]. Liar [Har10b]. Liberty  
[Mac10c]. Lice [Dum17]. Lice-hunting  
[Dum17]. license [Sch17d]. Lidar  
[Ack16i, Fai18b]. Lie  
[Ano18-67, Smi15b, Smi15c, Smi15a,  
Smi15d, Smi16a, Smi16b, Smi16c,  
Smi16d, Smi16e, Smi16f, Smi16g,  
Smi17a, Smi17b, Smi17c, Smi17d,  
Smi17e, Smi17f, Smi17g, Smi17h,  
Smi18a, Smi18e, Smi18f]. lies [PHS16].  
Life [And10d, And10l, And11f, And11i,  
And12i, And12j, And18c, Ano11-37,  
Ano16-47, Ano19-73, Cas16f, Cas16d,  
Cas16m, Cas17g, Cas17h, Cas18e,  
Cas18i, Cas18k, Cas19a, Cas19c,  
Cas19e, Cas19g, Cas19j, Cas19k,  
Cas19m, Che13, Dum18b, Glo14,  
Kar10g, Kar11f, Kar11g, Kar11h,  
Kar12b, Kum10a, Lew14d, Man17,  
MB12, Per14a, Per16b, Per16c, Sch14c,  
Sch17c, Ack15a, Ano14-39, Ano17-39,  
Ano18-90, Ano19-87, Cho14b, Cou12i,  
Cru19, Har13b, Him11a, Kar10j,  
Kar11a, Kum14a, Luc13a, SL15,  
Str14d, SGC19, Svi12, Too11, Kus17].  
life-saving [Cho14b]. Life-span  
[Ano19-73]. lifetime [PA19, Zac12d].  
lift [Ano18-34, Har19]. liftoff [Jon19b].  
Light [Ade10d, Ano15-48, Sav10b,  
Sav13a, Ano11-39, Bec14, Cor10c,  
Fai18b, Gib14a, Hec16b, MDM12,  
Moo18e, ML19, Per15a, Per16c,  
Sav12c, Sav16, Sch11f, Sch18d, Ste10c,  
Ste11c, Ton18, Wal16a]. light-based  
[Wal16a]. Lightbulb  
[Ano10-57, Kra14, Wal11e]. Lightbulbs  
[Ano10-39]. lighter [DW17]. lighting  
[Kin11b]. lightning [Cas19i]. Lightroom  
[GG12a]. Lights  
[Ano19-74, BK10, Bow11, Dia15,  
Kum16a, Bur18, Dum16, Wei12]. Like  
[Kar11a, Adi19, Ano12-49, Cas19j,  
Cou15a, Hur19, Kum17, Per17h]. limit  
[Moo12a]. limits [And19e]. Limor  
[Kum13b]. line [Ack16g, Cho18,  
Cou17c, Nor19a, Pal12a]. Linear  
[Ul19a]. Lines  
[Ack19a, Ano10-85, Ano14-42,  
Ano17-59, Ano19c, Ano19-100,  
Ano19-107, Ano19-102, Cha11a,  
Cha11b, Cha13a, Cha18c, Cha19,  
Che11b, Chr14, Fai11f, Gol14, Has11a,  
Has15a, Has16a, Has16c, Has16d,  
Has16f, Has16e, Has17b, Has17c,  
Has18, Has19, Hod12, Koz18c, Koz19a,  
Luc12c, Mac10c, McC15, MWL18,  
Pec12b, Per11a, Per17b, Per17f, Per18a,  
Per18d, Per18e, Per18i, Per18c, Per19b,  
Pre14, Ros10f, Ros11a, Ros13b, Sch13c,  
Sch17d, SH19, Scu18, Str18h, Str19b,  
Str19c, Voe13b, Vos13, Zac11b, Zac11a,  
Zac12a, Zac12b, Zac12d, Zac12e,  
Zac13a, Zac13b, Zac13c, Zac13d,  
Zac13e, Zac15a, Zac15b, Zac15d,  
Zac15e, Zac16a, Zac16c, Zac16d, Zac16e,  
Zac16f, Zac17b, Zac17c, Zac17d, Zor14a,  
Zor14b, Zor14d, Zor14e, Zor14f, Zor14c,  
Zor14g, Zor17b, Ano12-51, Cas19a,  
Fai18e, Fai18f, Has11b, Has12b]. lines  
[Has15c, Has16b, Ros10d, Sch10e,  
Sch18a, Zac15f, Zac17a]. link  
[Cou16c, Fai16e]. Linking [Sav16]. links  
[Fai19c]. Linux [Cas14p, DM19, Toz16].  
liquidators [Ano10-57]. listen [San19a].  
Listening [Ack16j, Sch16a]. Lite  
[Hei10]. Literally [Ano16-45]. lithium  
[LSD18, LC18, Nor19d, WK16].  
lithium-air [WK16]. lithium-ion  
[LSD18, LC18, Nor19d, WK16].  
lithiumion [Sch19f]. lithography  
[Moo18c]. Little [And10f, Ano15-49,  
Lin10, Gui16, Has11b, Mod16].  
little-known [Mod16]. Littlest [Sav10c].  
Live [Ano10-86, Ade10h, Gom16, SZ19,  
Wal16b]. Lives  
[Ano15-41, Ano15-58, Mac15, Str18d].



Living [Ano10-56, Ano19-75, Kar10i, Ano11-38, Has19, Kar10a, Mcf10b, Wal17a]. LKER [Zor17c]. LKERi1 [Zor17d]. LNG [Kin12a]. Lobaton [Ano14-55]. Lobbying [Har12a]. Locavore [Mcf11a]. Lockheed [Str13f]. locomotive [Gal19c]. Log [Cas19j]. logging [Raf19]. logic [Cou11b, PN15]. logistics [McM18]. lonelier [Pat10d]. Long [Ano15-50, Che10c, Lam13a, Lau19c, Rau14, Cha11b, CC10b, Cot13, SH19, Svi12, Too11]. Long-distance [Lam13a]. Long-range [Lau19c]. longer [Cou12i, Noc17]. Look [And12h, And13c, Bar17c, Ack16c, Ano19-107, Gui19a, Moo18e, Wri16]. Looking [Ano15-51]. looks [Fai12c, Smi12]. looky [Ano10s]. looky-loos [Ano10s]. looming [PWM18]. looms [Cou17c]. loophole [MB19]. loos [Ano10s]. loose [Cho18]. LoRa [Lau19b]. losers [Bro18, Cas13c, Ros10e]. loss [Kar11h]. Lost [Gro12, Per17a]. lot [Ano15-49, Per19b]. Lots [Ano12-43, Sto18]. Love [Ano10-39, Ano11-39, Kar11f, Ano11-35, Per18d]. Low [And10e, Ano18-54, Cas17h, Cou11b, Cou12e, Koz18e, Lau19b, Mck14, Spi16]. low-cost [Spi16]. low-energy [Koz18e]. Low-Grade [And10e]. low-level [Cas17h]. low-power [Cou11b, Lau19b]. low-precision [Ano18-54]. lower [Sav10d]. lowers [Per15c]. LPPFusion [And17b]. LTE [Ble13d]. LTE-Advanced [Ble13d]. Lu [Ano13-47]. luck [Pep19b]. lucky [Ano12-43]. Luhn [Ste18]. Luminous [Ano19-76]. Lunar [Cou17c, Hut19, Fou19a, Jon19a, Pat19c]. lungs [Lew14c]. lure [Ano17-49]. Lusters [Ano14-40]. luxury [Fai18d]. M [And10l, Fea10, Kar10i, Mur10]. M11X [Tea10b]. Ma [Lap13]. Maaaaybe [Sch15c]. Mac [Cas14a]. MacGyver [Lev13a]. MacGyvering [Kar16b]. Machina [Cas18f]. Machine [And17c, Ano10-61, Ano19-106, Cho18, Har13a, Sch19c, Str18b, Ack17b, And18c, Ano10-89, Ano14-43, Ano19k, Ano19-91, Cas18e, EWRA19, Fri19, Gol14, Has16c, KT17, Luc14a, MD17, McM18, McM11, Moo11c, Per19b, RWK19, Rot17, Sch17b, Str13d, Str13e, Tho15, VC10, Cou16a]. machine-learning [Ano19-91]. machines [And13b, Has16c, Haw17, Nor16g, PBEC15, Rus19, SH19, Scu19, Spi16]. Maching [Ano17d]. Macintosh [Cas14a]. Made [And12d, And11g, Ano12v, Ano16-73, FTW14, Gui10d, Gui18, HM14, Hsu19, Mur10, Per19b, Str15a]. maestro [And16b, Ano18-60, Gui10a, Man17]. mag [Ano12-44, Svi12]. mag-stripe [Ano12-44, Svi12]. Magazine [Ano15-52]. Magic [Ano12-45]. Maglev [GKNT19]. Magnet [HG11, Moo18e, PN15]. Magnetic [Hsu18e, Pat17]. magnetron [Ano18-61]. magnets [PN15]. Magueijo [And10l]. mail [And12b, Sch16c]. mailbox [Ano18h]. main [Ano18-54]. mainstream [Fai17a, Str17a]. Majorana [And10l]. Makani [And19b]. Make [Ano17-50, Zac17b, Ack16c, Ack16i, Ack17c, And11b, Ano14-63, Cas17h, Cas18d, Cla16, Gom17, GI19, Hin19, Koz18c, Moo19c, Moo19f, Nor17c, Pal12b, Pat17, Sav14c, Str17e, Per18e]. make-or-break [Gom17, Str17e]. makeover [HG11, RRC14]. maker [Ano12u, Cas15e, Cas19n, Cop19, Kum13b, Wip19]. maker-friendly [Cas19n, Cop19]. MakerBot [Cou13b]. makers [Cas16i, Cas19d]. Makes



[Ups10b, Cas16f, Fai13e, Sav10e, Sch18d]. Making  
 [Ano19-77, DAB14, Fri19, Has16c, Kar10k, Str14h, Str18e, Ano17-56, Kar10i, Raf19, Str13a, Zor14f]. malaria [Str17d]. Malaysia [Ano13-32]. mall [Ros19a]. malleable [Bal14]. Malta [Gol10b]. Mammalian [Gui10c]. man [Ano13-44, Ano15-53, Bur12, Cas17g, EWRA19, Gui10d, Kar16a, Kar18, Mur10, Per15b, Ade10f, Kar11g, Mar18d, Str19e, Ano19-102]. man-machine [EWRA19]. manage [Til19]. management [Ano19-102]. mandatory [Fai16a]. maneuverable [Fai18d]. manga [Cas18i]. manifesto [Jar11]. manufacture [Pat19a]. manufacturers [LMY18]. Manufacturing [Ano16-48, HT18, Moo19a, Pat14b, Shr19, Str16d, Tur12]. many [Cas14d, Dun11, Tal16]. map [Has17a, Per11a]. Mapheads [McF14c]. Maple [Fos11]. Mapping [CG13]. March [Smi18e]. Maria [Ano19b]. Mario [And11b]. Marissa [Per12b]. market [Blu10, Pat11b, Sch12f]. Marketplace [Rom10a]. Marking [Has18]. marks [Ack18]. Mars [Ano15-66, Cou16g, Leu18]. Marsh [Ano19f, Ano18-40, Ano18-61, Ano18-71, Ano19-38, Ano19n, Ano19o, Ano19-63, Ano19-82, Ano19-85, Ano19-87, Ano19-98, Mar18d, Mar18e, Mar19a, Mar19b]. Martha [Per18c]. Martian [Ano15-53]. Martin [Str13f]. Marvell [Per10d]. marvelous [PA19]. Marvin [Cas16n, Has16c]. mass [Moo19d, Str16d]. masses [Str13g]. massive [Nor19a]. master [Cas17f, McF16a]. mastering [Moo19d]. mastermind [Kar16a]. match [Str17d]. material [Joh19d]. materialize [Sal19]. Materials [Moo19f, And19c, Ano19a, Bal14]. math [Luc12d]. Mathematica [Fos11]. Mathematical [And10l, Fea10]. mathematician [Ade10e]. Mathias [Joh19a]. MathStudio [Fos12]. matic [Cas18a]. matriarchs [Str16b]. matrix [Gui10e]. Matter [FTW14, Cou14e, Gui10c, Kar10l, Per10g]. matters [Ano17-44]. Max [Ano15-60]. Maxwell [Rau14, Smi17f]. may [Cas15e, Kum16c, Kum19c, Lau19c, Smi18f]. Maybe [Gui16, Smi17a]. Mayer [Per12b]. Mayhem [Ano19-106]. Mazda [Car18]. MBA [Ano11-60]. MBAs [Pat12c]. McCarthy [Che11b]. McFedries [Tim17]. Me [Wil11, Ack16b, Ack16c, Ano11a, Ano16-73, Cha13a, Kre14, Lau13d, Sch13b, Str13e, Zha19]. mean [Ano15-49, Gom16]. measure [Adi19, Fai18b, Per18h]. Measuring [Mcf12b, PT16]. Meat [Zor13b]. Mechanical [Ano18-60]. mechanics [RJH17]. mechatronics [Voe14]. med [SG13]. Medal [And16b, PA19, Per10a]. media [Cha11a, Cho14c, Dri16, Mac10a, Sac19]. Medical [AS18, Sav10d, Str17f, AK19, And14b, Hsu18e, Moo19f, Str18e, Str18h, Zha19]. medicine [CBS17, Zac17a]. medicines [BM19]. Mediterranean [Ano16a]. medium [Joh19c]. medium-size [Joh19c]. meds [Str17d]. Meet [Ano17-51, Ano19-106, Mcf13b, Fai12c, Str17d]. meeting [Has18]. Meetings [Ano17-52]. meets [Ano10-94, Ano14-81]. megabyte [Cou13h]. megaprocessor [Cas16j]. Mehanna [Ano19c]. meld [EWRA19]. melt [Lev13c]. meltdown [AGPE19]. members [Has18]. meme [Mcf11c]. memories [Cas14g]. Memory [Ano17-53, Cou14f, Ble11b, Bou17d, Bou18c, Cou14i, Moo19f, Pat17,



Sch14d, Str14h, Wal17a]. memristor [Hel14]. MEMS [Ano11-42, PA19]. menagerie [Cou13d]. mentoring [Bar15]. Merchants [Swe11]. mere [Ano19-100]. merge [Cas16b, Sch19e]. mess [Koz19b]. messages [Lew14a, MSL13]. metadata [Nor16b]. metal [Fai10d, Jon10e]. metals [And19c]. Metamaterials [Pal12b]. metaphors [Kel16]. meter [Lev18]. meters [Moo18f, Sch19e, Zac11c]. methane [Fai14c]. method [Mel18, Ste10a]. methods [Lau19a]. Mexico [Ano14-49]. micro [EkK15]. micro-super-capacitor [EkK15]. Microbots [Cou15e]. microchip [Cho17a]. microcogeneration [Bar17b]. microcontrollers [Ano19-86]. microdevices [PA19]. microelectronics [Bar19]. Microgrid [Hin19, SGC19]. Microgrids [Ano15-59]. MicroLED [Moo19d]. MicroLEDs [Moo18d]. micromouse [Chr14]. microprocessors [Shi16]. microscope [And18b]. microsecond [Sch12f]. Microsoft [Fur16]. Microwave [Lew14c, Ano19-43]. Middle [Lev13d, Ups10c]. midflight [KB10]. might [Ano18-95, Cou14i, Str19g]. mighty [Ano18-61, Cha18a, Fai11i, Voe19]. Mildred [Ano15-47]. Mile [Ano11-58, Zor14c]. Military [Cas18i]. milky [CG13, Sch19b]. millimeter [Luc17c, RRC14]. millimeter-wave [RRC14]. Million [Per17b, Voe11b, And13d, Hsu16a, Sch16a]. millionaire [Ano19-46]. millions [Sta19a]. Mind [Ano17-51, Ano19-78, Aud15, Kar10l, Str18f, Ano18-62, BB11, EWRA19, Gui10c]. minds [And10l, Dum13]. mine [Dum13]. Minecraft [Str19g]. Minerals [Str11d]. Miners [Jon10f, Fai16c]. mines [Ano17-54, CP17, Nor16c]. mini [Zha19]. mini-me [Zha19]. mining [And12a]. Minitel [Cas19j, DMCP19, DM19]. minority [Bar16a]. Minsk [Dum13]. Minsky [Cas16n, Has16c]. Miracle [Ano18-45, Ano18-93, Ano18-94, Dol18, Eis18, Gol18, Kum18c, Nor18a, Ros18c, Smi18c, Wag18, Ano18i, Hei18, Koz18f, Ros18d]. miraculous [Ano15-54]. mirage [Lev13d]. mired [Joh19c]. Mirror [Ano10-58]. mirrors [Kar10n]. misadventure [Mod16]. missing [Fai14c]. mission [Cou13g, Kar10e]. missions [Obe11]. Mitchell [Nor17b]. MITx [Fra12]. mix [Bou18c]. mixed [Moo18a]. mm [Wri16]. MO [Cas17i]. Mobile [Ano12-50, Cas13j, RRC14, Smi16b, Cas13i, Nor16e, San19b, Sch17f, Str12c]. Model [Ano18g]. modelers [Bro15]. Modem [And16b]. modern [Ano19-102]. module [San19a]. moguls [Zac17a]. mold [Gor12b]. molecular [KM15]. Molten [Fai15f, Cou16e]. moment [Gom17, Kus14]. momentum [Lau19b]. monetized [Gar11]. money [And12c, Har12c, Ros12a, Str12a, Sur12]. Mongolia [Ano17-54]. monitor [Ano13-45]. monitoring [Cas13b, Cas14d, Cos15, Lau19a]. monitors [FLP16, Sta18]. monolithic [Cou14h]. monster [Gei16, Hec18b, Ros19a]. month [Gui17, Hsu18a]. months [Moo18a]. MOOCS [Mcf12a, Ube17]. mood [Mcf12a]. Moon [Cas19l, Har19, Ano17-53, Fou18, Has19, Hut19, Jon18, Jon19a, Sch19g, Str13d, SZ19, Str19f]. Moonbeams [Cou13h]. Moore [Ano15-41, Ano14u, Ano15-55, Cou17f, Cou17g, EkK15, Hua15, Koo10, Mac15, Moo18a, Per18e, YEK19]. mortar [Per16a]. Morxels [MH13]. Mosquitoes [Ack17c, KB10]. most [Bro17d, Cas19j,



Cho17a, Jon14, Sav13c]. Mosul [Dum18a]. motherboard [GI19]. Motion [Ack17f]. Motion-planning [Ack17f]. Moto [Mar18d]. Moto-Man [Mar18d]. Motor [Lev13a, Bug18, DW17, ML19, Smi18f, Tyl16, Ulr19a]. Motormouse [Che10d]. motors [WH18]. Mountain [Ano13-45, Har16]. mouse [Per15b, Poo16, Str19c, Tea11, Wal12c]. mousetrap [Cas17b]. Move [Per18e, Gui10g, Has17c, Hur19, Moo19a, Nor17h, RWK19, Voe14, Wal13d]. movement [Sch19b]. Moves [Zac17e]. movie [Ano16w, Mal14, Wri16]. Movies [Cas14f, And11h]. Mr. [PA19]. MRI [Sav13b, Sav13c]. Much [Ano15v, Ble10a, Bro17f, Fou19a, Hil15, Per10g]. much-criticized [Fou19a]. muck [Ano15-80]. Mules [Har16]. mull [Str16k]. multi [Pat10f]. multi-core [Pat10f]. multicore [Moo16b]. Multiple [Ano15-41, Mac15]. multith [Sch10a]. mundane [Gib15a]. Munroe [And19e]. Muscle [Sch14d]. Muscle-memory [Sch14d]. Muscling [Zor13b]. Museum [Cas19m]. Mushroom [Cas14g]. Music [And10h, Ano17-56, Gib15a, Str18g, And11c, Ano18-35, Cas17g, Cas19h, Gib14b, Loh16, Man17]. Music-making [Ano17-56]. musical [Cas19h, Cas19i]. must [Nor16e, Str18h]. Muybridge [Ano19-70]. My [Ano10w, Ano15-48, BKB12, Gui10i, Joh14c, Zor14d, Ack16d, Ano19-105, Bar17c, Gui14b, Per11a, Ros14b, Sal19, Tur11c, Zac12d]. myself [Wal12f, Wil11]. Mysterious [And10l]. mystery [Das10]. myth [Cha13b].

nanoscale [Cou11a, PN15]. Nanosheet [YEK19]. Nanostructures [Sav12c]. nanosystems [Bou17b]. nanotube [Moo19c]. Nanotubes [SWM16, Cou15b]. nanowire [Hel13, Ste16c]. Narcissism [Kar10i]. narcissists [Kar10i]. NASA [Ack19b, Fou19a, Leu18]. nation [Ano19-83]. national [Bla14, Koz19b, MWL18]. nations [Cas14d, Str19b]. Natural [Lam13b, Sav15]. nature [Has16e]. Navajo [Ano19-83]. Navigate [Kum17]. Navigating [Per12c]. navigation [Mac19, Pat19c, PHS16]. navigator [Per18b]. near [Kum14b, Rom12d]. nearly [Fou19b, Hec15]. nears [Moo12b]. Need [Per17f, Ano16-55, Ano19g, Ano19-43, Dol19, Has17b, Haw17, Hsu18f, Hur19, Hut19, JL16, Koz18c, McF11f, Pat14b, Pec17a, Per18f, Rus19, Str16g, Voe13a]. needed [Fai17a]. needlelike [LC18]. needs [And19d, Ano17-59, Pec15, Sch13e, Str19b, Zac14]. neighbor [PW17]. neither [Mac10c]. Neocortex [Haw17]. Neptunes [Fai12d]. Nerd [Kar11a]. Nervana [Hsu16c]. nerve [Moo15, Str17g]. nervous [DMS15]. nest [PT16]. nests [FLP16]. Net [Rom15, Tha14, Lio13]. Netherlands [Hel18]. nets [Mat17]. Netting [Ano15-56]. Network [Sch11d, Koz18c, Koz19b, Koz19e, Nor18d, Shr19, Sta18]. Networked [Gei13]. networking [Ano19-64, Can11, Nor19b, Sch10k]. networks [Ano18-62, Bou16, Cho17b, Fri19, Hsu16c, McF11f, Plu11, Rad14]. Neural [Bou16, Mat17, Ano18-62, Fri19, Hsu16c, Sch18b, Str16a, Str17g]. neuromorphic [Gom17]. Neutrality [Rom15]. neutron [And19a]. Never [Ano18-63, Bro14, KW15, Sal19,

N [Swe11]. Nader [Ano16-54]. name [And12d, Bru12, HA11]. named [Per18c]. nanodirt [Ade10f]. NanoDYNAMITE [SKZ11]. nanometer [Moo19a]. nanometers [Cou17f].



Sch19e]. News [Ack14, Ack16i, Ack16l, Ack17c, AG18, Alb13a, Alb13b, And15a, And16a, And17c, And18a, And19a, And19b, And19c, And19d, And19f, Ano13-46, Ano14c, Ano14a, Ano14q, Ano14s, Ano14u, Ano14-36, Ano14-37, Ano14-38, Ano14-48, Ano14-56, Ano14-63, Ano14-80, Ano15-38, Ano15-57, Ano15-58, Ano15-59, Ano15-60, Ano16f, Ano16-40, Ano17h, Ano17k, Ano18-34, Ano18-41, Ano18-54, Ano18-57, Ano18-69, Ano18-76, Ano18-92, Ano19a, Ano19i, Ano19m, Ano19-50, Ano19-48, Ano19-72, Ano19-78, Ano19-83, Ano19-84, Ano19-103, Ble13a, Ble13f, Ble14b, Bou17b, Bou17c, Bou17d, Bou17e, Bou17a, Bou18c, Bou18b, Boy14, Boy15, Boy17, Boy18, Boy19a, Boy19b, Cha14, Cha18b, Cho14a, Cho16, Cho17a, Cho17b, Cho19, Cho14b, Cho14c, Cou13d, Cou13f, Cou13g, Cou13i, Cou14c, Cou14b, Cou14g, Cou14h, Cou14i, Cou15a, Cou15c, Cou15b]. News [Cou15g, Cou16b, Cou16c, Cou16d, Cou16f, Cou17c, Cou17d, Cou17e, Cou17g, Cou17a, Dol19, Dum17, Dum18a, Fai13d, Fai13e, Fai14a, Fai14b, Fai14c, Fai15b, Fai15c, Fai15d, Fai15f, Fai16a, Fai16b, Fai16e, Fai16f, Fai16h, Fai16g, Fai17b, Fai17d, Fai17c, Fai17e, Fai17f, Fai17h, Fai17g, Fai18a, Fai18b, Fai18f, Fai19c, Gal18a, Gal19c, Gal19b, Gom16, GA15, Ham19a, Har14a, Har15a, Har15c, Har15e, Har18, Hec15, Hel13, Hel14, Hel16a, Hel16b, Hel18, Hsu13, Hsu14, Hsu15, Hsu16a, Hsu16b, Hsu17b, Hsu18a, Hsu18b, Hsu18d, Hsu19, Joh15, Joh19d, Jon10g, Jon18, Jon19a, Jon19b, Koz18b, Koz18e, Koz19b, Kum13c, Kum14b, Kum14d, Kum18a, Kum19c, Lam13a, Lam13b, Lam14, Lam15, Lau13b, Lau15a, Lau15b, Lau15d, Lau17, Lau18a, Lau18b, Lau19a, Lau19b, Lau19c, Lev13d, Lew14b, Lew14a]. News [Lew14c, Moo16a, Moo16b, Moo17a, Moo17b, Moo18d, Moo18f, Moo18b, Moo19a, Moo19b, Moo19c, Moo19d, Moo19e, Moo19f, New13a, New13b, Nor15, Nor16b, Nor16d, Nor16f, Nor16a, Nor17g, Nor18c, Nor18d, Nor19b, Nor19a, Nor19d, Nuw15, Obe10a, Ong19, Pat15d, Pat15a, PP15, Pat15e, Pat15c, Pat16, Pat17, Pat18a, Pat18b, Pat19b, Pec15, Pec16, Pep14, Per18h, Raf19, Rom15, Ros13a, Ros17a, Ros18b, Ros19a, Sav13b, Sav14a, Sav14b, Sav14c, Sav15, Sav16, Sch18f, Sch19d, Scu16, Scu17, Scu18, Sil17a, Sta18, Sta19a, Sta19b, Ste16c, Ste17, Str13d, Str13f, Str13i, Str14b, Str14h, Str14j, Str16b, Str16j, Str16a, Str16k, Str17b, Str17d, Str17a, Str17f, Str17h, Str17g, Str17i, Str18c, Str18d, Str18e, Str18a, Str19a, Str19g, Tra13, Twe13, Twe14, Wal15c, Wal16b, Wal17a]. News [Wal17b, Wal19, You15a, Bou16, Cou16h, Fai15h, Ste16b, Str18b]. Next [Poo13, And14c, Ano11-62, Ano14-51, Bou17c, Cou16f, Cou17f, Gui18, Har11, Har19, Hor16, Hsu18a, Koz19a, LMY18, Pat19b, Str14g, Str14i, WK16]. next-gen [And14c, Bou17c]. Next-generation [Poo13]. nextgen [Moo18d]. Nicaragua [Lau15e]. niche [Ack18]. Nielsen [Ano13-48]. night [Gib14a, Ros18a]. night-light [Gib14a]. night-time [Ros18a]. Nikola [Glo14, Per14a]. nine [And19f, Gib17b]. nine-seater [And19f]. ninth [Cou15c]. nip [Cho18]. nitride [Ste10d]. Nitrogen [Cho16]. Nixie [Boo18, Sch18c]. nixie-S [Sch18c]. No [Ano16-49, Ano17-48, Ano18-65, Har13b, Rom12d, Ros16a, Ano15-41, Ano16v, Ano18-55, Hec14,



Hsu18c, HC15, Swe10a, Ton18]. noise [HT18]. non [Ano19-46, Ros19a]. non-cars [Ros19a]. non-millionaire [Ano19-46]. nonhuman [Str18g]. North [And19b, Bla10, Fai12c, Nor15]. Northern [Dum16]. Norway [Fai14b, Sta19a]. nose [Bou17b]. not-so-wayback [Gol14]. Notes [Ano16-50, Nor18b]. nothing [HM14]. novel [Ack16m, And19c]. November [Ano18-66]. NSA [Ano16-73, Bay15, Bla14, Bro16]. Nuclear [And10l, Ano11-40, Ano16-51, Lam15, Swe10b, Ano11-62, Ano14s, Ano18-68, Fai10a, Fai17e, Koz18e, Pat11a, Pat11h, Pat12b, Pat15d, Ram15, Str12b, Zac17c]. nuking [Ack16m]. Number [Smi15d, Smi17h]. Numbers [Ano18-67, Ble13c, Smi15b, Smi15c, Smi15a, Smi16a, Smi16b, Smi16c, Smi16d, Smi16e, Smi16f, Smi16g, Smi17a, Smi17b, Smi17c, Smi17d, Smi17e, Smi17f, Smi17g, Smi17h, Smi18a, Smi18e, Smi18f, Ano10-62, Cas14d, Lee15a, Per17d]. NwAvGuy [Sch14c]. NYC [Ano17-39].

O.R. [Str16e]. Obama [Zac12c]. object [Cas18f]. objects [Mak11]. oblivion [Sat18]. Obscured [Swe11]. observation [Fai17h]. obsolete [Ano11b]. occupation [PT16]. occupies [Nor17h]. Occupy [Mcf12c]. Ocean [Cou14g, Ano19a, Str13f]. October [Ano18-67]. Octobot [Las17]. octopus [Las17]. Odd [Cas14i, McM18]. odometer [KK11]. Off [Ano11-41, Fai17d, And17e, Ano12h, Ano19-92, Ble14d, Cas16h, Cho19, Lam13b, Lun18, Sch13c]. Off-grid [Fai17d]. offering [Pat14a]. offers [Sch19d]. Office [Sch10h, Ack16l, And12b, Gui11b]. offshore [Kum19b, Moo18e, Sta19a].

Oil [Lau18b, Swe12b, Ano14-50, Ano15-64, Ano18-68, Ano19-41, Swe12a]. Old [Ano16-52, Bon12, Fai15g, Mac10a, Cas19f, Has16d, Moo19e, Wal11d]. Oldies [And12f]. OLED [Ano14-63, Kin11b, PZ13]. olives [Ano11-35]. Olivetti [Mor19]. Olympian [Wal15b]. Olympics [Ble12a, Koz18d]. on-demand [Ble12a]. One [Ano10-60, Ano19-81, Cas19j, San19a, Sav10e, Voe11b, And10l, Gui15b, Has16b, Hsu16a, Jon10g, Lau13b, Nor17d, Pat11e, Per12b, Ros13c, Zha19, Zor17d]. one-armed [Gui15b]. Online [Ano10-80, Ano10-81, Ano10-82, Per13b, BB11, EWRA19, Fra12, Pec12b]. only [And12d, Sch13e, Str18b, Wal17b]. onto [Sch18d]. op [Bro17a]. Open [Luc11f, Ros14a, Sch14e, Cas19e, Str18e, Pro11]. Open-source [Ros14a]. OpenAI [Str19a]. openness [Ano15-83]. opens [Hel14]. Opinion [Ano17-44, Ano17-76, Ano18g, Ano18b, Ano18r, Ano18-36, Ano18e, Ano18-51, Ano18-44, Ano18-64, Ano18-66, Ano18-67, Ano18-72, Ano18-73, Ano19g, Ano19j, Ano19l, Ano19k, Ano19-40, Ano19-41, Ano19-39, Ano19-43, Ano19-44, Ano19-47, Ano19-45, Ano19-69, Ano19-70, Ano19-71, Ano19-76, Ano19-73, Ano19-77, Ano19-80, Ano19-81, Ano19-89, Ano19e, Ano19-93, Ano19-91, Ano19-101, Ano19-104, Ano19-105, Ano19-109, Hig19, Smi19]. Oppenheimer [Mur10, Mur10]. OPS [Lau19c]. optic [Koz19b]. Optical [And10i, Koz19d, SDK10, McM18]. optics [Nor15]. optimization [McM18, Moo19e]. Optimo [Moo19e]. optional [Gib14a]. Oracle [Ano19-107]. orbit [Jon19b, Mck14, Pat19a, Smi18e].



Orbital [RJH17, Fou19a, Har18]. order [FTW14, Mac19]. orders [And19f]. Oreskes [Swe11]. organ [Ham19a]. organizational [Ano19-102]. organizational-knowledge [Ano19-102]. Origin [Ano19-92, Har19]. original [Cas14a]. origins [Bro17c, Has18]. Oscilloscope [Pat15b]. oscilloscoping [Tur11c]. Other [LL13, Ano11-42, Cas13l, Cho18, Fai18f, Sch19d]. Our [Cas16k, Col15b, Dav12, Has12a, Ros13b, Ano12-49, Ano19-102, Har19, Has11b, Has16a, Hua19, PHS16, Rad14]. ourselves [Has12a]. outer [Str16f]. Outperforming [Koo10]. outpost [Fou19a]. outreach [And17e]. outshines [Kum16b]. oven [Bur12, MG14]. Over-Engineering [Ano10-61]. Overclock [BKB12]. overlooked [Cas19g]. overpromised [Str19d]. Owen [Ano13-49]. Owen-Smith [Ano13-49]. own [Ack13a, Ano12-49, Ano14r, Ano16w, Fur13a, Gib17a, KB10, Kum10b, McF16a, NA14, PW17, Sch11b, Sch19b, Tea10c, Wal11c].

p [Ano15-41]. P9 [Zor17a]. Pac [Ade10f]. Pac-Man [Ade10f]. package [Cas19n]. packages [ABCS11]. packed [FLP16]. packet [ES17]. packing [Fea10]. paid [Scu18]. painstaking [Lau19a]. Painting [Ano10-62]. Pancake [Mcf11b]. pancreas [Ros15a, Ups11]. pants [Gib14a]. paper [And13a, And18b, Fit18, Wal12b]. paradox [HT18]. paralyzed [Wal13d]. parent [And12e]. parenting [Wal12a]. Paris [Ano18-67]. parity [Fai13d]. park [Nor19a]. Parker [DEGG19]. Parrot [Ack18]. Parsing [Wal13b]. Part [Ano15-61, Ano18-45, Ano18-93, Cas13m, Zor17d, Zor17c, Ano18-94]. particle [Cal11d, Kle11]. partnerships [Str18b]. parts [Cas19g]. pass [Ano18-69]. pass-thru [Ano18-69]. passé [JL16]. passenger [And19f, Ano19-45]. Passport [Ano18-69, Bla12]. Past [Ack16g, Ack16b, Ack16c, Ack16d, Ack16f, Ack16j, Ack16k, Ack17a, Ack17b, Ack17e, Ack17g, Ack17h, Ano17-53, Ano17-58, Ano17-77, Ano18h, Ano18-40, Ano18-61, Ano18-71, Ano19-38, Ano19n, Ano19o, Ano19-63, Ano19-82, Ano19-85, Ano19-87, Ano19f, Ano19-98, Bro17a, Bro17d, Bro17e, Bro17b, Mar18a, Mar18c, Mar18d, Mar18e, Mar18f, Mar19a, Mar19b, Zac15d, Ble11b, Col15b, Gal19a, Joh19d, Laz16, Sch19e, Zac13c]. Patching [RBB17]. Patent [Ano14-52, Cal11b, Tes12, Har13b]. patented [Ano18-73]. patents [Ano18-36, Smi18f]. Path [Ano15-48, Sav13b, Moo17a, Str19g, You15a]. pathologist [Ano18-90]. pathology [Dol15a]. paths [Cou12i, Hsu16d]. patients [Nor16c, Str14j]. Patrick [Kar14]. Paul [Tim17]. pay [Cas12a]. pay-by-phone [Cas12a]. pays [And17e, Mac10b]. PC [Luc14e]. peace [Kar10f]. Peaceful [Ble13e]. Peddling [Swe10b]. pedestrians [Har15d]. peep [Mcf10d]. peer [Lew14c]. pen [Ack16k, Ano12-47]. Penetrating [Ano12-48]. pens [Sta19a]. people [Adi19, Ano18-70, Ano19g, BM14, Ble15, Gui10g, Has16c, Hur19, Jhu17, LL13, Mcf11b, Pat18b, San19b, Wal13d]. people- [Gui10g]. percent [Fai17b, Ste12b]. Perfect [Jon10b, Kap12, Per10e, PL17, And10l]. perfectly [And10l]. perforated [Col15b]. performance [Cas19h, Cou16f]. Peril [Swe10b, Ups10c]. permanent [Moo18e]. permanent-magnet [Moo18e]. Perovskite



[Kum19a, Kum19c, Pep14]. perpetual [Zac15e]. Perrone [Ros19a]. persistence [Smi16f]. person [And12g, Per18f]. Personal [Ano13-37, And10j, Ham19b, Kum14c, San19b, Tra14]. Pessimists [Fug13]. Peter [Ste18]. Petersen [PA19]. petrochemical [Pat14b]. Pettis [Cou13b]. phase [And14b, Str12b]. philanthropist [Kar11b]. Phone [Koz19c, MRM15, Ros12a, And11d, Ano18-92, Ble13a, Ble14b, Cas12a, Cas13g, Cas14d, Cha15, Hec14, Nor16b]. Phone-y [Ros12a]. phones [Ble13f]. Phoning [Koz19d]. phonograph [Smi18b]. phosphorus [Joh15]. photo [Zor13c]. photography [Per15c, Tur11a]. Photon [Sav11e]. photonic [KB10, Lev18]. Photoshop [Ano14-46]. photovoltaics [Lam14]. Phreaking [Lap13]. physicians [Lew14c]. physicist [Dya19]. Physics [Ano10-63, Lev18]. pi [Luc13a, Cas17e, Gib17a, Ano19-65, Sch15d, Wri16]. Pi-based [Sch15d]. piano [Ano17-56]. Pick [Smi17h, Ano14-52]. Picture [Ano10d, Ano10e, Ano10-89, Ano11s, Ano11-36, Ano11-39, Ano11-43, Ano11-63, Ano11-61, Ano12h, Ano12-42, Ano13a, Ano13d, Ano13e, Ano13c, Ano13-45, Ano13-55, Ano13-52, Ano14-44, Ano14-43, Ano14-50, Ano14-60, Ano14-65, Ano14-79, Ano15e, Ano15g, Ano15-45, Ano15-48, Ano15-82, Ano15-89, Ano16c, Ano16s, Ano16w, Ano16-41, Ano16-42, Ano16-47, Ano16-49, Ano16-55, Ano16-57, Ano17-37, Ano17-40, Ano17-38, Ano17-56, Ano17-60, Ano17-75, Ano18-37, Ano18-39, Ano18-35, Ano18-53, Ano18-57, Ano18-63, Ano19h, Lin10, Pee15, Ano10b, Ano10c, Ano12c, Ano12d, Ano12e, Ano12f, Ano12g, Ano12w, Ano14-38, Ano15f, Ano16-44, Ano17i, Ano17k, Ano17-79, Ano18-34, Ano18-60, Ano19i, Gib15b, Per17a]. picturephone [WS11]. pictures [Der15b, Lin10]. piece [Obe10a]. pieces [Cha15]. pig [Cho18]. Pigeon [Ano19-82]. pigs [Cho18]. pilot [Ano19-83]. pilots [Ack19a]. Pinball [Cas19k]. Pinch [Che13]. Pinging [Cot13]. pink [Ano19-85]. pinpoint [Cot13]. pioneer [Ano19-102, Ble13b, Mor19, TT12]. pioneering [Cas19m, Str19b]. pioneers [Hut19, Str13f]. pirates [Pec12b]. PIT [Per17g]. pitchers [CH19]. pitching [Wal15c]. pitfalls [Zor14e]. pivoted [Nor16g]. pixels [GG12c]. place [And12g, Hut19, Moo19f, Nor19d]. Places [Ano15-85]. plan [Chi10b, Fou19a, Moo19b, Nor17h, Pat11d]. plane [And19f, Ano16c]. planes [Sto18, Tra13]. Planet [Smi17c, Ano12-49, Cou15h, Gib17b, Mcf10c]. Planetary [Ano15-62, Kap12]. Planning [Luc16d, Ack17f]. Plans [Fai11b, Bla10, Fai17g, Fou19b]. plant [Kum14c, Lau13c, Nor19a, Wag18]. Planting [Ano14-53]. plants [Fai10a, Kum12c, Lau19a, Pat19b]. plastic [Fit18]. plateau [Luc14e]. plates [Sch17d]. platform [Nor17d]. play [Ano15-82, Ano18-71, Cas19m, Hin19, Lau15e, Lyk12, Str19a, Voe19, Ano17-51]. played [WK16]. players [Gei13, Str19a]. Playing [LE16]. please [Mcf10e, SRGD13, Mag12]. plenty [The13]. Plex.AI [And17d]. plot [You15a]. plotter [Cas17f]. Plotting [Cou17g]. Plowing [Mar18f]. Plug [Lyk12, Sch12g, Voe11b, Hin19, Joh14c, Voe11a]. Plug-and-play [Lyk12, Hin19]. Plug-in [Voe11b, Joh14c, Voe11a]. Plug-ins [Sch12g]. Plugging [Ano19-83, Lau13c]. plugs [Ano17f, Ano17-58, Gal19b].



poachers [Kum18b, Zac16e]. Pocket [Gei12, Kar12b, Tal16]. Pocketknife [And10m]. Poco [Sin19]. poet [And18c]. poetry [And18c]. poets [And18c]. Point [Wal13c, Cas19f]. Point-and-shoot [Wal13c, Cas19f]. points [Las17]. Pokémon [Zac16b]. Poker [Ano15-57]. polar [Kle11]. polariton [Sav14b]. pole [Mor13]. police [Ari16, GP18]. polluters [Fai16b]. pollution [Kum18c]. poor [Bur12]. Pop [Ano19-84]. Pop-up [Ano19-84]. popular [Cas19j]. Porsche [Voe19]. Portable [Ano10-69, Ano12-50, Dol15a, Per10e]. Porter [Ano18c]. pose [Lev18]. positive [Fai11f]. possible [Mag12, Moo19c]. post [And12b, Ano15-59, Fai11h, Kin11d]. post-Fukushima [Fai11h, Kin11d]. postures [Ano14s]. potato [Jon19a]. poverty [Has16b]. Power [Ano10-51, Ano18-70, Fai10b, Lam15, Ste16b, Ack16n, AM10, And19d, Ano11-40, Ano12w, Ano18-68, Ano19a, Ano19-83, Ano19-84, Ano19-101, Bou18b, Cal11f, Cho18, Cou11b, Cou12e, Cou13j, Fai10a, Fai10d, Fai11h, Fai13c, Fai13d, Fai13e, Fai15f, Fai16g, Fai17c, Fai17e, Fai18f, Fai19c, Har19, HM15, Heb17, Kum12b, Kum12c, Kum13c, Kum14c, Kum16c, Lau15e, Lau19b, LC18, Loh16, Mod16, Moo12a, Nor19a, PW17, Rom12a, Sav11e, Sch10l, Sch14f, Shi19, Ste12c, Str12b, Str14i, Str14k, Tur10b, Ulr19a, Voe19, Wag18, Wal13b, Bar17b]. power-distribution [Ano19a]. powered [And19f, Ano10-40, Gal18a]. Powerful [Ano15-85, Ste12b, Fai18b, GI19, ML19, PN15, Sav13c]. PowerPoint [Bro17c, Mcf17b]. powers [Ano16-48, Fai18c, Har14a]. practical [Sav14b, SH19]. Practice [Ano14-34, Ros10c, And16b]. precision [Ano18-54, Mar18f]. predict [Cas14f, Cho18, Str11f]. Predicting [Pat12d, Str18d]. prediction [Pat12d, Zor14e]. predicts [Sch19c]. preps [Str16e]. prescribe [Zha19]. prescription [Str15b, Wal17b]. prescription-only [Wal17b]. present [Sch19e]. President [Ano17-59]. pressure [Ros16a]. Pretty [Ano19-85]. prevention [Pat18b]. Preview [Zac15d, Kar10h]. price [Ano15-64]. prices [Sch19c]. Pride [Ano16-73]. prime [Kum19a, Spi11]. Print [Ano10-83, Ano10-84]. printable [Bug18]. printed [Koz18b]. printer [Per17e]. Printers [Wal10, And19c]. printing [And19c, Cou13b, Sal19, Str13g, Wal16a]. prison [Mcf17b]. Pristine [Ano14-54]. prius [Ros18c]. Privacy [Jar11, Hsu18f, Lau18a, Pec16]. Private [Fai16b, Jon19b]. prized [Fai18d]. Pro [GG12a]. probably [Ack19a]. Probe [DEGG19]. probes [Cas13n, Wal14b]. problem [Bar17a, Can11, Fai17f, HT18, Kum12b, Lev18, Luc11e, PWM18, Pec17a, Sch10c]. problems [Ano19-102, Bou17a, Bou18a, EWRA19, Lev11a, McM18, Moo19e, Rom12a, Sav12d]. process [Ade10f]. processed [Ano19a]. processing [Alt18, Bou18c]. processor [Lev18]. processors [Moo17a, Moo19c, Sch12a]. proclaimed [Per12b]. produce [Lin10]. product [And19d]. production [Cas13b, Moo19d, Str16d]. Products [Pat19a, And19c]. profession [Str18h]. Profile [And17d, Ano14-54, Ano19-86, Bar17b, Cou13b, Dum10, Har13c, Jon13, Kar11b, Kar11d, Kar12a, Kar13a, Kar14, Kar16b, Kum13b, Nor16g, Nor16h, Pat15f, Per13c, Str12f, Str13a]. Profiles [And11c, Kar11e]. profit



[PW17, Ros14a]. Program  
 [Cas19h, And19a, Ano19-83, Fai19c,  
 Goo16, Per19a, Spi16]. Programmable  
 [Tat18]. programmer [Kar11b, Sch14d].  
 programming  
 [Ano17-58, Cas14m, Kin11e]. programs  
 [Pat15d]. progress [Zac15e]. project  
 [KW19, Nor16e, Rom11, Str19a,  
 Cas19l]. projecting [Sch18d].  
 projectors [Lin10]. Projects  
 [Ano10-63, And15a, Fai17d, Has16d].  
 Proliferate [Wal10, Sch12g].  
 proliferation [Mac19]. promise  
 [Gol18, Lev11a]. promised [Koz19b].  
 promises [Fou18, Hsu19, Ulr19a].  
 promotes [Dol19]. promotion [Cas15g].  
 proof [CL14, MWW15]. propellers  
 [Sto18]. propels [Hsu18e]. properties  
 [Koz19b]. proportions [Kap12].  
 propulsion [Sto18]. Prospects  
 [Lev11b, Cor10c, SH19]. Prosthetics  
 [Tyl16]. protect  
 [CH19, Cas17c, Pep19b, Rus19].  
 Protecting [Kum13c]. protector [ES17].  
 protects [Dum17]. proteins [Ano18-41].  
 protocol [Ano19-64, MB19].  
 prototyping [Mel18]. provide [Koz19d].  
 Prowess [Moo11b]. psychiatrist  
 [Moo11c]. psychiatry [Tor17].  
 psychology [Ano15-45]. public  
 [Dol15b, Kar13a]. publicness [Jar11].  
 publisher [GG12b]. publishing  
 [Ano12-41]. Puerto [Gal18b, OCIR19].  
 pugnacity [Cho18]. pulls [Cho18].  
 pumped [Fai15h]. Pumping [Sin10].  
 Punjab [Sin10]. pursuit  
 [Ano15-63, Has16c]. Pursuits  
 [Ano15-62]. push [Gal19c]. pushes  
 [Joh19b, Nor19b]. put  
 [Cal10, Moo19b, Per11a, Sam17].  
 Putting [Ano19a, Nor19d]. puzzle  
 [Ari16, Dum18b]. PV [Boy17, Pat11b].  
 PVS [Smi18e, Ste12b]. Pyrrhic  
 [Fai17e]. Python [Ano19-86, Cas17i].  
 PZFLEX [Ano17e].  
 Q&A [And19e, Ano13-47, Ano13-48,  
 Ano13-49, Ano14-55, Ano17-51,  
 Ano18c, Ano18-59, Ano18-74,  
 Ano19-65, Ano19-68, Ano19-108,  
 Cas18f, Che13, Pag17]. quadcopter  
 [Cas16c]. quake [Gol10c]. quantified  
 [Mcf13c, Wal12f, Wal15b]. quantify  
 [KT17]. quantizer [Pau19]. Quantum  
 [And19d, Bro12, Gom18, Pat12e,  
 Per18f, SH19, AP18, And17c, And18a,  
 Ano14c, Ano18-71, Bou17a, Boy18,  
 Cho17b, Cou16c, Cou17d, Das11,  
 Dya19, EWRA19, Gui10b, Hel16a,  
 Hel16b, Lam13a, LMY18, Naa16,  
 Poo14, Sar10]. Quantum-computing  
 [Per18f, SH19]. quarter [Ano19-107].  
 qubits [And18a]. queen [And15b].  
 quess [Ano17-75]. Quest  
 [Ano13-32, Arm15, Ble15, Cot13,  
 Hel12b, PWM18, Ste11c]. questions  
 [Bro18]. quickbooks [Per11c]. Quicker  
 [Fai13c]. quickly [Ano13-42]. quiet  
 [Shi19]. quirks [Nor16e]. quite  
 [Ano16v].  
 R [Swe11]. R&D [Zac12c]. Race  
 [Pec13, Ack15a, Ano14u, Har18, Lau12,  
 Mor13, Raf19, Cas19d]. racers  
 [PTdRM17]. races [Ano13-33, Fai19c].  
 Racing [Ano19-39, Sch15c]. Radar  
 [Ano12x, Laz15, Cas19m, Sch19d].  
 radical [O'D16]. Radinsky [Kar15].  
 Radio [Pep18a, Sch10i, Adi19,  
 Ano19-64, Cas13a, Cas13m, Cas16i,  
 Cas18e, Cas18k, Cou12k, Dum16,  
 Hel12a, Laz16, Liu11, Luc15a, Sch18f,  
 Sch19b, Wal11d, Zor14a, Ano13-50].  
 radios [Til19]. Raiding [Kar11g]. rail  
 [Gal19c]. railroad [Ups10d]. raining  
 [Kel16]. raise [Cha18b]. raised [Tes12].  
 RAM [Ano10-65, Sav10f]. Ramo  
 [Has16e]. Randall [And19e].



Randomness [AH18, TC11]. rang [Zor14g]. range [Gal18a, Lau19c, Sam17]. Ranking [Ano14t, Cas14m]. rankings [Per19d]. rapid [Cas15e, Fai18f]. Rapture [Wei10]. rare [Jon10e]. rare-earth-metal [Jon10e]. Raspberry [Ano19-65, Sch15d]. rat [Kum17]. rates [Adi19]. raucous [Fai15e]. raw [Ano19a]. Ray [Ack17b, And14b, Ano18-41, Cou17a, Hec18a, Kum19c, Ren10]. RCA [Gro12]. Re [Bre18, Has11c, Pau19, Per18d, Zor11]. Re-creating [Bre18, Pau19, Per18d]. Re-engineering [Has11c, Zor11]. reach [Jon11e]. reactions [Koz18e]. reactor [Gal19a, Str14k]. Reactors [AG10, Bon12, Boy11a, Lev12a, Ram15]. reacts [Zha19]. Read [TP13, Cas16n]. reader [Zor14f]. Reading [Ano15-61, Ano17-46, Sch10a]. Ready [Kum19a, Ano14-48, Gom16, Jon19b, Moo18c, Ros19a, Spi11]. real [Ack15a, Ano14-46, Ano15-64, Ano19-87, Ble14a, Cas19h, Cou12j, Fai18f, Kum12c, Kus13, Rot17, SL15]. real-life [Ack15a, Ano19-87, SL15]. real-time [Fai18f]. Reality [Ano15-58, Poo13, Ack16a, Ano16-38, Ble13b, Boy11b, FL19, Fur16, Gui10e, Kar13a, Kus14, Per16d, Per17c, SL15, Sch11a]. really [AGPE19, Cha13a, Dun11, Gom16, Luc11c, Lun18, Pat18b, Pep19b, Wal11e, And10i, WS11]. Reaping [Poo15]. rebirth [Cas19k]. reboot [And19d]. reboots [Fai15f]. reborn [Cas16e, LMSA12]. Rebuilding [Gal18b]. Recipe [Ano19-88, MG14, Lew14e]. recipient [And16b, PA19]. reclaims [Ack18]. recognition [CTM19, Str17c]. Recommended [KR12]. reconsider [Koz18e]. reconstructed [Dum18a]. record [Boy17, New13a, Sav11e]. recovery [Cho19]. recruitment [Joh19b]. recycle [Hel18]. recycling [Sav11e]. Red [Ton18, Cou15h]. redefining [Gui19a]. Redmond [Che12b]. redo [Che12b]. Reducing [Ano14-56]. redux [AG10]. Reef [Boy19b]. refined [Cas19d]. Reflecting [Ano11-43]. Reflections [Luc10a, Luc10b, Luc10d, Luc10c, Luc10e, Luc10f, Luc11b, Luc11a, Luc11d, Luc11f, Luc11e, Luc11c, Luc12a, Luc12b, Luc12d, Luc12e, Luc12f, Luc13a, Luc13b, LL13, Luc13c, Luc14a, Luc14b, Luc14c, Luc14e, Luc15a, Luc15b, Luc15c, Luc16a, Luc16c, Luc16b, Luc16e, Luc17b, Luc17a, Luc17c, Luc17d, Luc18a, Luc18b, Luc14d]. reflow [Bur12]. Reformulating [Poo12a]. refrigerants [Sta19b]. refrigerator [And17a]. refueling [Sam17]. region [Per19c]. registries [Nor16d]. Regulators [Sch19d, Shi19]. rehab [Per18a]. reincarnated [Cas18c]. Reinventing [Per16a, Sto18]. reinvents [Har15c, Ups10d, Wan17]. relay [LMSA12]. release [Nor18b]. relevant [Luc12d]. reliable [Ami11]. relic [Gal19a]. relief [Sch10j]. rely [Ack19a]. remaining [Moo19d]. Remaking [Hig19, Shi19]. Remember [Ano14-61, BZEM10, Zor14f]. Remembering [Che11b]. Remembrance [Zac13c]. Remote [Der14, Cos15, Sch19d, Sta19a]. Remote-collaboration [Der14]. remote-controlled [Sta19a]. renaissance [And11c, Cas15e, Fai15h]. rendered [And10l]. renewable [Fai12c, Fai17b, Sil17a]. Renewables [Ble13g, Ano14-49]. repair [Ano19-106, Cha18b]. repairs [AG18]. replace [Lau19a, Wal14b]. replacements



[Luc16a]. Replica [Cas19m]. Report [APS<sup>+</sup>11, Ano16t, Ano18i, Lau15e, PPC<sup>+</sup>12, Zor12, Ano10-38, Ano11-40, Gom17, Has17a, Haw17, KT17, Kum17, Mei17, MWL18, Rot17, Str17j, Str17k]. reported [Per19b]. Reporting [Ano10-64, Ano11-32, Ano15-80]. reports [Cha18c]. required [Ano16-49, Cas17h, Str18b]. RES [Scu19]. Rescue [Gui14a, Ano16-57, CS13, Nam17]. Rescue-robot [Gui14a]. Research [DMCP19, And18a, Luc11a, Luc11e, Str11b]. Researchers [Str18e, PWM18]. Residential [Fai13d]. Resistive [Ano10-65]. Resource [Sin19]. Resources [Ack13a, Ack15b, Ack18, Alt18, And13a, And13c, And17a, And17b, And17d, And17e, And18b, And18c, And19e, Ano13-48, Ano13-51, Ano14-54, Ano14-55, Ano14-57, Ano14-58, Ano16-54, Ano17-39, Ano17-51, Ano18c, Ano18q, Ano18-38, Ano18-58, Ano18-59, Ano18-74, Ano19-64, Ano19-65, Ano19-68, Ano19-108, Bar15, Bar16b, Bar17a, Bar17b, Bar19, Bre18, Bug18, Bur18, Cas13d, Cas13e, Cas13g, CZS13, Cas13j, Cas13a, Cas14c, Cas14g, Cas14i, Cas14l, Cas14o, Cas15g, Cas15i, Cas15j, Cas15m, Cas15k, Cas15l, Cas16b, Cas16c, Cas16e, Cas16f, Cas16d, Cas16i, Cas16k, Cas16l, Cas16m, Cas17b, Cas17c, Cas17d, Cas17e, Cas17a, Cas17g, Cas17f, Cas17h, Cas17i, Cas18b, Cas18c, Cas18d, Cas18e, Cas18a, Cas18f, Cas18h, Cas18j, Cas18i, Cas18k, Cas18g, Cas18l, Cas19c, Cas19d, Cas19e, Cas19g, Cas19b, Cas19f, Cas19h, Cas19i, Cas19j, Cas19k, Cas19m, Che13, Cop19, Cos15, Cou13b]. Resources [Cou14a, Cou15f, Der14, Der15b,

Dic14, DMCP19, DM19, Dum18b, Fai18c, Fai18d, Fri19, Fur13a, Fur13b, Fur16, Gal19a, Gei13, Gib14b, Gib15a, Gib17a, Glo14, GA17, GK18, Her17, Hod13, Hsu16c, Hsu18c, Hsu18f, Hua19, Joh19b, Joh19c, Jon13, Kar13a, Kar13b, Kar13c, Kar14, Kar15, Kar16b, Kar18, Koz18a, Kum13b, Kum16b, Lee15a, Lee15b, Lee15c, Lev13a, Lew14d, Lew15, Loh16, Man17, Mat17, Mel18, Noc17, Nor16c, Nor16e, Nor16g, Nor16h, Nor17b, Nor17f, Nor18b, Pag17, Pat13c, Pat15f, Pat15b, Pat15h, Pau19, Pep17, Pep18a, Pep18b, Pep19a, PT16, Per13c, Per14a, Per14b, Per15b, Per15c, Per16b, Per16c, Per17h, Per17e, Per17d, Per18f, Per19a, Per19c, Per19d, Poo14, Poo15, Pop13, Rao15, Rom13, Ros15b, Sac19, San19a, San19b, Sch13b, Sch13f, Sch14a, Sch14d, Sch14g, Sch14c, Sch15a, Sch17c]. Resources [Sch17e, Sch17f, Sch17g, Sch18d, Sch19e, Sil17b, Spi16, Str13a, Str13b, Str14a, Str14d, Str18g, Ube17, Wac13, Wal13b, Wal13c, Wal14a, Wal16a, Wri16, Zor13c, Zor16, Zor17a, Zor17d, Zor17c]. Resources-Hands [Gib14b, Sch14d]. Resources-Start-Ups [Ano14-54, Jon13]. Resources-Tools [Str13b].

Resources<sub>at</sub>[Koz19e].Resources<sub>Careers</sub>[Pep19b].Resources<sub>Ge</sub>

S [Sch18c]. S1 [Cas18a]. S1-AU [Cas18a]. sacred [Ano16-39, Cas18f]. safe [Ano17-60, Str14k]. safe-keeping [Ano17-60]. Safeguarding [Sme15]. safer [LSD18, LC18, Nor19d, Raf19, Sch18d]. safety [Cha18b, Mac10c]. Sahara [Nor19a]. said [Pro15]. sail [Ano19-44]. Sailing [Ano10-68, Ano13-53]. sailor [Ble13g]. Sailors [Ano16-55]. sale [Hsu16b]. saline [Ade10g]. salmon [Dum17, Sta19a]. salt [Fai15f]. same



[Hsu19, Has16d]. Samsung [Moo19a]. San [Per18g, Per18i]. Sanstreak [Per15c]. Sarnoff [Gro13]. Satellite [BKB12, Gol10c, Fai16b, Fai18b, Koz18b]. Satellites [Fai14c, Fou19b, Koz18b, Lyk12]. save [Ano18-90, Kro16, PWM18, Str16i, Str18d]. Saves [Fai10b]. Saving [Sat18, Zac11c, Zor13c, Cho14b]. savvy [Kar10k]. saw [Cou14b, Sal19]. say [Hsu18c]. says [Ano18-54, Ano19-100, Str16g, Ulr19a]. scale [And19d, Boy14, Cal11d, Ste17]. scaling [Luc17d]. scalpel [Pat15c]. scam [JL16]. scammers [MB19]. Scanner [Sav13b]. Scanners [Ano10-69]. scene [Cas15e, Sri10]. scenes [Ano18-37, Bay15]. scent [Boy11b]. schedule [Boy11a]. schematics [Cas19d]. schizophrenic [Str14j]. Schlaepfer [Cas19g]. school [SG13, Pat11d]. schools [Pat18b]. Sci [Ano15-40, Tat18]. Sci-Fi [Ano15-40, Tat18]. Sci-Tech [Ano15-40]. Science [Ble12b, And19e, Ano19-79, CH19, Cas18d, Cas19l, Kar11e, Kei14, Mur10, PWM18, Pet10, Wal15c]. scientist [Ano11-44]. Scientists [Ano18-41, Das10, Koz18e, Swe11, Fai18d, Lau19a, Per19a]. Scooter [Ano15f]. scope [Gei12]. Scoping [Tur11c]. Score [Ros13c]. Scott [Ano19-86]. Scrabble [And12a, And12e]. scrambler [Pau19]. screen [Ano14b, Bec14]. screens [Nor17c]. scuttle [Fai17g]. sea [Ano18-37, Fai17c, Str12h, And19b, Bla10]. Sealed [Ano17-60]. seaplane [Hsu18b]. Search [Mit11, And19a, Ano13-55, Cou12g, Sch14c, Str12c, Zac16d]. Searching [BDF12]. seas [Ano15-43, Lev17, Moo18e]. season [Sch14e, Str11f]. seasons [Sch11c]. seat [Cor10b]. seater [And19f]. second [Ano18-43, Ble12b, Boy15, Kus17, LM14, Kus17]. Secret [Alb13b, Kar10d, Swe10b, Ano16-71, Obe10b]. secrets [HC15]. security [And19d, Ano19-69, Gib16, Har12b]. See [Ble10a, Adi19, Cou16h, Hei14, Kei15, Nor16b, Pat18b, PZ15, Sae14, SH19, Smi16g, Smi11, Tur10c]. seeds [Jon19a]. Seeing [Adi19, Cou13i, Luc15a]. seek [Fai17b, Plu11, Sch19d, Str19a]. Seeking [Ano16-56]. Seeks [Per17b, Til19]. sees [Chi10a]. Segars [Ano19-100]. select [Boy19a]. Self [Cou12h, Fai17f, Gre16, Has17c, Ros19a, Scu17, Ste17, Ulr19b, Ack16i, Ano10-40, Ano19c, CNB18, Gom16, Goo16, Mcf13c, Per12b]. Self-assembly [Cou12h]. Self-driving [Fai17f, Gre16, Has17c, Ros19a, Scu17, Ulr19b, Ack16i, Ano19c, CNB18, Gom16, Goo16]. Self-healing [Ste17]. self-powered [Ano10-40]. self-proclaimed [Per12b]. selfie [Sch15b]. Selfies [Ano15-67, Ano15-65]. selfish [Mcf11c]. sell [PW17]. semiconductor [Cas14j]. semiconductors [Ano14u]. Send [Gui11b]. seniors [Lee15c]. Sense [Ano16-73, Boy11b, Cho18, Ste11a, Tyl16, Wal14b]. senses [Str18g]. Sensing [YLC12, Cor10b]. sensitive [Kum19c]. Sensor [Sta18, FLP16, Per18h]. sensor-packed [FLP16]. Sensors [CH19, Ade10h, Fit18, Str18a]. Sensuous [Luc13c]. sent [Moo18a]. sentinel [Rei15]. sepsis [Str18d]. September [Ano18-73]. Sequencing [Ano13-37]. sequester [Hel18]. serf [McF12e]. series [Voe11a]. seriously [Koz18e]. servants [Gui14b]. server [Sta19b]. servers [Lun18]. service [And19f, Ble14b, Gal19c, Hsu16c,



Hsu19, Koz19b, Koz19c]. services [Cas19j, MSL13, Per12b]. set [O'D16]. SETI [Sch16a]. sets [Lam13b, Poo13]. several [Ham19a]. sewers [Dol15b]. Sexual [MWL18, Pat18b]. SHAKEN [MB19]. Shakespeare [And11i, Pre11]. Shaking [Ano17-61]. shale [Smi15a]. shall [Che12a]. Shannon [Zac16a]. Shape [Moo19f, Sch11e, AG11, Cou12h, Sav13c, Wal12d, Zac15c]. Shape-shifting [Moo19f]. shapes [Zac15c]. Shapeways [Str13g]. sharing [Fai13a]. Shawcroft [Ano19-86]. sheet [Gib14b]. sheets [PBG11]. Sherpa [Kum16b]. shifting [Moo19f]. shine [And19c]. shines [Fur16, Ste10b]. Shining [Fai18b]. shipbuilding [Ano17-61]. ships [Ano19-44, Lev17]. shirt [Gui18]. Shock [Ano19-90]. shocking [Har12e]. Shockley [Bro13]. Shoes [Ano15-44]. shoot [Cas19f, Har11, Wal13c]. shoots [Ano18-37, Jon18]. shop [VT13]. short [LC18]. shortage [Bla11]. shortwave [Ano18-57, Cas18k, Sch18f]. Should [Ano18-74, Voe14, Ano18-55, Car18, GP18]. shouldn't [Ack19a]. shout [Cha14]. Show [Ano19-91, Cas16h, Gui14a, Per17a]. show-down [Gui14a]. showcased [Cas16c]. showcases [Bou17b]. showdown [Kum16b, Per17e, Zor17d, Zor17c]. shows [Cou14i, New14, Nor16b]. shrink [Cou13c]. shrinking [Cou15a, Cou16i]. shrunk [PN15]. shut [MB19, MRM15]. Shutdown [Boy11a]. shuttle [Obe11]. shuttles [Ros19a]. SID [Cas19c]. side [Ano16f, Jon18, Jon19a]. Siemens [Ano19a]. Sifting [Ano18-75]. sight [Gui10g]. sights [Bre15]. signal [Alt18, Sch12a]. signals [Gal19c, Moo18a, PHS16]. signature [Zor17a]. Sigaly [Pau19]. silence [Ano18-77]. silent [Ros16b]. Silicon [Boy18, Lev18, Lig16, LM14, Sav13a, Sch19f, Ste11c, Boy17, GI19, Hel12b, Moo19b, Moo19e, YEK19, Hsu18c, Luc14b, Per16a, Str17i]. silicon-interconnect [GI19]. Silver [Ano13-52, Bec14]. Simon [Ano19-100, Has16e]. simple [Ano19-64, Cas15o, Cop19, PN15, Str15a]. Simpson [Cas16f]. simulations [Fai14c]. simulators [Jon14]. Sing [And11f]. Singapore [Ong19]. single [Moo19b]. Singularity [Cas12b]. Six [Cou12i, Hel14]. Six-state [Hel14]. sixth [Ste11a]. size [Ano17-44, Bou17e, Joh19c, Moo19e, Str16a]. skateboards [Ano16c]. skeptic [Smi12]. Skies [KS18, Ano11-34, Bye17, Neu16]. skilled [Ack19b]. skills [Per19c]. skin [Som13]. Sky [Ble10a, Swe11, Ano14a, Kum14b, Ros18c, Sch10f]. Skype [Cho14c]. slack [Bro17f]. slake [Voe19]. Slave [Ano18-76]. slenderized [Ulr13a]. slept [Glo14]. slide [Mar18b]. slides [Zor13c]. slim [Zor16]. slime [Gor12b]. Sling [Ano10-67]. slippery [Ren10]. Slopes [Ano16-45]. Slow [Smi17d, Per11c, Zac13e]. slower [Koz19b]. slowly [Ulr19b]. Small [Ano10-60, Joh19c, New14, ABCS11, Ble13h, Der10, ML19, Ram15, San19a, Tur10c]. Small- [Joh19c]. Smaller [OT11, GI19, Sto18]. Smart [And12h, Dol15b, EW19, Fai10b, MB12, Poo12b, And10n, Ano18-92, Ano19-43, Ano19-89, Cas13b, Dol19, Han10, Hec14, Kar10k, Per18g, Ros17a, Str11c, Str19c, Tur10b, Vin16, Zac11c]. smart-car [Ros17a]. Smart-Grid [Fai10b]. smart-phone [Ano18-92]. smarter [Gor12b, Sch10m]. smartest [Kum13d]. Smartphone [Str14j, And18b, Ano14-37, BG13, HT18, Jon10a, Koz18a, Lew14e,



Luc16b, McF16b, Nor16e, Per18a, Sie12, Zor16]. smartphones [Has12a, Lew14b, Moo17b]. Smarts [Fai10e]. smashing [Ano17-62]. Smil [Ano18-67]. Smith [Ano13-49]. Smoke [Swe11]. Smokes [Ano16-53, Kar10n]. Smooth [Ano13-53]. smuggle [MSL13]. Snails [Lau12]. snake [Ano19-41]. Snapping [Har14b]. snatchers [TGB17]. Sniffing [Fai16d, Bou17b]. SnotBot [KW19]. Snowbound [Ano11-45]. soccer [Jon11e]. soccer-ball [Jon11e]. Social [Dri16, Can11, Cho14c, Luc11c, Per16d, RZ11, Sac19]. society [Vai11]. Soda [Ano10-61]. Soft [Sav12d, Las17, Str17f, Tea12]. Software [Alb13b, And10h, Bar19, Cas13m, Per13b, Wal16b, Zei10, Ano19-108, Ano19-106, CH19, Cas13a, Der14, JL16, Pat11g, Per18i, Ros11b, Sat18]. Software-defined [Cas13m, Cas13a]. Soggy [Cou15g]. Solar [Ano15f, Ble13g, Kum16b, Mul14, Zac12d, DEGG19, Fai10e, Fai12a, Fai13d, Fai15a, Fai15d, Fai15e, Fai15f, Fai18a, Has16b, Hin19, Kro16, Kum13c, Kum19a, Lev12b, Lev13d, Mod16, Nor19a, Pat19b, PW17, Sav11e]. Solara [Ble14d]. solder [Bur12, Kus12]. soldiers [Scu19]. Solid [Jon11a]. Solid-State [Jon11a]. Solution [Zac13a, Ade10g, Bou18b, Cou16e, Smi15d]. Solutions [Per17b]. solve [Ano19-102, Bou17a, Das10, EWRA19, McM18, PWM18, Pec17a]. SolveBio [Dic14]. solvers [Bar17a, Mis10]. Solving [Dum18b, HT18]. Some [And18c, Cas17h, Hsu18c, Pat18b, Ano17-46, Ano19-108]. someday [And19d, Kei15]. Someone [Kre14, Ano14-47]. Something [Mur10]. sometimes [Kar11e]. Sonar [Str16i]. song [And11f]. sonic [Kum18a]. Sony [Ano19-107, Kus11c, San19b]. soon [Ano15-46, Kin12b, Nor19b, Rus19, Smi15a, Zac16d]. soul [McM11]. Sound [Ano18-77, Ano18-38, Cas19c, San19a]. soundtrack [San19b]. Source [Ade10d, Cas19e, Ros14a, TT12]. South [Str11c]. Southern [Fai16g]. Soviet [Tat18]. Space [Ano10-68, Ano13-54, Ano15-39, Ano15-66, Ano16-57, Clo10, Ack18, And19a, Ano11-44, Ano15-82, Ano18-65, CD15, Cas14k, Cho17b, Cou14d, Fou19b, Hsu18a, Hsu18d, Jon11c, Kum10b, Obe11, Pat15a, Pec11, Rei15, Sas14, Str14i, Str16f]. space-Internet [Fou19b]. space-time [And19a]. spacecraft [Jon19a]. spaces [Cas15e, Kar13a]. SpaceX [Ano19-107, Ano19-92, Fou17, Fou19b, Hsu18a, Per19d]. Spain [Fai12a, Pec12b]. Spam [JL16]. span [Ano19-73]. spanning [Gel15]. spare [Hil15]. sparks [Bla14, Voe11a]. speak [Cho14c]. Speaking [McF11d, McF11e, McF12d, McF12f, McF13d, McF13e, McF14b, McF14c, McF14d, McF15b, McF16b, McF16c, McF16a, McF17c, Mcf10a, Mcf12b, Mcf12c, Mcf13b, Mcf14a, Mcf15a, Mcf17a, MA17, Mcf17b, Tho15, Tim17, McF12e, Mcf10c, Mcf10d, Mcf11a, MJ13, Mcf13c]. Special [APS<sup>+</sup>11, Ano11-40, Ano14-62, Ano16t, Ano18i, Gom17, Has17a, Haw17, KT17, Kum17, Mei17, PPC<sup>+</sup>12, Rot17, Str17j, Str17k, Zor12, Ack17c, Ano10-38, Ano18-89]. specialist [Ano19e]. species [Str16i]. Speck [Bou17e]. Speck-size [Bou17e]. spectacular [Sch14c]. Spectral [Ack19a, Ano10-85, Ano12-51, Ano14-42, Ano17-59, Ano19c, Ano19-100, Ano19-107, Ano19-102, Cha11a, Cha11b, Cha13a, Cha18c,



Cha19, Che11b, Chr14, Fai11f, Gol14, Has11b, Has11a, Has12b, Has15a, Has15c, Has16a, Has16b, Has16c, Has16d, Has16f, Has16e, Has17b, Has17c, Has18, Has19, Hod12, Koz18c, Koz19a, Luc12c, Mac10c, McC15, MWL18, Pec12b, Per11a, Per17b, Per17f, Per18a, Per18d, Per18e, Per18i, Per18c, Per19b, Pre14, Ros10d, Ros10f, Ros11a, Ros13b, Sch10e, Sch13c, Sch17d, Sch18a, SH19, Scu18, Str18h, Str19b, Str19c, Voe13b, Vos13, Zac11b, Zac11a, Zac12a, Zac12b, Zac12d, Zac12e, Zac13a, Zac13b, Zac13c, Zac13d, Zac13e, Zac15a, Zac15b, Zac15d, Zac15f, Zac15e, Zac16a, Zac16c, Zac16d, Zac16e, Zac16f, Zac17a, Zac17b, Zac17c, Zac17d, Zor14a, Zor14b, Zor14d, Zor14e]. Spectral [Zor14f, Zor14c, Zor14g, Zor17b]. spectre [AGPE19]. Spectrum [Laz10, Ano18-44, Koz19a, Laz13, Til19, Zor14a, Ano10l, Ano10m, Ano10n, Ano10o, Ano10p, Ano10q, Ano10r, Ano10g, Ano10h, Ano10i, Ano10j, Ano10k, Ano11f, Ano11g, Ano11h, Ano11i, Ano11j, Ano11k, Ano11l, Ano11m, Ano11n, Ano11o, Ano11p, Ano11q, Ano12k, Ano12l, Ano12m, Ano12n, Ano12o, Ano12p, Ano12q, Ano12r, Ano12s, Ano12t, Ano12i, Ano12j, Ano13f, Ano13g, Ano13h, Ano13i, Ano13j, Ano13k, Ano13l, Ano13m, Ano13n, Ano13p, Ano13q, Ano13o, Ano14p, Ano14e, Ano14f, Ano14g, Ano14h, Ano14i, Ano14j, Ano14k, Ano14l, Ano14m, Ano14n, Ano14o, Ano15p, Ano15i, Ano15j, Ano15k, Ano15l, Ano15m, Ano15n, Ano15q, Ano15o, Ano15r, Ano15s, Ano15t, Ano16m, Ano16n, Ano16g, Ano16h, Ano16o, Ano16p, Ano16q]. Spectrum [Ano16i, Ano16j, Ano16k, Ano16l, Ano16r, Ano17a, Ano17m, Ano17n, Ano17o, Ano17p, Ano17q, Ano17r, Ano17s, Ano17t, Ano17u, Ano17v, Ano17w, Ano17x, Ano18j, Ano18k, Ano18l, Ano18m, Ano18n, Ano18o, Ano18p, Ano19-67, Cas14m, Zor14b, Zor14f]. Speed [Ano10-69, Fai10f, Ack17a, Ano17-79, Cho19, Koz19d, Lau19c, Per15c, Sch11f, Zeh13]. Speed-Dating [Ano10-69]. Speeding [Kar11c]. speeds [Ack17f, Boy18, Fai18b]. Sphere [Fea10]. spill [Ble10b]. Spimes [Mcf10a]. Spin [Ano14-63, BZEM10, Cou14i, CD15, Fai15b, Gui19b]. spinal [Wal13d]. spinning [Sch15d]. spintronics [Cou13e]. spoke [Ros15c]. spoof [PHS16]. spoofer [Ano16-71]. Sport [Sch10e, Lev13a]. Sports [Ano15-67, Ble13b, Pos12, Ano11-32]. sporty [Lig16]. spot [Koz18b, Sch18d]. Spotlight [Ano16-73]. spots [Has15a]. spread [Wal19]. Sputnik [Smi17e]. Spy [Ano18-78, Lev13b, Hsu17b, Lev13c]. Spying [Moo18f]. squabble [Fai15e]. squeezed [Alt18]. Squeezing [Sch19g, Ano19-86]. SQUID [Joh14a]. SRAM [Sav10c]. SSL [Koz18b]. stabilize [Fai15d]. Stacey [Ano18-51]. stacked [Cor10a, Cou15b]. staffed [Ano15g]. Stage [Ano18-79, Ano11s, Pep19a]. stagnate [PWM18]. stain [PA19]. stained [Cop19]. stakes [Cou12e]. stand [Fai12b]. standard [Boy19a, Lau19b]. Star [Ano13-55, Cou13j, KB10, Cas16f, Cas15i]. Starliner [Hsu18a]. stars [And19a, Ano18-52, Bre15, Cas13n]. starships [Ste17]. Start [And14c, Ano14-54, Cas12a, Dic14, Jon13, Kar13c, Pat15f, Per13c, Str14a, Ano11-60, Kum14b, Rom11]. Start-Up [Str14a, Cas12a]. Start-Ups [Dic14, Kar13c, Pat15f, And14c,



Per13c, Kum14b]. starts  
 [Fai13b, RZ11, Sch16a, Sre11]. Startup  
 [Ulr19a, Ano16-58, Har15c, ML19,  
 Nor16g, Ros18b, Str16g]. Startups  
 [And17b, And17d, Bar17b, Bar19,  
 Cas16c, Fai18c, Fai18d, Hsu16c, Nor16g,  
 Nor16h, Per15c, Sch15a, Per18f].  
 starved [Fai17d]. Stashing [Kum14d].  
 State [Har15e, Jon11a, Ulr12b,  
 Ano18-68, Hel14, Pat19b]. state-run  
 [Pat19b]. states [Lau18b]. station  
 [Ano19a, Hsu18a]. stations [Boy19a].  
 statistics [Cas14d]. stats [Ano15-86].  
 statues [Dum18a]. steel [Ano17l]. steep  
 [Ros16b]. steering [Ros19b]. STEM  
 [Cha13a, Cha13b, Has16f]. Step  
 [Alb13a, Ano10-60, Cou17f, Moo19a,  
 YEK19]. Steps [Str16a, Hel16b,  
 Pep19a, Str19f, Zac11d]. stereo  
 [Ano18-38]. steroids [Ano15-65].  
 Stethoscope [EW19, Lew14c]. Steve  
 [Zac11d]. Stigma [Ano17-42]. still  
 [Cas14a, Lev18, Lin10, Luc12d, Sch10l,  
 Sch17g]. stimulation [Str17h, Wal13d].  
 stinks [Ngo16]. STIR [MB19].  
 STIR/SHAKEN [MB19]. Stop  
 [McF14d, Cou16i, MB19, Nor19d,  
 Rad14, Str17g, Zac15b]. storage  
 [Ano13a, Ano17-44, EkK15, Fai15h,  
 Ous15]. Store [Cas14l, Mal14, Sil17a].  
 stored [Lun18]. stories  
 [Ano15-67, Per16c]. storm  
 [Ano18-42, Kap12]. storms [Kum13c].  
 stormy [Str11f]. Story  
 [Ano10-87, Ano10-88, Ano10u,  
 Ano10-39, Ano10-66, Ano11d, Ano11b,  
 Ano11e, Ano11r, Ano11a, Ano11-33,  
 Ano11-34, Ano11-32, Ano11-37,  
 Ano11-35, Ano11-45, Ano12v,  
 Ano12-41, Ano12-43, Ano12-44,  
 Ano12-45, Ano12-48, Ano12-49,  
 Ano12-46, Ano13r, Ano13-32,  
 Ano13-33, Ano13-35, Ano13-36,  
 Ano13-40, Ano13-42, Ano13-44,  
 Ano13-50, Ano13-53, Ano14t,  
 Ano14-35, Ano14-41, Ano14-40,  
 Ano14-45, Ano14-46, Ano14-53,  
 Ano14-61, Ano14-64, Ano14-62,  
 Ano14-47, Ano14-81, Ano15-44,  
 Ano15w, Ano15-47, Ano15-52,  
 Ano15-62, Ano15-85, Ano15-87,  
 Ano16d, Ano16u, Ano16-38, Ano16-39,  
 Ano16-43, Ano16-45, Ano16-52,  
 Ano16-58, Ano16-56, Ano16-71,  
 Ano16-46, Ano17j, Ano17l, Ano17-43,  
 Ano17-42, Ano17-47, Ano17-45,  
 Ano17-54, Ano17-55, Ano17-61,  
 Ano17-62, Ano17-78, Ano17-57,  
 Ano18f, Ano18-42, Ano18-43,  
 Ano18-52, Ano18-65, Ano18-70,  
 Ano18-79, Ano18-89, Ano18-77,  
 Ano18-75, Ano18-96]. Story  
 [Ano19b, Ano19-42, Ano19-46,  
 Ano19-49, Ano19-67, Ano19-74,  
 Ano19-75, Ano19-79, Ano19-97,  
 Ano19-96, Ric11, Ano10-57, Ano10-56,  
 Ano10-64, Ano13b, Ano13-37, Ano15d,  
 Ano15u, Ano15-65, Ano15-80, Ano18d,  
 Boo18, Kus13, Shi16, Tat18]. strange  
 [Moo18b, Sin19, Too11]. Strangers  
 [Ano14-64]. Strategies [Bar16b].  
 strategy [Ano14-52, Ano16-42]. street  
 [Sch18f, Nor17h]. streetlights [Per18g].  
 stress [Per18h]. strikes  
 [Ano12-47, Cla12, Cou13f, Sch18e].  
 String [And11g, Ano11-63]. strip  
 [Tur10b]. stripe [Ano12-44, Svi12].  
 stroll [Ano14-79]. structure [Luc17d].  
 structures [Ano18-41]. struggle  
 [Fai11h]. STS [Has16f]. Studio  
 [And10h]. studios [Kar12b]. study  
 [Voel3a]. Studying [Cou16g]. stuff  
 [Ano19-105, Lau15c, McF16a, Ros11b].  
 stuffed [Cou15b]. Stuxnet [Kus13].  
 Style  
 [Ano13-35, Bro17e, Kar11f, Sch18c].  
 sub [Ack19b, Str11b]. subcultures  
 [Ano18-75]. Submarine



[Ano10-86, Fai18d, Sha10]. subs  
 [Fai18d]. subsea [Ano19a]. success  
 [Ano17-62]. successful  
 [Ano16-51, Ano19e, Nor16e]. suffer  
 [MWL18]. suggests [HA11, Raf19].  
 suite [Pep19a]. Suiting [Cou15h]. Suits  
 [Ano15-66, CD15, Str19e]. Sultans  
 [Kus12]. Sun [Cal11e, DEGG19].  
 sunlight [Lau18b]. Sunny  
 [Pat13b, Sas14]. suns [Ste12c]. Super  
 [Moo17b, Ack16l, Ano14-65, Bro17e,  
 EkK15, Gel15, Str14i, Tuc13].  
 Super-accurate [Moo17b].  
 super-computing [Bro17e]. super-cool  
 [Ack16l]. super-power [Str14i].  
 superbug [Str14c]. supercapacitors  
 [Cho16]. Supercar [Ulr10, Ulr16a].  
 supercharges [Cho16]. Supercomputer  
 [Lam14, Ano14-37, Hsu15, New14,  
 Pri12]. Supercomputers  
 [Str11f, And11a, Boy15, Cal12].  
 Supercomputing [Gei16, Moo11b,  
 Chi16, Hsu16d, Sch12a, Sch18e].  
 superconducting [Moo18e].  
 Superconductor [Cou11b].  
 superconductors [Moo18e].  
 Superefficient [Ano19-93, Ulr19a].  
 Supergrid [Sme15, Fai13b].  
 superhighway [Tuc13]. superinsulators  
 [Das10]. superintelligent [Rus19].  
 supermechanical [Jon13]. superpower  
 [Ano10-92]. supplies [Shi19]. support  
 [Koz18c]. supports [Ano19-64].  
 supremacy [Cou17d]. sure [Koz18c].  
 surf [McF12e]. surfer  
 [Ano13-52, Voe10]. surge  
 [Ble13h, Fai15a]. surgeon [Wal14b].  
 surgery [Kar11h, Pat15c, Scu19].  
 surgery-free [Scu19]. surprise  
 [Ano18-55]. surprising [Fai13e, Shi16].  
 surveillance [Bla14, Cas14d, Vai11].  
 survey [Boy19b]. survives [DEGG19].  
 sustain [Ano14u, Fai17a]. swans  
 [Luc10b]. swap [Ano14s]. Swarm  
 [Fai18c]. sweat [Gib11, Hei14, Per18h].  
 sweating [Smi16f]. sweet  
 [Has15a, Has19]. Sweetness [Ano10-85].  
 Swirly [Cou16h]. Swiss  
 [Kum13e, New14]. switch [SL12].  
 Switching [Ye16, Shi19]. symbols  
 [Cas19d]. Symphony [Pat15b]. sync  
 [Ano19-71]. Synchrophasor [Fai18f].  
 Synchrophasors [Cho18]. synchrotron  
 [Ups10c]. synthesizer  
 [Alt18, Cas16e, Cas19c, Sch18b].  
 synthetic [Str16j]. System  
 [Kum16b, Ano10-53, Boy11b, DMS15,  
 DEGG19, McF14b, Wal15a]. systems  
 [Fai16a, Jon14, Kar11h, Luc11f,  
 Luc13b, PP15, Str19c, Hsu16c].  
 T [Ano18g, Gui18]. T-shirt [Gui18]. T2  
 [Pat15g]. Table  
 [Ano10-80, Ano10-81, Ano10-82,  
 Ano10-83, Ano10-84, Ano10-70,  
 Ano10-71, Ano10-72, Ano10-73,  
 Ano10-74, Ano10-75, Ano10-76,  
 Ano10-77, Ano10-78, Ano10-79,  
 Ano11-46, Ano11-47, Ano11-48,  
 Ano11-49, Ano11-50, Ano11-51,  
 Ano11-52, Ano11-53, Ano11-54,  
 Ano11-55, Ano11-56, Ano11-57,  
 Ano12-52, Ano12-53, Ano12-54,  
 Ano12-55, Ano12-56, Ano12-57,  
 Ano12-58, Ano12-59, Ano12-60,  
 Ano12-61, Ano13-56, Ano13-57,  
 Ano13-58, Ano13-59, Ano13-60,  
 Ano13-61, Ano13-62, Ano13-63,  
 Ano13-64, Ano13-65, Ano13-66,  
 Ano14-66, Ano14-67, Ano14-68,  
 Ano14-69, Ano14-70, Ano14-71,  
 Ano14-72, Ano14-73, Ano14-74,  
 Ano14-75, Ano14-76, Ano14-77,  
 Ano15-68, Ano15-69, Ano15-70,  
 Ano15-71, Ano15-72, Ano15-73,  
 Ano15-74, Ano15-75, Ano15-76,  
 Ano15-77, Ano15-78, Ano15-79,  
 Ano16-59, Ano16-60, Ano16-61,



Ano16-62, Ano16-63, Ano16-64,  
 Ano16-65, Ano16-66, Ano16-67,  
 Ano16-68, Ano16-69, Ano16-70,  
 Ano17-63, Ano17-64, Ano17-65]. Table  
 [Ano17-66, Ano17-67, Ano17-68,  
 Ano17-69, Ano17-70, Ano17-71,  
 Ano17-72, Ano17-73, Ano17-74,  
 Ano18-80, Ano18-81, Ano18-82,  
 Ano18-83, Ano18-84, Ano18-85,  
 Ano18-86, Ano18-87, Ano18-88,  
 Ano19-94, Ano19-95]. tablets  
 [Ano12-39]. tackle [Str18b]. tactics  
 [Ano14-52]. tactile [Cas19d]. Tactus  
 [Kar13c]. tails [Cho18]. Taiwan  
 [Chi10b, Chi10a, Chi12b, Chi16]. Take  
 [Sch15d, AS18, Chi12b, Cho17b,  
 Kot16, Rom10b, Str16b, Ton18].  
 take-anywhere [Rom10b]. taken  
 [Vin16]. takeoff [Pat16]. taker [Per12a].  
 takes [Ack16n, Ble14d, Cou12h,  
 Cou12k, Fai18a, Gol10b, Kei14,  
 Ros18b, Sav10f, Sav13c]. Taking  
 [Ano15-60, Ano19-96, Ano19-107,  
 Cas19n, Ric11, Ros12b, Wal12d]. tale  
 [And11h, Fai12d]. Tales [Per16c]. Talk  
 [Has15b, Bla14, Swe10a]. Talking  
 [Jon10f]. talks [Ano19c]. Taming  
 [HM15]. Tangled [Wal12e]. tap  
 [Ack15b, Ano15-86]. tape  
 [Cas15n, Pat17]. Tapping [Ste12c].  
 Target [Ros10c]. Targeted [Sch10j].  
 targets [Zac16f]. taste [Ric11]. Tasty  
 [MH13]. Tata [Shr19]. tattoos  
 [Har15a]. taxi  
 [Ack17d, Ano17-43, Ong19]. Taxis  
 [Ros19b]. Taycan [Voe19]. Taylor  
 [Ack17b]. teach [Ano19k, Zac17d].  
 Teacher [GA17, Sch13d]. teaches  
 [Cho14c]. Teaching [Has15b]. teapot  
 [Bro17d]. Tech [Ack13b, Ack17d,  
 And10e, Ano15-40, Ano15-80,  
 Ano15-81, Ano17-42, Ano18-91,  
 Ble13h, BG13, CG13, Dum13, Ele13,  
 Fai16a, Fou17, Gom15, Gui10g, Gui17,  
 Har12c, Har18, MB12, Nor17c,  
 Nor17e, Pat11e, PZ13, Per16b, Ros17b,  
 SRGD13, Sch17a, Sch17b, Sre13, SF13,  
 SG13, Str16k, Str17e, TP13, Ulr11,  
 UF13, Ulr15, Ulr18, Vin16, Zor13a,  
 Ano13-41, Ano14-78, Ano19-99,  
 Cas14f, Cas15e, Cas15n, Cas17i,  
 Cas19k, Chi12b, Cou17a, DeT13,  
 Fai17g, Fai18f, Gal19b, Glo15, Hel16a,  
 Hsu19, Joh19b, Joh19c, Kar16a, Lev18,  
 Moo18e, Nor19b, Pat18a, Pat19b,  
 Pep16a, Per18f, RS10, RM12, Ros19a,  
 Ste16a, Str17c, Str17i, Ulr12a, Ulr13a,  
 Ulr14, Ulr16b, Ulr17, Ulr19b, Zac17a].  
 Tech-industry [Per16b]. Techie  
 [Cas19b]. Techies  
 [Luc15b, Cas18g, Per19d]. technica  
 [Zor17d]. Technical  
 [Ano10-85, Fou19b, Has18]. Technically  
 [McF11d, McF11e, McF12d, McF12e,  
 McF12f, McF13d, McF13e, McF14b,  
 McF14c, McF14d, McF15b, McF16b,  
 McF16c, McF16a, McF17c, Mcf10a,  
 Mcf10d, Mcf11a, Mcf12b, Mcf12c,  
 MJ13, Mcf13b, Mcf13c, Mcf14a,  
 Mcf15a, Mcf17a, MA17, Mcf17b,  
 Tho15, Tim17, Mcf10c]. technician  
 [And17a]. technique [BM19].  
 techniques [Bar19, CTM19].  
 Technological [Luc17e, Zac15e].  
 technologies  
 [AG11, Ack16l, Ano17-46, Cas13b,  
 Cha18b, Gal19c, Kin11c, Luc11c,  
 O'D16, RRJ<sup>+</sup>11, Str19b, Ulr19b].  
 Technology [Cru19, SZ19, Zac15f,  
 And19e, Ano13-38, Ano18-76, Bou17d,  
 Cas16b, Kar13c, Koz19a, McC15,  
 McF16c, Nor19b, Pec17a, Raf19,  
 Smi17g, Voe19, Zac16c]. teens [Tat18].  
 telcos [Ble13d]. Telecom [You15a].  
 Teleconferencing [Sch12h]. telegraphy  
 [Ano19-98, Mar18e]. Telekinesis  
 [Str15a]. teleoperation [RWK19].  
 teleportation [Luc10a]. Telesat



[Koz18b]. telescope  
 [And19a, Cou17b, Kin11a, Sch19b].  
 Television [LMY18, O'D16, Per10c].  
 tell [CTM19, Jon10h, Pec17a].  
 temperature [Ano19-107]. Ten  
 [And13d, RS10, Ulr14, Ulr16b, Ulr17,  
 Ulr19b]. tend [Sta19a]. tenderizer  
 [Ano18-40]. tension [Ano14-49].  
 Terabytes [Ack15b]. terahertz  
 [Arm12, New13a, WL11]. terminal  
 [DM19]. Terragraph [Nor19b]. terrible  
 [Wal11f]. Tesla [Car18, Eis16, Glo14,  
 Per10g, Per14a, Smi18f]. Test  
 [MGKT18, Ack14, Ano15y, Ano19a,  
 Hod12, Hsu18a, Str12g]. tests  
 [CNB18, Hsu18b]. Text [Has15b].  
 Thailand [Pat19b, Rom12c]. Thank  
 [Smi17f]. thanks [Hsu18c]. Their  
 [Str15b, Adi19, Bre15, Cas13n, Fai15b,  
 Gab17, Guilla, Hut19, Lev12a, Luc16a,  
 Nor17c, Pat19c, Str17d, Tyl16]. them  
 [Bro17f, Che12a, Hei14, Nor17d,  
 Rad14]. theory [And11g, And16b].  
 there [Ano19a, Ano19-83, Has19, SZ19].  
 Theremin [Cas14i, Cas16a]. thermal  
 [Cou14g, Fai15f, Sta19b]. thermostat  
 [Sch10m]. These  
 [Fai18d, Gui10h, Ano18q, Zor16].  
 they'll [Pec17b]. They're [Cas16m].  
 thief [McF14d]. Thin  
 [WH11, Bur13, Cas14l]. thing [Wal11f].  
 Things [Sch11e, Ano15-49, ABCS11,  
 Nor16f, Sav14c, Zor14d, Ano19-100,  
 Cas15j, Cas17c, Cic16, Fit18, Has15c,  
 Hig18d, Nor17g, RBB17, Shr19]. Think  
 [Tur10c, Has16c, Koz18c, Noc17,  
 Per17h]. thinking [Rot17]. third  
 [Cou14f]. thirst [Voe19]. Thompson  
 [Nor17b]. thought [Smi18c]. thousand  
 [Bir12]. thousands [Cha18b]. threat  
 [MWL18]. threaten [Rad14]. threatens  
 [Joh19c]. Three  
 [Ack16l, Cas17h, Cha19, Hsu16d,  
 Jon10g, Moo19c, Pat17, Sav14c, Str16l,  
 Str19f, Ano18-54, Cas18d, Gui10g,  
 Sav10e, Ano11-58, Zor14c]. Throwaway  
 [Fit18]. Throwing [Ano19-97, Fra17].  
 thru [Ano18-69]. thruster [Jon11c].  
 Thus [Ros15c]. Thwarting [Zac16e].  
 Thy [Lev13b]. thyself [Str19d]. tickets  
 [SRGD13]. Ticking [Kus11d]. tidal  
 [Cal11f]. tide [Sch17e]. Tidepool  
 [Fai13e]. Tides [Cal11f]. Tiffany  
 [Ano19-98]. Time  
 [Cas15a, Hod13, Kar10d, Tea10a,  
 And19a, Ano11-43, Cas14c, Cas18e,  
 Cas19h, Cou16d, Fai18f, Has16b,  
 Hod12, Koz18c, Koz19e, Kum19a,  
 Mac19, Nor17f, Pat11e, PL17, Ros18a,  
 Sal19, Sam17, Spi11]. timekeeper  
 [Sch19e]. Timer [Cas14c]. Times  
 [Ano15u]. timing [Cou12d]. tin  
 [Cou16e]. tiniest [Ano18-41]. Tiny  
 [Whe15, Cha18a, Cou15a, Hsu18e,  
 Lin10]. tipping [Ano16-49]. tire  
 [Ano18-36]. Titan [Cas16n]. titles  
 [Cas16l]. Tobacco [Swe11]. Today  
 [UVG<sup>+</sup>15, Cas14a, McC15, Str19c].  
 together [Pec15]. Tokyo [Str13c].  
 Tolerant [Lam10]. Tomato [Str13h].  
 Tomorrow  
 [Ton18, DW17, McC15, Str18h]. ton  
 [Cou12b]. Tonmeister [Kum13a]. Too  
 [And10k, Ano15v, Ble10a, Zac17e,  
 Ano15-46, Bur13, Dol19, Rus19,  
 Smi15a, Zac13f]. took [Ack17h]. Tools  
 [Ack15b, And10c, And11b, And12f,  
 And12e, And18b, Ano10-69, BDF12,  
 Cas13e, Cas13j, Cas15i, Cas17i, Cas18l,  
 Che12a, Der10, Der15b, Fos11, Fur13b,  
 Fur16, GG12a, GG12c, GG12d, GK18,  
 Har11, Hua19, Kar15, Koz18a, Lee15a,  
 Lee15c, Per14b, Per17e, Poo12a,  
 Poo12b, Poo14, Pro11, Rom10a,  
 Rom13, San19a, San19b, Sch10a, Spi11,  
 Str13b, Tea10b, Tea10c, Tea12, Wal11e,  
 Zor13c, And10b, Ano10a, Ano10-59,  
 Dav12, Sch19d]. toothbrush [Str13b].



Top [Ack17d, Ano14-78, Ano15-81, Ano18-91, Ano19-99, DeT13, Fou17, Gui17, Nor17c, Nor17e, RS10, RRJ<sup>+</sup>11, RM12, Ros17b, Sch17a, Sch17b, Ste16a, Str17c, Str17e, Ulr11, Ulr13a, Ulr14, Ulr15, Ulr16b, Ulr17, Ulr18, Ulr19b, Ano16-71, Cas14m, Kin11e, Pat10d, Per19d, Ulr12a]. top-secret [Ano16-71]. Topological [Moo11a]. tops [Kog11]. touch [Ack17g, Ano14b, Tea12, Tyl16, Wal14b, GG12d]. touchdown [Cou12b]. tough [Ano14-47, Bou17a, Per18h]. tougher [OT11]. toughest [Pos12]. Tour [Ano14-79, Ano18-92]. tourism [Gal19a]. tourist [Ano11-44]. tourniquet [Str17g]. tower [Ano19-84, Fai15f, Ano10-51]. towers [Nam17]. Toys [And10c, And11b, And12e, And18b, Ano10-69, BDF12, Cas16l, Cas18l, Che12a, Fos11, Fur16, GG12a, GG12c, GG12d, GK18, Har11, Hua19, Koz18a, Poo12a, Poo12b, Poo14, Pro11, Rom10a, San19b, Sch10a, Spi11, Tea10c, Tea12, Wal11e, And10b, And12f, Ano10a, Ano10-59, Der10, Tea10b]. TPU [Cas19n]. traces [Bug18]. Track [Sch19b, Fai14c, Fai16b, Str18a]. Tracking [McF13c, Str13h, Jon11e, Per18h]. Trade [Swe10b]. Trading [Sch11f, PW17]. traditional [Lau19a]. traffic [Cas14b, Mac19, Sch17a, Shr19]. tragedy [Per10g]. trail [Ano17-47]. train [CS12]. Training [Str18h, Pat18b]. trains [Gal19c]. Trajectories [Ele13]. Tranquility [Pat19c]. transatlantic [Ano19-98]. Transatomic [Str14k]. Transform [Sch12i]. transformer [Ack19b, Bha17]. Transformers [Smi17g]. Transforming [Bha17]. transforms [Ack19b]. Transistor [AS11, Sea13, Cou12c, Cou16f, LA11, Ste16c, YEK19]. Transistors [Ano11-59, Cou16i, Bou18b, Cou13a, Mor19, Shi19, Ste17]. transmission [Fai18e, New13a]. transparent [TIU14]. Transportable [Cas15a]. transportation [Ros18d]. Trapped [Jon10f]. trash [DM19, Hig18c]. travel [Ano19-45, Jon11c]. traveling [CH15]. treasure [DM19]. treasures [Gro13]. treatment [Moo12b, Wal19]. Trek [Cas15i]. Trench [Ano12-46]. Trevor [Che13]. trial [Ano17-75, Str17c]. Trick [Ano10-51, Ano14-63, Bug18]. tricks [Bon12, Cas16h]. tricky [McM18]. tricorder [Ack15a]. tries [Sch18f]. trigger [Lau18a]. trillion [Ano19-100]. trillion-device [Ano19-100]. trillions [Nor17h]. triple [Smi15d]. Triton [Fai18d]. Trojan [MWW15]. Trojan-proof [MWW15]. troll [Per18c]. trolls [Har15b]. trouble [Pat10f, Zac16f]. Troubled [And10l, Ano18-59, Fai16e, Fai19c, Har13b, Laz16]. Trovato [Cas18f]. truckers [Raf19]. trucks [Ano19g, Gal18a, Has17c, Ros19a]. true [CH15]. Trump [Ano17-59, Fai17g]. Trust [Wal12e, Ano16t, CS11, Gra15, GP18, Has16a, Lau13d]. trusted [Cas15p]. trustworthy [Str18e]. Truth [Swe11, Ano19-87, Arm12, Har12e]. Try [Ano16-52, Lau18b, Nor17d, Ros18b]. trying [Str18e]. TSMC [Moo19a]. Tube [MGKT18, Ano15-84, Ano19-101, Arm15, Boo18, CH15]. tucked [Cru19]. Tufte [McF12f]. Tufte-isms [McF12f]. tumor [Mar12]. tumors [Str17b]. tuna [Smi17a]. tune [Fai11e]. Tunneling [Sea13]. turbine [Ano19f, Moo18e, Smi16g]. turbines [Ano19-93, Ano19-109, Fai17c, Moo18e]. Turbocharging [Wag17]. Turing [Ack14, Hod12, Pro15]. Turkey



[Ano18-40]. Turn  
 [DM19, Gib17a, Pat19c, Ano12h, Cal11f, Cou12k, Lau18b, Sch12a].  
 Turning [Gib11, Hsu16c, Kum18c, Loh16, ML19, Hsu18c]. Turns  
 [Jon10b, And16b, Ano19f, Bre18, Ton18, Toz16, Wal16a, Wal15c].  
 TurtleBot3 [GA17]. TV  
 [Cas13j, Luc15b, LMY18, O'D16, PZ13, Poo12b, Pos12, Sch11a, Spi11, And10c].  
 TVs [Ano17-39]. tweet [Gui11b].  
 tweeted [Pre11]. Twenge [Kar10i].  
 Twilight [Fai17h]. twinkie [Obe10b].  
 Twist [Cha14, Hel12a, Wil16].  
 Twistable [Kot16]. Twitter [Sac19].  
 Two [And10l, Hel16b, Nor16d, And11h, Fai12d, Hsu18a, Jon19a, Pat19b].  
 Tymshare [Bro17b]. type [Sta19b].  
 typewriter [Cop19, Wal11f].  
  
 U.S. [Ami11, And19f, Bar17b, Fai16a, Fai16f, Fai17g, Har12c, Hsu18a, Kum16c, Kum19b, Nor16b, Obe10b, Pat18b, Raf19, Sch15c, Sch18e, Zac12c].  
 U.S.A. [Che10a]. ubiquitous [Luc15c].  
 ubiquity [Luc12e]. UConn [And17e].  
 UFOs [Hsu17a]. Uhlig [Ano19-68]. UK  
 [Kum10b]. Ultimate [And10m, Arm15, Gib15b, SL12, Yan17]. ultimately  
 [Sam17]. ultralow [Bou18b].  
 ultralow-power [Bou18b]. ultrasonic  
 [Pat15c]. unaddressed [MWL18].  
 unbleached [Boy19b]. unbreakable  
 [Pau19]. Uncanny [Cou15f, Per14c].  
 uncertain [Laz16]. uncertainty [Joh19c].  
 Unclean [Zeh13]. unconventional  
 [Mel18]. underdelivered [Str19d].  
 Underdog [Ade10d]. Underground  
 [Ano15-82, Ano16-50, Pep16b].  
 Undersea [Hec18b]. understand  
 [Bro17f]. Understanding [Ano12-62, Ano15-83, Ano18-97, Has16c].  
 Underwater  
 [Nor17g, Ack19b, Dum17, Kum14d].  
 Unemployment [Smi17h]. unexpected  
 [Loh16]. Unhackable [Cho17b].  
 Unicode [Kin12b]. Unidentified  
 [Mak11]. unified [Kum16c]. unit  
 [GHB18]. unites [Fai14a]. universal  
 [Bou17d, Fai19c, Kin12b, Koz19e].  
 universe [Pri12, Str19g]. Universities  
 [Ano17g, Pat14a]. university  
 [Ano19-77, Str13c]. Unix [Too11].  
 unknown [Ano19-49]. Unless [PWM18].  
 unmasks [JL16]. unobtainium  
 [Ano12v]. Unplugged [Sch10l, Sch12e].  
 unsung [Smi17g]. untangle  
 [Bou18a, McM18]. Unto [Ano15-48].  
 Unzipped [ST10]. Update  
 [Ade10d, Ano10-51, Ano10-63, Ano10-65, Ano10-68, Ano10-93, Ble10a, Cal11e, Fai10b, Fai11b, Fai11c, Har12a, Jon10b, Jon10f, Moo11c, Rom12c, Sch11d, Ups10b, Voe11a, Voe11b].  
 Upgrade [Ano18-74, Fai10b, EW19, Fai16a, Zor16]. Ups  
 [Ano14-54, Dic14, Jon13, Kar13c, Pat15f, And14c, Kum14b, Per13c].  
 Uranium [Ups10b]. urban [And16a].  
 urgent [Str19b]. USA [DMCP19]. use  
 [Bug18, Fai19a, Leu18, Moo19b, RWK19, Sto18, Per17f]. used  
 [Ano18-41, BM19]. useful  
 [Dya19, Hur19]. uses [Fai18b]. using  
 [Dav12]. Utilities  
 [Fai18e, Fai18f, Fai16a]. utility  
 [Pat19b]. Utopia [Ade10a].  
 v [Zei10]. Vaccination [Ano17-76].  
 Vaclav [Ano18-67]. vacuum  
 [Ano15-84, Ano19-101, Arm15]. Valley  
 [Cou15f, Hsu18c, Joh19d, Luc14b, Per14c, Per16a, Str17i]. value [Fai12a].  
 vanished [Sch14c]. vanishing [O'D16].  
 vary [Per19c]. Veebot [Per13c]. vehicle  
 [Ano19c, Fai10f]. Vehicles  
 [Ano18-93, Ano17-41, Voe13a].  
 Vehicular [Ano10-89]. vending



[Ano10-89]. venture [Cas14n, Zac16d].  
 verify [BM19]. version [Cas14c, Zha19].  
 versus [Ano17h, Har15b, Pat10c].  
 vertical [Gol18]. very  
 [Kum10b, Tea10c]. vets [Per16b]. vibe  
 [Cas15i]. vibes [CC10a]. Vice [LMS10].  
 victory [Fai17e]. video  
 [Ano10a, Cas14b, Lin10, Sch17g].  
 Videotex [DM19]. vidio [GP18]. vie  
 [Fou17, Jon19b]. View [Ano10f,  
 Ano18-39, Ano14-35, Lun18, Sch14a].  
 viewing [Cas13k, Cas18d]. villages  
 [Fai18c]. vindicated [Fai11c]. vintage  
 [Cas16e, Wri16]. Virality [And14a].  
 Virtual [Boy11b, Cou12j, Kum12c,  
 Kus14, Per16d, Ack16a, Cha11b,  
 McM11, Str19g, Tra14]. Virtual-reality  
 [Boy11b]. visas [Per17d]. Vision  
 [Man13, Cho18, Str12d]. visionary  
 [Smi15d]. Visiting [Ano15-85]. visitors  
 [Cas19m, Hsu18a]. Visual [Luc12e].  
 Viterbi [Per10a]. Vodafone [Cas14d].  
 voice [Gib17a, Hec15]. voices [Nor18c].  
 Vol [Ano15-41]. volcano [Pat10c]. volt  
 [Fai10c, Voe11a]. Voltaic [Kum16b].  
 volunteer [Lea12]. Voyage  
 [Str12h, Cou15e]. voyeur [FLP16]. VR  
 [Ano18-58, Cas16d, Joh19a]. vs  
 [Ano10-90, Ano15-57, Ano18-78, Bro15,  
 Hig18d, Kus11c, Lau17, Mat17, Smi19,  
 Str14c]. vulnerabilities [Ano19-106].  
 vulnerable [Ano18a]. Vulture [FLP16].  
  
 W [Kar10i]. wackiness [Ano16-43].  
 wafer [Moo19b]. waiting [Rom12d].  
 Walk [Hur19, Str14k]. walk-away  
 [Str14k]. Walkman [San19b]. Wall  
 [Ano11-41, Sch18f, Nor17h]. walls  
 [Adi19]. wandering [Moo15]. Want  
 [Ano11-60, Cas18e, Pat11f, Per19c,  
 Per19d]. Wanted  
 [Hsu17b, Scu19, Wal13a]. wants  
 [Ano14-37, Ano19c, Fai14b, Har15a,  
 Nor17d]. War [Cas19m, Ano19o,  
 Pec12b, Wei17, Wei11, Ano18-66].  
 ward [Cho19]. warehouse [Kum13e].  
 warm [And15a]. Warming [Swe11].  
 warning [PP15, Wal15a]. warriors  
 [Ano17-47]. Wars [KB10, AS11]. wary  
 [GP18, Rus19]. Was [Luc16e, Ack16a,  
 Ack16m, And11i, Bro14, Ham19a,  
 Mor19, Per18c, Sch19e]. Washington  
 [Ano19-69]. wasn't [Rus13]. Waste  
 [Ano10-91, Nuw15, Smi16d, Wal11f].  
 Waste-to-energy [Nuw15]. Watch  
 [Ack13b, Ano15-81, Ble13h, BG13,  
 Cas13g, CG13, PZ13, SRGD13, Sre13,  
 SF13, SG13, TP13, UF13, Zor13a,  
 GHB18, Ham19b, Kre14, Lau19a,  
 Str14j, Str18d, Tra13]. watching  
 [Cas13b]. Water [Ano10-90, Ano15-86,  
 Lew15, AM10, Ano10t, Ano10-94,  
 Sch10c, Sil17a, Sta19b, Ups10e]. waters  
 [Ano11-61]. Watson  
 [Kei15, SG13, Str19d]. Watt  
 [Ano11-61]. Watts  
 [Ano18-94, Ano10-94, Ext18, Gib11].  
 Wave  
 [Ano15w, Hor16, Ano19-100, CH15,  
 Gal19b, Luc18b, RRC14, Hsu13].  
 wavelength [Cou14e]. waves  
 [Hel12a, Tha14]. Wax [Can14]. way  
 [Ano19-90, Bar16a, CG13, Har13d,  
 Har15d, Hur19, Las17, New14, Nor19d,  
 Pat19c, Per18e, Spi16, Sch19b].  
 wayback [Gol14]. Ways [Sac19, Ano18a,  
 Gui10g, MSL13, Moo18b, Nor16a,  
 Pat15e, Sav14c, Sch19d, Sil17a, Str16l].  
 weapon [Kum18a]. weapons  
 [Rad14, Zac17c]. Wearable  
 [Cas17i, Per18h, Scu19, Wal15c].  
 Wearables [Lee15c, Cho14b]. wearers  
 [Tyl16]. Weather [Swe11, Wal13c].  
 Web [Wal12e, Ano15-56, Jar11, Wag17,  
 Zac17b, AG11, RZ11]. webs [Ble11b].  
 Weigh [Ano15v, Joh19d]. Weight  
 [Kar11h]. weird  
 [Cas18l, Hel14, Sav14c]. Welcome



[Vai11, Per18a]. well  
 [Ano19-103, Cou11a]. well-heeled  
 [Ano19-103]. Went [Gui10i]. We're  
 [Pri15, And18c, Ano18-96]. weren't  
 [Obe11]. whale [KW19]. whatever  
 [Nor17e]. wheel [Cas14o, WH18].  
 wheelchair [Ano18-95, Har15c, Str12e].  
 wheelchairs [Scul7]. Wheels  
 [Ano19-103, Ros19b]. Where  
 [Ano10-94, Ano19-105, Gib17b,  
 Joh19d, Pat10e, Pat11g, Pat12f,  
 Pat13c, Pat14b, Pat15h, Pep16a,  
 Pep17, Pep18b, Pep19b, Per19d,  
 Gom16, Gui14b, Moo18a]. whether  
 [CTM19, Joh19d]. Which [Smi19].  
 while [Nor17d]. Whimsy [Ros10d].  
 Whisper [Ano17-57]. White  
 [Ano19-106, And13a]. White-Hat  
 [Ano19-106]. Whiter [Ulr13b]. Whither  
 [Luc13d]. Who  
 [And11i, Ano10-95, Ano19-107,  
 Cas14p, Mac10b, Ano19-102, Gui10d,  
 Luc14a, MWL18, Mur10, Pep19b].  
 whom [Mac10b]. Wi  
 [Adi19, Lau19c, Loh16, Ano14-48,  
 Cou12k, Hig18d, Ngo16, Sch17g].  
 Wi-Fi [Lau19c, Loh16, Ano14-48,  
 Cou12k, Hig18d, Ngo16, Sch17g].  
 Wi-Fi-like [Adi19]. wide [Lau19b].  
 wide-area [Lau19b]. WikiMusical  
 [Lew14d]. Wild [Ano17-78, Kar10m].  
 Wilkins [Zor17a]. Will  
 [Ade10d, Jon11e, Kin12b, Pat11h,  
 Poo14, Rom15, Til19, AG11, Ack16i,  
 And19f, Bou17a, Boy19a, Cha15, Cru19,  
 Dya19, Fai16a, Fai17a, Fai19a, Fit18,  
 Gar11, Gom16, GP18, Gui18, GI19,  
 Har11, Has19, Hei18, Hin19, Hsu15,  
 HT18, Hut19, Kei15, Koz18f, Koz19d,  
 Leu18, LC18, LMY18, MB19, Nor17d,  
 Nor19b, O'D16, Pat19c, Pec17a,  
 Per10e, Ros11b, Ros18d, Sam17, SH19,  
 Sch19f, Smi11, Sta19a, SZ19, Voe19].  
 WiMax [And10n]. Wind  
 [Ano19-109, Fai16h, Boy15, Fai11i,  
 Fai17c, Fai18b, HM15, Kum12b,  
 Kum19b, Moo18e, Smi16g]. window  
 [Ext18]. windows [Smi15d]. winds  
 [Fai18b]. Windy [Che10c]. Wing  
 [Ano17-57, Ano18d, Sto18]. wings  
 [Kar18, Kot16, Sch17c, Sto18]. winner  
 [Ano19-106]. Winners  
 [Ros10e, Ros10f, Bro18, Cas13c].  
 Winter [Koz18d]. Wipprecht [Cas16b].  
 wire [Sch13f]. Wired [Ano17-79].  
 Wireless [Ack16n, Ade10h, Sch10k,  
 Sch10l, Luc12f, Luc13d, Luc17c,  
 Mac10b, Poo16, Til19]. Wires  
 [Luc12f, Cou15a]. wiring  
 [Bou17c, Bou18a, Cou14c, Str13i].  
 witch [Wei17]. Without [LC18,  
 Ham19a, Har10a, PHS16, Ros19b,  
 Sch18c, Smi16c, Sta19b, Wal14a].  
 withstands [Gol10c]. Wizards [Ups10e].  
 wobbly [Sch17g]. woes  
 [Cou14c, Fou19b]. wolf [Ano19h].  
 women [Bar15]. wonder  
 [Cas18a, Joh19d, Kum19c]. Wonderful  
 [Mur10, Cas18l]. won't  
 [Bro17f, SZ19, Zac15f, Zac16d]. woods  
 [Ano16-46]. Word  
 [Ano12-45, Zac11a, Cic16].  
 Word-Things [Cic16]. words  
 [Ble14c, Mef17a]. Work  
 [Ack13a, And13a, Ano18q, Ano18-58,  
 Bar16b, Der14, Gui10i, Hsu18c,  
 Hsu18f, Koz19e, Nor16e, Per17h,  
 Per17d, Per19a, Sac19, Ano19-91,  
 Cou11a, Has16a, Hsu19, Nor18b,  
 Pec17b, Per19b, Per19d]. worked  
 [AGPE19]. Worker [Sch10h, GA12].  
 workers [Joh19b]. workforce [Pat11a].  
 Working [Ano16-73]. workplace  
 [Ano18q]. works  
 [Cas16n, Pat18b, Pat15f]. World  
 [Ano10w, Ano11-63, Ano17-45,  
 Ano18-66, Kar10d, Mur10, And13c,  
 And18c, Ano15-89, Ano19-39,



Ano19-100, Bro17d, Cas13i, Cou17b, Fail17a, GK18, Has16a, Hig19, Kin11d, Nat15, Nuw15, Pec17b, Pec17a, Rom11, Sav13c, Ste10d, Zac12e, Zac13f]. worlds [Cou12g]. worse [Pro11]. worth [Hil15]. worthy [Kar12a]. would [Ano19-102, Cas16n]. wrangle [Pep19b]. Wrangling [Der15b]. wretch [Cop19]. Write [Ros10f, Ano19-108, Cas19a]. Writing [Der10, Rau13, Cas14p]. Wrong [Fug13, Sch11d].

X [Ack17b, And14b, Ano18-41, Cou17a, Kum19c]. X-Ray [Ack17b, And14b, Ano18-41, Cou17a, Kum19c]. XKCD [And19e]. XPrize [Cou17c].

Y560D [Tea10a]. yacht [Ano14a]. yachters [Fail18d]. year [Ano17-46, Has16d, Hsu13, Joh14c, Lau15b, Leu18, Str17e]. years [Ano13-38, Ano14-51, Cal11a, Cas14a, Cha19, Mal14, Noc17, Per10e, Str14g]. Yellow [Ano10-86, Sha10]. Yeloha [You15b]. yesteryear [Wri16]. yield [Kum19c]. yonder [Ext18]. yotta [Ano19-39]. you'll [Ano17-46]. young [Ano14-82, Pat11f]. you're [McF13e, Pat11c]. YouTube [Hsu19, And12j]. You've [Ano10-96].

Z [Sav10f]. Z-RAM [Sav10f]. zap [KB10]. zaps [Str17g]. Zero [Kum16b, Gal18a, Gal19c, HA11]. zero-emission [Gal18a, Gal19c]. zettabyte [Cas14b]. Zipline [AK19]. Zone [Ano14-45].

## References

- [Ack13a] Evan Ackerman. The bring-your-own-device dilemma [resources at work]. *IEEE Spectrum*, 50(8):22, August 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Ackerman:2013:BYO**
- [Ack13b] Evan Ackerman. Google gets in your face [2013 tech to watch]. *IEEE Spectrum*, 50(1):26–29, January 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Ackerman:2013:GGY**
- [Ack14] Evan Ackerman. A better test than Turing [news]. *IEEE Spectrum*, 51(10):20–21, October 2014. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Ackerman:2014:BTB**
- [Ack15a] Evan Ackerman. The race to build a real-life tricorder. *IEEE Spectrum*, 52(6):46–85, June 2015. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Ackerman:2015:RBR**
- [Ack15b] Evan Ackerman. Terabytes on tap [resources tools]. *IEEE Spectrum*, 52(5):25, May 2015. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Ackerman:2015:TTR**
- [ABCS11] P. Apte, W. R. Bottoms, W. Chen, and G. Scalise. Good things in small packages. *IEEE Spectrum*, 48(3):44–49, March 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Apte:2011:GTS**



DEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2016:BVR**

- [Ack16a] Evan Ackerman. Before virtual reality was cool. *IEEE Spectrum*, 53(12):68, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2016:CYH**

- [Ack16b] Evan Ackerman. Can you hear me now? [past forward]. *IEEE Spectrum*, 53(2):60, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2016:DMM**

- [Ack16c] Evan Ackerman. Does this make me look fat? [past forward]. *IEEE Spectrum*, 53(6):64, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2016:FMJ**

- [Ack16d] Evan Ackerman. Finally, my jet-pack has arrived [past forward]. *IEEE Spectrum*, 53(8):60, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2016:HC**

- [Ack16e] Evan Ackerman. Handle with care (or not). *IEEE Spectrum*, 53(1):80, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ack16f]

Evan Ackerman. Hot! Hot! Hot! [past forward]. *IEEE Spectrum*, 53(7):60, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2016:BLP**

[Ack16g]

Evan Ackerman. It's Brussels on line 239 [past forward]. *IEEE Spectrum*, 53(3):76, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2016:LDU**

[Ack16h]

Evan Ackerman. Leave the driving to us. *IEEE Spectrum*, 53(9):64, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2016:LWM**

[Ack16i]

Evan Ackerman. Lidar that will make self-driving cars affordable [news]. *IEEE Spectrum*, 53(10):14, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2016:LGP**

[Ack16j]

Evan Ackerman. Listening for gremlins [past forward]. *IEEE Spectrum*, 53(5):64, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2016:PAA**

[Ack16k]

Evan Ackerman. A pen for the atomic age [past forward]. *IEEE*



*Spectrum*, 53(11):76, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2016:TSC**

- [Ack16l] Evan Ackerman. Three super-cool technologies: A robotic AC, an office chair on ice, and cool insoles [news]. *IEEE Spectrum*, 53(5):14–15, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2016:WNF**

- [Ack16m] Evan Ackerman. When nuking food was novel. *IEEE Spectrum*, 53(10):72, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2016:WPT**

- [Ack16n] Evan Ackerman. Wireless power takes charge. *IEEE Spectrum*, 53(1):13–14, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2017:BSP**

- [Ack17a] Evan Ackerman. Built for speed [past forward]. *IEEE Spectrum*, 54(4):60, April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2017:DTX**

- [Ack17b] Evan Ackerman. Dr. Taylor’s X-ray machine [past forward]. *IEEE Spectrum*, 54(5):56, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ack17c]

[Ack17d]

[Ack17e]

[Ack17f]

[Ack17g]

[Ack17h]

**Ackerman:2017:DMS**

Evan Ackerman. Drones make a special delivery- mosquitoes [news]. *IEEE Spectrum*, 54(12):9–11, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2017:HRT**

Evan Ackerman. Hail, robo-taxi! [top tech 2017]. *IEEE Spectrum*, 54(1):26–29, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2017:LCL**

Evan Ackerman. Lawn care for the lazy [past forward]. *IEEE Spectrum*, 54(1):64, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2017:MPC**

Evan Ackerman. Motion-planning chip speeds robots. *IEEE Spectrum*, 54(1):9–10, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2017:RDT**

Evan Ackerman. A robot’s delicate touch [past forward]. *IEEE Spectrum*, 54(6):76, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2017:WLT**

Evan Ackerman. When lasers took flight [past forward]. *IEEE*



- Spectrum*, 54(2):56, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ade10b]
- Ackerman:2018:PND**
- [Ack18] Evan Ackerman. Parrot’s new drone reclaims a niche: The Anafi marks the company’s return to the consumer space — [resources review]. *IEEE Spectrum*, 55(9):21, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ade10c]
- Ackerman:2019:DPB**
- [Ack19a] Evan Ackerman. Drone pilots beware: Can I fly here? You probably shouldn’t rely on the FAA’s B4UFLY app to decide — [spectral lines]. *IEEE Spectrum*, 56(10):4, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ade10d]
- Ackerman:2019:UTE**
- [Ack19b] Evan Ackerman. The underwater transformer: Ex-NASA engineers built a robot sub that transforms into a skilled humanoid. *IEEE Spectrum*, 56(8):22–29, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ade10e]
- Adee:2010:AU**
- [Ade10a] S. Adee. After Utopia. *IEEE Spectrum*, 47(9):42–46, September 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ade10g]
- Adee:2010:CBF**
- S. Adee. Cat-brain fever. *IEEE Spectrum*, 47(1):16–17, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Adee:2010:CC**
- S. Adee. Chrome the conqueror. *IEEE Spectrum*, 47(1):34–39, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Adee:2010:EUL**
- S. Adee. EUV’s underdog light source will have its day [update]. *IEEE Spectrum*, 47(11):13–14, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Adee:2010:FM**
- S. Adee. Flying mathematician. *IEEE Spectrum*, 47(2):34–35, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Adee:2010:PMP**
- S. Adee. “Pac-Man” process eats nanodirt. *IEEE Spectrum*, 47(2):13, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Adee:2010:SS**
- S. Adee. The saline solution. *IEEE Spectrum*, 47(6):62–64, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Adee:2010:WSL**

- [Ade10h] S. Adee. Wireless sensors that live forever. *IEEE Spectrum*, 47(2):14, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Adib:2019:SRW**

- [Adi19] F. Adib. Seeing with radio wi-fi-like equipment can see people through walls, measure their heart rates, and gauge emotions. *IEEE Spectrum*, 56(6):34–39, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Adee:2010:RR**

- [AG10] S. Adee and E. Guizzo. Reactors redux. *IEEE Spectrum*, 47(8):25–32, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2011:TWS**

- [AG11] Evan Ackerman and E. Guizzo. 5 technologies that will shape the Web. *IEEE Spectrum*, 48(6):40–45, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2018:RRR**

- [AG18] Evan Ackerman and E. Guizzo. Robonaut returns for repairs [news]. *IEEE Spectrum*, 55(4):7–8, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Abu-Ghazaleh:2019:HSM**

- [AGPE19] N. Abu-Ghazaleh, D. Ponomarev, and D. Evtyushkin. How the spectre and meltdown hacks really worked. *IEEE Spectrum*, 56(3):42–49, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Alaghi:2018:CR**

- [AH18] A. Alaghi and J. P. Hayes. Computing with randomness. *IEEE Spectrum*, 55(3):46–51, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ackerman:2019:BHZ**

- [AK19] Evan Ackerman and M. Koziol. The blood is here: Zipline’s medical delivery drones are changing the game in Rwanda. *IEEE Spectrum*, 56(5):24–31, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Alba:2013:IGC**

- [Alb13a] D. Alba. Interplanetary GPS comes a step closer [news]. *IEEE Spectrum*, 50(7):11–12, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Alba:2013:SSN**

- [Alb13b] D. Alba. Secret software [news]. *IEEE Spectrum*, 50(10):13–14, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Albert:2014:LF**

- [Alb14] J. Albert. A lab on fiber. *IEEE Spectrum*, 51(4):48–53, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Altman:2018:AAC**

- [Alt18] M. Altman. Ardutouch: An Arduino-compatible synthesizer: Digital signal processing squeezed into an easy-to-build kit — [resources hands on]. *IEEE Spectrum*, 55(12):21–22, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Adee:2010:PW**

- [AM10] S. Adee and Samuel K. Moore. The power of water. *IEEE Spectrum*, 47(6):30–39, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Amin:2011:UGG**

- [Ami11] S. M. Amin. U.S. grid gets less reliable [the data]. *IEEE Spectrum*, 48(1):80, January 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2010:G**

- [And10a] Mark Anderson. The \$100 genome. *IEEE Spectrum*, 47(2):18, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2010:DHT**

- [And10b] Mark Anderson. 3-D in the home [tools toys]. *IEEE Spectrum*, 47(8):18–19, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2010:TGH**

- [And10c] Mark Anderson. TV Guide, HD Edition [tools toys]. *IEEE Spectrum*, 47(12):20–21, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2010:EGF**

- [And10d] Mark Anderson. The end of gold farming? [geek life]. *IEEE Spectrum*, 47(10):24, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2010:HTC**

- [And10e] Mark Anderson. High-tech companies are low-grade investments [the data]. *IEEE Spectrum*, 47(11):84, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2010:LBC**

- [And10f] Mark Anderson. Little big cameras. *IEEE Spectrum*, 47(4):22–23, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2010:MCC**

- [And10g] Mark Anderson. A more cerebral cortex. *IEEE Spectrum*, 47



(1):58–63, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2010:MSC**

[And10h] Mark Anderson. A music studio in the cloud [software]. *IEEE Spectrum*, 47(11):26, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2010:OLC**

[And10i] Mark Anderson. Optical lasers in a \$100 cable. Really. *IEEE Spectrum*, 47(1):24–25, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2010:RPG**

[And10j] Mark Anderson. The road to the personal genome. *IEEE Spectrum*, 47(2):68, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2010:TBH**

[And10k] Mark Anderson. Too big to hack. *IEEE Spectrum*, 47(4):13, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2010:TBM**

[And10l] Mark Anderson. Two beautiful minds, one perfectly rendered [reviews of “*A Brilliant Darkness: The Extraordinary Life and Mysterious Disappearance of Ettore Majorana, the Troubled Genius of the Nuclear Age* (Magueijo,

J.; 2009) and “*Perfect Rigor: A Genius and the Mathematical Breakthrough of the Century*” (Gessen, M.; 2009)]. *IEEE Spectrum*, 47(5):26, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2010:UPG**

[And10m] Mark Anderson. Ultimate pocketknife [gifts]. *IEEE Spectrum*, 47(11):26, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2010:WSG**

[And10n] Mark Anderson. WiMax for smart grids. *IEEE Spectrum*, 47(7):14, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2011:BBS**

[And11a] Mark Anderson. Better benchmarking for supercomputers. *IEEE Spectrum*, 48(1):12–14, January 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2011:CMM**

[And11b] Mark Anderson. Can Mario make the leap? [tools toys]. *IEEE Spectrum*, 48(6):24–26, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2011:DMR**

[And11c] Mark Anderson. Digital music renaissance [profiles]. *IEEE Spectrum*, 48(1):18, January 2011.



CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2011:FPC**

- [And11d] Mark Anderson. Footfalls for phone calls. *IEEE Spectrum*, 48(10):18, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2011:DD**

- [And11e] Mark Anderson. For dummies for dummies. *IEEE Spectrum*, 48(3):24, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2011:SSC**

- [And11f] Mark Anderson. Sing a song of code [geek life]. *IEEE Spectrum*, 48(12):24, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2011:STM**

- [And11g] Mark Anderson. String theory made easy [books]. *IEEE Spectrum*, 48(3):26, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2011:TTM**

- [And11h] Mark Anderson. A tale of two movies. *IEEE Spectrum*, 48(11):24–25, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2011:WWS**

- [And11i] Mark Anderson. Who was Shakespeare? [geek life]. *IEEE Spectrum*, 48(8):24, August 2011.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2012:DMS**

- [And12a] Mark Anderson. Data mining scrabble [the data]. *IEEE Spectrum*, 49(1):80, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2012:MIK**

- [And12b] Mark Anderson. E-mail isn't killing the post office [the data]. *IEEE Spectrum*, 49(5):64, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2012:HCM**

- [And12c] Mark Anderson. The high cost of money [the data]. *IEEE Spectrum*, 49(6):88, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2012:MAN**

- [And12d] Mark Anderson. Made by Apple in name only [the data]. *IEEE Spectrum*, 49(3):68, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2012:YPS**

- [And12e] Mark Anderson. Not your parents' scrabble [tools toys]. *IEEE Spectrum*, 49(1):24, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [And12f] Mark Anderson. Oldies but goodies [tools toys]. *IEEE Spectrum*, 49(10):25–28, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And12g] Mark Anderson. Right person, right place [the data]. *IEEE Spectrum*, 49(10):80, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And12h] Mark Anderson. Smart bullets [first look]. *IEEE Spectrum*, 49(6):25, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And12i] Mark Anderson. This is your brain on fMRI [geek life]. *IEEE Spectrum*, 49(5):25–26, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And12j] Mark Anderson. Youtube’s your film festival [geek life]. *IEEE Spectrum*, 49(7):24, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And13a] Mark Anderson. Beyond the white paper [resources at work]. *IEEE Spectrum*, 50(3):25, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And13b] Mark Anderson. The cache machines. *IEEE Spectrum*, 50(11):12–13, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And13c] Mark Anderson. Inside the world’s first Braille cellphone [resources first look]. *IEEE Spectrum*, 50(7):25, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And13d] Mark Anderson. Ten million censuses per day. *IEEE Spectrum*, 50(9):72, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And14a] Mark Anderson. Forecasting virality [dataflow]. *IEEE Spectrum*, 51(4):76, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And14b] Mark Anderson. The medical X-ray’s new phase. *IEEE Spectrum*, 51(3):20, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anderson:2014:SUB**

- [And14c] Mark Anderson. Start-ups: Brewbot and Bonaverde better beverages through next-gen home brewing. *IEEE Spectrum*, 51(8):27–28, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2015:AFP**

- [And15a] Mark Anderson. Alternative fusion projects warm up [news]. *IEEE Spectrum*, 52(12):11–12, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2015:QC**

- [And15b] Mark Anderson. The queen of carbon. *IEEE Spectrum*, 52(5):50–54, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2016:MFC**

- [And16a] Mark Anderson. MIT’s food computer: the future of urban agriculture? [news]. *IEEE Spectrum*, 53(2):12–13, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2016:MMG**

- [And16b] Mark Anderson. Modem maestro: G. David Forney Jr., the 2016 IEEE Medal of Honor recipient, turns information theory into practice. *IEEE Spectrum*, 53(5):44–47, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2017:AER**

- [And17a] Mark Anderson. Albert Einstein — refrigerator technician? [resources history]. *IEEE Spectrum*, 54(11):19, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2017:LIF**

- [And17b] Mark Anderson. Lppfusion to initiate fusion, the company’s desktop device exploits instability [resources startups]. *IEEE Spectrum*, 54(10):17–18, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2017:MLQ**

- [And17c] Mark Anderson. Machine learning and quantum computing become BFFs [news]. *IEEE Spectrum*, 54(8):14, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2017:PPA**

- [And17d] Mark Anderson. Profile: Plex.AI [resources startups]. *IEEE Spectrum*, 54(7):19, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anderson:2017:UOK**

- [And17e] Mark Anderson. UConn’s outreach to K–12 girls pays off [resources education]. *IEEE Spectrum*, 54(3):21, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [And18a] Mark Anderson. Atomic clocks inspire new qubits: Early research explores a more robust quantum computer — [news]. *IEEE Spectrum*, 55(12):9–10, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And18b] Mark Anderson. Foldscope: A paper microscope you can attach to your smartphone — [resources tools and toys]. *IEEE Spectrum*, 55(11):20, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And18c] Mark Anderson. The poet and the machine — some of the best poets in the world were creating poetry algorithms in the 1960s [resources geek life]. *IEEE Spectrum*, 55(6):15, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And19a] Mark Anderson. Algorithms search for space-time rumbles: An automated telescope search program could catch neutron stars in the act of colliding — [news]. *IEEE Spectrum*, 56(10):10–11, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And19b] Mark Anderson. Makani demos energy kites over the North Sea — [news]. *IEEE Spectrum*, 56(12):10–11, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And19c] Mark Anderson. New metals shine in 3D printers: With novel materials, 3D printing can build more products — [news]. *IEEE Spectrum*, 56(4):9–10, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And19d] Mark Anderson. Quantum cryptography needs a reboot: A failed security product could someday power large-scale quantum computing — [news]. *IEEE Spectrum*, 56(10):9–10, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And19e] Mark Anderson. Randall Munroe has absurd advice for you: The XKCD cartoonist imagines the limits of science and technology — [resources Q&A]. *IEEE Spectrum*, 56(11):18–49, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [And19f] Mark Anderson. U.S. airline orders first passenger electric plane: The battery-powered nine-seater aircraft will enter service in 2022 — [news]. *IEEE Spectrum*, 56(4):9–10, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



*Spectrum*, 56(09):10–11, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:DVG**

[Ano10a] Anonymous. 3-D video games [tools toys]. *IEEE Spectrum*, 47(8):22, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:AAB**

[Ano10b] Anonymous. Apartment for the apocalypse [the big picture]. *IEEE Spectrum*, 47(8):16–17, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:BPa**

[Ano10c] Anonymous. The big picture. *IEEE Spectrum*, 47(4):20–21, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:BPb**

[Ano10d] Anonymous. The big picture. *IEEE Spectrum*, 47(9):18, September 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:BPc**

[Ano10e] Anonymous. The big picture. *IEEE Spectrum*, 47(10):18, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ano10f]

Anonymous. Bird’s-eye view. *IEEE Spectrum*, 47(11):22–23, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:BEV**

**Anonymous:2010:ISa**

[Ano10g] Anonymous. *IEEE Spectrum*. *IEEE Spectrum*, 47(1):c1, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:ISb**

[Ano10h] Anonymous. *IEEE Spectrum*. *IEEE Spectrum*, 47(9):c1, September 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:ISc**

[Ano10i] Anonymous. *IEEE Spectrum*. *IEEE Spectrum*, 47(10):c1, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:ISd**

[Ano10j] Anonymous. *IEEE Spectrum*. *IEEE Spectrum*, 47(11):c1, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:ISe**

[Ano10k] Anonymous. *IEEE Spectrum*. *IEEE Spectrum*, 47(12):c1, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- |          |  |          |   |
|----------|--|----------|---|
|          | <b>Anonymous:2010:ISFa</b>   |          | <b>Anonymous:2010:ISFg</b>  |
| [Ano10l] | Anonymous. <i>IEEE Spectrum</i> — front cover. <i>IEEE Spectrum</i> , 47(2):c1, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). | [Ano10r] | Anonymous. <i>IEEE Spectrum</i> — front cover. <i>IEEE Spectrum</i> , 47(8):1c–1c, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).   |
|          | <b>Anonymous:2010:ISFb</b>   |          | <b>Anonymous:2010:BLl</b>   |
| [Ano10m] | Anonymous. <i>IEEE Spectrum</i> — front cover. <i>IEEE Spectrum</i> , 47(3):c1, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).    | [Ano10s] | Anonymous. Braving the looky-loos. <i>IEEE Spectrum</i> , 47(2):4, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                 |
|          | <b>Anonymous:2010:ISFc</b>   |          | <b>Anonymous:2010:CWD</b>   |
| [Ano10n] | Anonymous. <i>IEEE Spectrum</i> — front cover. <i>IEEE Spectrum</i> , 47(4):c1, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).    | [Ano10t] | Anonymous. Carbonated water [the data]. <i>IEEE Spectrum</i> , 47(6):80, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).               |
|          | <b>Anonymous:2010:ISFd</b>   |          | <b>Anonymous:2010:CCB</b>   |
| [Ano10o] | Anonymous. <i>IEEE Spectrum</i> — front cover. <i>IEEE Spectrum</i> , 47(5):C1, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).      | [Ano10u] | Anonymous. The cat and the computer [back story]. <i>IEEE Spectrum</i> , 47(12):4, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). |
|          | <b>Anonymous:2010:ISFe</b>   |          | <b>Anonymous:2010:CU</b>  |
| [Ano10p] | Anonymous. <i>IEEE Spectrum</i> — front cover. <i>IEEE Spectrum</i> , 47(6):c1, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).     | [Ano10v] | Anonymous. Censorship down under. <i>IEEE Spectrum</i> , 47(6):8–9, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                    |
|          | <b>Anonymous:2010:ISFf</b>   |          | <b>Anonymous:2010:CMA</b>   |
| [Ano10q] | Anonymous. <i>IEEE Spectrum</i> — front cover. <i>IEEE Spectrum</i> , 47(7):c1, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).     | [Ano10w] | Anonymous. Color my audio world. <i>IEEE Spectrum</i> , 47(11):27, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                 |



**Anonymous:2010:Ck**

- [Ano10x] Anonymous. Contents. *IEEE Spectrum*, 47(11):3, November 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Ca**

- [Ano10y] Anonymous. Contributors. *IEEE Spectrum*, 47(1):6, January 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Cb**

- [Ano10z] Anonymous. Contributors. *IEEE Spectrum*, 47(2):6, February 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Cc**

- [Ano10-27] Anonymous. Contributors. *IEEE Spectrum*, 47(3):6, March 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Cd**

- [Ano10-28] Anonymous. Contributors. *IEEE Spectrum*, 47(4):6, April 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Ce**

- [Ano10-29] Anonymous. Contributors. *IEEE Spectrum*, 47(5):8, May 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Cf**

- [Ano10-30] Anonymous. Contributors. *IEEE Spectrum*, 47(6):6, June 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Cg**

- [Ano10-31] Anonymous. Contributors. *IEEE Spectrum*, 47(7):6, July 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Ch**

- [Ano10-32] Anonymous. Contributors. *IEEE Spectrum*, 47(8):6, August 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Ci**

- [Ano10-33] Anonymous. Contributors. *IEEE Spectrum*, 47(9):6, September 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Cj**

- [Ano10-34] Anonymous. Contributors. *IEEE Spectrum*, 47(10):6, October 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Cl**

- [Ano10-35] Anonymous. Contributors. *IEEE Spectrum*, 47(11):6, November 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2010:Cm**

- [Ano10-36] Anonymous. Contributors. *IEEE Spectrum*, 47(12):6, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:DC**

- [Ano10-37] Anonymous. Diagnostic contacts. *IEEE Spectrum*, 47(6):7–8, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:DJS**

- [Ano10-38] Anonymous. Dream jobs '10 special report. *IEEE Spectrum*, 47(2):26, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:LLBc**

- [Ano10-39] Anonymous. For the love of lightbulbs [back story]. *IEEE Spectrum*, 47(11):4, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:FSP**

- [Ano10-40] Anonymous. Formfitting, self-powered artificial retina. *IEEE Spectrum*, 47(1):20, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Fa**

- [Ano10-41] Anonymous. Forum. *IEEE Spectrum*, 47(1):12, January 2010. CODEN IEESAM. ISSN 0018-

9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Fb**

- [Ano10-42] Anonymous. Forum. *IEEE Spectrum*, 47(2):7–57, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Fc**

- [Ano10-43] Anonymous. Forum. *IEEE Spectrum*, 47(3):10, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Fd**

- [Ano10-44] Anonymous. Forum. *IEEE Spectrum*, 47(4):10, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Fe**

- [Ano10-45] Anonymous. Forum. *IEEE Spectrum*, 47(5):12, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Ff**

- [Ano10-46] Anonymous. Forum. *IEEE Spectrum*, 47(7):10, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Fg**

- [Ano10-47] Anonymous. Forum. *IEEE Spectrum*, 47(8):8, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Fh**

- [Ano10-48] Anonymous. Forum. *IEEE Spectrum*, 47(9):10, September 2010.



CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Fi**

- [Ano10-49] Anonymous. Forum. *IEEE Spectrum*, 47(10):10, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:Fj**

- [Ano10-50] Anonymous. Forum. *IEEE Spectrum*, 47(11):12, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:FTP**

- [Ano10-51] Anonymous. Frankfurt Tower's power trick [update]. *IEEE Spectrum*, 47(9):12–13, September 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:FFa**

- [Ano10-52] Anonymous. Fusion is not free. *IEEE Spectrum*, 47(9):17, September 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:GS**

- [Ano10-53] Anonymous. Gaming the system. *IEEE Spectrum*, 47(12):10, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:GG**

- [Ano10-54] Anonymous. Gliders in the Gulf. *IEEE Spectrum*, 47(8):

10–11, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:GH**

- [Ano10-55] Anonymous. Gone in 22 hours. *IEEE Spectrum*, 47(4):4, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:LLBb**

- [Ano10-56] Anonymous. Legos for a living [back story]. *IEEE Spectrum*, 47(7):4, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:LLBa**

- [Ano10-57] Anonymous. Lightbulb liquidators [back story]. *IEEE Spectrum*, 47(6):4, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:MML**

- [Ano10-58] Anonymous. Mirror, mirror .... *IEEE Spectrum*, 47(2):11, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:NDT**

- [Ano10-59] Anonymous. New dimension [tools toys]. *IEEE Spectrum*, 47(8):20–21, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:OSS**

- [Ano10-60] Anonymous. One small step. *IEEE Spectrum*, 47(7):20, July



2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:ESM**

- [Ano10-61] Anonymous. Over-engineering the soda machine. *IEEE Spectrum*, 47(9):21, September 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:PN**

- [Ano10-62] Anonymous. Painting by numbers. *IEEE Spectrum*, 47(3):20–21, March 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:PPD**

- [Ano10-63] Anonymous. Physics projects deflate for lack of helium-3 [update]. *IEEE Spectrum*, 47(9):16–17, September 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:RFB**

- [Ano10-64] Anonymous. Reporting from the field [back story]. *IEEE Spectrum*, 47(8):4, August 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:RRG**

- [Ano10-65] Anonymous. Resistive RAM gains ground [update]. *IEEE Spectrum*, 47(9):14, September 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:RRB**

- [Ano10-66] Anonymous. Rotorcraft revival [back story]. *IEEE Spectrum*, 47(9):4, September 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:SB**

- [Ano10-67] Anonymous. Sling blade. *IEEE Spectrum*, 47(2):16–17, February 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:SSU**

- [Ano10-68] Anonymous. Space sailing [update]. *IEEE Spectrum*, 47(11):18, November 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:SDP**

- [Ano10-69] Anonymous. Speed-dating portable scanners [tools toys]. *IEEE Spectrum*, 47(9):22, September 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:TCa**

- [Ano10-70] Anonymous. Table of contents. *IEEE Spectrum*, 47(1):1–3, January 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:TCb**

- [Ano10-71] Anonymous. Table of contents. *IEEE Spectrum*, 47(2):1–3, February 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2010:TCc**

- [Ano10-72] Anonymous. Table of contents. *IEEE Spectrum*, 47(3):1–3, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:TCd**

- [Ano10-73] Anonymous. Table of contents. *IEEE Spectrum*, 47(4):2–3, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:TCe**

- [Ano10-74] Anonymous. Table of contents. *IEEE Spectrum*, 47(7):1–3, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:TCf**

- [Ano10-75] Anonymous. Table of contents. *IEEE Spectrum*, 47(8):1, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:TCg**

- [Ano10-76] Anonymous. Table of contents. *IEEE Spectrum*, 47(9):1–3, September 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:TCh**

- [Ano10-77] Anonymous. Table of contents. *IEEE Spectrum*, 47(10):1–3, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:TCi**

- [Ano10-78] Anonymous. Table of contents. *IEEE Spectrum*, 47(11):1, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:TCj**

- [Ano10-79] Anonymous. Table of contents. *IEEE Spectrum*, 47(12):1–3, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:TCOa**

- [Ano10-80] Anonymous. Table of contents [online]. *IEEE Spectrum*, 47(5):5, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:TCOb**

- [Ano10-81] Anonymous. Table of contents [online]. *IEEE Spectrum*, 47(6):3, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:TCOc**

- [Ano10-82] Anonymous. Table of contents [online]. *IEEE Spectrum*, 47(8):3, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:TCPa**

- [Ano10-83] Anonymous. Table of contents [print]. *IEEE Spectrum*, 47(5):3, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2010:TCPb**

- [Ano10-84] Anonymous. Table of contents [print]. *IEEE Spectrum*, 47(6):1, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:TSI**

- [Ano10-85] Anonymous. Technical sweetness isn't enough [spectral lines]. *IEEE Spectrum*, 47(9):8, September 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:TAL**

- [Ano10-86] Anonymous. They all live for a yellow submarine. *IEEE Spectrum*, 47(3):4, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:ABSa**

- [Ano10-87] Anonymous. Up in the air [back story]. *IEEE Spectrum*, 47(5):6, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:ABSb**

- [Ano10-88] Anonymous. Up in the air [back story]. *IEEE Spectrum*, 47(10):4, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:VVM**

- [Ano10-89] Anonymous. Vehicular vending machine [the big picture]. *IEEE Spectrum*, 47(5):20–21, May 2010. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:WVE**

- [Ano10-90] Anonymous. Water vs. energy. *IEEE Spectrum*, 47(6):22–27, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:WWD**

- [Ano10-91] Anonymous. What an e-waste [the data]. *IEEE Spectrum*, 47(9):72, September 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:WYS**

- [Ano10-92] Anonymous. What's your superpower? *IEEE Spectrum*, 47(1):4, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:WCA**

- [Ano10-93] Anonymous. When chickens attack [update]. *IEEE Spectrum*, 47(9):11–13, September 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:WWM**

- [Ano10-94] Anonymous. Where water meets watts. *IEEE Spectrum*, 47(6):28–29, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:WFI**

- [Ano10-95] Anonymous. Who has the fastest Internet? *IEEE Spectrum*,



47(8):60, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2010:YGG**

[Ano10-96] Anonymous. You've got that glow. *IEEE Spectrum*, 47(1):22–23, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:DMB**

[Ano11a] Anonymous. A 3-D me [back story]. *IEEE Spectrum*, 48(8):4, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:AOb**

[Ano11b] Anonymous. Admiring the obsolete [back story]. *IEEE Spectrum*, 48(5):4, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:A**

[Ano11c] Anonymous. [advertisement]. *IEEE Spectrum*, 48(5):??, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:AFB**

[Ano11d] Anonymous. Assignment: Fukushima [back story]. *IEEE Spectrum*, 48(11):4, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:BS**

[Ano11e] Anonymous. Back story. *IEEE Spectrum*, 48(4):4, April 2011.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:ISFa**

[Ano11f] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 48(1):C1, January 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:ISFb**

[Ano11g] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 48(2):c1, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:ISFc**

[Ano11h] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 48(3):C1, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:ISFd**

[Ano11i] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 48(4):c1, April 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:ISFe**

[Ano11j] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 48(5):c1, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:ISFf**

[Ano11k] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spec-*



*trum*, 48(6):c1, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:ISFg**

[Ano11l] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 48(7):c1, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:ISFh**

[Ano11m] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 48(8):c1, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:ISFi**

[Ano11n] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 48(9):c1, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:ISFj**

[Ano11o] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 48(10):c1, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:ISFk**

[Ano11p] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 48(11):C1, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:ISFl**

[Ano11q] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 48

(12):c1, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:CCB**

[Ano11r] Anonymous. Casting for complexity [back story]. *IEEE Spectrum*, 48(7):4, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:CSB**

[Ano11s] Anonymous. Center stage [the big picture]. *IEEE Spectrum*, 48(12):18–19, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:Ca**

[Ano11t] Anonymous. Contributors. *IEEE Spectrum*, 48(1):6, January 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:Cb**

[Ano11u] Anonymous. Contributors. *IEEE Spectrum*, 48(2):6, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:Cc**

[Ano11v] Anonymous. Contributors. *IEEE Spectrum*, 48(3):6, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:Cd**

[Ano11w] Anonymous. Contributors. *IEEE Spectrum*, 48(4):6, April 2011.



CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:Ce**

- [Ano11x] Anonymous. Contributors. *IEEE Spectrum*, 48(5):6, May 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:Cf**

- [Ano11y] Anonymous. Contributors. *IEEE Spectrum*, 48(6):6, June 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:Cg**

- [Ano11z] Anonymous. Contributors. *IEEE Spectrum*, 48(7):6, July 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:Ch**

- [Ano11-27] Anonymous. Contributors. *IEEE Spectrum*, 48(8):6, August 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:Ci**

- [Ano11-28] Anonymous. Contributors. *IEEE Spectrum*, 48(9):6, September 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:Cj**

- [Ano11-29] Anonymous. Contributors. *IEEE Spectrum*, 48(10):6, October

2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:Ck**

- [Ano11-30] Anonymous. Contributors. *IEEE Spectrum*, 48(11):6, November 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:Cl**

- [Ano11-31] Anonymous. Contributors. *IEEE Spectrum*, 48(12):6, December 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:FSR**

- [Ano11-32] Anonymous. Fantasy sports reporting [back story]. *IEEE Spectrum*, 48(2):4, February 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:FDB**

- [Ano11-33] Anonymous. Flybot for a day [back story]. *IEEE Spectrum*, 48(1):4, January 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:FRS**

- [Ano11-34] Anonymous. Flying the robotic skies [back story]. *IEEE Spectrum*, 48(12):4, December 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2011:LOB**

- [Ano11-35] Anonymous. For the love of olives [back story]. *IEEE Spectrum*, 48(3):4, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:FFB**

- [Ano11-36] Anonymous. Future flight [the big picture]. *IEEE Spectrum*, 48(9):22–23, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:LBB**

- [Ano11-37] Anonymous. Life’s bazaar [back story]. *IEEE Spectrum*, 48(10):4, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:LL**

- [Ano11-38] Anonymous. A living laser. *IEEE Spectrum*, 48(7):12, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:LLF**

- [Ano11-39] Anonymous. Love light in flight [the big picture]. *IEEE Spectrum*, 48(3):20–21, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:NPA**

- [Ano11-40] Anonymous. Nuclear power after Fukushima [special report]. *IEEE Spectrum*, 48(11):30–33, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:W**

- [Ano11-41] Anonymous. Off the wall. *IEEE Spectrum*, 48(4):20–21, April 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:OMC**

- [Ano11-42] Anonymous. The other MEMS [careers]. *IEEE Spectrum*, 48(2):24, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:RBT**

- [Ano11-43] Anonymous. Reflecting back in time [the big picture]. *IEEE Spectrum*, 48(7):22–23, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:SST**

- [Ano11-44] Anonymous. The scientist as space tourist. *IEEE Spectrum*, 48(5):18, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:SBS**

- [Ano11-45] Anonymous. Snowbound [back story]. *IEEE Spectrum*, 48(9):4, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:TCa**

- [Ano11-46] Anonymous. Table of contents. *IEEE Spectrum*, 48(1):1–3, January 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2011:TCb**

- [Ano11-47] Anonymous. Table of contents. *IEEE Spectrum*, 48(2):1–3, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:TCc**

- [Ano11-48] Anonymous. Table of contents. *IEEE Spectrum*, 48(3):1–3, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:TCd**

- [Ano11-49] Anonymous. Table of contents. *IEEE Spectrum*, 48(4):1–3, April 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:TCe**

- [Ano11-50] Anonymous. Table of contents. *IEEE Spectrum*, 48(5):1–3, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:TCf**

- [Ano11-51] Anonymous. Table of contents. *IEEE Spectrum*, 48(6):1–2, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:TCg**

- [Ano11-52] Anonymous. Table of contents. *IEEE Spectrum*, 48(7):1–3, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:TCh**

- [Ano11-53] Anonymous. Table of contents. *IEEE Spectrum*, 48(8):1–3, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:TCi**

- [Ano11-54] Anonymous. Table of contents. *IEEE Spectrum*, 48(9):1–3, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:TCj**

- [Ano11-55] Anonymous. Table of contents. *IEEE Spectrum*, 48(10):1–3, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:TCk**

- [Ano11-56] Anonymous. Table of contents. *IEEE Spectrum*, 48(11):1–3, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:TCl**

- [Ano11-57] Anonymous. Table of contents. *IEEE Spectrum*, 48(12):1–3, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:TMI**

- [Ano11-58] Anonymous. Three Mile Island, Chernobyl, and Fukushima. *IEEE Spectrum*, 48(11):92, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2011:TGD**

- [Ano11-59] Anonymous. Transistors go 3-D. *IEEE Spectrum*, 48(6):12, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:WSBa**

- [Ano11-60] Anonymous. Want to start a business? Forget the MBA. Just do it. *IEEE Spectrum*, 48(2):23, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:WWB**

- [Ano11-61] Anonymous. Watt waters [the big picture]. *IEEE Spectrum*, 48(10):20–21, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:WNN**

- [Ano11-62] Anonymous. What next for nuclear? *IEEE Spectrum*, 48(11):48–49, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2011:WSBb**

- [Ano11-63] Anonymous. World on a string [the big picture]. *IEEE Spectrum*, 48(8):20–21, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:Ba**

- [Ano12a] Anonymous. Backstory. *IEEE Spectrum*, 49(11):4, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:Bb**

- [Ano12b] Anonymous. Backstory. *IEEE Spectrum*, 49(12):4, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:BPa**

- [Ano12c] Anonymous. The big picture. *IEEE Spectrum*, 49(7):18–19, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:BPb**

- [Ano12d] Anonymous. The big picture. *IEEE Spectrum*, 49(8):20–21, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:BPc**

- [Ano12e] Anonymous. The big picture. *IEEE Spectrum*, 49(9):24–25, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:BPd**

- [Ano12f] Anonymous. The big picture. *IEEE Spectrum*, 49(11):22–23, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:BPe**

- [Ano12g] Anonymous. The big picture. *IEEE Spectrum*, 49(12):20–21, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2012:BTB**

[Ano12h] Anonymous. A big turn off [the big picture]. *IEEE Spectrum*, 49(5):20–21, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:ISa**

[Ano12i] Anonymous. *IEEE Spectrum*. *IEEE Spectrum*, 49(7):c1, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:ISb**

[Ano12j] Anonymous. *IEEE Spectrum*. *IEEE Spectrum*, 49(8):c1, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:ISCa**

[Ano12k] Anonymous. *IEEE Spectrum* — cover. *IEEE Spectrum*, 49(9):c1–c2, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:ISCb**

[Ano12l] Anonymous. *IEEE Spectrum* — cover. *IEEE Spectrum*, 49(10):c1, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:ISCc**

[Ano12m] Anonymous. *IEEE Spectrum* — cover. *IEEE Spectrum*, 49(11):c1, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:ISCd**

[Ano12n] Anonymous. *IEEE Spectrum* — cover. *IEEE Spectrum*, 49(12):c1–c2, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:ISFa**

[Ano12o] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 49(1):c1, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:ISFb**

[Ano12p] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 49(2):c1, February 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:ISFc**

[Ano12q] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 49(3):c1, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:ISFd**

[Ano12r] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 49(4):C1, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:ISFe**

[Ano12s] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 49(5):C1, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2012:ISFf**

- [Ano12t] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 49(6):c1, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:BM**

- [Ano12u] Anonymous. The brain maker. *IEEE Spectrum*, 49(8):4, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:CMU**

- [Ano12v] Anonymous. The car made of unobtainium [back story]. *IEEE Spectrum*, 49(4):4, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:CPB**

- [Ano12w] Anonymous. A check on power [the big picture]. *IEEE Spectrum*, 49(10):22, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:CCR**

- [Ano12x] Anonymous. Coffee-can radar. *IEEE Spectrum*, 49(11):24–25, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:Cg**

- [Ano12y] Anonymous. Contents. *IEEE Spectrum*, 49(7):1–3, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:Ci**

- [Ano12z] Anonymous. Contents. *IEEE Spectrum*, 49(8):1–3, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:Ca**

- [Ano12-27] Anonymous. Contributors. *IEEE Spectrum*, 49(1):6, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:Cb**

- [Ano12-28] Anonymous. Contributors. *IEEE Spectrum*, 49(2):6, February 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:Cc**

- [Ano12-29] Anonymous. Contributors. *IEEE Spectrum*, 49(3):6, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:Cd**

- [Ano12-30] Anonymous. Contributors. *IEEE Spectrum*, 49(4):6, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:Ce**

- [Ano12-31] Anonymous. Contributors. *IEEE Spectrum*, 49(5):6, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2012:Cf**

- [Ano12-32] Anonymous. Contributors. *IEEE Spectrum*, 49(6):6, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:Ch**

- [Ano12-33] Anonymous. Contributors. *IEEE Spectrum*, 49(7):6, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:Cj**

- [Ano12-34] Anonymous. Contributors. *IEEE Spectrum*, 49(8):6, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:Ck**

- [Ano12-35] Anonymous. Contributors. *IEEE Spectrum*, 49(9):6, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:Cl**

- [Ano12-36] Anonymous. Contributors. *IEEE Spectrum*, 49(10):6, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:Cm**

- [Ano12-37] Anonymous. Contributors. *IEEE Spectrum*, 49(11):6, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:Cn**

- [Ano12-38] Anonymous. Contributors. *IEEE Spectrum*, 49(12):6, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:CCT**

- [Ano12-39] Anonymous. The cost of Christmas tablets. *IEEE Spectrum*, 49(12):16, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:D**

- [Ano12-40] Anonymous. The data. *IEEE Spectrum*, 49(9):72, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:DPB**

- [Ano12-41] Anonymous. DIY publishing [back story]. *IEEE Spectrum*, 49(9):4, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:GGG**

- [Ano12-42] Anonymous. Get up and go green [the big picture]. *IEEE Spectrum*, 49(3):16–17, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:LLB**

- [Ano12-43] Anonymous. Lots of lucky [back story]. *IEEE Spectrum*, 49(5):4, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2012:MSE**

- [Ano12-44] Anonymous. The mag-stripe era ends [back story]. *IEEE Spectrum*, 49(6):4, June 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:MWB**

- [Ano12-45] Anonymous. The magic word [back story]. *IEEE Spectrum*, 49(7):4, July 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:TBS**

- [Ano12-46] Anonymous. Over the trench [back story]. *IEEE Spectrum*, 49(2):4, February 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:PSB**

- [Ano12-47] Anonymous. The pen strikes back. *IEEE Spectrum*, 49(12):24, December 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:PIB**

- [Ano12-48] Anonymous. Penetrating insight [back story]. *IEEE Spectrum*, 49(3):4, March 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:PLO**

- [Ano12-49] Anonymous. A planet like our own [back story]. *IEEE Spectrum*, 49(1):4, January 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:PCY**

- [Ano12-50] Anonymous. Portable chargers for your mobile gadgets. *IEEE Spectrum*, 49(11):28–30, November 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:SL**

- [Ano12-51] Anonymous. Spectral lines. *IEEE Spectrum*, 49(11):8, November 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:TCa**

- [Ano12-52] Anonymous. Table of contents. *IEEE Spectrum*, 49(1):1–3, January 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:TCb**

- [Ano12-53] Anonymous. Table of contents. *IEEE Spectrum*, 49(2):1–3, February 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:TCc**

- [Ano12-54] Anonymous. Table of contents. *IEEE Spectrum*, 49(3):1–3, March 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:TCd**

- [Ano12-55] Anonymous. Table of contents. *IEEE Spectrum*, 49(4):1–3, April 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2012:TCe**

- [Ano12-56] Anonymous. Table of contents. *IEEE Spectrum*, 49(5):1–3, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:TCf**

- [Ano12-57] Anonymous. Table of contents. *IEEE Spectrum*, 49(6):1–3, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:TCg**

- [Ano12-58] Anonymous. Table of contents. *IEEE Spectrum*, 49(9):1–3, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:TCh**

- [Ano12-59] Anonymous. Table of contents. *IEEE Spectrum*, 49(10):3, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:TCi**

- [Ano12-60] Anonymous. Table of contents. *IEEE Spectrum*, 49(11):1–3, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:TCj**

- [Ano12-61] Anonymous. Table of contents. *IEEE Spectrum*, 49(12):1–2, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:UCF**

- [Ano12-62] Anonymous. Understanding cloud failures. *IEEE Spectrum*, 49(12):84, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2012:WEM**

- [Ano12-63] Anonymous. When Erico met Baxter [backstory]. *IEEE Spectrum*, 49(10):4, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:ADS**

- [Ano13a] Anonymous. Analog data storage [the big picture]. *IEEE Spectrum*, 50(3):20, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:BS**

- [Ano13b] Anonymous. Back story. *IEEE Spectrum*, 50(11):4, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:BIB**

- [Ano13c] Anonymous. Batteries included [the big picture]. *IEEE Spectrum*, 50(9):21, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:BBB**

- [Ano13d] Anonymous. Battle bot [the big picture]. *IEEE Spectrum*, 50(2):18–19, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2013:BDB**

[Ano13e] Anonymous. Bionic dog [the big picture]. *IEEE Spectrum*, 50(7):18–19, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:ISFa**

[Ano13f] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 50(1):C1, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:ISFb**

[Ano13g] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 50(2):C1, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:ISFc**

[Ano13h] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 50(3):c1, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:ISFd**

[Ano13i] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 50(4):c1, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:ISFe**

[Ano13j] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 50(5):c1, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:ISFf**

[Ano13k] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 50(6):c1, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:ISFg**

[Ano13l] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 50(7):c1, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:ISFh**

[Ano13m] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 50(8):c1, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:ISFi**

[Ano13n] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 50(9):c1, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:ISFl**

[Ano13o] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 50(12):c1, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:ISFj**

[Ano13p] Anonymous. *IEEE Spectrum* [front cover]. *IEEE Spectrum*, 50(10):c1, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- |          |   |            |  |
|----------|---|------------|--|
|          | <b>Anonymous:2013:ISFk</b>  |            | <b>Anonymous:2013:Cd</b>   |
| [Ano13q] | Anonymous. <i>IEEE Spectrum</i> [front cover]. <i>IEEE Spectrum</i> , 50(11):c1, November 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).   | [Ano13w]   | Anonymous. Contributors. <i>IEEE Spectrum</i> , 50(4):6, April 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).     |
|          | <b>Anonymous:2013:CDB</b>   |            | <b>Anonymous:2013:Ce</b>   |
| [Ano13r] | Anonymous. Connecting the documents [back story]. <i>IEEE Spectrum</i> , 50(12):4, December 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). | [Ano13x]   | Anonymous. Contributors. <i>IEEE Spectrum</i> , 50(5):6, May 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).       |
|          | <b>Anonymous:2013:Ch</b>  |            | <b>Anonymous:2013:Cf</b>   |
| [Ano13s] | Anonymous. Contents. <i>IEEE Spectrum</i> , 50(8):1–3, August 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                               | [Ano13y]   | Anonymous. Contributors. <i>IEEE Spectrum</i> , 50(6):6, June 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).      |
|          | <b>Anonymous:2013:Ca</b>  |            | <b>Anonymous:2013:Cg</b>   |
| [Ano13t] | Anonymous. Contributors. <i>IEEE Spectrum</i> , 50(1):6, January 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                            | [Ano13z]   | Anonymous. Contributors. <i>IEEE Spectrum</i> , 50(7):6, July 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).      |
|          | <b>Anonymous:2013:Cb</b>  |            | <b>Anonymous:2013:Ci</b>   |
| [Ano13u] | Anonymous. Contributors. <i>IEEE Spectrum</i> , 50(2):6, February 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                           | [Ano13-27] | Anonymous. Contributors. <i>IEEE Spectrum</i> , 50(8):6, August 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).    |
|          | <b>Anonymous:2013:Cc</b>  |            | <b>Anonymous:2013:Cj</b>   |
| [Ano13v] | Anonymous. Contributors. <i>IEEE Spectrum</i> , 50(3):6, March 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                              | [Ano13-28] | Anonymous. Contributors. <i>IEEE Spectrum</i> , 50(9):6, September 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). |



**Anonymous:2013:Ck**

- [Ano13-29] Anonymous. Contributors. *IEEE Spectrum*, 50(10):6, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:Cl**

- [Ano13-30] Anonymous. Contributors. *IEEE Spectrum*, 50(11):6, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:Cm**

- [Ano13-31] Anonymous. Contributors. *IEEE Spectrum*, 50(12):6, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:CQM**

- [Ano13-32] Anonymous. A culinary quest in Malaysia [back story]. *IEEE Spectrum*, 50(6):4, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:DRB**

- [Ano13-33] Anonymous. A day at the races [back story]. *IEEE Spectrum*, 50(4):4, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:DJ**

- [Ano13-34] Anonymous. Dream jobs *ii*. 2013. *IEEE Spectrum*, 50(2):36–37, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:ESB**

- [Ano13-35] Anonymous. The elements of style [back story]. *IEEE Spectrum*, 50(2):4, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:FBS**

- [Ano13-36] Anonymous. Fore! [back story]. *IEEE Spectrum*, 50(10):4, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:GPG**

- [Ano13-37] Anonymous. Getting personal with gene sequencing [back story]. *IEEE Spectrum*, 50(3):4, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:GYT**

- [Ano13-38] Anonymous. Good years for technology? *IEEE Spectrum*, 50(11):24, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:GC**

- [Ano13-39] Anonymous. The great courses. *IEEE Spectrum*, 50(3):37, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:HAB**

- [Ano13-40] Anonymous. High anxiety [back story]. *IEEE Spectrum*, 50(5):4, May 2013. CODEN IEESAM.



ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:HHT**

- [Ano13-41] Anonymous. Homespun high tech. *IEEE Spectrum*, 50(11):16–17, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:HQW**

- [Ano13-42] Anonymous. How quickly we forget [back story]. *IEEE Spectrum*, 50(8):4, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:ICE**

- [Ano13-43] Anonymous. IEEE candidates in 2013 election. *IEEE Spectrum*, 50(5):61, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:MDU**

- [Ano13-44] Anonymous. The man with designs on us [back story]. *IEEE Spectrum*, 50(1):4, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:MMB**

- [Ano13-45] Anonymous. Mountain monitor [the big picture]. *IEEE Spectrum*, 50(8):17, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:N**

- [Ano13-46] Anonymous. News. *IEEE Spectrum*, 50(10):11–13, October 2013. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:QCL**

- [Ano13-47] Anonymous. Q&A: Chenyang Lu. *IEEE Spectrum*, 50(11):23, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:QJN**

- [Ano13-48] Anonymous. Q&A: Jakob Nielsen [resources Q&A]. *IEEE Spectrum*, 50(2):25, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:QJO**

- [Ano13-49] Anonymous. Q&A: Jason Owen-Smith. *IEEE Spectrum*, 50(9):28, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:RFB**

- [Ano13-50] Anonymous. Radio Free Boston [back story]. *IEEE Spectrum*, 50(7):4, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:R**

- [Ano13-51] Anonymous. Resources. *IEEE Spectrum*, 50(11):19–20, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:SSBc**

- [Ano13-52] Anonymous. Silver surfer [the big picture]. *IEEE Spectrum*, 50



(12):18–19, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:SSBb**

[Ano13-53] Anonymous. Smooth sailing [back story]. *IEEE Spectrum*, 50(9):4, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:SD**

[Ano13-54] Anonymous. Space on \$35 a day. *IEEE Spectrum*, 50(11):20–21, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:SSBa**

[Ano13-55] Anonymous. Star search [the big picture]. *IEEE Spectrum*, 50(5):18–19, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:TCa**

[Ano13-56] Anonymous. Table of contents. *IEEE Spectrum*, 50(1):1–3, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:TCb**

[Ano13-57] Anonymous. Table of contents. *IEEE Spectrum*, 50(2):1–3, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:TCc**

[Ano13-58] Anonymous. Table of contents. *IEEE Spectrum*, 50(3):1–3,

March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:TCd**

[Ano13-59] Anonymous. Table of contents. *IEEE Spectrum*, 50(4):1–3, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:TCe**

[Ano13-60] Anonymous. Table of contents. *IEEE Spectrum*, 50(5):1–3, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:TCf**

[Ano13-61] Anonymous. Table of contents. *IEEE Spectrum*, 50(6):1–3, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:TCg**

[Ano13-62] Anonymous. Table of contents. *IEEE Spectrum*, 50(7):1–3, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:TCb**

[Ano13-63] Anonymous. Table of contents. *IEEE Spectrum*, 50(9):3, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:TCi**

[Ano13-64] Anonymous. Table of contents. *IEEE Spectrum*, 50(10):3, October 2013. CODEN IEESAM.



ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:TCj**

- [Ano13-65] Anonymous. Table of contents. *IEEE Spectrum*, 50(11):3, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2013:TCk**

- [Ano13-66] Anonymous. Table of contents. *IEEE Spectrum*, 50(12):1–3, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:ASY**

- [Ano14a] Anonymous. Aboard the sky yacht [news]. *IEEE Spectrum*, 51(12):20–21, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:AIW**

- [Ano14b] Anonymous. Advertisement [if we touch the screen, can we feel the cat?]. *IEEE Spectrum*, 51(6):7, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:AAQ**

- [Ano14c] Anonymous. Amazingly accurate quantum computing [news]. *IEEE Spectrum*, 51(6):13–16, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:AE**

- [Ano14d] Anonymous. Ambient is everywhere. *IEEE Spectrum*, 51

(12):29, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:ISFb**

- [Ano14e] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 51(2):C1, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:ISFc**

- [Ano14f] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 51(3):c1, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:ISFd**

- [Ano14g] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 51(4):c1, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:ISFe**

- [Ano14h] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 51(5):c1, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:ISFf**

- [Ano14i] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 51(6):c1, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:ISFg**

- [Ano14j] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spec-*



*trum*, 51(7):c1, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:ISFh**

[Ano14k] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 51(8):c1, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:ISFi**

[Ano14l] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 51(9):c1, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:ISFj**

[Ano14m] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 51(10):c1, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:ISFk**

[Ano14n] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 51(11):c1–c2, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:ISFl**

[Ano14o] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 51(12):c1, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:ISFa**

[Ano14p] Anonymous. *IEEE Spectrum* [front cover]. *IEEE Spectrum*, 51

(1):C1–c1, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:BBB**

[Ano14q] Anonymous. Breaching the blood-brain barrier [news]. *IEEE Spectrum*, 51(6):16–18, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:BYO**

[Ano14r] Anonymous. Brew your own conductive ink. *IEEE Spectrum*, 51(1):24–25, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:BFS**

[Ano14s] Anonymous. British and French swap nuclear energy postures [news]. *IEEE Spectrum*, 51(1):22, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:BBR**

[Ano14t] Anonymous. Building a better ranking [back story]. *IEEE Spectrum*, 51(7):4, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:CSJ**

[Ano14u] Anonymous. Compound semiconductors join the race to sustain Moore's Law [news]. *IEEE Spectrum*, 51(1):15–18, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2014:Ca**

- [Ano14v] Anonymous. Contributors. *IEEE Spectrum*, 51(1):6, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:Cb**

- [Ano14w] Anonymous. Contributors. *IEEE Spectrum*, 51(2):6, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:Cc**

- [Ano14x] Anonymous. Contributors. *IEEE Spectrum*, 51(3):6, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:Cd**

- [Ano14y] Anonymous. Contributors. *IEEE Spectrum*, 51(4):6, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:Ce**

- [Ano14z] Anonymous. Contributors. *IEEE Spectrum*, 51(5):6, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:Cf**

- [Ano14-27] Anonymous. Contributors. *IEEE Spectrum*, 51(6):6, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:Cg**

- [Ano14-28] Anonymous. Contributors. *IEEE Spectrum*, 51(7):6, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:Ch**

- [Ano14-29] Anonymous. Contributors. *IEEE Spectrum*, 51(8):6, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:Ci**

- [Ano14-30] Anonymous. Contributors. *IEEE Spectrum*, 51(9):6, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:Cj**

- [Ano14-31] Anonymous. Contributors. *IEEE Spectrum*, 51(10):6, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:Ck**

- [Ano14-32] Anonymous. Contributors. *IEEE Spectrum*, 51(11):8, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:Cl**

- [Ano14-33] Anonymous. Contributors. *IEEE Spectrum*, 51(12):6, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2014:DPD**

- [Ano14-34] Anonymous. Download, practice, done [the future we deserve]. *IEEE Spectrum*, 51(6):72, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:DEV**

- [Ano14-35] Anonymous. Drone's eye view [back story]. *IEEE Spectrum*, 51(1):4, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:EDN**

- [Ano14-36] Anonymous. Enter the dynamak [news]. *IEEE Spectrum*, 51(12):11–13, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:EWS**

- [Ano14-37] Anonymous. Europe wants a smartphone supercomputer [news]. *IEEE Spectrum*, 51(6):20, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:FBB**

- [Ano14-38] Anonymous. Farm in a box [the big picture news]. *IEEE Spectrum*, 51(9):20–21, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:FBD**

- [Ano14-39] Anonymous. Future block [2064: A day in the life]. *IEEE Spectrum*, 51(6):46–47, June 2014.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:GLB**

- [Ano14-40] Anonymous. Ghost lusters [back story]. *IEEE Spectrum*, 51(5):4, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:GED**

- [Ano14-41] Anonymous. Giving electromagnetism its due [back story]. *IEEE Spectrum*, 51(12):4, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:HWB**

- [Ano14-42] Anonymous. How we began [spectral lines]. *IEEE Spectrum*, 51(1):8–12, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:MBP**

- [Ano14-43] Anonymous. I am the machine [the big picture]. *IEEE Spectrum*, 51(4):24–25, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:IRB**

- [Ano14-44] Anonymous. Icarus revisited [the big picture]. *IEEE Spectrum*, 51(3):22–23, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:HZB**

- [Ano14-45] Anonymous. In the hot zone [back story]. *IEEE Spectrum*,



51(3):4, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2014:IRI

- [Ano14-46] Anonymous. Is it real, or is it Photoshop? [back story]. *IEEE Spectrum*, 51(9):4, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2014:TJS

- [Ano14-47] Anonymous. It's a tough job, but someone has to do it [back story]. *IEEE Spectrum*, 51(4):4, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2014:LFG

- [Ano14-48] Anonymous. Li-Fi gets ready to compete with Wi-Fi [news]. *IEEE Spectrum*, 51(12):13–16, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2014:MRR

- [Ano14-49] Anonymous. Mexico's renewables revolution creates tension. *IEEE Spectrum*, 51(12):16–17, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2014:MOL

- [Ano14-50] Anonymous. More oil, less energy [the big picture]. *IEEE Spectrum*, 51(5):20–21, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2014:NYF

- [Ano14-51] Anonymous. The next 50 years [the future we deserve]. *IEEE Spectrum*, 51(6):29, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2014:PTP

- [Ano14-52] Anonymous. Patent tactics pick the filing strategy that's right for you. *IEEE Spectrum*, 51(8):25–26, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2014:PFB

- [Ano14-53] Anonymous. Planting a flag [back story]. *IEEE Spectrum*, 51(6):4, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2014:PPR

- [Ano14-54] Anonymous. Profile: Pristine [resources-start-ups]. *IEEE Spectrum*, 51(9):25–26, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2014:QEL

- [Ano14-55] Anonymous. Q&A: Edgar Lobaton [resources innovation]. *IEEE Spectrum*, 51(2):24, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2014:RCC

- [Ano14-56] Anonymous. Reducing the carbon cost of cloud computing



[news]. *IEEE Spectrum*, 51(1):13–14, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:R**

[Ano14-57] Anonymous. Resources. *IEEE Spectrum*, 51(6):21–22, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:RHG**

[Ano14-58] Anonymous. Resources — holiday gift guide 2014. *IEEE Spectrum*, 51(12):23–26, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:RFR**

[Ano14-59] Anonymous. The rise, fall, and rise of electronics kits. *IEEE Spectrum*, 51(1):30, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:RRBb**

[Ano14-60] Anonymous. Roadside robot [the big picture]. *IEEE Spectrum*, 51(10):24–25, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:RRBa**

[Ano14-61] Anonymous. A rocketeer to remember [back story]. *IEEE Spectrum*, 51(8):4, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:SDB**

[Ano14-62] Anonymous. Special delivery [back story]. *IEEE Spectrum*, 51(2):4, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:STC**

[Ano14-63] Anonymous. Spin trick could make OLED displays cheaper [news]. *IEEE Spectrum*, 51(1):18–20, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:SBB**

[Ano14-64] Anonymous. Strangers on a bus [back story]. *IEEE Spectrum*, 51(11):4, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:SCB**

[Ano14-65] Anonymous. A super chute [the big picture]. *IEEE Spectrum*, 51(7):20–21, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:TCa**

[Ano14-66] Anonymous. Table of contents. *IEEE Spectrum*, 51(1):1–3, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:TCb**

[Ano14-67] Anonymous. Table of contents. *IEEE Spectrum*, 51(2):1–3, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2014:TCc**

- [Ano14-68] Anonymous. Table of contents. *IEEE Spectrum*, 51(3):1–3, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:TCd**

- [Ano14-69] Anonymous. Table of contents. *IEEE Spectrum*, 51(4):1–3, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:TCE**

- [Ano14-70] Anonymous. Table of contents. *IEEE Spectrum*, 51(5):1–3, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:TCf**

- [Ano14-71] Anonymous. Table of contents. *IEEE Spectrum*, 51(6):1–3, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:TCg**

- [Ano14-72] Anonymous. Table of contents. *IEEE Spectrum*, 51(7):1–3, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:TCh**

- [Ano14-73] Anonymous. Table of contents. *IEEE Spectrum*, 51(8):1–3, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:TCi**

- [Ano14-74] Anonymous. Table of contents. *IEEE Spectrum*, 51(9):1–3, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:TCj**

- [Ano14-75] Anonymous. Table of contents. *IEEE Spectrum*, 51(10):1–3, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:TCk**

- [Ano14-76] Anonymous. Table of contents. *IEEE Spectrum*, 51(11):1–3, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:TCl**

- [Ano14-77] Anonymous. Table of contents. *IEEE Spectrum*, 51(12):3, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:TT**

- [Ano14-78] Anonymous. Top tech 2014. *IEEE Spectrum*, 51(1):31, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:TSB**

- [Ano14-79] Anonymous. Tour de stroll [the big picture]. *IEEE Spectrum*, 51(11):24–25, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2014:VGN**

- [Ano14-80] Anonymous. Van Gogh's new ear [news]. *IEEE Spectrum*, 51(8):21, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:WFM**

- [Ano14-81] Anonymous. When fiction meets fact [back story]. *IEEE Spectrum*, 51(10):4, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2014:YR**

- [Ano14-82] Anonymous. The young rocketeers. *IEEE Spectrum*, 51(1):26, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:AE**

- [Ano15a] Anonymous. American exceptionalism. *IEEE Spectrum*, 52(11):24, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:AC**

- [Ano15b] Anonymous. Analyzing the code. *IEEE Spectrum*, 52(6):50–51, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:NL**

- [Ano15c] Anonymous. And now this .... *IEEE Spectrum*, 52(12):72, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:BS**

- [Ano15d] Anonymous. Back story. *IEEE Spectrum*, 52(3):4, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:BPB**

- [Ano15e] Anonymous. The big picture: bright beams bring Budhas back. *IEEE Spectrum*, 52(8):20–21, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:BPS**

- [Ano15f] Anonymous. The big picture [solar scooter]. *IEEE Spectrum*, 52(3):20–21, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:BPH**

- [Ano15g] Anonymous. The big picture: This hotel is staffed by robots. *IEEE Spectrum*, 52(10):18–19, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:B**

- [Ano15h] Anonymous. Bitcoinages. *IEEE Spectrum*, 52(12):26, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:ISFa**

- [Ano15i] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 52(1):c1, January 2015. CO-



DEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:ISFb**

[Ano15j] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 52(2):c1, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:ISFc**

[Ano15k] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 52(4):c1, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:ISFd**

[Ano15l] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 52(5):c1, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:ISFe**

[Ano15m] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 52(6):c1, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:ISFf**

[Ano15n] Anonymous. *IEEE Spectrum* — [front cover]. *IEEE Spectrum*, 52(7):c1, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:ISFh**

[Ano15o] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 52

(9):c1, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:ISC**

[Ano15p] Anonymous. *IEEE Spectrum* [cover]. *IEEE Spectrum*, 52(3):c1, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:ISFg**

[Ano15q] Anonymous. *IEEE Spectrum* [front cover]. *IEEE Spectrum*, 52(8):c1, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:ISFi**

[Ano15r] Anonymous. *IEEE Spectrum* [front cover]. *IEEE Spectrum*, 52(10):c1, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:ISFj**

[Ano15s] Anonymous. *IEEE Spectrum* [front cover]. *IEEE Spectrum*, 52(11):c1, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:ISFk**

[Ano15t] Anonymous. *IEEE Spectrum* [front cover]. *IEEE Spectrum*, 52(12):c1, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:BTN**

[Ano15u] Anonymous. Boom times for the new camera boom [back



story]. *IEEE Spectrum*, 52(7):4, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2015:CWT

[Ano15v] Anonymous. Cars weigh too much. *IEEE Spectrum*, 52(1):24, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2015:CWB

[Ano15w] Anonymous. Catching the wave [back story]. *IEEE Spectrum*, 52(9):4, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2015:CCa

[Ano15x] Anonymous. Changing the code. *IEEE Spectrum*, 52(6):68–69, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2015:CDA

[Ano15y] Anonymous. Computerized diagnostic aids fail in early test. *IEEE Spectrum*, 52(8):13–16, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2015:Ca

[Ano15z] Anonymous. Contributors. *IEEE Spectrum*, 52(1):6, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2015:Cb

[Ano15-27] Anonymous. Contributors. *IEEE Spectrum*, 52(2):6, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2015:Cc

[Ano15-28] Anonymous. Contributors. *IEEE Spectrum*, 52(3):6, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2015:Cd

[Ano15-29] Anonymous. Contributors. *IEEE Spectrum*, 52(4):6, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2015:Ce

[Ano15-30] Anonymous. Contributors. *IEEE Spectrum*, 52(5):6, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2015:Cf

[Ano15-31] Anonymous. Contributors. *IEEE Spectrum*, 52(6):6, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2015:Cg

[Ano15-32] Anonymous. Contributors. *IEEE Spectrum*, 52(7):6, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2015:Ch**

- [Ano15-33] Anonymous. Contributors. *IEEE Spectrum*, 52(8):6, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:Ci**

- [Ano15-34] Anonymous. Contributors. *IEEE Spectrum*, 52(9):6, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:Cj**

- [Ano15-35] Anonymous. Contributors. *IEEE Spectrum*, 52(10):6, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:Ck**

- [Ano15-36] Anonymous. Contributors. *IEEE Spectrum*, 52(11):6, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:Cl**

- [Ano15-37] Anonymous. Contributors. *IEEE Spectrum*, 52(12):6, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:DBG**

- [Ano15-38] Anonymous. Decoding a baby's genome in 26 hours [news]. *IEEE Spectrum*, 52(12):9–11, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:DSD**

- [Ano15-39] Anonymous. Deep space diving. *IEEE Spectrum*, 52(12):16–17, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:EST**

- [Ano15-40] Anonymous. Engaging with the sci-tech of sci-fi. *IEEE Spectrum*, 52(8):26, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:EML**

- [Ano15-41] Anonymous. Errata for “The Multiple Lives of Moore’s Law,” Vol. 52, no. 4 (NA), April 2015, p. 30. *IEEE Spectrum*, 52(5):67, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). See [Mac15].

**Anonymous:2015:HH**

- [Ano15-42] Anonymous. Hacking the human OS. *IEEE Spectrum*, 52(6):31, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:HHS**

- [Ano15-43] Anonymous. Home on the high seas. *IEEE Spectrum*, 52(7):18–19, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:ASB**

- [Ano15-44] Anonymous. In an astronaut’s shoes [back story]. *IEEE Spectrum*, 52(10):4, October 2015.



CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:IPB**

- [Ano15-45] Anonymous. Insect psychology [the big picture]. *IEEE Spectrum*, 52(5):20–21, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:TSC**

- [Ano15-46] Anonymous. It's too soon to call this the Anthropocene. *IEEE Spectrum*, 52(6):28, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:KMB**

- [Ano15-47] Anonymous. Keeping up with Mildred [back story]. *IEEE Spectrum*, 52(5):4, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:LMP**

- [Ano15-48] Anonymous. Light unto my path [the big picture]. *IEEE Spectrum*, 52(4):18–19, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:LTM**

- [Ano15-49] Anonymous. Little things mean a lot. *IEEE Spectrum*, 52(7):28, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:LG**

- [Ano15-50] Anonymous. The long goodbye. *IEEE Spectrum*, 52(4):29,

April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:LBF**

- [Ano15-51] Anonymous. Looking back on the future. *IEEE Spectrum*, 52(1):26, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:MEB**

- [Ano15-52] Anonymous. A magazine endures [back story]. *IEEE Spectrum*, 52(2):4, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:MBM**

- [Ano15-53] Anonymous. The man behind *The Martian*. *IEEE Spectrum*, 52(10):24–25, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:M**

- [Ano15-54] Anonymous. The miraculous 1880s. *IEEE Spectrum*, 52(7):26, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:MC**

- [Ano15-55] Anonymous. Moore's Curse. *IEEE Spectrum*, 52(4):26, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:NW**

- [Ano15-56] Anonymous. Netting the web. *IEEE Spectrum*, 52(12):24, December 2015. CODEN IEESAM.



ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:NAV**

- [Ano15-57] Anonymous. News [AIs vs. poker]. *IEEE Spectrum*, 52(3):13–16, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:NGG**

- [Ano15-58] Anonymous. News [Google Glass is dead, but augmented reality lives on]. *IEEE Spectrum*, 52(3):18, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:NMP**

- [Ano15-59] Anonymous. News [microgrids for a post — Fukushima, Japan]. *IEEE Spectrum*, 52(3):16–17, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:NTL**

- [Ano15-60] Anonymous. News [taking the large hadron collider to the max]. *IEEE Spectrum*, 52(3):11–13, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:PRC**

- [Ano15-61] Anonymous. Part 1 — reading the code. *IEEE Spectrum*, 52(6):32–33, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:PPB**

- [Ano15-62] Anonymous. Planetary pursuits [back story]. *IEEE Spectrum*, 52(11):4, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:PE**

- [Ano15-63] Anonymous. The pursuit of excellence. *IEEE Spectrum*, 52(8):10, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:RPO**

- [Ano15-64] Anonymous. The real price of oil. *IEEE Spectrum*, 52(10):26, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:SSB**

- [Ano15-65] Anonymous. Selfies on steroids [back story]. *IEEE Spectrum*, 52(1):4, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:SSM**

- [Ano15-66] Anonymous. Space suits for the Mars generation. *IEEE Spectrum*, 52(10):7, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:SCS**

- [Ano15-67] Anonymous. Sports car selfies [back stories]. *IEEE Spectrum*, 52(4):4, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2015:TCa**

- [Ano15-68] Anonymous. Table of contents. *IEEE Spectrum*, 52(1):1–3, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:TCb**

- [Ano15-69] Anonymous. Table of contents. *IEEE Spectrum*, 52(2):1–3, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:TCc**

- [Ano15-70] Anonymous. Table of contents. *IEEE Spectrum*, 52(3):1–3, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:TCd**

- [Ano15-71] Anonymous. Table of contents. *IEEE Spectrum*, 52(4):1–3, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:TCe**

- [Ano15-72] Anonymous. Table of contents. *IEEE Spectrum*, 52(5):1–3, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:TCf**

- [Ano15-73] Anonymous. Table of contents. *IEEE Spectrum*, 52(6):1–2, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:TCg**

- [Ano15-74] Anonymous. Table of contents. *IEEE Spectrum*, 52(7):1–3, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:TCh**

- [Ano15-75] Anonymous. Table of contents. *IEEE Spectrum*, 52(8):1–3, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:TCi**

- [Ano15-76] Anonymous. Table of contents. *IEEE Spectrum*, 52(9):1–3, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:TCj**

- [Ano15-77] Anonymous. Table of contents. *IEEE Spectrum*, 52(10):1–3, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:TCk**

- [Ano15-78] Anonymous. Table of contents. *IEEE Spectrum*, 52(11):1–3, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:TCl**

- [Ano15-79] Anonymous. Table of contents. *IEEE Spectrum*, 52(12):1–3, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2015:TRM**

- [Ano15-80] Anonymous. Tech reporting in muck boots [back story]. *IEEE Spectrum*, 52(6):4, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:TTW**

- [Ano15-81] Anonymous. Top tech to watch. *IEEE Spectrum*, 52(1):27, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:UPS**

- [Ano15-82] Anonymous. Underground play space [the big picture]. *IEEE Spectrum*, 52(9):20–21, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:UO**

- [Ano15-83] Anonymous. Understanding openness. *IEEE Spectrum*, 52(11):26, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:VTA**

- [Ano15-84] Anonymous. A vacuum tube for the ages. *IEEE Spectrum*, 52(11):76, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:VPP**

- [Ano15-85] Anonymous. Visiting powerful places [back story]. *IEEE Spectrum*, 52(12):4, December 2015.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:WST**

- [Ano15-86] Anonymous. Water stats on tap. *IEEE Spectrum*, 52(12):22–23, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:WGA**

- [Ano15-87] Anonymous. What goes around [back story]. *IEEE Spectrum*, 52(8):4, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:WIF**

- [Ano15-88] Anonymous. When innovation fails. *IEEE Spectrum*, 52(8):28, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2015:WBB**

- [Ano15-89] Anonymous. The world in a box [the big picture]. *IEEE Spectrum*, 52(2):20–21, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:AMD**

- [Ano16a] Anonymous. Addio to the Mediterranean diet. *IEEE Spectrum*, 53(9):24, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:ACC**

- [Ano16b] Anonymous. Advertisement [the COMSOL Conference 2016



- Boston]. *IEEE Spectrum*, 53(9):7, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ano16h]
- Anonymous:2016:APe**
- [Ano16c] Anonymous. Air plane — electric skateboards [the big picture]. *IEEE Spectrum*, 53(3):18–19, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ano16i]
- Anonymous:2016:BS**
- [Ano16d] Anonymous. Back story. *IEEE Spectrum*, 53(12):4, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ano16j]
- Anonymous:2016:BB**
- [Ano16e] Anonymous. The ballistic broiler. *IEEE Spectrum*, 53(4):64, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ano16k]
- Anonymous:2016:BDS**
- [Ano16f] Anonymous. The blockchain has a dark side [news]. *IEEE Spectrum*, 53(6):12–13, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ano16l]
- Anonymous:2016:ISFc**
- [Ano16g] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 53(3):c1, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ano16m]
- Anonymous:2016:ISFd**
- Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 53(4):1, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Anonymous:2016:ISFh**
- Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 53(8):c1, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Anonymous:2016:ISFi**
- Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 53(9):c1, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Anonymous:2016:ISFj**
- Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 53(10):c1, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Anonymous:2016:ISFk**
- Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 53(11):c1, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Anonymous:2016:ISFa**
- Anonymous. *IEEE Spectrum* [front cover]. *IEEE Spectrum*, 53(1):c1, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2016:ISFb**

- [Ano16n] Anonymous. *IEEE Spectrum* [front cover]. *IEEE Spectrum*, 53(2):c1, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:ISFe**

- [Ano16o] Anonymous. *IEEE Spectrum* [front cover]. *IEEE Spectrum*, 53(5):c1, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:ISFf**

- [Ano16p] Anonymous. *IEEE Spectrum* [front cover]. *IEEE Spectrum*, 53(6):c1, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:ISFg**

- [Ano16q] Anonymous. *IEEE Spectrum* [front cover]. *IEEE Spectrum*, 53(7):c1, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:ISFl**

- [Ano16r] Anonymous. *IEEE Spectrum* [front cover]. *IEEE Spectrum*, 53(12):c1, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:BBB**

- [Ano16s] Anonymous. Bot the builder [the big picture]. *IEEE Spectrum*, 53(10):16–17, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:CWT**

- [Ano16t] Anonymous. Can we trust robots? [special report]. *IEEE Spectrum*, 53(6):26–27, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:CCB**

- [Ano16u] Anonymous. Carbon country [back story]. *IEEE Spectrum*, 53(7):4, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:CNN**

- [Ano16v] Anonymous. China as the new no. 1? Not quite. *IEEE Spectrum*, 53(12):24, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:CYO**

- [Ano16w] Anonymous. Choose your own movie adventure [the big picture]. *IEEE Spectrum*, 53(5):18–19, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:Ca**

- [Ano16x] Anonymous. Contributors. *IEEE Spectrum*, 53(1):6, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:Cb**

- [Ano16y] Anonymous. Contributors. *IEEE Spectrum*, 53(2):6, February 2016. CODEN IEESAM. ISSN



0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:Cc**

[Ano16z] Anonymous. Contributors. *IEEE Spectrum*, 53(3):6, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:Cd**

[Ano16-27] Anonymous. Contributors. *IEEE Spectrum*, 53(4):6, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:Ce**

[Ano16-28] Anonymous. Contributors. *IEEE Spectrum*, 53(5):6, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:Cf**

[Ano16-29] Anonymous. Contributors. *IEEE Spectrum*, 53(6):6, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:Cg**

[Ano16-30] Anonymous. Contributors. *IEEE Spectrum*, 53(7):6, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:Ch**

[Ano16-31] Anonymous. Contributors. *IEEE Spectrum*, 53(8):6, August 2016.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:Ci**

[Ano16-32] Anonymous. Contributors. *IEEE Spectrum*, 53(9):6, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:Cj**

[Ano16-33] Anonymous. Contributors. *IEEE Spectrum*, 53(10):6, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:Ck**

[Ano16-34] Anonymous. Contributors. *IEEE Spectrum*, 53(11):6, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:Cl**

[Ano16-35] Anonymous. Contributors. *IEEE Spectrum*, 53(12):6, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:CDA**

[Ano16-36] Anonymous. Curating the digital age. *IEEE Spectrum*, 53(4):26, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:DE**

[Ano16-37] Anonymous. Deaths of elephants. *IEEE Spectrum*, 53



(1):26, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:CRB**

- [Ano16-38] Anonymous. El Camino reality [back story]. *IEEE Spectrum*, 53(2):4, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:ESR**

- [Ano16-39] Anonymous. Engineering in a sacred river [back story]. *IEEE Spectrum*, 53(5):4, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:FFN**

- [Ano16-40] Anonymous. Feel the force [news]. *IEEE Spectrum*, 53(3):17, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:FFB**

- [Ano16-41] Anonymous. Freight flyer [the big picture]. *IEEE Spectrum*, 53(2):16–17, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:GSB**

- [Ano16-42] Anonymous. Game strategy [the big picture]. *IEEE Spectrum*, 53(8):16–17, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:GWD**

- [Ano16-43] Anonymous. Giving wackiness its due [back story]. *IEEE*

*Spectrum*, 53(1):4, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:GBR**

- [Ano16-44] Anonymous. Grab the brass ring [the big picture]. *IEEE Spectrum*, 53(12):16–17, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:HSL**

- [Ano16-45] Anonymous. Hitting the slopes — literally [back story]. *IEEE Spectrum*, 53(3):4, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:WBS**

- [Ano16-46] Anonymous. Into the woods [back story]. *IEEE Spectrum*, 53(6):4, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:LFB**

- [Ano16-47] Anonymous. Life flight [the big picture]. *IEEE Spectrum*, 53(9):16–17, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:MP**

- [Ano16-48] Anonymous. Manufacturing powers. *IEEE Spectrum*, 53(4):25, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2016:NTR**

- [Ano16-49] Anonymous. No tipping required [the big picture]. *IEEE Spectrum*, 53(7):16–17, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:NU**

- [Ano16-50] Anonymous. Notes from underground. *IEEE Spectrum*, 53(4):4, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:NES**

- [Ano16-51] Anonymous. Nuclear electricity: a successful failure. *IEEE Spectrum*, 53(10):24, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:OCT**

- [Ano16-52] Anonymous. The old college try [back story]. *IEEE Spectrum*, 53(10):4, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:RS**

- [Ano16-53] Anonymous. A robot that smokes. *IEEE Spectrum*, 53(12):12, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:RNR**

- [Ano16-54] Anonymous. Ronnie Nader [resources careers]. *IEEE Spectrum*, 53(3):25–26, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:SNA**

- [Ano16-55] Anonymous. Sailors need not apply [the big picture]. *IEEE Spectrum*, 53(11):18–19, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:SAE**

- [Ano16-56] Anonymous. Seeking anecdotal evidence [back story]. *IEEE Spectrum*, 53(9):4, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:SRB**

- [Ano16-57] Anonymous. Space rescue [the big picture]. *IEEE Spectrum*, 53(4):16–17, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:SAC**

- [Ano16-58] Anonymous. The startup around the corner [back story]. *IEEE Spectrum*, 53(11):4, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:TCa**

- [Ano16-59] Anonymous. Table of contents. *IEEE Spectrum*, 53(1):1–3, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:TCb**

- [Ano16-60] Anonymous. Table of contents. *IEEE Spectrum*, 53



(2):1–3, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:TCc**

[Ano16-61] Anonymous. Table of contents. *IEEE Spectrum*, 53(3):1–3, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:TCd**

[Ano16-62] Anonymous. Table of contents. *IEEE Spectrum*, 53(4):1–2, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:TCE**

[Ano16-63] Anonymous. Table of contents. *IEEE Spectrum*, 53(5):1–3, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:TCf**

[Ano16-64] Anonymous. Table of contents. *IEEE Spectrum*, 53(6):1–3, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:TCg**

[Ano16-65] Anonymous. Table of contents. *IEEE Spectrum*, 53(7):1–3, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:TCh**

[Ano16-66] Anonymous. Table of contents. *IEEE Spectrum*, 53(8):1–3, August 2016. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:TCi**

[Ano16-67] Anonymous. Table of contents. *IEEE Spectrum*, 53(9):1–3, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:TCj**

[Ano16-68] Anonymous. Table of contents. *IEEE Spectrum*, 53(10):1–3, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:TCk**

[Ano16-69] Anonymous. Table of contents. *IEEE Spectrum*, 53(11):1–3, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:TCl**

[Ano16-70] Anonymous. Table of contents. *IEEE Spectrum*, 53(12):1–3, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:TSS**

[Ano16-71] Anonymous. A top-secret spoofer [back story]. *IEEE Spectrum*, 53(8):4, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2016:WGE**

[Ano16-72] Anonymous. Why give engineers awards? *IEEE Spectrum*, 53



(9):26, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ano17e]

#### **Anonymous:2016:WNM**

[Ano16-73] Anonymous. Working at NSA has made me feel an ... ‘Incredible Sense of Pride’ [cybersecurity spotlight]. *IEEE Spectrum*, 53 (11):62–63, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ano17f]

#### **Anonymous:2017:AIS**

[Ano17a] Anonymous. Advertisement [*IEEE Spectrum*]. *IEEE Spectrum*, 54(7):21, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ano17g]

#### **Anonymous:2017:ACH**

[Ano17b] Anonymous. Advertisement [chip hall of fame]. *IEEE Spectrum*, 54(7):c3, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ano17h]

#### **Anonymous:2017:AC**

[Ano17c] Anonymous. Advertisement [COMSOL]. *IEEE Spectrum*, 54(7):5, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ano17i]

#### **Anonymous:2017:AML**

[Ano17d] Anonymous. Advertisement [machine learning]. *IEEE Spectrum*, 54(7):c4, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ano17j]

#### **Anonymous:2017:AP**

Anonymous. Advertisement [PZFLEX]. *IEEE Spectrum*, 54(7):c2, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### **Anonymous:2017:ARA**

Anonymous. Advertisement [Right Angle Anglissimo plugs]. *IEEE Spectrum*, 54(7):16, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### **Anonymous:2017:AU**

Anonymous. Advertisement [universities]. *IEEE Spectrum*, 54(7):51, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### **Anonymous:2017:AVD**

Anonymous. AI versus doctors [news]. *IEEE Spectrum*, 54(10):13, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### **Anonymous:2017:AFB**

Anonymous. Air fare [the big picture]. *IEEE Spectrum*, 54(12):16–17, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### **Anonymous:2017:BDB**

Anonymous. Beyond the dream [back story]. *IEEE Spectrum*, 54(11):3, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2017:BPn**

[Ano17k] Anonymous. The big picture [news]. *IEEE Spectrum*, 54(7):14–15, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:BGS**

[Ano17l] Anonymous. A boat of glass and steel [back story]. *IEEE Spectrum*, 54(6):4, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:ISFa**

[Ano17m] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 54(1):c1, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:ISFb**

[Ano17n] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 54(2):c1, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:ISFc**

[Ano17o] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 54(3):c1, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:ISFd**

[Ano17p] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 54(4):c1, April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:ISFe**

[Ano17q] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 54(5):c1, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:ISFf**

[Ano17r] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 54(6):c1, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:ISFg**

[Ano17s] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 54(7):c1, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:ISFh**

[Ano17t] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 54(8):c1, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:ISFi**

[Ano17u] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 54(9):c1, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:ISFj**

[Ano17v] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 54(10):c1, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2017:ISFk**

- [Ano17w] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 54(11):c1, November 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:ISFl**

- [Ano17x] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 54(12):c1, December 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:Ca**

- [Ano17y] Anonymous. Contributors. *IEEE Spectrum*, 54(1):4, January 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:Cb**

- [Ano17z] Anonymous. Contributors. *IEEE Spectrum*, 54(2):6, February 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:Cc**

- [Ano17-27] Anonymous. Contributors. *IEEE Spectrum*, 54(3):4, March 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:Cd**

- [Ano17-28] Anonymous. Contributors. *IEEE Spectrum*, 54(4):6, April 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:Ce**

- [Ano17-29] Anonymous. Contributors. *IEEE Spectrum*, 54(5):6, May 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:Cf**

- [Ano17-30] Anonymous. Contributors. *IEEE Spectrum*, 54(6):6, June 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:Cg**

- [Ano17-31] Anonymous. Contributors. *IEEE Spectrum*, 54(7):4, July 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:Ch**

- [Ano17-32] Anonymous. Contributors. *IEEE Spectrum*, 54(8):6, August 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:Ci**

- [Ano17-33] Anonymous. Contributors. *IEEE Spectrum*, 54(9):6, September 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:Cj**

- [Ano17-34] Anonymous. Contributors. *IEEE Spectrum*, 54(10):6, October 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2017:Ck**

- [Ano17-35] Anonymous. Contributors. *IEEE Spectrum*, 54(11):4, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:Cl**

- [Ano17-36] Anonymous. Contributors. *IEEE Spectrum*, 54(12):6, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:CRB**

- [Ano17-37] Anonymous. Cool runnings [the big picture]. *IEEE Spectrum*, 54(2):16–17, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:DEB**

- [Ano17-38] Anonymous. Dance enhancer [the big picture]. *IEEE Spectrum*, 54(5):16–17, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:DTN**

- [Ano17-39] Anonymous. The dead TVs of NYC [resources geek life]. *IEEE Spectrum*, 54(11):20–21, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:DDB**

- [Ano17-40] Anonymous. Droid drivers [the big picture]. *IEEE Spectrum*, 54(3):16–17, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:EVF**

- [Ano17-41] Anonymous. Electric vehicles: not so fast. *IEEE Spectrum*, 54(12):24, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:FSH**

- [Ano17-42] Anonymous. Fighting stigma with high tech [back story]. *IEEE Spectrum*, 54(5):4, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:FRT**

- [Ano17-43] Anonymous. Follow that robotaxi [back story]. *IEEE Spectrum*, 54(1):3, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:GES**

- [Ano17-44] Anonymous. Grid electricity storage: size matters [opinion]. *IEEE Spectrum*, 54(1):23, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:HWB**

- [Ano17-45] Anonymous. Hello, world! [back story]. *IEEE Spectrum*, 54(7):3, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:HST**

- [Ano17-46] Anonymous. Here are some of the technologies you'll be reading about this year. *IEEE Spectrum*,



54(1):25, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2017:HTC

- [Ano17-47] Anonymous. Hot on the trail of cold warriors [back story]. *IEEE Spectrum*, 54(4):4, April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2017:IN

- [Ano17-48] Anonymous. India as no. 1? *IEEE Spectrum*, 54(11):22, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2017:LD

- [Ano17-49] Anonymous. The lure of decentralization. *IEEE Spectrum*, 54(11):23, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2017:MCA

- [Ano17-50] Anonymous. Make the connection [advertisement]. *IEEE Spectrum*, 54(7):12, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2017:MAM

- [Ano17-51] Anonymous. Meet the authors of *A Mind at Play* [resources Q&A]. *IEEE Spectrum*, 54(7):20, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2017:MJ

- [Ano17-52] Anonymous. Meetings in Japan. *IEEE Spectrum*, 54(3):14–15, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2017:MMPb

- [Ano17-53] Anonymous. Memory for the Moon [past forward]. *IEEE Spectrum*, 54(10):72, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2017:MMB

- [Ano17-54] Anonymous. The mines of Mongolia [back story]. *IEEE Spectrum*, 54(10):4, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2017:MTL

- [Ano17-55] Anonymous. More than a lab animal [back story]. *IEEE Spectrum*, 54(3):3, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2017:MMPa

- [Ano17-56] Anonymous. Music-making piano droid [the big picture]. *IEEE Spectrum*, 54(8):16–17, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2017:WWB

- [Ano17-57] Anonymous. On a wing and a whisper [back story]. *IEEE Spectrum*, 54(9):4, September 2017.



CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:PFP**

- [Ano17-58] Anonymous. Past forward: programming with plugs and cords. *IEEE Spectrum*, 54(12):72, December 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:PTN**

- [Ano17-59] Anonymous. President Trump needs an engineering adviser [spectral lines]. *IEEE Spectrum*, 54(4):8, April 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:SSK**

- [Ano17-60] Anonymous. Sealed for safekeeping [the big picture]. *IEEE Spectrum*, 54(9):16–17, September 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:SSBa**

- [Ano17-61] Anonymous. Shaking up shipbuilding [back story]. *IEEE Spectrum*, 54(2):4, February 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:SSBb**

- [Ano17-62] Anonymous. A smashing success [back story]. *IEEE Spectrum*, 54(8):5, August 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:TCa**

- [Ano17-63] Anonymous. Table of contents. *IEEE Spectrum*, 54(1):1–2, January 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:TCb**

- [Ano17-64] Anonymous. Table of contents. *IEEE Spectrum*, 54(2):1–3, February 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:TCc**

- [Ano17-65] Anonymous. Table of contents. *IEEE Spectrum*, 54(3):1–2, March 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:TCd**

- [Ano17-66] Anonymous. Table of contents. *IEEE Spectrum*, 54(4):1–3, April 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:TCe**

- [Ano17-67] Anonymous. Table of contents. *IEEE Spectrum*, 54(5):1–3, May 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:TCf**

- [Ano17-68] Anonymous. Table of contents. *IEEE Spectrum*, 54(6):1–3, June 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2017:TCg**

- [Ano17-69] Anonymous. Table of contents. *IEEE Spectrum*, 54(7):1–2, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:TCh**

- [Ano17-70] Anonymous. Table of contents. *IEEE Spectrum*, 54(8):1–3, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:TCi**

- [Ano17-71] Anonymous. Table of contents. *IEEE Spectrum*, 54(9):1–3, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:TCj**

- [Ano17-72] Anonymous. Table of contents. *IEEE Spectrum*, 54(10):1–3, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:TCK**

- [Ano17-73] Anonymous. Table of contents. *IEEE Spectrum*, 54(11):1–2, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:TCI**

- [Ano17-74] Anonymous. Table of contents. *IEEE Spectrum*, 54(12):1–3, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:TCQ**

- [Ano17-75] Anonymous. A trial called guess [the big picture]. *IEEE Spectrum*, 54(4):16–17, April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:VBR**

- [Ano17-76] Anonymous. Vaccination: the best return on investment [opinion]. *IEEE Spectrum*, 54(7):24, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:WFE**

- [Ano17-77] Anonymous. When form exceeded function [past forward]. *IEEE Spectrum*, 54(3):56, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:WEB**

- [Ano17-78] Anonymous. Wild encounters [back story]. *IEEE Spectrum*, 54(12):4, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2017:WSB**

- [Ano17-79] Anonymous. Wired for speed [big picture]. *IEEE Spectrum*, 54(11):14–15, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:WIV**

- [Ano18a] Anonymous. 6 ways IoT is vulnerable. *IEEE Spectrum*, 55(7):21, July 2018. CODEN IEESAM.



- ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano18b] **Anonymous:2018:AHl** Anonymous. The age of the heroic inventor is over — [opinion]. *IEEE Spectrum*, 55(9):25, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano18c] **Anonymous:2018:ARR** Anonymous. Amazon’s robot rush: Brad Porter leads the company’s charge — [resources Q&A]. *IEEE Spectrum*, 55(11):21, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano18d] **Anonymous:2018:ABW** Anonymous. The answer is blowing on the wing — [back story]. *IEEE Spectrum*, 55(8):3, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano18e] **Anonymous:2018:EEO** Anonymous. Are engineers “educated”? [opinion]. *IEEE Spectrum*, 55(11):26, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano18f] **Anonymous:2018:ABS** Anonymous. At the arcade [back story]. *IEEE Spectrum*, 55(1):3, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano18g] **Anonymous:2018:AFF** Anonymous. August 1908: First Ford Model T completed — [opinion]. *IEEE Spectrum*, 55(8):19, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano18h] **Anonymous:2018:BMP** Anonymous. A better mailbox [past forward]. *IEEE Spectrum*, 55(6):84, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano18i] **Anonymous:2018:BMS** Anonymous. Blueprints for a miracle [special report]. *IEEE Spectrum*, 55(6):18–19, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano18j] **Anonymous:2018:ISFa** Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 55(1):c1, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano18k] **Anonymous:2018:ISFb** Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 55(2):c1, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano18l] **Anonymous:2018:ISFc** Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 55(3):c1, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



DEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:ISFd**

[Ano18m] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 55(4):c1, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:ISFe**

[Ano18n] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 55(5):c1, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:ISFf**

[Ano18o] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 55(6):c1, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:ISFg**

[Ano18p] Anonymous. *IEEE Spectrum* — front cover. *IEEE Spectrum*, 55(7):c1, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:BHB**

[Ano18q] Anonymous. Break these habits for a better workplace [resources at work]. *IEEE Spectrum*, 55(5):22, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:CCO**

[Ano18r] Anonymous. Cognitive cameras — [opinion]. *IEEE Spectrum*, 55

(12):16, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:Ch**

[Ano18s] Anonymous. Contents. *IEEE Spectrum*, 55(8):1–2, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:Cj**

[Ano18t] Anonymous. Contents. *IEEE Spectrum*, 55(11):1–3, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:Cl**

[Ano18u] Anonymous. Contents. *IEEE Spectrum*, 55(12):1–2, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:Ca**

[Ano18v] Anonymous. Contributors. *IEEE Spectrum*, 55(1):4, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:Cb**

[Ano18w] Anonymous. Contributors. *IEEE Spectrum*, 55(2):4, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:Cc**

[Ano18x] Anonymous. Contributors. *IEEE Spectrum*, 55(3):4, March 2018.



CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:Cd**

- [Ano18y] Anonymous. Contributors. *IEEE Spectrum*, 55(4):4, April 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:Ce**

- [Ano18z] Anonymous. Contributors. *IEEE Spectrum*, 55(5):6, May 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:Cf**

- [Ano18-27] Anonymous. Contributors. *IEEE Spectrum*, 55(6):4, June 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:Cg**

- [Ano18-28] Anonymous. Contributors. *IEEE Spectrum*, 55(7):4, July 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:Ci**

- [Ano18-29] Anonymous. Contributors. *IEEE Spectrum*, 55(8):4, August 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:Ck**

- [Ano18-30] Anonymous. Contributors. *IEEE Spectrum*, 55(11):8, November

2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:Cm**

- [Ano18-31] Anonymous. Contributors. *IEEE Spectrum*, 55(12):4, December 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:CCa**

- [Ano18-32] Anonymous. Contributors — [contributors]. *IEEE Spectrum*, 55(9):6, September 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:CCb**

- [Ano18-33] Anonymous. Contributors — [contributors]. *IEEE Spectrum*, 55(10):4, October 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:CLB**

- [Ano18-34] Anonymous. Cordless lift: The big picture — [news]. *IEEE Spectrum*, 55(11):16–17, November 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:DMB**

- [Ano18-35] Anonymous. Dance music [the big picture]. *IEEE Spectrum*, 55(5):16–17, May 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:DDP**

- [Ano18-36] Anonymous. December 1888: Dunlop patents inflatable tire



[opinion]. *IEEE Spectrum*, 55 (12):23, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2018:DDS

[Ano18-37] Anonymous. Diver drone shoots sea scenes [the big picture]. *IEEE Spectrum*, 55(3):14–15, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2018:DAG

[Ano18-38] Anonymous. Diypro audio: Get great stereo sound with 3E Audio’s board — [resources]. *IEEE Spectrum*, 55(11):18–19, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2018:DEV

[Ano18-39] Anonymous. Dog’s-eye view [the big picture]. *IEEE Spectrum*, 55 (2):14–15, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2018:ETT

[Ano18-40] Anonymous. Electricity as Turkey tenderizer — [past forward by Allison Marsh]. *IEEE Spectrum*, 55(12):64, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2018:ENX

[Ano18-41] Anonymous. Europe’s new X-ray laser delivers results: Scientists used the EuXFEL to reveal the structures of the tiniest proteins

— [news]. *IEEE Spectrum*, 55 (11):10–11, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2018:ESB

[Ano18-42] Anonymous. Eye of the storm [back story]. *IEEE Spectrum*, 55(5):4, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2018:FSF

[Ano18-43] Anonymous. The farm on the second floor [back story]. *IEEE Spectrum*, 55(6):3, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2018:FSA

[Ano18-44] Anonymous. Fixing spectrum auctions — [opinion]. *IEEE Spectrum*, 55(9):23, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2018:FBM

[Ano18-45] Anonymous. Food [blueprints for a miracle part 3]. *IEEE Spectrum*, 55(6):48–49, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

#### Anonymous:2018:FCa

[Ano18-46] Anonymous. Front cover. *IEEE Spectrum*, 55(8):c1, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2018:FCb**

- [Ano18-47] Anonymous. Front cover. *IEEE Spectrum*, 55(9):c1, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:FCc**

- [Ano18-48] Anonymous. Front cover. *IEEE Spectrum*, 55(10):c1, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:FCd**

- [Ano18-49] Anonymous. [front cover]. *IEEE Spectrum*, 55(11):c1, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:FCe**

- [Ano18-50] Anonymous. Front cover. *IEEE Spectrum*, 55(12):c1, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:FFI**

- [Ano18-51] Anonymous. The frugal factory — [Internet of Everything by Stacey Higginbotham — opinion]. *IEEE Spectrum*, 55(10):22, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:HDC**

- [Ano18-52] Anonymous. HBO's data compression stars — [back story]. *IEEE Spectrum*, 55

(9):4, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:HDB**

- [Ano18-53] Anonymous. High and dry [the big picture]. *IEEE Spectrum*, 55(7):14–15, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:IND**

- [Ano18-54] Anonymous. IBM's new do-it-all AI chip: The company says its chip can do both high-precision learning and low-precision inference across the three main flavors of deep learning — [news]. *IEEE Spectrum*, 55(8):10–11, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:ISC**

- [Ano18-55] Anonymous. It should come as no surprise. *IEEE Spectrum*, 55(9):32–37, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:JKC**

- [Ano18-56] Anonymous. July 1958: Kilby conceives the IC. *IEEE Spectrum*, 55(7):22, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:LSB**

- [Ano18-57] Anonymous. A lament for short-wave — [the big picture — news]. *IEEE Spectrum*, 55(10):14–15, October 2018. CO-



DEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:LHV**

- [Ano18-58] Anonymous. The legal hazards of VR and AR [resources at work]. *IEEE Spectrum*, 55(3):21, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:LLT**

- [Ano18-59] Anonymous. Lessons learned from a troubled launch [resources Q&A]. *IEEE Spectrum*, 55(2):23, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:MMB**

- [Ano18-60] Anonymous. Mechanical maestro [the big picture]. *IEEE Spectrum*, 55(1):14–15, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:MMP**

- [Ano18-61] Anonymous. The mighty magnetron — [past forward by Allison Marsh]. *IEEE Spectrum*, 55(11):68, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:MNN**

- [Ano18-62] Anonymous. The mind of neural networks. *IEEE Spectrum*, 55(1):24, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:NFB**

- [Ano18-63] Anonymous. Never forget [the big picture]. *IEEE Spectrum*, 55(4):14–15, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:NEI**

- [Ano18-64] Anonymous. New eyes for the IoT [opinion]. *IEEE Spectrum*, 55(11):24, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:NFS**

- [Ano18-65] Anonymous. No fish in space — [back story]. *IEEE Spectrum*, 55(11):4, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:NFW**

- [Ano18-66] Anonymous. November 1918: The First World War ends [opinion]. *IEEE Spectrum*, 55(11):25, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:OFB**

- [Ano18-67] Anonymous. October 1958: First Boeing 707 to Paris — [numbers don't lie by Vaclav Smil — opinion]. *IEEE Spectrum*, 55(10):23, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:OSN**

- [Ano18-68] Anonymous. An oil state's nuclear power gambit. *IEEE Spectrum*, 55(1):42–43, January 2018.



CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:PPT**

- [Ano18-69] Anonymous. Passport pass-thru — [news]. *IEEE Spectrum*, 55(12):14–15, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:PPB**

- [Ano18-70] Anonymous. Power to the people [back story]. *IEEE Spectrum*, 55(4):3, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:QPP**

- [Ano18-71] Anonymous. A quantum of play — [past forward by Allison Marsh]. *IEEE Spectrum*, 55(8):48, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:RRO**

- [Ano18-72] Anonymous. The rise of RISC — [opinion]. *IEEE Spectrum*, 55(8):18, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:SKC**

- [Ano18-73] Anonymous. September 1888: Kodak camera is patented — [opinion]. *IEEE Spectrum*, 55(9):24, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:SWU**

- [Ano18-74] Anonymous. Should we upgrade [resources Q&A]. *IEEE Spectrum*, 55(1):20, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:SSBb**

- [Ano18-75] Anonymous. Sifting subcultures — [back story]. *IEEE Spectrum*, 55(12):3, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:STN**

- [Ano18-76] Anonymous. Slave to technology — [news]. *IEEE Spectrum*, 55(8):12–13, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:SSBa**

- [Ano18-77] Anonymous. Sound of silence [back story]. *IEEE Spectrum*, 55(3):3, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:SVD**

- [Ano18-78] Anonymous. Spy vs. dragonfly. *IEEE Spectrum*, 55(1):64, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:SFB**

- [Ano18-79] Anonymous. Stage fright [back story]. *IEEE Spectrum*, 55(2):3, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2018:TCa**

- [Ano18-80] Anonymous. Table of contents. *IEEE Spectrum*, 55(1):1–2, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:TCb**

- [Ano18-81] Anonymous. Table of contents. *IEEE Spectrum*, 55(2):1–2, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:TCc**

- [Ano18-82] Anonymous. Table of contents. *IEEE Spectrum*, 55(3):1–2, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:TCd**

- [Ano18-83] Anonymous. Table of contents. *IEEE Spectrum*, 55(4):1–2, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:TCe**

- [Ano18-84] Anonymous. Table of contents. *IEEE Spectrum*, 55(5):1–3, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:TCf**

- [Ano18-85] Anonymous. Table of contents. *IEEE Spectrum*, 55(6):1–2, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:TCg**

- [Ano18-86] Anonymous. Table of contents. *IEEE Spectrum*, 55(7):1–2, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:TCh**

- [Ano18-87] Anonymous. Table of contents. *IEEE Spectrum*, 55(9):1–3, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:TCi**

- [Ano18-88] Anonymous. Table of contents. *IEEE Spectrum*, 55(10):1–2, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:SGB**

- [Ano18-89] Anonymous. That special glow [back story]. *IEEE Spectrum*, 55(7):3, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:HPC**

- [Ano18-90] Anonymous. This is how a pathologist could save your life. *IEEE Spectrum*, 55(12):24–29, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:TT**

- [Ano18-91] Anonymous. Top tech 2018. *IEEE Spectrum*, 55(1):25, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Anonymous:2018:TSP**

- [Ano18-92] Anonymous. Tour de smart-phone — [news]. *IEEE Spectrum*, 55(9):16–17, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:VBM**

- [Ano18-93] Anonymous. Vehicles [blueprints for a miracle part 2]. *IEEE Spectrum*, 55(6):36–37, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:WBM**

- [Ano18-94] Anonymous. Watts [blueprints for a miracle: Part I]. *IEEE Spectrum*, 55(6):20–21, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:WMB**

- [Ano18-95] Anonymous. The wheelchair that might have been. *IEEE Spectrum*, 55(7):48, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:WCW**

- [Ano18-96] Anonymous. When calculators were revolutionary — [back story]. *IEEE Spectrum*, 55(10):3, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2018:WIU**

- [Ano18-97] Anonymous. When imperfect understanding is good. *IEEE Spec-*

*trum*, 55(7):23, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:AST**

- [Ano19a] Anonymous. ABB and Siemens test subsea power grids: Putting a power-distribution station on the ocean floor could allow more raw materials to be processed down there — [news]. *IEEE Spectrum*, 56(6):10–11, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:AMB**

- [Ano19b] Anonymous. After Maria — [back story]. *IEEE Spectrum*, 56(11):2, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:AEA**

- [Ano19c] Anonymous. AI engineers: The autonomous-vehicle industry wants you: Cruise’s AI chief, Hussein Mehanna, talks jobs, careers, and self-driving cars — [spectral lines]. *IEEE Spectrum*, 56(09):4, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:AAH**

- [Ano19d] Anonymous. AI’s Achilles’ heel: Ambiguity. *IEEE Spectrum*, 56(5):22, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Ano19e] Anonymous. Are specialist engineers more successful? [opinion]. *IEEE Spectrum*, 56(11):21, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19f] Anonymous. As the turbine turns — [past forward by Allison Marsh]. *IEEE Spectrum*, 56(6):48, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19g] Anonymous. Autonomous trucks need people [opinion]. *IEEE Spectrum*, 56(3):21, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19h] Anonymous. Big bad wolf — [the big picture]. *IEEE Spectrum*, 56(2):14–15, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19i] Anonymous. The big picture — [news]. *IEEE Spectrum*, 56(8):12–13, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19j] Anonymous. Bricks and batts [opinion]. *IEEE Spectrum*, 56(09):20, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19k] Anonymous. Can machine learning teach us anything? [opinion]. *IEEE Spectrum*, 56(3):23, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Anonymous. Charging up — [news]. *IEEE Spectrum*, 56(3):14–15, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Anonymous. Coded for cuteness — [past forward by Allison Marsh]. *IEEE Spectrum*, 56(1):60, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Anonymous. Cold war chess — [past forward by Allison Marsh]. *IEEE Spectrum*, 56(5):56, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Anonymous. Contents. *IEEE Spectrum*, 56(3):1, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Anonymous. Contents. *IEEE Spectrum*, 56(4):1, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- Anonymous. Contents. *IEEE Spectrum*, 56(5):1, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Ano19s] Anonymous. Contents. *IEEE Spectrum*, 56(6):1, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Ci**
- [Ano19t] Anonymous. Contents. *IEEE Spectrum*, 56(7):1–2, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Ck**
- [Ano19u] Anonymous. Contents. *IEEE Spectrum*, 56(8):1, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Cm**
- [Ano19v] Anonymous. Contents. *IEEE Spectrum*, 56(09):1, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Cp**
- [Ano19w] Anonymous. Contents. *IEEE Spectrum*, 56(10):1, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Cr**
- [Ano19x] Anonymous. Contents. *IEEE Spectrum*, 56(11):1, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Ct**
- [Ano19y] Anonymous. Contents. *IEEE Spectrum*, 56(12):1, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Cv**
- [Ano19z] Anonymous. Contributors. *IEEE Spectrum*, 56(1):4, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Ca**
- Anonymous. Contributors. *IEEE Spectrum*, 56(2):4, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Cb**
- Anonymous. Contributors. *IEEE Spectrum*, 56(3):4, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Cd**
- Anonymous. Contributors. *IEEE Spectrum*, 56(4):3, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Cf**
- Anonymous. Contributors. *IEEE Spectrum*, 56(5):3, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Ch**
- Anonymous. Contributors. *IEEE Spectrum*, 56(6):3, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Cj**
- Anonymous. Contributors. *IEEE Spectrum*, 56(7):4, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Cl**
- Anonymous. Contributors. *IEEE Spectrum*, 56(8):3, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Co**
- Anonymous. Contributors. *IEEE Spectrum*, 56(09):3, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Anonymous:2019:Cq**



IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:Cs**

- [Ano19-35] Anonymous. Contributors. *IEEE Spectrum*, 56(10):3, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:Cu**

- [Ano19-36] Anonymous. Contributors. *IEEE Spectrum*, 56(11):3, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:Cw**

- [Ano19-37] Anonymous. Contributors. *IEEE Spectrum*, 56(12):4, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:CBP**

- [Ano19-38] Anonymous. Cruel beauty — [pastor's view] by Allison Marsh. *IEEE Spectrum*, 56(09):51, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:DWR**

- [Ano19-39] Anonymous. Data world: Racing to the edge [opinion]. *IEEE Spectrum*, 56(7):20, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:DCI**

- [Ano19-40] Anonymous. Deconstructing the construction industry [opinion]. *IEEE Spectrum*, 56(6):20, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:DSO**

- [Ano19-41] Anonymous. Digital snake oil [opinion]. *IEEE Spectrum*, 56(09):19, September 2019. CO-

DEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:DRA**

- Anonymous. Diving with robots and astronauts — [back story]. *IEEE Spectrum*, 56(8):2, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:DYN**

- Anonymous. Do you need a smart microwave? [opinion]. *IEEE Spectrum*, 56(2):22, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:ECS**

- Anonymous. Electric container ships are a hard sail [opinion]. *IEEE Spectrum*, 56(3):22, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:EIP**

- Anonymous. Energy intensity of passenger travel [opinion]. *IEEE Spectrum*, 56(1):19, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:ENM**

- Anonymous. Even a non-millionaire deserves a great car — [back story]. *IEEE Spectrum*, 56(4):2, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:EDK**

- Anonymous. The expiration date of knowledge [opinion]. *IEEE Spectrum*, 56(09):21, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:FGN**

- Anonymous. Fares going up — [news]. *IEEE Spectrum*, 56(5):12–13, May 2019. CODEN



IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ano19-56]

**Anonymous:2019:FUB**

- [Ano19-49] Anonymous. Flying into the unknown — [back story]. *IEEE Spectrum*, 56(5):2, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ano19-57]

**Anonymous:2019:FFN**

- [Ano19-50] Anonymous. Form over function — [news]. *IEEE Spectrum*, 56(4):12–13, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ano19-58]

**Anonymous:2019:FCa**

- [Ano19-51] Anonymous. Front cover. *IEEE Spectrum*, 56(1):c1, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ano19-59]

**Anonymous:2019:FCb**

- [Ano19-52] Anonymous. Front cover. *IEEE Spectrum*, 56(2):c1, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ano19-60]

**Anonymous:2019:FCc**

- [Ano19-53] Anonymous. Front cover. *IEEE Spectrum*, 56(3):c1, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ano19-61]

**Anonymous:2019:FCd**

- [Ano19-54] Anonymous. Front cover. *IEEE Spectrum*, 56(4):c1, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ano19-62]

**Anonymous:2019:FCe**

- [Ano19-55] Anonymous. Front cover. *IEEE Spectrum*, 56(5):c1, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Ano19-63]

**Anonymous:2019:FCf**

Anonymous. Front cover. *IEEE Spectrum*, 56(6):c1, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:FCg**

Anonymous. Front cover. *IEEE Spectrum*, 56(7):c1, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:FC h**

Anonymous. Front cover. *IEEE Spectrum*, 56(8):c1, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:FCi**

Anonymous. Front cover. *IEEE Spectrum*, 56(09):c1, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:FCj**

Anonymous. [front cover]. *IEEE Spectrum*, 56(10):c1, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:FCk**

Anonymous. [front cover]. *IEEE Spectrum*, 56(11):c1, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:FCl**

Anonymous. [front cover]. *IEEE Spectrum*, 56(12):c1, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:GBP**

Anonymous. A gamp with buzz — [past forward by Allison Marsh]. *IEEE Spec-*



*trum*, 56(12):54, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:HRD**  
[Ano19-70]

- [Ano19-64] Anonymous. Ham radio does distant data networking: A new protocol runs on simple hardware and supports IPv4 — [resources hands on]. *IEEE Spectrum*, 56(11):14–16, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ano19-71]

**Anonymous:2019:HRP**

- [Ano19-65] Anonymous. How the Raspberry Pi infiltrated industry: The \$35 computer’s creator explains what drove the latest revision — [resources Q&A]. *IEEE Spectrum*, 56(09):15–16, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ano19-72]

**Anonymous:2019:I**

- [Ano19-66] Anonymous. The improver. *IEEE Spectrum*, 56(2):3, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ano19-73]

**Anonymous:2019:IJI**

- [Ano19-67] Anonymous. The Institute joins *IEEE Spectrum* — [back story]. *IEEE Spectrum*, 56(3):74, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ano19-74]

**Anonymous:2019:ILR**

- [Ano19-68] Anonymous. Intel Labs’ Rich Uhlig: A new director for new computer architecture — [resources Q&A]. *IEEE Spectrum*, 56(4):19–20, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ano19-75]

**Anonymous:2019:ISG**

- [Ano19-69] Anonymous. IoT security goes to London [opinion]. *IEEE Spectrum*, 56(5):20, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ano19-76]

2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:JMG**

Anonymous. June 1878: Muybridge’s galloping horse [opinion]. *IEEE Spectrum*, 56(6):21, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:KII**

Anonymous. Keeping the industrial IoT in sync [opinion]. *IEEE Spectrum*, 56(1):18, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:KCD**

Anonymous. King Coal deposited — [news]. *IEEE Spectrum*, 56(6):12–13, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:LSL**

Anonymous. Life-span and life expectancy [opinion]. *IEEE Spectrum*, 56(5):21, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:LCR**

Anonymous. Lights, camera, robots! — [back story]. *IEEE Spectrum*, 56(12):2, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:LHB**

Anonymous. Living history — [back story]. *IEEE Spectrum*, 56(6):2, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:LEO**

Anonymous. Luminous efficacy [opinion]. *IEEE Spectrum*, 56(4):22, April 2019. CODEN



IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:MGU**

- [Ano19-77] Anonymous. Making a great university [opinion]. *IEEE Spectrum*, 56(1):20, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:MGN**

- [Ano19-78] Anonymous. Mind games — [news]. *IEEE Spectrum*, 56(11):12–13, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:MST**

- [Ano19-79] Anonymous. More science than fiction — [back story]. *IEEE Spectrum*, 56(7):5, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:NHO**

- [Ano19-80] Anonymous. Now hear this [opinion]. *IEEE Spectrum*, 56(4):21, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:OFF**

- [Ano19-81] Anonymous. One factory fits all [opinion]. *IEEE Spectrum*, 56(7):19, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:PIP**

- [Ano19-82] Anonymous. Pigeon: Impossible — [past forward by Allison Marsh]. *IEEE Spectrum*, 56(4):52, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:PIN**

- [Ano19-83] Anonymous. Plugging in the navajo nation: A pilot program brought grid power to 200

homes, but there are 15,000 to go — [news]. *IEEE Spectrum*, 56(6):6–7, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:PPT**

Anonymous. Pop-up power tower — [news]. *IEEE Spectrum*, 56(10):12–13, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:PPP**

Anonymous. Pretty in pink — [past forward by Allison Marsh]. *IEEE Spectrum*, 56(2):52, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:PSS**

Anonymous. Profile: Scott Shawcroft: This developer is squeezing Python into microcontrollers. *IEEE Spectrum*, 56(4):16, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:RLL**

Anonymous. A real-life lasso of truth: Past forward by Allison Marsh. *IEEE Spectrum*, 56(8):52, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:RHD**

Anonymous. Recipe for a hard disk. *IEEE Spectrum*, 56(1):3, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:RSB**

Anonymous. Robots as smart as babies [opinion]. *IEEE Spectrum*, 56(11):19, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Ano19-90] Anonymous. Shock your way to go — [back story]. *IEEE Spectrum*, 56(3):56, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19-91] Anonymous. Show your machine — [back story]. *IEEE Spectrum*, 56(12):20, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19-92] Anonymous. SpaceX and Blue Origin face off. *IEEE Spectrum*, 56(1):22–25, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19-93] Anonymous. Superefficient gas turbines [opinion]. *IEEE Spectrum*, 56(12):21, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19-94] Anonymous. Table of contents. *IEEE Spectrum*, 56(1):1–2, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19-95] Anonymous. Table of contents. *IEEE Spectrum*, 56(2):1–2, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19-96] Anonymous. Taking lessons to heart — [back story]. *IEEE Spectrum*, 56(09):2, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19-97] Anonymous. Throwing data around — [back story]. *IEEE Spectrum*, 56(10):2, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19-98] Anonymous. Tiffany’s transatlantic telegraphy doodad — [past forward by Allison Marsh]. *IEEE Spectrum*, 56(11):60, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19-99] Anonymous. Top tech 2019. *IEEE Spectrum*, 56(1):21, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19-100] Anonymous. The trillion-device world: ARM CEO Simon Segars says the coming 5th wave of computing is far more than a mere Internet of Things — [spectral lines]. *IEEE Spectrum*, 56(1):6, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19-101] Anonymous. The vacuum tube’s power law [opinion]. *IEEE Spectrum*, 56(2):23, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Ano19-102] Anonymous. What would Doug Engelbart do?: The man who helped pioneer modern computing and organizational-knowledge management could also help us solve our greatest global problems — [spectral lines]. *IEEE Spectrum*, 56(2):6, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:WWH**

- [Ano19-103] Anonymous. Wheels for the well-heeled — [news]. *IEEE Spectrum*, 56(10):12–19, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:WIE**

- [Ano19-104] Anonymous. When innovation and ethics collide [opinion]. *IEEE Spectrum*, 56(7):21–18, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:WMS**

- [Ano19-105] Anonymous. Where’s my stuff? [opinion]. *IEEE Spectrum*, 56(10):20, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:WHM**

- [Ano19-106] Anonymous. The white-hat hacking machine: Meet Mayhem, winner of the DARPA contest to find and repair software vulnerabilities. *IEEE Spectrum*, 56(2):30–35, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:WFO**

- [Ano19-107] Anonymous. Who’s firing? (oracle, spacex): Who’s hiring? (sony, glassdoor): Taking the temperature of engineering employment as we look back on the first quarter of 2019 — [spectral lines]. *IEEE Spectrum*, 56(6):4, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:WDG**

- [Ano19-108] Anonymous. Why do good engineers write bad software? Adam Barr has some answers —

[resources Q&A]. *IEEE Spectrum*, 56(1):52–53, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Anonymous:2019:WTH**

Anonymous. Wind turbines: How big? [opinion]. *IEEE Spectrum*, 56(11):20, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Abellan:2018:FCQ**

C. Abellan and V. Pruneri. The future of cybersecurity is quantum. *IEEE Spectrum*, 55(7):30–35, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Adee:2011:DJS**

S. Adee, Tekla S. Perry, D. Schneider, W. D. Jones, C. Shu, R. Deckert, Sandra Upson, G. Zorpette, and J. Calamia. Dream jobs 2011 [special report]. *IEEE Spectrum*, 48(2):25–40, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ariel:2016:PPB**

B. Ariel. The puzzle of police body cams. *IEEE Spectrum*, 53(7):32–37, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Armstrong:2012:TAT**

C. M. Armstrong. The truth about terahertz. *IEEE Spectrum*, 49(9):36–41, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Armstrong:2015:QUV**

C. M. Armstrong. The quest for the ultimate vacuum tube. *IEEE Spectrum*, 52(12):28–51, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [AS11] Khaled Ahmed and Klaus Schuegraf. Transistor wars. *IEEE Spectrum*, 48(11):50–66, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ahmed:2011:TW**
- [AS18] Evan Ackerman and E. Strickland. Medical delivery drones take flight in East Africa. *IEEE Spectrum*, 55(1):34–35, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ackerman:2018:MDD**
- [ASC13] S. Ahn, N. P. Suh, and D. Cho. Charging up the road. *IEEE Spectrum*, 50(4):48–54, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ahn:2013:CR**
- [Aud15] C. Audette. Mind control. *IEEE Spectrum*, 52(10):21–22, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Audette:2015:MC**
- [Bal14] P. Ball. Infinitely malleable materials. *IEEE Spectrum*, 51(6):40–44, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ball:2014:IMM**
- [Bar15] T. S. Barger. For women engineers, mentoring helps [resources careers]. *IEEE Spectrum*, 52(9):27, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Barger:2015:WEM**
- [Bar16a] T. S. Barger. The right way to hire and retain minority engineers. *IEEE Spectrum*, 53(10):21, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Barger:2016:SRF**
- [Bar16b] T. S. Barger. Strategies for retaining female engineers [resources at work]. *IEEE Spectrum*, 53(7):22, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Barger:2016:SRF**
- [Bar17a] T. S. Barger. Engineers with disabilities: inveterate problem solvers [resources careers]. *IEEE Spectrum*, 54(1):19, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Barger:2017:EDI**
- [Bar17b] T. S. Barger. Profile: Enviro Power — this company is bringing microcogeneration to the U.S. [resources startups]. *IEEE Spectrum*, 54(5):22, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Barger:2017:PEP**
- [Bar17c] D. Barrettino. Look into my eyes. *IEEE Spectrum*, 54(8):38–43, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Barrettino:2017:LME**
- [Bar19] T. S. Barger. IsoPlexis: Software and microelectronics fabrication techniques fight cancer — [resources startups]. *IEEE Spectrum*, 56(5):19, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Barger:2019:ISM**
- [Bar16a] M. Baynes. Behind the scenes at NSA. *IEEE Spectrum*, 52(11):58–59, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Baynes:2015:BSN**



- [BB11] J. N. Bailenson and J. Blascovich. This is your mind online. *IEEE Spectrum*, 48(6):78–83, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Bailenson:2011:YMO**
- [BDF12] J. Bhattacharya, C. Devi, and Kenneth R. Foster. Searching for the Aakash [tools toys]. *IEEE Spectrum*, 49(4):24–25, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Bhattacharya:2012:SAT**
- [Bec14] B. Beck. Lasers light up the silver screen. *IEEE Spectrum*, 51(3):32–39, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Beck:2014:LLS**
- [BG13] Katherine Bourzac and E. Guy. Intel inside ... your smartphone [2013 tech to watch]. *IEEE Spectrum*, 50(1):56–62, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Bourzac:2013:IIL**
- [Bha17] S. Bhattacharya. Transforming the transformer. *IEEE Spectrum*, 54(7):38–43, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Bhattacharya:2017:TT**
- [Bir12] D. G. W. Birch. Let a thousand currencies bloom. *IEEE Spectrum*, 49(6):30–34, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Birch:2012:LTC**
- [BK10] Ariel Bleicher and R. S. Klett. Bright lights, big city. *IEEE Spectrum*, 47(11):50–55, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Bleicher:2010:BLB**
- [Brace:2016:HGG] J. Brace and E. Koblentz. 2016 holiday gift guide. *IEEE Spectrum*, 53(12):22–23, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Brace:2016:HGG**
- [Bedrossian:2012:OMS] N. Bedrossian, M. Karpenko, and S. Bhatt. Overclock my satellite. *IEEE Spectrum*, 49(11):54–62, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Bedrossian:2012:OMS**
- [Blau:2010:EPN] J. Blau. Europe plans a North Sea grid. *IEEE Spectrum*, 47(3):12–13, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Blau:2010:EPN**
- [Blau:2011:GFS] J. Blau. Germany faces a shortage of engineers. *IEEE Spectrum*, 48(9):16–18, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Blau:2011:GFS**
- [Blau:2012:PEC] J. Blau. Passport to engineering [careers]. *IEEE Spectrum*, 49(2):24, February 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Blau:2012:PEC**
- [Blau:2014:NSS] J. Blau. NSA surveillance sparks talk of national internets. *IEEE Spectrum*, 51(2):14–16, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Blau:2014:NSS**
- [Bleicher:2010:ESS] Ariel Bleicher. Eyes in the sky that see too much [update]. *IEEE Spectrum*, 47(10):16, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Bleicher:2010:ESS**



October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2010:GSL**

- [Ble10b] Ariel Bleicher. The Gulf spill's [news] for robotics. *IEEE Spectrum*, 47(8):9–11, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2011:AF**

- [Ble11a] Ariel Bleicher. The anti-Facebook. *IEEE Spectrum*, 48(6):54–82, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2011:MWP**

- [Ble11b] Ariel Bleicher. A memory of webs past. *IEEE Spectrum*, 48(3):30–37, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2012:DO**

- [Ble12a] Ariel Bleicher. The on-demand Olympics. *IEEE Spectrum*, 49(7):9–10, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2012:SGP**

- [Ble12b] Ariel Bleicher. Science at 100 gigabits per second. *IEEE Spectrum*, 49(10):14–16, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2013:PFN**

- [Ble13a] Ariel Bleicher. The 5G phone future [news]. *IEEE Spectrum*, 50(7):15–16, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2013:ARP**

- [Ble13b] Ariel Bleicher. Augmented-reality pioneer [dream jobs 2013 — sports]. *IEEE Spectrum*, 50(2):40–41, February 2013. CODEN

IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2013:FN**

Ariel Bleicher. Farming by the numbers. *IEEE Spectrum*, 50(6):38–44, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2013:KTA**

Ariel Bleicher. Korean telcos advance toward LTE-Advanced. *IEEE Spectrum*, 50(9):18, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2013:PC**

Ariel Bleicher. Peaceful coexistence. *IEEE Spectrum*, 50(4):42–56, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2013:REP**

Ariel Bleicher. Rise of the eye phones [news]. *IEEE Spectrum*, 50(5):9–10, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2013:SSD**

Ariel Bleicher. Solar sailor [dream jobs 2013 — renewables]. *IEEE Spectrum*, 50(2):45–46, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2013:SSC**

Ariel Bleicher. A surge in small cells [2013 tech to watch]. *IEEE Spectrum*, 50(1):38–39, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2014:GR**

Ariel Bleicher. 4G gets real. *IEEE Spectrum*, 51(1):38–62, January 2014. CODEN



IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2014:SYF**

- [Ble14b] Ariel Bleicher. 5G service on your 4G phone? [news]. *IEEE Spectrum*, 51(4):13–18, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2014:BW**

- [Ble14c] Ariel Bleicher. Beyond words. *IEEE Spectrum*, 51(6):66–71, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2014:ST**

- [Ble14d] Ariel Bleicher. Solara takes off. *IEEE Spectrum*, 51(1):56–57, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2015:PBQ**

- [Ble15] Ariel Bleicher. 100,000 people, 250 biomarkers, and the quest for good health. *IEEE Spectrum*, 52(6):56–57, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bleicher:2018:GG**

- [Ble18] Ariel Bleicher. 5G goes for the gold. *IEEE Spectrum*, 55(1):32–33, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Blumsack:2010:HFM**

- [Blu10] S. Blumsack. How the free market rocked the grid. *IEEE Spectrum*, 47(12):44–59, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Babaoglu:2014:PC**

- [BM14] O. Babaoglu and M. Marzolla. The people’s cloud. *IEEE Spectrum*, 51(10):50–55, Octo-

ber 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bhunia:2019:CCD**

S. Bhunia and S. Mandal. Countering counterfeit drugs: A technique used for detecting explosives can also verify the integrity of medicines. *IEEE Spectrum*, 56(09):38–43, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bond:2012:ORN**

L. J. Bond. Old reactors, new tricks. *IEEE Spectrum*, 49(8):30–35, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Boos:2018:NTS**

J. Boos. The Nixie tube story. *IEEE Spectrum*, 55(7):36–41, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bourzac:2016:NNG**

Katherine Bourzac. Neural networks on the go [news]. *IEEE Spectrum*, 53(4):12–14, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bourzac:2017:TCP**

Katherine Bourzac. 4 tough chemistry problems that quantum computers will solve [news]. *IEEE Spectrum*, 54(11):7–9, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bourzac:2017:BSE**

Katherine Bourzac. Booze-sniffing electronic nose showcases 3d nanosystems [news]. *IEEE Spectrum*, 54(9):14, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Bourzac:2017:GCB****Bowers:2011:L**

- [Bou17c] Katherine Bourzac. Graphene could help next-gen computer chip wiring [news]. *IEEE Spectrum*, 54(3):9–10, March 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

B. Bowers. Lights out. *IEEE Spectrum*, 48(4):44–52, April 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Boyd:2011:SFR****Bourzac:2017:ICU**

- [Bou17d] Katherine Bourzac. Has Intel created a universal memory technology? [news]. *IEEE Spectrum*, 54(5):9–10, May 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

J. Boyd. Shutdown of Fukushima reactors is ahead of schedule. *IEEE Spectrum*, 48(11):15–18, November 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Boyd:2011:VRS****[Boy11b]****Bourzac:2017:SSC**

- [Bou17e] Katherine Bourzac. Speck-size computers: Now with deep learning [news]. *IEEE Spectrum*, 54(4):13–15, April 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

J. Boyd. Virtual-reality scent system fools flavor sense. *IEEE Spectrum*, 48(6):18, June 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Boyd:2012:JGD****Bourzac:2018:CCU**

- [Bou18a] Katherine Bourzac. Cobalt could untangle chips' wiring problems. *IEEE Spectrum*, 55(2):12–13, February 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

J. Boyd. Japan's green dreams delayed. *IEEE Spectrum*, 49(3):11, March 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Boyd:2013:IIIE****Bourzac:2018:FTU**

- [Bou18b] Katherine Bourzac. Ferroelectric transistors: the ultralow-power solution? [news]. *IEEE Spectrum*, 55(3):10–11, March 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

J. Boyd. An Internet-inspired electricity grid. *IEEE Spectrum*, 50(1):12–14, January 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Boyd:2014:CSG****Bourzac:2018:FAM**

- [Bou18c] Katherine Bourzac. For faster AI, memory and processing [news]. *IEEE Spectrum*, 55(4):12–13, April 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

J. Boyd. Centimeter-scale GPS coming to Japan [news]. *IEEE Spectrum*, 51(5):14–16, May 2014. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Boyd:2015:GSS**

J. Boyd. Giving supercomputers a second wind [news]. *IEEE Spectrum*, 52(6):20, June 2015. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Boy17] J. Boyd. A new silicon PV record [news]. *IEEE Spectrum*, 54(5):14, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Boyd:2017:NSP**
- [Boy18] J. Boyd. Silicon chip delivers quantum speeds [news]. *IEEE Spectrum*, 55(7):10–11, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Boyd:2018:SCD**
- [Boy19a] J. Boyd. China and Japan drive a global EV charging effort: The new standard will be backward compatible with select charging stations — [news]. *IEEE Spectrum*, 56(2):12–13, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Boyd:2019:CJD**
- [Boy19b] J. Boyd. Drones survey the Great Barrier Reef: Aided by AI, hyperspectral cameras can distinguish bleached from unbleached coral — [news]. *IEEE Spectrum*, 56(7):7–9, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Boyd:2019:DSG**
- [BR10] S. Bikkannavar and D. Redding. The end of the blur. *IEEE Spectrum*, 47(3):46–53, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Bikkannavar:2010:EB**
- [BR14] R. Barnes and B. Rosen. 911 for the 21st Century. *IEEE Spectrum*, 51(4):58–64, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Barnes:2014:C**
- N. Brewer. When engineers had the stars in their sights [and now this]. *IEEE Spectrum*, 52(10):72, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Brewer:2015:WES**
- R. Brewster. Re-creating the first flip-flop — a fundamental component of computers turns 100 [resources hands on]. *IEEE Spectrum*, 55(6):13–14, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Brewster:2018:RCF**
- M. Brooks. Quantum cash and the end of counterfeiting. *IEEE Spectrum*, 49(6):58–59, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Brooks:2012:QCE**
- David C. Brock. Shockley’s robot dream. *IEEE Spectrum*, 50(12):40–55, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Brock:2013:SRD**
- David C. Brock. Dudley Buck and the computer that never was. *IEEE Spectrum*, 51(4):54–69, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Brock:2014:DBC**
- D. Brown. Computer modelers vs. Ebola. *IEEE Spectrum*, 52(6):62–67, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Brown:2015:CMV**
- David C. Brock. The NSA’s frozen dream. *IEEE Spectrum*, 53(3):54–60, March 2016. **Brock:2016:NFD**



CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Brooks:2018:FKQ**

[Bro18]  
**Brock:2017:COC**

- [Bro17a] David C. Brock. The coin-op computer [past forward]. *IEEE Spectrum*, 54(7):52, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Brunstein:2012:EWN**

[Bro17b]  
**Brock:2017:IDY**

- [Bro17b] David C. Brock. I Tymshare, do you? [past forward]. *IEEE Spectrum*, 54(9):60, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Buff18]  
**Brock:2017:IOP**

- [Bro17c] David C. Brock. The improbable origins of PowerPoint. *IEEE Spectrum*, 54(11):42–49, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Buffum:2018:RC**

[Bug18]  
**Brock:2017:PFW**

- [Bro17d] David C. Brock. Past forward: world's most famous teapot [past forward]. *IEEE Spectrum*, 54(11):68, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bugeja:2018:PMT**

[Bur12]  
**Brock:2017:SSC**

- [Bro17e] David C. Brock. Style in super-computing [past forward]. *IEEE Spectrum*, 54(8):56, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Burke:2012:PMS**

[Bur13]  
**Brooks:2017:RCW**

- [Bro17f] R. Brooks. Robotic cars won't understand us, and we won't cut them much slack. *IEEE Spectrum*, 54(8):34–51, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

R. Brooks. A few key questions can help you distinguish winners from losers. *IEEE Spectrum*, 55(11):46–51, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

A. Brunstein. Engineers: What's in a name? [the data]. *IEEE Spectrum*, 49(2):72, February 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

J. Buffum. The rise of comput. *IEEE Spectrum*, 55(11):28–33, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

C. Bugeja. The printable motor the trick is to use circuit board traces for coils — [resources]. *IEEE Spectrum*, 55(9):18–19, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

T. Burke. The poor man's solder reflow oven [hands on]. *IEEE Spectrum*, 49(4):26–27, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Burghartz:2013:YCT**

J. N. Burghartz. You can't be too thin or too flexible. *IEEE Spectrum*, 50(3):38–61, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Burke:2018:ELI**

T. Burke. The ezPixel lights it up [resources]. *IEEE Spectrum*, 55(1):18–19, January 2018.



CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bye:2017:FES**

- [Bye17] G. Bye. Fly the electric skies. *IEEE Spectrum*, 54(9):26–31, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Bedair:2010:SR**

- [BZEM10] S. M. Bedair, J. M. Zavada, and N. El-Masry. A spin to remember. *IEEE Spectrum*, 47(11):44–49, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Calamia:2010:CCP**

- [Cal10] J. Calamia. Can carbon put copper down for the count? *IEEE Spectrum*, 47(12):9–10, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Calamia:2011:AFY**

- [Cal11a] J. Calamia. Artifacts from the first 2000 years of computing. *IEEE Spectrum*, 48(5):34–40, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Calamia:2011:CRI**

- [Cal11b] J. Calamia. China rising: international patent applications [the data]. *IEEE Spectrum*, 48(7):68, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Calamia:2011:CGG**

- [Cal11c] J. Calamia. China’s Godson gamble. *IEEE Spectrum*, 48(5):14–16, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Calamia:2011:CSP**

- [Cal11d] J. Calamia. A chip-scale particle accelerator. *IEEE Spectrum*, 48(3):14, March 2011. CO-

DEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Calamia:2011:SYE**

- J. Calamia. The Sun’s in your eyes [update]. *IEEE Spectrum*, 48(4):18, April 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Calamia:2011:TTT**

- J. Calamia. Tides turn for tidal power. *IEEE Spectrum*, 48(3):13, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Calamia:2012:CHS**

- J. Calamia. China’s homegrown supercomputers. *IEEE Spectrum*, 49(1):60–62, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Canaves:2011:CSN**

- S. Canaves. China’s social networking problem. *IEEE Spectrum*, 48(6):74–77, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cantwell:2014:WR**

- B. J. Cantwell. The wax rocket. *IEEE Spectrum*, 51(12):49–53, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Carmena:2012:BB**

- J. M. Carmena. Becoming bionic. *IEEE Spectrum*, 49(3):24–29, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Carney:2018:FEC**

- Dan Carney. Not so fast: Electric car: Mazda has improved the gasoline engine to a level



that even Tesla should respect. *IEEE Spectrum*, 55(8):20–25, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2012:LPP**

**Cass:2013:DGR**

Stephen Cass. Duo gamer [resources tools]. *IEEE Spectrum*, 50(5):21–22, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2013:FCD**

[Cas12a] Stephen Cass. Levelup: pay-by-phone innovator [start-up]. *IEEE Spectrum*, 49(10):28–30, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2012:S**

Stephen Cass. Fighting coal to a draw [data flow]. *IEEE Spectrum*, 50(7):60, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2013:FFY**

[Cas12b] Stephen Cass. The singularity. *IEEE Spectrum*, 49(11):26, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2013:SDRa**

Stephen Cass. The final frontier-on your phone [resources app watch]. *IEEE Spectrum*, 50(3):27, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2013:IED**

[Cas13a] Stephen Cass. A \$40 software-defined radio [resources hands on]. *IEEE Spectrum*, 50(7):22–23, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2013:BFW**

Stephen Cass. Innovation Europe [data flow]. *IEEE Spectrum*, 50(4):64, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2013:MMW**

[Cas13b] Stephen Cass. Big fridge is watching you [smart technologies monitoring food from production to consumption]. *IEEE Spectrum*, 50(6):88, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2013:CEW**

Stephen Cass. It's a mobile, mobile world [data flow]. *IEEE Spectrum*, 50(5):68, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2013:MTR**

[Cas13c] Stephen Cass. Consumer electronics winners and losers [data flow]. *IEEE Spectrum*, 50(3):72, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2013:CGC**

Stephen Cass. Mobile TV [resources tools]. *IEEE Spectrum*, 50(8):19–20, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2013:MVL**

[Cas13d] Stephen Cass. A custom game console [resources]. *IEEE Spectrum*, 50(2):21–22, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Stephen Cass. More viewing, less attention [data flow]. *IEEE Spectrum*, 50(10):80, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Cas13l] Stephen Cass. The other fall [dataflow]. *IEEE Spectrum*, 50(11):84, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2013:OFF** **Cass:2014:DFV**
- [Cas13m] Stephen Cass. Software-defined radio, part II. *IEEE Spectrum*, 50(9):24–25, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2013:SDRb** **Cass:2014:FA**
- [Cas13n] Stephen Cass. The stars their destination: four interstellar probes and their fates [dataflow]. *IEEE Spectrum*, 50(12):76–81, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2013:STD** **Cass:2014:MPT**
- [Cas14a] Stephen Cass. 30 years of the Mac: the influence of the original Macintosh [dataflow]. *IEEE Spectrum*, 51(1):76, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2014:YMI** **Cass:2014:MCM**
- [Cas14b] Stephen Cass. The age of the zettabyte [dataflow]. *IEEE Spectrum*, 51(3):68, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2014:AZC** **Cass:2014:DYD**
- [Cas14c] Stephen Cass. The big time: build a giant version of the 555 Timer IC [resources hands on]. *IEEE Spectrum*, 51(3):25–26, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2014:BTB** **Cass:2014:OHF**
- [Cas14d] Stephen Cass. Data flow: Vodafone reveals phone monitoring numbers — but many nations ban statistics on surveillance. *IEEE Spectrum*, 51(8):64, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Cas14e] Stephen Cass. The fires of Apollo. *IEEE Spectrum*, 51(7):8–9, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Cas14f] Stephen Cass. Movies predict tech’s future [dataflow]. *IEEE Spectrum*, 51(6):100, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Cas14g] Stephen Cass. Mushroom cloud memories [resources review]. *IEEE Spectrum*, 51(4):29–32, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Cas14h] Stephen Cass. Not dead yet [dataflow]. *IEEE Spectrum*, 51(9):68, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Cas14i] Stephen Cass. Odd harmonics: François Chambard has revived the Theremin with his bold designs [resources]. *IEEE Spectrum*, 51(1):23–24, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Cas14j] Stephen Cass. The semiconductor boom [dataflow]. *IEEE Spectrum*, 51(5):64, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2014:SBD**
- [Cas14k] Stephen Cass. The space rush [dataflow]. *IEEE Spectrum*, 51(11):88, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2014:SRD**
- [Cas14l] Stephen Cass. Store bits in thin air [resources hands on]. *IEEE Spectrum*, 51(4):32–34, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2014:SBT**
- [Cas14m] Stephen Cass. The top 10 programming languages: *Spectrum's* 2014 ranking [dataflow]. *IEEE Spectrum*, 51(7):68, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2014:TPL**
- [Cas14n] Stephen Cass. What are venture capitalists betting on? [dataflow]. *IEEE Spectrum*, 51(10):76, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2014:WVC**
- [Cas14o] Stephen Cass. The wheel of excuses [resources hands on]. *IEEE Spectrum*, 51(11):27–28, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2014:WER**
- [Cas14p] Stephen Cass. Who's writing Lin [dataflow]. *IEEE Spectrum*, 51(2):72, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2014:WWL**
2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2015:NLT**
- Stephen Cass. And now this ... Transportable atomic time. *IEEE Spectrum*, 52(4):68, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2015:AAN**
- Stephen Cass. The apex of analog [and now this]. *IEEE Spectrum*, 52(3):76, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2015:BFG**
- Stephen Cass. Blastoff! Four games for armchair astronauts. *IEEE Spectrum*, 52(11):23, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2015:BE**
- Stephen Cass. The body electric. *IEEE Spectrum*, 52(6):96, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2015:CMS**
- Stephen Cass. China's maker scene is exploding [rapid growth in maker spaces may herald a tech renaissance]. *IEEE Spectrum*, 52(8):27, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2015:CDG**
- Stephen Cass. Code: Debugging the gender gap. *IEEE Spectrum*, 52(7):25, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2015:CPR**
- Stephen Cass. Coping with promotion [resources careers]. *IEEE Spectrum*, 52(5):26,



May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2015:FAN**

- [Cas15h] Stephen Cass. A flexible approach [and now this ...]. *IEEE Spectrum*, 52(2):68, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2015:GYH**

- [Cas15i] Stephen Cass. Give your home a “Star Trek” vibe [resources tools]. *IEEE Spectrum*, 52(3):25, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2015:KIT**

- [Cas15j] Stephen Cass. A kit for the Internet of Things [resources hands on]. *IEEE Spectrum*, 52(9):23–24, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2015:Ra**

- [Cas15k] Stephen Cass. Resources. *IEEE Spectrum*, 52(3):23–24, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2015:Rb**

- [Cas15l] Stephen Cass. Resources. *IEEE Spectrum*, 52(12):19–22, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2015:RER**

- [Cas15m] Stephen Cass. Return of the elf [resources hands on]. *IEEE Spectrum*, 52(5):23–24, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2015:RFT**

- [Cas15n] Stephen Cass. Rewinding tape tech. *IEEE Spectrum*, 52(1):72, January 2015. CODEN

IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2015:SE**

Stephen Cass. A simple Enigma. *IEEE Spectrum*, 52(1):19–20, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2015:WIC**

Stephen Cass. When integrated circuits couldn’t be trusted [and now this]. *IEEE Spectrum*, 52(5):64, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2016:AT**

Stephen Cass. The “Air” Theremin. *IEEE Spectrum*, 53(10):22–23, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2016:AWD**

Stephen Cass. Anouk Wipprecht: dynamic dresses merge high fashion and technology [resources]. *IEEE Spectrum*, 53(2):19–20, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2016:BQN**

Stephen Cass. Beyond the quadcopter: New designs for drones showcased at CeBIT [resources startups]. *IEEE Spectrum*, 53(5):21–22, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2016:CFV**

Stephen Cass. CES and the future of VR [resources geek life]. *IEEE Spectrum*, 53(3):24, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Cas16e] Stephen Cass. Circuit-bending a vintage Casio: An '80s synthesizer is reborn as an avant-garde instrument [resources hands on]. *IEEE Spectrum*, 53(5):24–25, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2016:CBV**
- [Cas16f] Stephen Cass. Classic circuit comeback star Simpson makes circuit boards to honor a legend [resources geek life]. *IEEE Spectrum*, 53(8):23, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2016:CCC**
- [Cas16g] Stephen Cass. The Digital Apple. *IEEE Spectrum*, 53(1):19–20, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2016:DA**
- [Cas16h] Stephen Cass. Hackers show off new tricks. *IEEE Spectrum*, 53(9):22, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2016:HSN**
- [Cas16i] Stephen Cass. A ham radio for makers [resources hands on]. *IEEE Spectrum*, 53(3):21–23, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2016:HRM**
- [Cas16j] Stephen Cass. The megaprocessor. *IEEE Spectrum*, 53(10):19–20, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2016:M**
- [Cas16k] Stephen Cass. Our annual roundup for every budget [resources]. *IEEE Spectrum*, 53(12):19–22, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2016:OAR**
- Stephen Cass. Return of the ASCII: Four titles that eschew fancy graphics [resources toys]. *IEEE Spectrum*, 53(2):22, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2016:RAF**
- Stephen Cass. They're alive! At a classic computer festival, enthusiasts keep retro hardware running [resources geek life]. *IEEE Spectrum*, 53(6):20, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2016:TAC**
- Stephen Cass. What would Marvin Minsky read? Key works from the AI Titan's favorite authors. *IEEE Spectrum*, 53(4):22, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2016:WWM**
- Stephen Cass. 2017 holiday gift guide [resources]. *IEEE Spectrum*, 54(12):19–21, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2017:HGG**
- Stephen Cass. Building a better mouse-trap [resources hands on]. *IEEE Spectrum*, 54(2):19–20, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2017:BBM**
- Stephen Cass. A chip to protect the Internet of Things [resources beyond the datasheet]. *IEEE Spectrum*, 54(1):20–21, January 2017. **Cass:2017:CPI**



CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2018:BWE**

- [Cas17d] Stephen Cass. Documentaries for engineers [resources reviews]. *IEEE Spectrum*, 54(8):21–22, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2017:DER**

- [Cas17e] Stephen Cass. Hi-Fi with your PI [resources hands on]. *IEEE Spectrum*, 54(3):19–20, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2017:HFY**

- [Cas17f] Stephen Cass. The master plotter [resources hands on]. *IEEE Spectrum*, 54(6):15–16, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2017:MPR**

- [Cas17g] Stephen Cass. The music man [resources geek life]. *IEEE Spectrum*, 54(2):22, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2017:MMR**

- [Cas17h] Stephen Cass. Some assembly (language) required — three games that make low-level coding fun [resources geek life]. *IEEE Spectrum*, 54(5):19–20, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2017:SAL**

- [Cas17i] Stephen Cass. Wearable tech for Halloween — the Gemma MO’s embedded Python lets you change your code on the fly [resources tools]. *IEEE Spectrum*, 54(10):15–16, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2017:WTH**

Stephen Cass. 4-bit wonder: Explore the guts of computing with arith-matic’s S1-AU kit — [resources]. *IEEE Spectrum*, 55(8):14–15, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2018:ALR**

Stephen Cass. Acoustic levitation [resources]. *IEEE Spectrum*, 55(5):19–20, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2018:ARR**

Stephen Cass. The Altair, reincarnated [resources hands on]. *IEEE Spectrum*, 55(3):19–20, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2018:ATD**

Stephen Cass. Another three documentaries for engineers: Bombshell, gamechangers, and science fair all make for fascinating viewing — [resources review]. *IEEE Spectrum*, 55(8):16–17, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2018:BTM**

Stephen Cass. Building a time machine for radio: Enthusiasts want to archive entire broadcast bands — [resources geek life]. *IEEE Spectrum*, 55(11):22–23, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2018:DEM**

Stephen Cass. Deus Ex Machina: Gabriele Trovato asks if a robot can be a sacred object — [resources Q&A]. *IEEE Spectrum*, 55(8):15–16, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Cas18g] Stephen Cass. For techies of all ages [resources]. *IEEE Spectrum*, 55(12):17–20, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2018:TAA**
- [Cas18h] Stephen Cass. The garage fab [resources]. *IEEE Spectrum*, 55(1):17–18, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2018:GFR**
- [Cas18i] Stephen Cass. Military manga [resources geek life]. *IEEE Spectrum*, 55(4):20, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2018:MMR**
- [Cas18j] Stephen Cass. More documentaries for engineers [resources reviews]. *IEEE Spectrum*, 55(2):22, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2018:MDE**
- [Cas18k] Stephen Cass. The radio elegist: An artist commemorates the fading glory of short-wave — [resources geek life]. *IEEE Spectrum*, 55(10):18–19, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2018:REA**
- [Cas18l] Stephen Cass. The weird and the wonderful from CES [resources tools toys]. *IEEE Spectrum*, 55(3):22, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2018:WWC**
- S. Cass. A basic challenge: Can you write a great game in just 10 lines? — [resources<sub>geeklife</sub>]. *IEEE Spectrum*, 56(6) : 17, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939 – 9340 (electronic). **Cass:2019:BCC**
- Stephen Cass. 2019 holiday gift guide: Techie gifts for all budgets — [resources]. *IEEE Spectrum*, 56(12):14–16, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2019:HGG**
- Stephen Cass. Chip hall of fame: SID 6581: This synthesizer chip defined the sound of a generation — [resources geek life]. *IEEE Spectrum*, 56(7):16–17, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2019:CHF**
- Stephen Cass. Electronic schematics for blind makers: Lauren Race has refined circuit symbols for tactile diagrams — [resources education]. *IEEE Spectrum*, 56(7):17–18, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2019:ESB**
- Stephen Cass. The faces of open source: The humans behind the code — [resources geek life]. *IEEE Spectrum*, 56(3):18–19, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2019:FOS**
- Stephen Cass. Hack your old point-and-shoot: Add features to Canon cameras with new firmware — [resources hands on]. *IEEE Spectrum*, 56(12):17–19, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2019:HYO**



IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2019:PMB**

**Cass:2019:HBC**

- [Cas19g] Stephen Cass. The hidden beauty of components: Eric Schlaepfer dissects overlooked parts — [resources geek life]. *IEEE Spectrum*, 56(8):16–17, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2019:IMC**

- [Cas19h] Stephen Cass. Illuminating musical code: Program an electronic music performance in real time — [resources hands on]. *IEEE Spectrum*, 56(09):14–15, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2019:JDE**

- [Cas19i] Stephen Cass. Joe DiPrima: This engineer hurls musical lightning bolts — [resources]. *IEEE Spectrum*, 56(5):15–16, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2019:LLO**

- [Cas19j] Stephen Cass. Log on like it's 1985: One of the most popular Minitel services has been resurrected — [resources geek life]. *IEEE Spectrum*, 56(1):17, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2019:PHT**

- [Cas19k] Stephen Cass. Pinball's high-tech rebirth: Enthusiasts delight in its electromechanical complexity — [resources geel life]. *IEEE Spectrum*, 56(2):18, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Stephen Cass. Project Moon Base science. *IEEE Spectrum*, 56(7):38–39, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2019:RRI**

Stephen Cass. Replica radar: The Imperial War Museum lets visitors play with a pioneering bomber display — [resources geek life]. *IEEE Spectrum*, 56(4):17–18, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cass:2019:TAE**

Stephen Cass. Taking AI to the edge: Google's TPU now comes in a maker-friendly package. *IEEE Spectrum*, 56(5):16–17, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Champlin:2017:AMC**

C. Champlin, D. Bell, and C. Schocken. AI medicine comes to Africa's rural clinics. *IEEE Spectrum*, 54(5):42–48, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Cherry:2010:BV**

S. Cherry and A. M. Corley. Bad vibes. *IEEE Spectrum*, 47(1):60–62, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Corley:2010:LH**

A. Corley and Y. Chiu. The long haul. *IEEE Spectrum*, 47(6):40–41, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [CC15] A. Conti and M. Clampin. The hunt for Earth 2.0. *IEEE Spectrum*, 52(11):28–33, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Conti:2015:HE**
- [CD15] M. Carpenter and K. Duda. A new spin on space suits. *IEEE Spectrum*, 52(10):30–35, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Carpenter:2015:NSS**
- [CFKP17] B. Cutler, S. Fowers, J. Kramer, and E. Peterson. Dunking the data center. *IEEE Spectrum*, 54(3):26–31, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cutler:2017:DDC**
- [CG13] R. Coutland and E. Guy. Mapping the milky way [2013 tech to watch]. *IEEE Spectrum*, 50(1):48–52, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Coutland:2013:MMW**
- [CH15] J. Copeland and A. A. Haeff. The true history of the traveling wave tube. *IEEE Spectrum*, 52(9):38–43, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Copeland:2015:THT**
- [CH19] W. Carroll and B. Hansen. The new science of bioball: Sensors and software protect bioball pitchers from injury. *IEEE Spectrum*, 56(10):34–53, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Carroll:2019:NSB**
- R. N. Charette. More cyberattacks or just more media attention? [spectral lines]. *IEEE Spectrum*, 48(7):8, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Charette:2011:MCJ**
- R. N. Charette. The virtual fence’s long goodbye [spectral lines]. *IEEE Spectrum*, 48(3):8, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Charette:2011:VFL**
- M. E. Charette. Is a career in STEM really for me? [spectral lines]. *IEEE Spectrum*, 50(9):8, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Charette:2013:CSR**
- R. N. Charette. The STEM crisis is a myth. *IEEE Spectrum*, 50(9):44–59, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Charette:2013:SCM**
- I. Chant. Twist and shout [news]. *IEEE Spectrum*, 51(11):15–20, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Chant:2014:TSN**
- I. Chant. Your phone will go to pieces. *IEEE Spectrum*, 52(1):44–47, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Chant:2015:YPW**
- N. E. Chahat. A mighty antenna from a tiny CubeSat grows. *IEEE Spectrum*, 55(2):32–37, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Chahat:2018:MAT**



- [Cha18b] R. N. Charette. Auto safety features raise repair costs: Cars with advanced technologies cost thousands more to fix — [news]. *IEEE Spectrum*, 55(12):12–13, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Charette:2018:ASF**
- [Cha18c] R. N. Charette. Robo-adjudication and fake fraud reports [spectral lines]. *IEEE Spectrum*, 55(3):6, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Charette:2018:RAF**
- [Cha19] R. N. Charette. Three enduring government IT failures: Costly consequences continue for years — [spectral lines]. *IEEE Spectrum*, 56(8):4, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Charette:2019:TEG**
- [Che10a] S. Cherry. 4G in the U.S.A. *IEEE Spectrum*, 47(1):15, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cherry:2010:U**
- [Che10b] S. Cherry. iPods and iPads: Better than diamonds. *IEEE Spectrum*, 47(4):68, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cherry:2010:IB**
- [Che10c] S. Cherry. The long and windy road [the data]. *IEEE Spectrum*, 47(10):68, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cherry:2010:LWR**
- [Che10d] S. Cherry. Motormouse. *IEEE Spectrum*, 47(11):25, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cherry:2010:M**
- S. Cherry. The data. *IEEE Spectrum*, 48(3):72, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cherry:2011:D**
- S. Cherry. Remembering John McCarthy [spectral lines]. *IEEE Spectrum*, 48(12):10, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cherry:2011:RJM**
- S. Cherry. And a child shall lead them [tools toys]. *IEEE Spectrum*, 49(4):25, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cherry:2012:CSL**
- S. Cherry. A redo from Redmond? *IEEE Spectrum*, 49(1):38, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cherry:2012:RR**
- S. Cherry. Q&A: Trevor Pinch [resources geek life]. *IEEE Spectrum*, 50(5):26, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cherry:2013:QTP**
- Y. Chiu. Taiwan sees clouds in its forecast. *IEEE Spectrum*, 47(8):13, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Chiu:2010:TSC**
- Y. T. Chiu. Taiwan’s DRAM plan fails. *IEEE Spectrum*, 47(1):18–19, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Chiu:2010:TDP**



- [Chi12a] Y. Chiu. Forever flash. *IEEE Spectrum*, 49(12):11–12, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Chiu:2012:FF**
- [Chi12b] Y. Chiu. Taiwan’s tech hubs take a beating of disasters. *IEEE Spectrum*, 49(4):11–12, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Chiu:2012:TTH**
- [Chi16] Y. Chiu. Has Taiwan given up on supercomputing? *IEEE Spectrum*, 53(1):16–17, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Chiu:2016:TGS**
- [Cho14a] C. Q. Choi. Can we hack the Van Allen belts? [news]. *IEEE Spectrum*, 51(3):16–18, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Choi:2014:CWH**
- [Cho14b] T. Chong. Firefighters get life-saving wearables [news]. *IEEE Spectrum*, 51(10):22, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Chong:2014:FGL**
- [Cho14c] T. Chong. How social media teaches Skype to speak [news]. *IEEE Spectrum*, 51(9):15–16, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Chong:2014:HSM**
- [Cho16] C. Q. Choi. Nitrogen supercapacitors [news]. *IEEE Spectrum*, 53(2):14, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Choi:2016:NSS**
- C. Q. Choi. The most complex 2d microchip yet [news]. *IEEE Spectrum*, 54(6):12–13, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Choi:2017:MCM**
- C. Q. Choi. Unhackable quantum networks take to space [news]. *IEEE Spectrum*, 54(8):12–13, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Choi:2017:UQN**
- C. Q. Choi. Machine vision to curb pig pugnacity: 3D cameras can help predict when pigs are about to nip each other’s tails — [synchrophasors could sense a power line break before gravity pulls the loose ends to the ground]. *IEEE Spectrum*, 55(10):10–11, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Choi:2018:MVC**
- C. Q. Choi. Heal faster with electricity: Electric bandages and biodegradable electronic implants could ward off infections and speed recovery — [news]. *IEEE Spectrum*, 56(2):7–9, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Choi:2019:HFE**
- D. Christiansen. The amazing micromouse roars on [spectral lines]. *IEEE Spectrum*, 51(5):8, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Christiansen:2014:AMR**
- M. Ciccari. The Internet of Word-Things. *IEEE Spectrum*, 53(10):25, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cicciari:2016:IWT**



- [CL14] J. Capp and B. Litkouhi. The rise of the crash-proof car. *IEEE Spectrum*, 51(5):32–37, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Capp:2014:RCP**
- [Cla12] L. Claudy. The broadcast empire strikes back. *IEEE Spectrum*, 49(12):52–58, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Claudy:2012:BES**
- [Cla16] K. Clark. When glitches make good art. *IEEE Spectrum*, 53(9):22–23, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Clark:2016:WGM**
- [Clo10] S. Close. Space invaders. *IEEE Spectrum*, 47(4):39–43, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Close:2010:SI**
- [CNB18] E. Coelingh, J. Nilsson, and J. Buffum. Driving tests for self-driving cars. *IEEE Spectrum*, 55(3):40–45, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Coelingh:2018:DTS**
- [Col15a] R. Colburn. And now this .... *IEEE Spectrum*, 52(9):76, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Colburn:2015:NL**
- [Col15b] R. Colburn. Our perforated past. *IEEE Spectrum*, 52(7):64, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Colburn:2015:OPP**
- [Cop19] L. Copeland. Become an e-ink stained wretch: Build a simple typewriter with a maker-friendly display — [resources]. *IEEE Spectrum*, 56(4):14–15, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Copeland:2019:BIS**
- [Cor10a] A. Corley. Chipmakers bet on a stacked deck. *IEEE Spectrum*, 47(4):14, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Corley:2010:CBS**
- [Cor10b] A. Corley. The danger-sensing driver’s seat. *IEEE Spectrum*, 47(7):12–13, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Corley:2010:DSD**
- [Cor10c] A. Corley. Dim prospects for bright light. *IEEE Spectrum*, 47(1):54–57, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Corley:2010:DPB**
- [Cos15] J. Costik. DIY diabetes remote monitoring [resources]. *IEEE Spectrum*, 52(6):21–22, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Costik:2015:DDR**
- [Cot13] R. Les Cottrell. Pinging Africa — a decade-long quest aims to pinpoint the Internet bottlenecks holding Africa back. *IEEE Spectrum*, 50(2):54–59, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cottrell:2013:PAD**



- |          |   |   |
|----------|---|---|
|          | <b>Courtland:2011:FCW</b>   | <b>Courtland:2012:IG</b>  |
| [Cou11a] | Rachel Courtland. Flash challengers grow up at nanoscale. <i>IEEE Spectrum</i> , 48(8):18, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). | Rachel Courtland. ICs grow up. <i>IEEE Spectrum</i> , 49(1):33–35, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                        |
|          | <b>Courtland:2011:SLG</b>   | <b>Courtland:2012:SAW</b>   |
| [Cou11b] | Rachel Courtland. Superconducting low-power. <i>IEEE Spectrum</i> , 48(7):18–20, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).             | Rachel Courtland. In search of alien worlds. <i>IEEE Spectrum</i> , 49(1):42–44, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).          |
|          | <b>Courtland:2012:CK</b>  | <b>Courtland:2012:SAT</b>   |
| [Cou12a] | Rachel Courtland. Consider the Colossus. <i>IEEE Spectrum</i> , 49(5):34–39, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                  | Rachel Courtland. Self-assembly takes shape. <i>IEEE Spectrum</i> , 49(2):14–16, February 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).         |
|          | <b>Courtland:2012:CTT</b>   | <b>Courtland:2012:SPL</b>   |
| [Cou12b] | Rachel Courtland. Curiosity’s 1-GHz chip-down. <i>IEEE Spectrum</i> , 49(8):14–15, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).         | Rachel Courtland. Six paths to longer battery life. <i>IEEE Spectrum</i> , 49(4):13, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).        |
|          | <b>Courtland:2012:FTC</b>   | <b>Courtland:2012:VCG</b>   |
| [Cou12c] | Rachel Courtland. A flat transistor comes back? <i>IEEE Spectrum</i> , 49(1):18–21, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).       | Rachel Courtland. Virtual currency gets real. <i>IEEE Spectrum</i> , 49(6):52–53, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).            |
|          | <b>Courtland:2012:GT</b>  | <b>Courtland:2012:WFR</b>   |
| [Cou12d] | Rachel Courtland. Good timing. <i>IEEE Spectrum</i> , 49(7):11–12, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                           | Rachel Courtland. Wi-Fi radio takes a digital turn. <i>IEEE Spectrum</i> , 49(11):14–18, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). |
|          | <b>Courtland:2012:HSL</b>   | <b>Courtland:2013:DTA</b>   |
| [Cou12e] | Rachel Courtland. The high stakes low power. <i>IEEE Spectrum</i> , 49(5):11–12, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).              | Rachel Courtland. 3-D transistors for all. <i>IEEE Spectrum</i> , 50(1):11–12, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).            |



**Courtland:2013:BPM**

- [Cou13b] Rachel Courtland. Bre Pettis, MakerBot's founder is on the edge of the 3-D printing revolution [resources profile]. *IEEE Spectrum*, 50(7):21–22, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2013:ES**

- [Cou13c] Rachel Courtland. The end of the shrink. *IEEE Spectrum*, 50(11):26–29, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2013:FMN**

- [Cou13d] Rachel Courtland. The flat menagerie [news]. *IEEE Spectrum*, 50(7):14–15, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2013:GGD**

- [Cou13e] Rachel Courtland. Graphene goes the distance in spintronics. *IEEE Spectrum*, 50(2):15–16, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2013:ISB**

- [Cou13f] Rachel Courtland. Intel strikes back [news]. *IEEE Spectrum*, 50(8):14, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2013:KCM**

- [Cou13g] Rachel Courtland. Kepler's continuing mission [news]. *IEEE Spectrum*, 50(10):16, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2013:MM**

- [Cou13h] Rachel Courtland. Moonbeam, the megabyte. *IEEE Spectrum*, 50(9):11–12, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2013:SFN**

- Rachel Courtland. Seeing on the fly [news]. *IEEE Spectrum*, 50(4):14–16, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2013:SP**

- Rachel Courtland. Star power. *IEEE Spectrum*, 50(4):26–58, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2014:CKR**

- Rachel Courtland. Chet Kanojia [resources]. *IEEE Spectrum*, 51(2):21–22, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2014:CSB**

- Rachel Courtland. The chips that saw the Big Bang's fingerprints [news]. *IEEE Spectrum*, 51(5):11–13, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2014:CCE**

- Rachel Courtland. Cobalt could ease chip-wiring woes [news]. *IEEE Spectrum*, 51(7):18, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2014:FLM**

- Rachel Courtland. Fewer launches, more space. *IEEE Spectrum*, 51(6):36–40, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2014:GDM**

- Rachel Courtland. Getting on dark matter's wavelength. *IEEE Spectrum*, 51(5):38–45, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Cou14f] Rachel Courtland. Memory in the third dimension. *IEEE Spectrum*, 51(1):60–61, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Courtland:2014:MTD**
- [Cou14g] Rachel Courtland. Ocean thermal energy: back from the deep [news]. *IEEE Spectrum*, 51(9):18, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Courtland:2014:OTE**
- [Cou14h] Rachel Courtland. The rise of the monolithic 3-D chip [news]. *IEEE Spectrum*, 51(3):18–19, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Courtland:2014:RMD**
- [Cou14i] Rachel Courtland. Spin memory shows its might [news]. *IEEE Spectrum*, 51(8):15–16, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Courtland:2014:SMS**
- [Cou15a] Rachel Courtland. Bamboo-like crystals help tiny chip wires keep shrinking [news]. *IEEE Spectrum*, 52(8):18, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Courtland:2015:BLC**
- [Cou15b] Rachel Courtland. Carbon nanotubes, stacked and stacked [news]. *IEEE Spectrum*, 52(2):13–16, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Courtland:2015:CNS**
- [Cou15c] Rachel Courtland. Close encounter with the ninth kind [news]. *IEEE Spectrum*, 52(7):9–10, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Courtland:2015:MTD**
- [Cou15d] Rachel Courtland. The law that’s not a law. *IEEE Spectrum*, 52(4):38–57, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Courtland:2015:LTL**
- [Cou15e] Rachel Courtland. Microbots on a fantastic voyage. *IEEE Spectrum*, 52(6):70–74, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Courtland:2015:MFV**
- [Cou15f] Rachel Courtland. Review: The Uncanny Valley [resources review]. *IEEE Spectrum*, 52(2):26, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Courtland:2015:RUV**
- [Cou15g] Rachel Courtland. Soggy computing [news]. *IEEE Spectrum*, 52(5):18, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Courtland:2015:SCN**
- [Cou15h] Rachel Courtland. Suiting up for the red planet. *IEEE Spectrum*, 52(10):36–38, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Courtland:2015:SRP**
- [Cou16a] Rachel Courtland. Can HPE’s “The Machine” deliver? *IEEE Spectrum*, 53(1):34–35, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Courtland:2016:CHM**
- [Cou16b] Rachel Courtland. China inches toward the exascale [news]. *IEEE Spectrum*, 53(8):14–15, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Courtland:2016:CIT**



August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2016:CKQ**

- [Cou16c] Rachel Courtland. China's 2,000-km quantum link is almost complete [news]. *IEEE Spectrum*, 53(11):11–12, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2016:CTK**

- [Cou16d] Rachel Courtland. Crunch time for the kilogram [news]. *IEEE Spectrum*, 53(3):16–17, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2016:MTS**

- [Cou16e] Rachel Courtland. The molten tin solution. *IEEE Spectrum*, 53(11):28–41, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2016:NHP**

- [Cou16f] Rachel Courtland. The next high-performance transistor [news]. *IEEE Spectrum*, 53(10):11–12, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2016:SMI**

- [Cou16g] Rachel Courtland. Studying Mars, inside and out. *IEEE Spectrum*, 53(1):37–40, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2016:SAS**

- [Cou16h] Rachel Courtland. Swirly antennas see the ancient cosmos [news]. *IEEE Spectrum*, 53(4):9–11, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2016:TCS**

- [Cou16i] Rachel Courtland. Transistors could stop shrinking in 2021. *IEEE Spectrum*, 53(9):9–

11, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2017:XRT**

Rachel Courtland. 3D X-ray tech for easy reverse engineering of ICs [news]. *IEEE Spectrum*, 54(5):11–12, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2017:BWB**

Rachel Courtland. Building the world's biggest telescope. *IEEE Spectrum*, 54(12):26–33, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2017:FLL**

Rachel Courtland. Finish line looms for Google Lunar XPrize [news]. *IEEE Spectrum*, 54(3):7–9, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2017:GAQ**

Rachel Courtland. Google aims for quantum computing supremacy [news]. *IEEE Spectrum*, 54(6):9–10, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2017:ICC**

Rachel Courtland. The Ising on the computer chip [news]. *IEEE Spectrum*, 54(1):7–8, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Courtland:2017:MLN**

Rachel Courtland. Moore's Law's next step: 10 nanometers. *IEEE Spectrum*, 54(1):52–53, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Cou17g] Rachel Courtland. Plotting a Moore's Law for flexible electronics [news]. *IEEE Spectrum*, 54(7):7–8, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Courtland:2017:PML**
- [CP17] S. Chow and Morgan E. Peck. The Bitcoin mines of China. *IEEE Spectrum*, 54(10):46–53, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Chow:2017:BMC**
- [Cre12] R. Creighton. Go fly a kite. *IEEE Spectrum*, 49(12):46–51, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Creighton:2012:GFK**
- [Cru19] P. Crum. Hearables: Here come the: Technology tucked inside your ears will augment your daily life. *IEEE Spectrum*, 56(5):38–43, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Crum:2019:HHC**
- [CS11] C. Cachin and M. Schunter. A cloud you can trust. *IEEE Spectrum*, 48(12):28–51, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cachin:2011:CYC**
- [CS12] E. Coelingh and S. Solyom. All aboard the robotic road train. *IEEE Spectrum*, 49(11):34–39, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Coelingh:2012:AAR**
- [CS13] L. Chamberlain and S. Scherer. Robocopters to the rescue. *IEEE Spectrum*, 50(10):28–33, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Chamberlain:2013:RR**
- A. Czajka, M. Trokielewicz, and P. Maciejewicz. The eyes have it: New iris-recognition techniques can tell whether an eye is healthy, diseased or dead. *IEEE Spectrum*, 56(09):44–49, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Czajka:2019:EIN**
- Stephen Cass, Glenn Zorpette, and D. Schneider. Gift guide 2013 [resources]. *IEEE Spectrum*, 50(12):21–27, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Cass:2013:GGR**
- J. Dickmann, N. Appenrodt, and C. Brenk. Making Bertha. *IEEE Spectrum*, 51(8):44–49, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Dickmann:2014:MB**
- S. R. Das. Scientists solve mystery of superinsulators. *IEEE Spectrum*, 47(3):16, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Das:2010:SSM**
- S. R. Das. A crowd of quantum entanglements. *IEEE Spectrum*, 48(3):18, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Das:2011:CQE**
- W. H. Davidow. Our tools are using us. *IEEE Spectrum*, 49(8):50–56, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Davidow:2012:OTU**
- A. Driesman, J. Ercol, E. Gaddy, and A. Gerger. Journey to the center of the so-



lar system: How the Parker Solar Probe survives close encounters with the Sun. *IEEE Spectrum*, 56(5):32–53, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Dern:2010:WST**

**Diaz:2015:LDL**

T. J. Diaz. Lights, drone ... action. *IEEE Spectrum*, 52(7):36–41, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Der10] D. Dern. Writing small [tools and toys]. *IEEE Spectrum*, 47(6):14–15, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Dickinson:2014:SRS**

B. Dickinson. SolveBio [resources start-ups]. *IEEE Spectrum*, 51(11):31, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Dern:2014:RCS**

[Der14] D. Dern. Remote-collaboration software for engineers [resources at work]. *IEEE Spectrum*, 51(10):29, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Driscoll:2019:TTT**

K. Driscoll and J. Mailland. From trash to treasure: Turn a Minitel terminal into a Linux terminal or Videotex display — [resources hands on]. *IEEE Spectrum*, 56(3):16–17, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Dern:2015:CH**

[Der15a] D. Dern. Crowdfunding for hardware. *IEEE Spectrum*, 52(1):22–23, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Driscoll:2019:RMR**

K. Driscoll, J. Mailland, Stephen Cass, and T. S. Perry. Resources: Minitel Research Lab, USA. *IEEE Spectrum*, 56(3):16–20, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Dern:2015:WDP**

[Der15b] D. Dern. Wrangling digital pictures [resources tools]. *IEEE Spectrum*, 52(2):25, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Denison:2015:BBN**

T. Denison, M. Morris, and F. Sun. Building a bionic nervous system. *IEEE Spectrum*, 52(2):32–39, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**DeTorres:2011:D**

[DeT11] C. DeTorres. The data. *IEEE Spectrum*, 48(6):96, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**DeTorres:2013:TT**

[DeT13] C. DeTorres. Top tech 2013. *IEEE Spectrum*, 50(1):25, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Dolgin:2015:PPA**

E. Dolgin. Portable pathology for Africa. *IEEE Spectrum*, 52(1):37–39, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Dol15b] E. Dolgin. Smart sewers for public health. *IEEE Spectrum*, 52(6):18–19, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Dolgin:2015:SSP**
- [Dol18] E. Dolgin. Breaking big Ag’s fertilizer addiction [blueprints for a miracle]. *IEEE Spectrum*, 55(6):62–65, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Dolgin:2018:BBA**
- [Dol19] E. Dolgin. Elephants, dolphins, and chimps need the Internet, too: A new initiative promotes Internet communication among smart animals — [news]. *IEEE Spectrum*, 56(09):6–7, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Dolgin:2019:EDC**
- [Dri16] K. Driscoll. Social media’s dial-up roots. *IEEE Spectrum*, 53(11):54–60, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Driscoll:2016:SMD**
- [Dum10] M. Dumiak. Coronary calculus [profile]. *IEEE Spectrum*, 47(10):23, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Dumiak:2010:CCP**
- [Dum13] M. Dumiak. Tech firms mine Minsk’s minds. *IEEE Spectrum*, 50(3):14–15, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Dumiak:2013:TFM**
- [Dum16] M. Dumiak. Northern lights out for analog radio. *IEEE Spectrum*, 53(1):48–49, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Dumiak:2016:NLA**
- [Dumi17] M. Dumiak. Lice-hunting underwater drone protects salmon [news]. *IEEE Spectrum*, 54(4):9–10, April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Dumiak:2017:LHU**
- [Dumi18a] M. Dumiak. Ancient statues, digitally reconstructed, return to Mosul [news]. *IEEE Spectrum*, 55(3):7–8, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Dumiak:2018:ASD**
- [Dumi18b] Michael Dumiak. Solving Leibniz’s last puzzle [resources geek life]. *IEEE Spectrum*, 55(2):21, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Dumiak:2018:SLL**
- [Dun11] R. Dunbar. How many “friends” can you really have? *IEEE Spectrum*, 48(6):81–83, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Dunbar:2011:HMF**
- [Dopp17] M. Doppelbauer and P. Winzer. A lighter motor for tomorrow’s electric car. *IEEE Spectrum*, 54(7):26–31, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Doppelbauer:2017:LMT**
- [Dyako19] M. Dyakonov. When will useful quantum computers be constructed? Not in the foreseeable future, this physicist argues. Here’s why: The case against: Quantum computing. *IEEE Spectrum*, 56(3):24–29, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Dyakonov:2019:WWU**



- [Eis16] M. N. Eisler. A Tesla in every garage. *IEEE Spectrum*, 53(2):34–55, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Eisler:2016:TEG**
- [Eis18] M. N. Eisler. The carbon-eating fuel cell [blueprints for a miracle]. *IEEE Spectrum*, 55(6):22–76, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Eisler:2018:CEF**
- [EkK15] M. F. El-kady and R. B. Kaner. Introducing the micro-super-capacitor laser-etched graphene brings Moore’s Law to energy storage. *IEEE Spectrum*, 52(10):40–45, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **El-kady:2015:IMS**
- [Ele13] E. Elert. Tech trajectories [data flow]. *IEEE Spectrum*, 50(8):56, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Elert:2013:TTD**
- [ES17] G. Edens and G. Scott. The packet protector. *IEEE Spectrum*, 54(4):42–48, April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Edens:2017:PP**
- [EW19] M. Elhilali and J. E. West. The stethoscope gets smart: Engineers from Johns Hopkins are giving the humble stethoscope an AI upgrade. *IEEE Spectrum*, 56(2):36–41, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Elhilali:2019:SGS**
- O. Eliasson, C. Weidner, J. Rafner, and S. Z. Ahmed. A man-machine mind meld for quantum computing: Can an online game that combines human brainpower with AI solve intractable problems? *IEEE Spectrum*, 56(11):37–41, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Eliasson:2019:MMM**
- A. Extance. What watts from yonder window flow? *IEEE Spectrum*, 55(2):27–51, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Extance:2018:WWY**
- P. Fairley. Downsizing nuclear power plants. *IEEE Spectrum*, 47(5):14–15, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2010:DNP**
- P. Fairley. An easy smart-grid upgrade saves power [update]. *IEEE Spectrum*, 47(10):13–14, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2010:ESG**
- P. Fairley. Good to the last volt. *IEEE Spectrum*, 47(4):16, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2010:GLV**
- P. Fairley. Heavy metal power. *IEEE Spectrum*, 47(6):12–13, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2010:HMP**



- [Fai10e] P. Fairley. Smarts for solar arrays. *IEEE Spectrum*, 47(12):11–12, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2010:SSA**
- [Fai10f] P. Fairley. Speed bumps ahead for electric-vehicle charging. *IEEE Spectrum*, 47(1):13–14, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2010:SBA**
- [Fai11a] P. Fairley. China doubles down. *IEEE Spectrum*, 48(11):46, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2011:CD**
- [Fai11b] P. Fairley. Earthquakes hinder green energy plans [update]. *IEEE Spectrum*, 48(4):14–16, April 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2011:EHG**
- [Fai11c] P. Fairley. Edison vindicated [update]. *IEEE Spectrum*, 48(2):14–16, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2011:EVU**
- [Fai11d] P. Fairley. Fixing Japan’s fragmented grid. *IEEE Spectrum*, 48(5):13, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2011:FJF**
- [Fai11e] P. Fairley. Flywheels keep the grid in tune. *IEEE Spectrum*, 48(7):16–18, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2011:FKG**
- P. Fairley. Fukushima’s positive impact [spectral lines]. *IEEE Spectrum*, 48(5):8, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2011:FPI**
- P. Fairley. Germany folds. *IEEE Spectrum*, 48(11):47, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2011:GF**
- P. Fairley. Japan faces post-Fukushima power struggle. *IEEE Spectrum*, 48(8):13–14, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2011:JFP**
- P. Fairley. A less mighty wind. *IEEE Spectrum*, 48(1):9–10, January 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2011:LMW**
- P. Fairley. Argument over the value of solar focuses on Spain. *IEEE Spectrum*, 49(9):13–14, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2012:AVS**
- P. Fairley. Cleaner coal’s last stand. *IEEE Spectrum*, 49(6):17–18, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2012:CCL**
- P. Fairley. Europe looks to North America’s forests to meet renewable energy goals. *IEEE Spectrum*, 49(4):14–16, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2012:ELN**



- [Fai12d] P. Fairley. A tale of two Neptunes. *IEEE Spectrum*, 49(2):11–12, February 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2012:TTN**
- [Fai13a] P. Fairley. Car sharing could be the EV’s killer app. *IEEE Spectrum*, 50(9):14–15, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2013:CSC**
- [Fai13b] P. Fairley. Germany jump-starts the super-grid. *IEEE Spectrum*, 50(5):36–41, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2013:GJS**
- [Fai13c] P. Fairley. Quicker coal power. *IEEE Spectrum*, 50(2):11, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2013:QCP**
- [Fai13d] P. Fairley. Residential solar power heads toward grid parity [news]. *IEEE Spectrum*, 50(4):12–13, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2013:RSP**
- [Fai13e] P. Fairley. Tidepool power makes a tidal comeback [news]. *IEEE Spectrum*, 50(7):12–13, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2013:TPM**
- [Fai14a] P. Fairley. An algorithm unites European electrical FIEFDOMS [news]. *IEEE Spectrum*, 51(7):13–14, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2014:AUE**
- [Fairley:2014:NWE] P. Fairley. Norway wants to be Europe’s battery [news]. *IEEE Spectrum*, 51(11):13–15, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Fairley:2014:SST] P. Fairley. Satellites and simulations track missing methane [news]. *IEEE Spectrum*, 51(4):18–20, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Fairley:2015:BSB] P. Fairley. Big solar’s big surge. *IEEE Spectrum*, 52(1):41–44, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Fairley:2015:FGT] P. Fairley. Flywheels get their spin back [news]. *IEEE Spectrum*, 52(1):18, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Fairley:2015:GBD] P. Fairley. The great Baltic disconnect [news]. *IEEE Spectrum*, 52(9):11–13, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Fairley:2015:HRS] P. Fairley. How rooftop solar can stabilize the grid [news]. *IEEE Spectrum*, 52(2):11–13, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Fairley:2015:IAR] P. Fairley. Innovation amid a raucous rooftop solar squabble. *IEEE Spectrum*, 52(7):14–15, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Fai15f] P. Fairley. Molten salt tower reboots solar thermal power [news]. *IEEE Spectrum*, 52(11):11–12, November 2015. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2015:MST**
- [Fai15g] P. Fairley. Old coal’s new role. *IEEE Spectrum*, 52(8):16–17, August 2015. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2015:OCN**
- [Fai15h] P. Fairley. A renaissance for pumped hydro storage [news]. *IEEE Spectrum*, 52(4):9–10, April 2015. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2015:RPH**
- [Fai16a] P. Fairley. Cybersecurity at U.S. utilities due for an upgrade: Tech to detect intrusions into industrial control systems will be mandatory [news]. *IEEE Spectrum*, 53(5):11–13, May 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2016:CUU**
- [Fai16b] P. Fairley. Private satellite to track carbon polluters [news]. *IEEE Spectrum*, 53(8):9–10, August 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2016:PST**
- [Fai16c] P. Fairley. Robot miners of the briny deep. *IEEE Spectrum*, 53(1):44–47, January 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2016:RMB**
- [Fai16d] P. Fairley. Sniffing out grid attacks. *IEEE Spectrum*, 53(9):13–15, September 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2016:SGA**
- DEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2016:TLB**
- P. Fairley. The troubled link between gas and electricity grids [news]. *IEEE Spectrum*, 53(6):11–12, June 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2016:UFF**
- P. Fairley. U.S. fission fizzles [news]. *IEEE Spectrum*, 53(4):14–15, April 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2016:WSC**
- P. Fairley. Why Southern China broke up its power grid [news]. *IEEE Spectrum*, 53(12):13–14, December 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2016:WBC**
- P. Fairley. Wind battles coal for access to China’s grid [news]. *IEEE Spectrum*, 53(10):9–10, October 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2017:BWF**
- P. Fairley. Blockchain world — feeding the blockchain beast if Bitcoin ever does go mainstream, the electricity needed to sustain it will be enormous. *IEEE Spectrum*, 54(10):36–59, October 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2017:CSP**
- P. Fairley. Customers seek 100-percent-renewable grids [news]. *IEEE Spectrum*, 54(9):12–13, September 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Fairley:2017:MPF****Fairley:2018:RST**

[Fai17c] P. Fairley. For more power, float wind turbines far out at sea [news]. *IEEE Spectrum*, 54(12):11–12, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Fairley. Rooftop solar takes hold in Iraq [news]. *IEEE Spectrum*, 55(6):9–10, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Fairley:2017:GEP****Fairley:2018:SLG**

[Fai17d] P. Fairley. Off-grid electricity projects are starved for funds [news]. *IEEE Spectrum*, 54(11):12, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Fairley. Shining a light on global winds: The Aeolus satellite uses powerful lidar to measure wind speeds — [news]. *IEEE Spectrum*, 55(9):9–11, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Fairley:2017:PVN****Fairley:2018:SEP**

[Fai17e] P. Fairley. A Pyrrhic victory for nuclear power [news]. *IEEE Spectrum*, 54(10):11–12, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Fairley. “Swarm electrification” powers villages [resources startups]. *IEEE Spectrum*, 55(4):21, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Fairley:2017:SDC****Fairley:2018:TSD**

[Fai17f] P. Fairley. Self-driving cars have a bicycle problem [news]. *IEEE Spectrum*, 54(3):12–13, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Fairley. Triton submarines’ dive into luxury: These maneuverable subs are prized by scientists and yachters alike — [resources startups]. *IEEE Spectrum*, 55(10):17–18, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Fairley:2017:TPC****Fairley:2018:UBT**

[Fai17g] P. Fairley. Trump’s plans could scuttle new hybrid car tech in U.S. [news]. *IEEE Spectrum*, 54(5):12–13, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Fairley. Utilities bury transmission lines. *IEEE Spectrum*, 55(2):9–10, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Fairley:2017:TGA****Fairley:2018:URR**

[Fai17h] P. Fairley. Twilight for the Golden Age of Earth observation? [news]. *IEEE Spectrum*, 54(4):12–13, April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Fairley. Utilities roll out real-time grid controls: Synchrophasor tech enables rapid response to broken power lines and other emergencies — [news]. *IEEE Spectrum*, 55(10):9–10, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Fai19a] P. Fairley. Ethereum will cut back [FLP16] and energy use. *IEEE Spectrum*, 56(1):29–32, January 2019. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2019:EWC**
- [Fai19b] P. Fairley. A grid as big as China. *IEEE Spectrum*, 56(3):36–41, March 2019. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2019:GBC**
- [Fai19c] P. Fairley. India races toward universal electrification: Crash program links every Indian household to a troubled power grid — [news]. *IEEE Spectrum*, 56(4):6–7, April 2019. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fairley:2019:IRT**
- [Fea10] C. Feather. A garden of mathematical delights [review of “*Sphere packing, Lewis Carroll, and Reversi*” (Gardner, M.; 2009)]. *IEEE Spectrum*, 47(4):23, April 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Feather:2010:GMD**
- [Fit18] A. M. Fitzgerald. The Internet of Disposable Things: Throwaway paper and plastic sensors will connect everyday items. *IEEE Spectrum*, 55(12):30–35, December 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Fitzgerald:2018:IDT**
- [FL19] Y. Feng and H. X. Liu. Augmented reality for robocars. *IEEE Spectrum*, 56(12):26–29, December 2019. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Feng:2019:ARR**
- B. Feng, B. Liu, and K. Pan. Vulture voyeur a sensor-packed egg monitors nests from the inside. *IEEE Spectrum*, 53(4):19–20, April 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Feng:2016:VVS**
- Kenneth R. Foster. Mathematica 8 and Maple 15 [tools toys]. *IEEE Spectrum*, 48(12):23, December 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Foster:2011:MMT**
- Kenneth R. Foster. MathStudio. *IEEE Spectrum*, 49(2):23, February 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Foster:2012:M**
- J. Foust. Boeing and SpaceX vie to fly astronauts [top tech 2017]. *IEEE Spectrum*, 54(1):46–49, January 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Foust:2017:BSV**
- J. Foust. China promises the Moon. *IEEE Spectrum*, 55(1):26–29, January 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Foust:2018:CPM**
- J. Foust. Gateway or bust: NASA’s plan for a 2024 lunar landing depends on a much-criticized orbital outpost. *IEEE Spectrum*, 56(7):32–37, July 2019. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Foust:2019:GBN**
- J. Foust. SpaceX’s space-Internet woes: Despite technical glitches, the company plans to launch the first of nearly 12,000 satellites in
- Foust:2019:SSI**



2019. *IEEE Spectrum*, 56(1):50–51, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Fur12]
- [Fra12] S. J. Frank. Review: MITx’s online circuit and analysis course [education]. *IEEE Spectrum*, 49(9):27–28, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Fur13]
- [Fra16] L. Francis. China’s Comac to challenge Boeing and Airbus. *IEEE Spectrum*, 53(1):49–50, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Fur16]
- [Fra17] M. P. Frank. Throwing computing into reverse. *IEEE Spectrum*, 54(9):32–37, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Fur16]
- [Fri19] L. Fried. Making machine learning Arduino compatible: A gaming handheld that runs neural networks — [resources hands on]. *IEEE Spectrum*, 56(8):14–15, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Fur16]
- [FTW14] Joachim Fischer, Michael Thiel, and Martin Wegener. Matter made to order. *IEEE Spectrum*, 51(2):34–58, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Fur16]
- [Fug13] K. Fuglie. Why the pessimists are wrong. *IEEE Spectrum*, 50(6):26–32, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Fur16]
- S. Furber. To build a brain. *IEEE Spectrum*, 49(8):44–49, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Furber:2012:BB]
- R. Furlan. Build your own Google Glass [resources hands on]. *IEEE Spectrum*, 50(1):20–21, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Furlan:2013:BYO]
- R. Furlan. Google Glass [resources tools]. *IEEE Spectrum*, 50(10):24, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Furlan:2013:GGR]
- R. Furlan. The future of augmented reality: HoloLens — Microsoft’s AR headset shines despite rough edges [resources tools and toys]. *IEEE Spectrum*, 53(6):21, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Furlan:2016:FAR]
- E. Guizzo and Evan Ackerman. The rise of the robot worker. *IEEE Spectrum*, 49(10):34–41, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Guizzo:2012:RRW]
- E. Guizzo and Evan Ackerman. The hard lessons of DARPA’s robotics challenge [news]. *IEEE Spectrum*, 52(8):11–13, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Guizzo:2015:HLD]
- E. Guizzo and Evan Ackerman. When robots decide to kill. *IEEE Spectrum*, 53(6):38–43, [Guizzo:2016:WRD]



June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Guizzo:2017:TTR**

- [GA17] E. Guizzo and Evan Ackerman. The Turtle-Bot3 teacher [resources hands on]. *IEEE Spectrum*, 54(8):19–20, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Gable:2017:TLL**

- [Gab17] R. S. Gable. On their last legs. *IEEE Spectrum*, 54(8):44–49, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Gallucci:2018:HHD**

- [Gal18a] M. Gallucci. Hydrogen hybrids debut as zero-emission delivery trucks: Fuel cells extend the range of battery-powered trucks now heading for California roads — [news]. *IEEE Spectrum*, 55(9):11–12, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Gallucci:2018:RPR**

- [Gal18b] M. Gallucci. Rebuilding Puerto Rico's grid. *IEEE Spectrum*, 55(5):30–38, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Gallucci:2019:BTH**

- [Gal19a] M. Gallucci. A-bomb tourism: Hanford's B reactor is a relic of a complicated past — [resources education]. *IEEE Spectrum*, 56(09):16–17, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Gallucci:2019:LWE**

- [Gal19b] M. Gallucci. At last, wave energy tech plugs into the grid — [news]. *IEEE Spectrum*, 56(12):8–9, December 2019. CODEN

IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Gallucci:2019:HTR**

M. Gallucci. Hydrogen trains roll into service: A new hybrid locomotive signals a growing push for zero-emission rail technologies — [news]. *IEEE Spectrum*, 56(8):6–7, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Garfield:2011:RWM**

B. Garfield. The revolution will not be monetized. *IEEE Spectrum*, 48(6):34–39, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Geier:2012:PSR**

M. J. Geier. Pocket scope roundup [hands on]. *IEEE Spectrum*, 49(3):18–19, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Geier:2013:NAP**

M. J. Geier. Networked audio players [resources]. *IEEE Spectrum*, 50(1):17–18, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Geist:2016:SMC**

A. Geist. Supercomputing's monster in the closet. *IEEE Spectrum*, 53(3):30–35, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Gellings:2015:GSS**

C. W. Gellings. A globe spanning super grid. *IEEE Spectrum*, 52(8):48–54, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [GG12a] D. Grotta and S. W. Grotta. Adobe Lightroom and Corel Aftershot Pro [tools toys]. *IEEE Spectrum*, 49(8):25, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Grotta:2012:ALC**
- [GG12b] S. W. Grotta and D. Grotta. I, publisher [hands on]. *IEEE Spectrum*, 49(9):30–32, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Grotta:2012:PH**
- [GG12c] S. W. Grotta and D. Grotta. Not all pixels are created equal [tools toys]. *IEEE Spectrum*, 49(5):22–24, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Grotta:2012:APC**
- [GG12d] S. W. Grotta and D. Grotta. Review: Adobe's Creative Cloud and Touch Apps [tools toys]. *IEEE Spectrum*, 49(1):22–23, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Grotta:2012:RAC**
- [GHB18] B. Gholami, W. M. Haddad, and J. M. Bailey. AI in the ICU: In the intensive care unit, artificial intelligence can keep watch. *IEEE Spectrum*, 55(10):31–35, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Gholami:2018:AI**
- [GI19] P. Gupta and S. S. Iyer. Goodbye, motherboard. Bare chiplets bonded to silicon will make computers smaller and more powerful: Hello, silicon-interconnect fabric. *IEEE Spectrum*, 56(10):28–33, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Gupta:2019:GMB**
- T. Gibson. Turning sweat into watts. *IEEE Spectrum*, 48(7):50–55, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Gibson:2011:TSW**
- W. W. Gibbs. Antigravity glitter build a levitating disco-ball night-light; bell-bottom pants optional. *IEEE Spectrum*, 51(8):23–25, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Gibbs:2014:AGB**
- W. W. Gibbs. Hands-free sheet music [resources-hands on]. *IEEE Spectrum*, 51(10):27–28, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Gibbs:2014:HFS**
- W. W. Gibbs. Music from the mundane [resources hands on]. *IEEE Spectrum*, 52(2):23–24, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Gibbs:2015:MMR**
- W. W. Gibbs. The ultimate digital picture frame. *IEEE Spectrum*, 52(11):20–21, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Gibbs:2015:UDP**
- W. W. Gibb. DIY home security. *IEEE Spectrum*, 53(1):20–21, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Gibb:2016:DHS**
- W. W. Gibbs. Build your own Amazon Echo — turn a PI into a voice controlled gadget [resources hands on]. *IEEE Spectrum*, 54(5):20–



21, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Gol10b]

**Gibbs:2017:WPN**

[Gib17b] W. W. Gibbs. Where is planet nine? *IEEE Spectrum*, 54(8):26–33, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Gol10c]

**Guizzo:2018:CAR**

[GK18] E. Guizzo and R. Klett. Calling all robots: We are building the world’s largest, coolest robotics catalog — [resources tools and toys]. *IEEE Spectrum*, 55(9):22, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Greatrex:2019:MH**

[GKNT19] N. Greatrex, M. Kleinheyer, F. Nestler, and D. Timms. The Maglev heart. *IEEE Spectrum*, 56(09):22–29, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Gol14]

**Glovin:2014:NTS**

[Glo14] B. Glovin. Nikola Tesla slept here [resources geek life]. *IEEE Spectrum*, 51(11):29–30, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Glovin:2015:HTD**

[Glo15] B. Glovin. High tech deco. *IEEE Spectrum*, 52(7):24, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Gom15]

**Goldstein:2010:HH**

[Gol10a] H. Goldstein. Hacking for humanity. *IEEE Spectrum*, 47(2):33–34, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Goldstein:2010:MTC**

H. Goldstein. Malta takes control. *IEEE Spectrum*, 47(6):65–71, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Goldstein:2010:SIA**

H. Goldstein. Satellite Internet access withstands Haiti quake. *IEEE Spectrum*, 47(3):11–12, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Goldstein:2013:IF**

H. Goldstein. The indoor farm. *IEEE Spectrum*, 50(6):59–63, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Goldstein:2014:RWM**

H. Goldstein. A ride on the not-so-wayback machine [spectral lines]. *IEEE Spectrum*, 51(9):8–10, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Goldstein:2018:GPV**

H. Goldstein. The green promise of vertical farms [blueprints for a miracle]. *IEEE Spectrum*, 55(6):50–55, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Gomes:2015:TGB**

L. Gomes. Tech giants bet on biometrics. *IEEE Spectrum*, 52(6):52–55, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Gomes:2016:WWG**

L. Gomes. When will Google’s self-driving car really be ready? It depends on where you live and what you mean by “ready” [news]. *IEEE*



*Spectrum*, 53(5):13–14, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Gra15]

**Gomes:2017:SRC**

**Grau:2015:CYT**

A. Grau. Can you trust your fridge? *IEEE Spectrum*, 52(3):50–56, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Greenblatt:2016:SDC**

[Gom17] L. Gomes. Special report: Can we copy the brain? — The neuromorphic chip’s make-or-break moment. *IEEE Spectrum*, 54(6):52–57, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Gomes:2018:QCB**

N. A. Greenblatt. Self-driving cars and the law. *IEEE Spectrum*, 53(2):46–51, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Gross:2012:HRL**

[Gom18] L. Gomes. Quantum computing: Both here and not here. *IEEE Spectrum*, 55(4):42–47, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Gro12]

**Goodall:2016:CYP**

B. Gross. How RCA lost the LCD. *IEEE Spectrum*, 49(11):46–52, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Gross:2013:ETS**

[Goo16] N. J. Goodall. Can you program ethics into a self-driving car? *IEEE Spectrum*, 53(6):28–58, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Gro13]

**Gorman:2012:CCR**

B. Gross. Electronic treasures of the Sarnoff Collection. *IEEE Spectrum*, 50(10):46–53, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Guizz:2010:KM**

[Gor12a] C. Gorman. Counterfeit chips on the rise. *IEEE Spectrum*, 49(6):16–17, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Gui10a]

**Gorman:2012:SMS**

E. Guizz. Keyboard maestro. *IEEE Spectrum*, 47(2):32–33, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Guizzo:2010:DQC**

[Gor12b] C. Gorman. Is slime mold smarter than a Roomba? *IEEE Spectrum*, 49(12):18, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Gui10b]

**Greene:2018:CWT**

E. Guizzo. Does not quantum compute. *IEEE Spectrum*, 47(1):42–43, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Guizzo:2010:MMM**

[GP18] D. Greene and G. Patterson. Can we trust computer with body-cam video? Police departments are being led to believe AI will help, but they should be wary. *IEEE Spectrum*, 55(12):36–48, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

E. Guizzo. Mammalian mind over matter. *IEEE Spectrum*, 47(6):10, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Guizzo:2010:MWM****Guizzo:2011:STY**

- [Gui10d] E. Guizzo. The man who made a coffee for himself. *IEEE Spectrum*, 47(4):44–56, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

E. Guizzo. Send a tweet to your office door [hands on]. *IEEE Spectrum*, 48(6):22–23, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Guizzo:2010:RBR****Guizzo:2014:RRS**

- [Gui10e] E. Guizzo. The robot baby really guided. *IEEE Spectrum*, 47(7):16, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

E. Guizzo. Rescue-robot show-down. *IEEE Spectrum*, 51(1):52–55, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Guizzo:2010:RK****Guizzo:2014:WMR**

- [Gui10f] E. Guizzo. A robot in the kitchen. *IEEE Spectrum*, 47(4):12–13, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

E. Guizzo. So, where are my robot servants? *IEEE Spectrum*, 51(6):74–79, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Guizzo:2010:TST****Guizzo:2015:RF**

- [Gui10g] E. Guizzo. Tech in sight three ways to move people—fast, faster, fastest. *IEEE Spectrum*, 47(5):16, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

E. Guizzo. A robot in the family. *IEEE Spectrum*, 52(1):28–58, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Guizzo:2010:HRC****Guizzo:2015:RBO**

- [Gui10h] E. Guizzo. These humanoid robots could kick your Asimo. *IEEE Spectrum*, 47(10):17, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

E. Guizzo. Rodney Brooks’s one-armed gambit. *IEEE Spectrum*, 52(11):12–13, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Guizzo:2010:WMA****Guizzo:2016:LRC**

- [Gui10i] E. Guizzo. When my avatar went to work. *IEEE Spectrum*, 47(9):26–50, September 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

E. Guizzo. The little robot that could ... maybe. *IEEE Spectrum*, 53(1):58–62, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Guizzo:2011:RTH****Guizzo:2017:EME**

- [Gui11a] E. Guizzo. Robots with their heads in the clouds. *IEEE Spectrum*, 48(3):16–18, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

E. Guizzo. Employee of the month. Every month [top tech 2017]. *IEEE Spectrum*, 54(1):34–35, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Gui18] E. Guizzo. Your next T-shirt will be made by a robot. *IEEE Spectrum*, 55(1):50–57, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Guizzo:2018:YNS**
- [Gui19a] E. Guizzo. By leaps and bounds: An exclusive look at how Boston Dynamics is redefining robot agility. *IEEE Spectrum*, 56(12):34–39, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Guizzo:2019:LBE**
- [Gui19b] E. Guizzo. A new spin on robot actuators. *IEEE Spectrum*, 56(1):40–42, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Guizzo:2019:NSR**
- [HA11] P. Haldar and P. Abetti. Absolute zero, as the name suggests, is as cold as it gets. *IEEE Spectrum*, 48(3):50–60, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Haldar:2011:AZN**
- [Ham19a] M. Hampson. Drone delivers human kidney: The organ was flown several kilometers by a drone without incurring damage — [news]. *IEEE Spectrum*, 56(1):7–9, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hampson:2019:DDH**
- [Ham19b] M. Hampson. Journal watch: It’s personal: Bioacoustic identification. *IEEE Spectrum*, 56(12):11, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hampson:2019:JWP**
- [Han10] E. K. Hansen. Home, smart home. *IEEE Spectrum*, 47(8):34–38, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hansen:2010:HSB**
- [Han15] B. Han. Building a better disease detective. *IEEE Spectrum*, 52(10):46–51, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Han:2015:BBD**
- [Har10a] M. Harris. 3-D without four eyes. *IEEE Spectrum*, 47(12):50–56, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Harris:2010:DFE**
- [Har10b] M. Harris. Liar! *IEEE Spectrum*, 47(8):40–53, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Harris:2010:L**
- [Har11] M. Harris. Your next camera will shoot 3-D [tools toys]. *IEEE Spectrum*, 48(1):24, January 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Harris:2011:YNC**
- [Har12] T. Harbert. Lobbying 2.0 [update]. *IEEE Spectrum*, 49(10):18–20, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Harbert:2012:LU**
- [Har12a] T. Harbert. New king of security algorithms crowned. *IEEE Spectrum*, 49(12):12–13, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Harbert:2012:NKS**



**Harbert:2012:TIM****Harbert:2014:APN**

- [Har12c] T. Harbert. Tech industry money in U.S. elections. *IEEE Spectrum*, 49(9):15–16, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

T. Harbert. Africa powers up [news]. *IEEE Spectrum*, 51(3):13–14, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Harris:2012:FE****Harris:2014:SK**

- [Har12d] M. Harris. Focusing on everything. *IEEE Spectrum*, 49(5):44–50, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

M. Harris. Snapping up Kodak. *IEEE Spectrum*, 51(2):30–62, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Harris:2012:ST****Harbert:2015:FVB**

- [Har12e] M. Harris. A shocking truth. *IEEE Spectrum*, 49(3):30–58, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

T. Harbert. FBI wants better automated image analysis for tattoos [news]. *IEEE Spectrum*, 52(9):13–16, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Harbert:2013:LM****Harbert:2015:GVT**

- [Har13a] T. Harbert. The law machine. *IEEE Spectrum*, 50(11):31–54, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

T. Harbert. Google versus the trolls. *IEEE Spectrum*, 52(11):14, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Harbert:2013:TLP****Harbert:2015:JSR**

- [Har13b] T. Harbert. The troubled life of Patent No. 6,456,841. *IEEE Spectrum*, 50(5):48–50, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

T. Harbert. Japanese startup reinvents the wheelchair [news]. *IEEE Spectrum*, 52(5):13–16, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Harris:2013:PI****Harris:2015:CWR**

- [Har13c] M. Harris. Profile: Innovega. *IEEE Spectrum*, 50(6):22, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

M. Harris. A cheaper way for robocars to avoid pedestrians. *IEEE Spectrum*, 52(7):16, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Harris:2013:WTF****Harris:2015:SAN**

- [Har13d] M. Harris. The way through the flap. *IEEE Spectrum*, 50(9):30–35, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

M. Harris. State of automation [news]. *IEEE Spectrum*, 52(9):18, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Har16] M. Harris. Mules on a mountain. *IEEE Spectrum*, 53(6):50–56, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Harris:2016:MM**
- [Har18] M. Harris. Tech giants race to build orbital Internet [news]. *IEEE Spectrum*, 55(6):10–11, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Harris:2018:TGR**
- [Har19] M. Harris. The heavy lift: Blue Origin’s next rocket engine could power our return to the moon. *IEEE Spectrum*, 56(7):26–30, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Harris:2019:HLB**
- [Has11a] S. Hassler. 9/11 and the rise of robots [spectral lines]. *IEEE Spectrum*, 48(9):8, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hassler:2011:RRS**
- [Has11b] S. Hassler. Covering Fukushima with a little help from our friends [spectral lines]. *IEEE Spectrum*, 48(11):10, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hassler:2011:CFL**
- [Has11c] S. Hassler. Re-engineering Afghanistan: At what cost? *IEEE Spectrum*, 48(10):8, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). See [Zor11]. **Hassler:2011:REA**
- [Has12a] S. Hassler. Our smartphones, ourselves [spectral lines]. *IEEE Spectrum*, 49(9):10, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hassler:2012:OSO**
- [Has12b] S. Hassler. Spectral lines. *IEEE Spectrum*, 49(12):8, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hassler:2012:SL**
- [Has13] S. Hassler. Genome to go. *IEEE Spectrum*, 50(3):8, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hassler:2013:GG**
- [Has15a] S. Hassler. Homing in on health care’s sweet spots [spectral lines]. *IEEE Spectrum*, 52(6):12, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hassler:2015:HHC**
- [Has15b] S. Hassler. Teaching children to talk, not text. *IEEE Spectrum*, 52(12):7, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hassler:2015:TCT**
- [Has16] S. Hassler. Building robots we can trust: The hard work of integrating robots into our world [spectral lines]. *IEEE Spectrum*, 53(6):8, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hassler:2016:BRW**
- [Has16b] S. Hassler. Ending energy poverty, one solar grid at a time [spectral lines]. *IEEE Spectrum*, 53(6):8, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hassler:2016:EEP**



*Spectrum*, 53(12):8, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Has17c]

**Hassler:2016:MMP**

**Hassler:2017:SDC**

- [Has16c] S. Hassler. Marvin Minsky and the pursuit of machine understanding — making machines — and people — think [spectral lines]. *IEEE Spectrum*, 53(3):7, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Has18]

**Hassler:2016:NYN**

**Hassler:2018:CIM**

- [Has16d] S. Hassler. New year, new projects. Same old ethics? [spectral lines]. *IEEE Spectrum*, 53(1):8, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Has19]

**Hassler:2016:SRF**

**Hassler:2019:HSM**

- [Has16e] S. Hassler. Simon Ramo, a force of nature in 20th-century electronic engineering [spectral lines]. *IEEE Spectrum*, 53(8):8, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hassler:2016:SCW**

**Hawkins:2017:SRC**

- [Has16f] S. Hassler. STEM crisis? What about the STS crisis? [spectral lines]. *IEEE Spectrum*, 53(10):8, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Has17]

**Hasler:2017:SRC**

**Huang:2015:LNS**

- [Has17a] J. Hasler. Special report: Can we copy the brain? — A road map for the artificial brain. *IEEE Spectrum*, 54(6):46–50, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [HC15]

**Hassler:2017:DWB**

**Howe:2014:RGG**

- [Has17b] S. Hassler. Do we have to build robots that need rights? [spectral lines]. *IEEE Spectrum*, 54(3):6, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [HDC14]

S. Hassler. Self-driving cars and trucks are on the move [spectral lines]. *IEEE Spectrum*, 54(1):6, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

S. Hassler. Celebrating IEEE and its members: Marking the anniversary of the first technical meeting of EEs and the origins of IEEE — [spectral lines]. *IEEE Spectrum*, 55(10):6, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

S. Hassler. Home, sweet Moon? Flying to the Moon is hard, but living there will be even harder [spectral lines]. *IEEE Spectrum*, 56(7):6, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

J. Hawkins. Special report: Can we copy the brain? — What intelligent machines need to learn from the neocortex. *IEEE Spectrum*, 54(6):34–71, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

A. Huang and S. Cross. A laptop with no secrets. *IEEE Spectrum*, 52(11):40–56, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

R. Howe, A. O. Dollar, and M. K. Claffee. Robots get a grip. *IEEE Spectrum*, 51(12):42–47, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Heb17] R. Hebner. The power grid in 2030. *IEEE Spectrum*, 54(4):50–55, April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hebner:2017:PG**
- [Hec14] J. Hecht. All smart, no phone. *IEEE Spectrum*, 51(10):36–41, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hecht:2014:ASN**
- [Hec15] J. Hecht. Full-HD voice is nearly here. *IEEE Spectrum*, 52(6):17–18, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hecht:2015:FHV**
- [Hec16a] J. Hecht. The early-adopter blues. *IEEE Spectrum*, 53(10):44–50, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hecht:2016:EAB**
- [Hec16b] J. Hecht. Great leaps of light. *IEEE Spectrum*, 53(2):28–53, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hecht:2016:GLL**
- [Hec18a] J. Hecht. The ray guns are coming. *IEEE Spectrum*, 55(4):24–50, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hecht:2018:RGC**
- [Hec18b] J. Hecht. Undersea data monster. *IEEE Spectrum*, 55(1):36–39, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hecht:2018:UDM**
- [Hei10] J. Heikenfeld. Lite, brite displays. *IEEE Spectrum*, 47(3):28–56, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Heikenfeld:2010:LBD**
- [Hei14] J. Heikenfeld. Let them see you sweat. *IEEE Spectrum*, 51(11):46–63, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Heikenfeld:2014:LTS**
- [Hei18] D. Heingartner. What will the food miracle be? [blueprints for a miracle]. *IEEE Spectrum*, 55(6):66–71, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Heingartner:2018:WWF**
- [Hel12] A. Hellemans. A new twist on radio waves. *IEEE Spectrum*, 49(5):16–18, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hellemans:2012:NTR**
- [Hel12] A. Hellemans. The quest for 2-D silicon. *IEEE Spectrum*, 49(7):16, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hellemans:2012:QDS**
- [Hel13] A. Hellemans. Ring around the nanowire [news]. *IEEE Spectrum*, 50(5):14–16, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hellemans:2013:RAN**
- [Hel14] A. Hellemans. Six-state memristor opens door to weird computing [news]. *IEEE Spectrum*, 51(12):18, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Hellemans:2014:SSM**



IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hellemans:2016:EBB**

- [Hel16a] A. Hellemans. Europe bets 1 billion on quantum tech [news]. *IEEE Spectrum*, 53(7):12–13, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hellemans:2016:TSC**

- [Hel16b] A. Hellemans. Two steps closer to a quantum Internet [news]. *IEEE Spectrum*, 53(1):11–13, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hellemans:2018:NCD**

- [Hel18] A. Hellemans. The Netherlands’ carbon dilemma: sequester or recycle? [news]. *IEEE Spectrum*, 55(1):7–9, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Herman:2017:DFD**

- [Her17] J. Herman. DIY film digitizer [resources]. *IEEE Spectrum*, 54(1):17–18, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hadjipanayis:2011:MM**

- [HG11] G. Hadjipanayis and A. Gabay. Magnet makeover. *IEEE Spectrum*, 48(8):36–41, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Higginbotham:2018:CYE**

- [Hig18a] S. Higginbotham. Curb your 5G enthusiasm [Internet of Everything]. *IEEE Spectrum*, 55(3):24, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Higginbotham:2018:HHI**

- [Hig18b] S. Higginbotham. How to IoT [Internet of Everything]. *IEEE Spectrum*, 55(5):23, May

2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Higginbotham:2018:ITI**

- S. Higginbotham. The Internet of Trash [Internet of Everything]. *IEEE Spectrum*, 55(6):17, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Higginbotham:2018:WFFV**

- S. Higginbotham. Wi-Fi vs. Internet of Things [Internet of Everything]. *IEEE Spectrum*, 55(4):22, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Higginbotham:2019:RWR**

- S. Higginbotham. Remaking the world for robots [opinion]. *IEEE Spectrum*, 56(8):20, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hill:2015:HMY**

- D. Hill. How much is your spare room worth? *IEEE Spectrum*, 52(9):32–58, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Himmel:2011:CL**

- S. Himmel. Campus life. *IEEE Spectrum*, 48(6):68–69, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Himmel:2011:FF**

- S. Himmel. Food fight. *IEEE Spectrum*, 48(6):60–61, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hinson:2019:MBP**

- S. Hinson. Microgrid in a box: A plug-and-play microgrid will make rooftop solar grid-friendly. *IEEE Spectrum*, 56(12):28–33, De-



cember 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Honey:2013:AAC**

- [HM13] S. Honey and K. Milnes. The Hoped America's Cup. *IEEE Spectrum*, 50(9):36–42, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Han:2014:DMN**

- [HM14] Jin-Woo Han and Meyya Meyyappan. The device made of nothing. *IEEE Spectrum*, 51(7):30–35, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Haupt:2015:TWP**

- [HM15] S. E. Haupt and W. P. Mahoney. Taming wind power with better forecasts. *IEEE Spectrum*, 52(11):47–52, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hochstetler:2010:AA**

- [Hoc10] R. Hochstetler. Airships ahoy. *IEEE Spectrum*, 47(10):42–47, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hochheiser:2015:NL**

- [Hoc15] S. Hochheiser. And now this . . . *IEEE Spectrum*, 52(8):64, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hodges:2012:TTT**

- [Hod12] A. Hodges. Turing and the test of time [spectral lines]. *IEEE Spectrum*, 49(6):8, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hodges:2013:TGR**

- [Hod13] S. Hodges. Time for gadgeteer [resources and on]. *IEEE Spectrum*, 50(4):20–21, April 2013.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Horsley:2016:WHN**

- D. Horsley. Wave hello to the next interface. *IEEE Spectrum*, 53(12):46–51, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2013:DWY**

- J. Hsu. D-Wave's year of computing dangerously [news]. *IEEE Spectrum*, 50(12):11–13, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2014:INB**

- J. Hsu. IBM's new brain [news]. *IEEE Spectrum*, 51(10):17–19, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2015:WWW**

- J. Hsu. When will we have an exascale supercomputer? [news]. *IEEE Spectrum*, 52(1):13–16, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2016:FOF**

- J. Hsu. Finding one face in a million [news]. *IEEE Spectrum*, 53(8):11–12, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2016:SDL**

- J. Hsu. For sale: deep learning [news]. *IEEE Spectrum*, 53(8):12–13, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2016:NST**

- J. Hsu. Nervana Systems: Turning neural networks into a service [resources startups].



*IEEE Spectrum*, 53(6):19, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2016:TPE**

- [Hsu16d] J. Hsu. Three paths to exascale supercomputing. *IEEE Spectrum*, 53(1):14–15, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2017:AEF**

- [Hsu17a] J. Hsu. AI to ensure fewer UFOs. *IEEE Spectrum*, 54(7):10–11, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2017:WAC**

- [Hsu17b] J. Hsu. Wanted: AI that can spy [news]. *IEEE Spectrum*, 54(12):12–13, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2018:BST**

- [Hsu18a] J. Hsu. Boeing and SpaceX test the next U.S. ride to space: The International Space Station is expecting two visitors this month: Starliner and Crew Dragon — [news]. *IEEE Spectrum*, 55(8):6–8, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2018:CIT**

- [Hsu18b] J. Hsu. Cargo industry tests seaplane drones [news]. *IEEE Spectrum*, 55(1):12, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2018:ESN**

- [Hsu18c] J. Hsu. Engineers say no thanks to Silicon Valley: Some are turning down companies citing ethical concerns — [resources at work]. *IEEE*

*Spectrum*, 55(10):20–21, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2018:FSJ**

J. Hsu. Fishing for space junk [news]. *IEEE Spectrum*, 55(6):7–9, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2018:MHP**

J. Hsu. Magnetic hammer propels tiny medical bot. *IEEE Spectrum*, 55(2):10–11, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2018:WYN**

J. Hsu. What you need to know about Europe’s data privacy rules [resources at work]. *IEEE Spectrum*, 55(5):21, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hsu:2019:HYL**

J. Hsu. How YouTube led to Google’s cloud-gaming service: The tech that made YouTube work everywhere promises to do the same for games — [news]. *IEEE Spectrum*, 56(09):9–10, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hu:2018:SAP**

S. Hu and D. Tanner. Solving the antenna paradox: Adding more antennas to your smartphone creates more noise, but 3d manufacturing will fix the problem. *IEEE Spectrum*, 55(11):40–45, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Huang:2015:MLD**

A. Huang. Moore’s Law is dying (and that could be good). *IEEE Spectrum*, 52(4):43–47,



April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Huayhua:2019:YFG**

- [Hua19] G. C. Huayhua. Your favorite gadgets: The best of our consumer electronics hall of fame contest — [resources tools toys]. *IEEE Spectrum*, 56(2):20–21, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hurst:2019:WWU**

- [Hur19] J. Hurst. Walk this way: To be useful around people, robots need to learn how to move like we do. *IEEE Spectrum*, 56(3):30–51, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Hutson:2019:HML**

- [Hut19] M. Hutson. Homesteading the Moon: Lunar pioneers and their robot companions will need a cozy place to call home. *IEEE Spectrum*, 56(7):40–45, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Jarvis:2011:PPW**

- [Jar11] J. Jarvis. Privacy, publicness, and the web: A manifesto. *IEEE Spectrum*, 48(6):46, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Jhunhunwala:2017:PG**

- [Jhu17] A. Jhunhunwala. The people’s grid. *IEEE Spectrum*, 54(2):44–50, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Jakobsson:2016:CYF**

- [JL16] M. Jakobsson and W. Leddy. Could you fall for a scam? Spam filters are passé. What we need is software that unmasks fraudsters. *IEEE Spectrum*, 53(5):40–55, May 2016. CODEN

IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Johnson:2016:BAB**

- D. L. Johnson and C. Mikeka. Bridging Africa’s broadband divide. *IEEE Spectrum*, 53(9):42–56, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Johnson:2014:HFI**

- A. Johnson. How Ford invented the SQUID. *IEEE Spectrum*, 51(11):40–61, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Johnson:2014:AFR**

- J. L. Johnson. America’s forgotten rocketeer. *IEEE Spectrum*, 51(8):50–57, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Johnson:2014:MFY**

- S. A. Johnson. My first year with a plug-in hybrid. *IEEE Spectrum*, 51(7):26–27, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Johnson:2015:BPN**

- D. Johnson. Is black phosphorus the new graphene? [news]. *IEEE Spectrum*, 52(10):16, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Johansson:2019:VYE**

- M. Johansson. VR for your ears: Dynamic 3D audio is key to the immersive experience by Mathias Johansson · illustration by Eddie Guy. *IEEE Spectrum*, 56(2):24–29, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Joh19b] D. Johnson. Brexit pushes tech workers from Britain to Ireland: Confusion about the future is changing recruitment — [resources careers]. *IEEE Spectrum*, 56(8):18–19, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Johnson:2019:BPT**
- [Joh19c] D. Johnson. Brexit threatens British tech jobs: Small- and medium-size firms are mired in uncertainty — [resources careers]. *IEEE Spectrum*, 56(10):18–19, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Johnson:2019:BTB**
- [Joh19d] D. Johnson. Where does graphene go from here? Experts weigh in on whether the EU’s 1 billion Graphene Flagship can get the “wonder material” past the Valley of Death — [news]. *IEEE Spectrum*, 56(7):10–11, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Johnson:2019:WDG**
- [Jon10a] Willie D. Jones. A compass in every smartphone. *IEEE Spectrum*, 47(2):12–13, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Jones:2010:CES**
- [Jon10b] Willie D. Jones. Ford executes perfect turns [update]. *IEEE Spectrum*, 47(11):16, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Jones:2010:FEP**
- [Jon10c] Willie D. Jones. Landslide alarm. *IEEE Spectrum*, 47(12):14–16, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Jones:2010:LA**
- Willie D. Jones. A new attack on art fraud. *IEEE Spectrum*, 47(3):18, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Jones:2010:NAA**
- Willie D. Jones. The rare-earth-metal bottleneck. *IEEE Spectrum*, 47(1):80, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Jones:2010:REM**
- Willie D. Jones. Talking to trapped miners [update]. *IEEE Spectrum*, 47(11):20, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Jones:2010:TTM**
- Willie D. Jones. Three axes in one device [news briefs]. *IEEE Spectrum*, 47(5):18, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Jones:2010:TAO**
- Willie D. Jones. You tell us. *IEEE Spectrum*, 47(1):64, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Jones:2010:YTU**
- Willie D. Jones. Chip champs [IEEE’s International Solid-State Circuits Conference]. *IEEE Spectrum*, 48(1):17, January 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Jones:2011:CCI**
- Willie D. Jones. Extraterrestrial abode. *IEEE Spectrum*, 48(11):14, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Jones:2011:EA**



- [Jon11c] Willie D. Jones. A fusion thruster for space travel. *IEEE Spectrum*, 48(8):14, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Jones:2011:FTS
- [Jon11d] Willie D. Jones. The future of riots. *IEEE Spectrum*, 48(11):13–14, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Jones:2011:FR
- [Jon11e] Willie D. Jones. Will soccer-ball tracking ever reach its goal? *IEEE Spectrum*, 48(9):20, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Jones:2011:WSB
- [Jon12] Willie D. Jones. Declarations of cyberwar. *IEEE Spectrum*, 49(8):18, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Jones:2012:DC
- [Jon13] E. Jonietz. Profile: supermechanical [resources-start-ups]. *IEEE Spectrum*, 50(2):24–25, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Jonietz:2013:PSR
- [Jon14] D. Jones. This systems architect builds the most advanced F-16 combat simulators. *IEEE Spectrum*, 51(6):24, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Jones:2014:SAB
- [Jon18] A. Jones. China shoots for the Moon’s far side: The biggest challenge is communicating with a rover — [news]. *IEEE Spectrum*, 55(12):7–9, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Jones:2018:CSM
- A. Jones. China grew two leaves on the Moon: The Chang’e-4 spacecraft also carried potato seeds and fruit-fly eggs to the lunar far side — [news]. *IEEE Spectrum*, 56(11):9–10, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Jones:2019:CGT
- A. Jones. Private rockets ready for liftoff in China: Four Chinese companies vie to be the first to achieve orbit — [news]. *IEEE Spectrum*, 56(5):6–7, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Jones:2019:PRR
- J. Kappenman. A perfect storm of planetary proportions. *IEEE Spectrum*, 49(2):26–31, February 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Kappenman:2012:PSP
- S. Karlin. Bluegrass and green living. *IEEE Spectrum*, 47(3):26, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Karlin:2010:BGL
- S. Karlin. Carebots. *IEEE Spectrum*, 47(2):19, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Karlin:2010:C
- S. Karlin. Die another day. *IEEE Spectrum*, 47(3):24–25, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Karlin:2010:AD



**Karlin:2010:DCC****Karlin:2010:KCC**

- [Kar10d] S. Karlin. Divine circuitry, or circuitry in divinity [review of *Fractal Time: The Secret of 2012 and a New World Age* (Braden, G.; 2009)]. *IEEE Spectrum*, 47(1):25, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

S. Karlin. The king of Comic-Con [geek life]. *IEEE Spectrum*, 47(7):24, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Karlin:2010:EM****Karlin:2010:MES**

- [Kar10e] S. Karlin. Engineer on a mission. *IEEE Spectrum*, 47(2):24, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

S. Karlin. Making engineers smart — and savvy [education]. *IEEE Spectrum*, 47(5):24, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Karlin:2010:EP****Karlin:2010:MM**

- [Kar10f] S. Karlin. Engineering peace. *IEEE Spectrum*, 47(1):30, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

S. Karlin. Mind over matter. *IEEE Spectrum*, 47(5):23, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Karlin:2010:ECG****Karlin:2010:RWK**

- [Kar10g] S. Karlin. The engineers of comedy [geek life]. *IEEE Spectrum*, 47(9):20, September 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

S. Karlin. Robotics' wild kingdom. *IEEE Spectrum*, 47(1):28, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Karlin:2010:FPH****Karlin:2010:SM**

- [Kar10h] S. Karlin. Film preview: Hubble 3D. *IEEE Spectrum*, 47(4):26, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

S. Karlin. Smokes and mirrors. *IEEE Spectrum*, 47(2):19, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Karlin:2010:FMU****Karlin:2010:WDW**

- [Kar10i] S. Karlin. Is Facebook making us narcissists? [review of *The Narcissism Epidemic: Living in the Age of Entitlement* (Twenge, J. M., and Campbell, W. K.; 2009)]. *IEEE Spectrum*, 47(1):25, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

S. Karlin. Why do we exist? [hands on]. *IEEE Spectrum*, 47(6):20, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Karlin:2011:ALN**

S. Karlin. Acting like a nerd [geek life]. *IEEE Spectrum*, 48(4):22, April 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Kar11b] S. Karlin. Cameron Cohen: Child programmer and philanthropist [profile]. *IEEE Spectrum*, 48(10):26, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2011:CCC**
- [Kar11c] S. Karlin. A car that's faster than a speeding bullet. *IEEE Spectrum*, 48(4):23, April 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2011:CTF**
- [Kar11d] S. Karlin. Digital diva [profile]. *IEEE Spectrum*, 48(9):27, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2011:DDP**
- [Kar11e] S. Karlin. Game design: sometimes it is rocket science [profiles]. *IEEE Spectrum*, 48(1):19, January 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2011:GDS**
- [Kar11f] S. Karlin. Love, digital style [geek life]. *IEEE Spectrum*, 48(3):28, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2011:LDS**
- [Kar11g] S. Karlin. Raiding Iron Man's closet [geek life]. *IEEE Spectrum*, 48(8):25, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2011:RIM**
- [Kar11h] S. Karlin. Weight loss surgery as software engineering [geek life]. *IEEE Spectrum*, 48(7):28, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2011:WLS**
- S. Karlin. Game worthy [profile]. *IEEE Spectrum*, 49(1):26, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2012:GWP**
- S. Karlin. Pocket studios [geek life]. *IEEE Spectrum*, 49(8):24, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2012:PSG**
- S. Karlin. Augmented reality for public spaces [resources profile]. *IEEE Spectrum*, 50(3):26–27, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2013:ARP**
- S. Karlin. Gonçalo Abecasis [resources careers]. *IEEE Spectrum*, 50(10):22, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2013:GAR**
- S. Karlin. Tactus technology [resources startups]. *IEEE Spectrum*, 50(4):23, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2013:TTR**
- S. Karlin. Patrick Giffis [resources profile]. *IEEE Spectrum*, 51(4):27–28, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2014:PGR**
- S. Karlin. Kira Radinsky [resources tools]. *IEEE Spectrum*, 52(6):25, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2015:KRR**



- [Kar16a] S. Karlin. Burning man's tech mastermind. *IEEE Spectrum*, 53(1):22, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2016:BMT**
- [Kar16b] S. Karlin. Profile: Beth Keser — this engineer is MacGyvering a jump to Hollywood [resources careers]. *IEEE Spectrum*, 53(8):21, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2016:PBK**
- [Kar18] S. Karlin. Giving burning man its wings [resources]. *IEEE Spectrum*, 55(7):18, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Karlin:2018:GBM**
- [Kas16] E. Kastner. The hard-knocks bot. *IEEE Spectrum*, 53(10):38–43, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kastner:2016:HKB**
- [Kav10] K. M. Kavi. Beyond the black box. *IEEE Spectrum*, 47(8):46–51, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kavi:2010:BBB**
- [KB10] J. Kare and J. Buffum. Build your own photonic fence to zap mosquitoes midflight [backwards star wars]. *IEEE Spectrum*, 47(5):28–33, 52, 53, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kare:2010:BYO**
- [Kei14] B. Keim. Big science takes on the big data. *IEEE Spectrum*, 51(1):45–64, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Keim:2014:BST**
- B. Keim. Dr. Watson will see you ... someday. *IEEE Spectrum*, 52(6):76–77, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Keim:2015:DWW**
- K. Kelly. Cloud computing is raining metaphors. *IEEE Spectrum*, 53(12):25, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kelly:2016:CCR**
- J. Kerouac. Exit code. *IEEE Spectrum*, 54(12):25, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kerouac:2017:EC**
- R. Koningstein and D. Fork. Energy's creative destruction. *IEEE Spectrum*, 51(12):30–35, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Koningstein:2014:ECD**
- Ritchie S. King. The Einstein telescope. *IEEE Spectrum*, 48(7):14, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **King:2011:ET**
- Ritchie S. King. Expectations dim for OLED lighting. *IEEE Spectrum*, 48(9):14–16, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **King:2011:EDO**
- Ritchie S. King. How 5 technologies fared after 9/11. *IEEE Spectrum*, 48(9):13, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **King:2011:HTF**



ber 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**King:2011:PFW**

- [Kin11d] Ritchie S. King. The post-Fukushima world. *IEEE Spectrum*, 48(11):44–45, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**King:2011:TPL**

- [Kin11e] Ritchie S. King. The top 10 programming languages [the data]. *IEEE Spectrum*, 48(10):84, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**King:2012:LRD**

- [Kin12a] Ritchie S. King. LNG rising [the data]. *IEEE Spectrum*, 49(4):72, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**King:2012:WUS**

- [Kin12b] Ritchie S. King. Will Unicode soon be the universal code? [the data]. *IEEE Spectrum*, 49(7):60, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Keane:2011:OC**

- [KK11] J. Keane and C. H. Kim. An odometer for CPUs. *IEEE Spectrum*, 48(5):28–33, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Klein:2011:PPH**

- [Kle11] S. Klein. The polar particle hunter. *IEEE Spectrum*, 48(2):42–47, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Kelly:2015:BBM**

- [KM15] K. F. Kelly and C. C. M. Mody. The booms and busts of molecular electronics. *IEEE Spectrum*, 52(10):52–60, October 2015. CODEN

IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Kogge:2011:TF**

- P. Kogge. The tops in flops. *IEEE Spectrum*, 48(2):48–54, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Koomey:2010:OML**

- J. G. Koomey. Outperforming Moore’s Law. *IEEE Spectrum*, 47(3):68, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Kota:2016:TWT**

- S. Kota. Twistable wings take flight. *IEEE Spectrum*, 53(9):28–33, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Koziol:2018:DFH**

- M. Koziol. Dirac: High-fidelity audio for your smartphone [resources tools toys]. *IEEE Spectrum*, 55(4):19, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Koziol:2018:NSB**

- M. Koziol. New spot beams boost satellites’ bandwidth: SSL’s satellites constructed for Telesat also feature 3D-printed components — [news]. *IEEE Spectrum*, 55(10):7–9, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Koziol:2018:NTT**

- M. Koziol. Now’s the time to think about what comes after 5G: We need to make sure the backbone of every network can support future demands for data — [spectral lines]. *IEEE Spectrum*, 55(12):6, December 2018. CODEN



IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Koziol:2018:RRW**

- [Koz18d] M. Koziol. Rooting for robots at the Winter Olympics. *IEEE Spectrum*, 55(2):7–8, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Koziol:2018:SRL**

- [Koz18e] M. Koziol. Scientists reconsider low-energy nuclear reactions: It’s absolutely, definitely, seriously not cold fusion — [news]. *IEEE Spectrum*, 55(12):10–11, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Koziol:2018:WWE**

- [Koz18f] M. Koziol. What will the electricity miracle be? [blueprints for a miracle]. *IEEE Spectrum*, 55(6):30–35, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Koziol:2019:AES**

- [Koz19a] M. Koziol. AI-enabled spectrum technology: What’s next? — [spectral lines]. *IEEE Spectrum*, 56(12):6, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Koziol:2019:AFO**

- [Koz19b] M. Koziol. Australia’s fiber-optic mess: The national broadband network is delivering slower service to fewer properties than promised — [news]. *IEEE Spectrum*, 56(5):8–9, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Koziol:2019:PSB**

- [Koz19c] M. Koziol. Phone service by balloon. *IEEE Spectrum*, 56(1):35–36, January 2019. CO-

DEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Koziol:2019:PHL**

- M. Koziol. Phoning home, with lasers: Optical communications will provide a high-speed connection to Earth. *IEEE Spectrum*, 56(7):52–55, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Koziol:2019:UIT**

- M. Koziol. The universal internet: It’s time for all network developers to go beyond ascii — [resources<sub>a</sub>work]. *IEEE Spectrum*, 56(6):16, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Konstan:2012:RY**

- J. A. Konstan and J. Riedl. Recommended for you. *IEEE Spectrum*, 49(10):54–61, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Krajewski:2014:GLC**

- M. Krajewski. The great lightbulb conspiracy. *IEEE Spectrum*, 51(10):56–61, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Kress:2014:SWM**

- N. Kress. Someone to watch over me. *IEEE Spectrum*, 51(6):80–86, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Kroposki:2016:CSS**

- B. Kroposki. Can solar save the grid? *IEEE Spectrum*, 53(11):42–47, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [KS18] M. Knapp and W. Said. Electric [Kum13a]. *IEEE Spectrum*, 55(5):26–52, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Knapp:2018:EBS**
- [KT17] C. Koch and G. Tononi. Special re[Kum13a] we copy the brain? — Can we quantify machine consciousness? *IEEE Spectrum*, 54(6):64–69, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Koch:2017:SRC**
- [Kum10a] J. Kumagai. Life in drought. *IEEE Spectrum*, 47(6):42–49, 72, 74, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2010:LD** [Kum13c]
- [Kum10b] J. Kumagai. UK gets a space agency of its very own. *IEEE Spectrum*, 47(2):11, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2010:UGS** [Kum13d]
- [Kum12a] J. Kumagai. A battery as big as the grid. *IEEE Spectrum*, 49(1):45–46, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2012:BBG** [Kum13e]
- [Kum12b] J. Kumagai. Fixing wind power’s bat problem. *IEEE Spectrum*, 49(7):14, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2012:FWP** [Kum14a]
- [Kum12c] J. Kumagai. Virtual power plants, real power. *IEEE Spectrum*, 49(3):13–14, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2012:VPP** [Kum14b]
- J. Kumagai. Der Tonmeister [dream jobs 2013 — audio]. *IEEE Spectrum*, 50(2):42–43, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2013:TDJ**
- J. Kumagai. Limor Fried: channel your inner maker [resources profile]. *IEEE Spectrum*, 50(5):28, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2013:LFC**
- J. Kumagai. Protecting the power grid from solar storms [news]. *IEEE Spectrum*, 50(4):11–12, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2013:PPG**
- J. Kumagai. The smartest, greenest grid. *IEEE Spectrum*, 50(5):42–47, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2013:SGG**
- J. Kumagai. Swiss warehouse helps buffer the grid. *IEEE Spectrum*, 50(6):16–17, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2013:SWH**
- J. Kumaga. A day in the life of digi-key. *IEEE Spectrum*, 51(2):50–56, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumaga:2014:DLD**
- J. Kumagai. 5 Earth-imaging start-ups coming to a sky near you [news]. *IEEE Spectrum*, 51(4):20–21, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2014:EIS**



- [Kum14c] J. Kumagai. The rise of the personal power plant. *IEEE Spectrum*, 51(6):54–59, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2014:RPP**
- [Kum14d] J. Kumagai. Stashing energy in underwater bags [news]. *IEEE Spectrum*, 51(8):16–17, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2014:SEU**
- [Kum15] J. Kumagai. The illuminated cello. *IEEE Spectrum*, 52(8):36–41, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2015:IC**
- [Kum16a] J. Kumagai. Lights for the enlightened. *IEEE Spectrum*, 53(12):32–39, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2016:LE**
- [Kum16b] J. Kumagai. Solar charging kit showdown, Himalaya’s Edition: Voltaic Systems’ Arc 20W outshines Goal Zero’s Sherpa 100 [resources review]. *IEEE Spectrum*, 53(11):25, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2016:SCK**
- [Kum16c] J. Kumagai. The U.S. may finally get a unified power grid. *IEEE Spectrum*, 53(1):35–36, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2016:UMF**
- [Kum17] J. Kumagai. Special report: Can we copy the brain? — Navigate like a rat. *IEEE Spectrum*, 54(6):58–63, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2017:SRC**
- J. Kumagai. Reverse engineering the “sonic weapon” [news]. *IEEE Spectrum*, 55(3):9–10, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2018:RES**
- J. Kumagai. This AI hunts poachers. *IEEE Spectrum*, 55(1):54–57, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2018:AHP**
- J. Kumagai. Turning pollution into fuel [blueprints for a miracle]. *IEEE Spectrum*, 55(6):38–41, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2018:TPF**
- J. Kumagai. Perovskite solar cells: Ready for prime time. *IEEE Spectrum*, 56(1):37–40, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2019:PSC**
- J. Kumagai. The U.S. finally goes big on offshore wind. *IEEE Spectrum*, 56(1):25–26, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2019:UFG**
- J. Kumagai. X-ray detection may be perovskites’ killer app: The wonder crystal could yield imagers that are far more sensitive than commercial detectors — [news]. *IEEE Spectrum*, 56(5):10–11, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Kumagai:2019:XRD**



**Kushner:2010:BB****Kushner:2014:VRM**

- [Kus10] David Kushner. From bricks to bits. *IEEE Spectrum*, 47(7):46–51, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

David Kushner. Virtual reality’s moment. *IEEE Spectrum*, 51(1):34–37, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Kushner:2011:AD****Kushner:2017:SLF**

- [Kus11a] David Kushner. The autism defense. *IEEE Spectrum*, 48(7):32–37, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

David Kushner. Second Life founder’s second act. *IEEE Spectrum*, 54(2):32–37, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Kushner:2011:BFG****Khalili:2015:CCN**

- [Kus11b] David Kushner. Betting the farm on games. *IEEE Spectrum*, 48(6):70–88, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Khalili and K. L. Wang. The computer chip that never forgets. *IEEE Spectrum*, 52(7):30–56, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Kushner:2011:SVH****Keller:2019:SWD**

- [Kus11c] David Kushner. Sony vs. the hackers. *IEEE Spectrum*, 48(5):16, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

B. Keller and T. Willke. SnotBot: A whale of a deep-learning project. *IEEE Spectrum*, 56(12):41–53, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Kushner:2011:TE****Krishnaswamy:2016:CB**

- [Kus11d] David Kushner. Ticking to eternity. *IEEE Spectrum*, 48(11):54–62, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

H. Krishnaswamy and G. Zussman. 1 chip 2× the bandwidth. *IEEE Spectrum*, 53(7):38–54, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Kushner:2012:SSH****Lucks:2011:HBT**

- [Kus12] David Kushner. Sultans of solder [Lucks]. *IEEE Spectrum*, 49(5):26–27, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

J. B. Lucks and A. P. Arkin. The hunt for the biological transistor. *IEEE Spectrum*, 48(3):38–43, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Kushner:2013:RSS****Lammers:2010:EET**

- [Kus13] David Kushner. The real story of Llamas. *IEEE Spectrum*, 50(3):48–53, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

D. Lammers. The era of error-tolerant computing. *IEEE Spectrum*, 47(11):15, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Lam13a] M. Lamonica. Long-distance quantum cryptography [news]. *IEEE Spectrum*, 50(8):12–13, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lamonica:2013:LDQ**
- [Lam13b] M. Lamonica. Natural gas sets off a distributed-energy boom [news]. *IEEE Spectrum*, 50(12):14–15, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lamonica:2013:NGS**
- [Lam14] M. Lamonica. Supercomputer cooling for photovoltaics [news]. *IEEE Spectrum*, 51(11):22, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lamonica:2014:SCP**
- [Lam15] M. Lamonica. Is this the age of alternative nuclear power? [news]. *IEEE Spectrum*, 52(4):12–13, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lamonica:2015:AAN**
- [Lap13] P. Lapsley. Phreaking out Ma Bell. *IEEE Spectrum*, 50(2):30–35, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lapsley:2013:PMB**
- [Las17] C. Laschi. Octobot — a robot octopus points the way to soft robotics. *IEEE Spectrum*, 54(3):38–43, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Laschi:2017:ORO**
- [Lau12] L. Laursen. Snails in a race for biological energy harvesting. *IEEE Spectrum*, 49(5):19, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Laursen:2012:SRB**
- [Lau13a] L. Laursen. Data for the 31st century. *IEEE Spectrum*, 50(11):14, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Laursen:2013:DC**
- [Lau13b] L. Laursen. Electrifying formula one [news]. *IEEE Spectrum*, 50(11):9–10, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Laursen:2013:EFO**
- [Lau13c] L. Laursen. Plugging in to plant roots. *IEEE Spectrum*, 50(2):14–15, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Laursen:2013:PPR**
- [Lau15a] L. Laursen. Robot to human: “Trust me”. *IEEE Spectrum*, 50(3):18, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Laursen:2013:RHT**
- [Lau15b] L. Laursen. 4G for all [news]. *IEEE Spectrum*, 52(12):14, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Laursen:2015:AN**
- [Lau15c] L. Laursen. Google’s year of forgetting [news]. *IEEE Spectrum*, 52(5):16–17, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Laursen:2015:GYF**
- [Lau15d] L. Laursen. The ice stuff. *IEEE Spectrum*, 52(10):23–24, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Laursen:2015:IS**



IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Laursen:2019:LBR**

[Lau19b]  
**Laursen:2015:NFF**

- [Lau15d] L. Laursen. A new formula for formula e [news]. *IEEE Spectrum*, 52(10):13–14, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Laursen:2015:PPN**

- [Lau15e] L. Laursen. A power play in Nicaragua (international report). *IEEE Spectrum*, 52(5):38–43, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Laursen:2017:BDV**

- [Lau17] L. Laursen. Big data vs. bad air [news]. *IEEE Spectrum*, 54(1):14–16, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Laursen:2018:IBI**

- [Lau18a] L. Laursen. India’s biometric ids trigger privacy lawsuits [news]. *IEEE Spectrum*, 55(3):12–13, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Laursen:2018:OST**

- [Lau18b] L. Laursen. Oil states try to turn sunlight into freshwater [news]. *IEEE Spectrum*, 55(5):11–12, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Laursen:2019:AEW**

- [Lau19a] L. Laursen. Automated eyes watch plants grow: Crop scientists hope to replace traditional painstaking monitoring methods — [news]. *IEEE Spectrum*, 56(1):9–10, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

L. Laursen. LoRa’s bid to rule the IoT: The standard for low-power, wide-area coverage is gaining momentum — [news]. *IEEE Spectrum*, 56(3):7–8, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Laursen:2019:RCO**

L. Laursen. Rural co-ops deliver high-speed internet: Long-range wi-fi and a cooperative approach may help close the digital divide — [news]. *IEEE Spectrum*, 56(6):8–9, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Lazarus:2010:GSF**

M. Lazarus. The great spectrum famine. *IEEE Spectrum*, 47(10):26–31, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Lazarus:2013:WSA**

M. Lazarus. When spectrum auctions fail. *IEEE Spectrum*, 50(5):32–60, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Lazarus:2015:RE**

M. Lazarus. Radar everywhere. *IEEE Spectrum*, 52(2):52–59, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Lazarus:2016:TPU**

M. Lazarus. The troubled past and uncertain future of radio interference. *IEEE Spectrum*, 53(8):40–56, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [LC18] W. Li and Y. Cui. Less fire, more power: Without the needlelike growths that can short out cells, lithium-ion batteries will be safer. *IEEE Spectrum*, 55(9):44–48, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Li:2018:LFM**
- [LE16] Z. C. Lipton and C. Elkan. Playing the Imitation Game with deep learning. *IEEE Spectrum*, 53(2):40–45, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lipton:2016:PIG**
- [Lea12] Ryan Leavengood. The dawn of Haiku — how a volunteer crew brought a crack OS back. *IEEE Spectrum*, 49(5):40–54, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Leavengood:2012:DHH**
- [Lee15a] E. Lee. Baby by the numbers [resources tools]. *IEEE Spectrum*, 52(6):24, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lee:2015:BNR**
- [Lee15b] E. Lee. Resources [dog’s best friend]. *IEEE Spectrum*, 52(8):23–24, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lee:2015:RDB**
- [Lee15c] E. Lee. Wearables for frail seniors [resources tools]. *IEEE Spectrum*, 52(9):25, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lee:2015:WFS**
- K. W. Leucht. How NASA will use robots to create rocket fuel on Mars: The year is 2038. *IEEE Spectrum*, 55(11):34–39, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Leucht:2018:HNW**
- D. Levitan. Geothermal energy’s promise and problems. *IEEE Spectrum*, 48(12):16, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Levitan:2011:GEP**
- D. Levitan. Prospects for an artificial leaf are growing. *IEEE Spectrum*, 48(11):15–16, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Levitan:2011:PAL**
- D. Levitan. The rich and their reactors. *IEEE Spectrum*, 49(9):17, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Levitan:2012:RTR**
- D. Levitan. The solar efficiency gap. *IEEE Spectrum*, 49(6):11–12, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Levitan:2012:SEG**
- A. G. Levine. Motor sport MacGyver [resources careers]. *IEEE Spectrum*, 50(4):22, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Levine:2013:MSM**
- D. Levitan. I spy thy rye. *IEEE Spectrum*, 50(6):46–47, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Levitan:2013:STR**



- [Lev13c] D. Levitan. Laser eyes spy a big melt in the Arctic. *IEEE Spectrum*, 50(2):9–10, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Lew14d]
- [Lev13d] D. Levitan. A solar mirage in the Middle East? [news]. *IEEE Spectrum*, 50(5):10–11, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Lew14e]
- [Lev17] O. Levander. Autonomous ships on the high seas. *IEEE Spectrum*, 54(2):26–31, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Lew15]
- [Lev18] A. F. J. Levi. Silicon photonics’ last-meter problem: Economics and physics still pose challenges to “fiber to the processor” tech. *IEEE Spectrum*, 55(9):38–43, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Lig16]
- [Lew14a] S. Lewin. Hidden messages in headlights [news]. *IEEE Spectrum*, 51(9):13–14, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Lin10]
- [Lew14b] S. Lewin. Holographic displays coming to smartphones [news]. *IEEE Spectrum*, 51(8):13–14, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Lio13]
- [Lew14c] S. Lewin. Microwave stethoscope lets physicians peer into the lungs [news]. *IEEE Spectrum*, 51(11):20–21, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Lewin:2014:RWR] S. Lewin. Review: WikiMusical [resources geek life]. *IEEE Spectrum*, 51(10):30, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Lewin:2014:SR] S. Lewin. The smartphone recipe. *IEEE Spectrum*, 51(12):80, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Lewin:2015:DWL] S. Lewin. DIY water leak detector [resources]. *IEEE Spectrum*, 52(4):24–25, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Lightman:2016:SGS] K. Lightman. Silicon gets sporty. *IEEE Spectrum*, 53(3):48–53, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Lincoln:2010:LVP] J. Lincoln. The latest video projectors can fit inside tiny cameras or cellphones yet still produce big pictures [little gizmo, big picture]. *IEEE Spectrum*, 47(5):41–45, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Liotta:2013:CNC] A. Liotta. The cognitive NET is coming. *IEEE Spectrum*, 50(8):26–31, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Liu11] K. J. R. Liu. Cognitive radio games. *IEEE Spectrum*, 48(4):40–56, April 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Liu:2011:CRG**
- [LJ10] T. Lawrence and D. Jenney. The fastest helicopter on Earth. *IEEE Spectrum*, 47(9):36–41, September 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lawrence:2010:FHE**
- [LL13] R. W. Lucky and J. Lefkowitz. Other people’s knowledge [reflections]. *IEEE Spectrum*, 50(1):22, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lucky:2013:OPK**
- [LM14] C. C. Lo and J. J. L. Morton. Silicon’s second act. *IEEE Spectrum*, 51(8):37–43, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lo:2014:SSA**
- [LMS10] J. Lubacz, W. Mazurczyk, and K. Szczygiorski. Vice over IP. *IEEE Spectrum*, 47(2):42–47, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lubacz:2010:VI**
- [LMSA12] T. K. Liu, D. Markovic, V. Stojanovic, and E. Alon. The relay reborn. *IEEE Spectrum*, 49(4):40–43, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Liu:2012:RR**
- [LMY18] Zhongsheng Luo, Jesse Manders, and Jeff Yurek. Television’s quantum dots will be the next darling of TV manufacturers. *IEEE Spectrum*, 55(3):28–53, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Luo:2018:TQD**
- J. Lodewyck. An even better atomic clock. *IEEE Spectrum*, 51(10):42–64, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lodewyck:2014:EBA**
- C. Lohr. Turning music into colors a wi-fi chip has unexpected power [resources hands on]. *IEEE Spectrum*, 53(8):19–20, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lohr:2016:TMC**
- A. Lahiri, N. Shah, and C. Dales. Building a safer, denser lithium-ion battery. *IEEE Spectrum*, 55(3):34–39, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lahiri:2018:BSD**
- R. W. Lucky. Almost teleportation [reflections]. *IEEE Spectrum*, 47(3):27, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lucky:2010:ATR**
- R. W. Lucky. Black swans [reflections]. *IEEE Spectrum*, 47(11):21, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lucky:2010:BSR**
- R. W. Lucky. Contemplating a dead computer [reflections]. *IEEE Spectrum*, 47(7):27, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lucky:2010:CDC**



- |          |   |   |
|----------|---|---|
|          | <b>Lucky:2010:CAR</b>   | <b>Lucky:2011:RPP</b>   |
| [Luc10d] | R. W. Lucky. Cyber Armageddon [reflections]. <i>IEEE Spectrum</i> , 47(9):25, September 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                   | R. W. Lucky. In research, the problem is the problem [reflections]. <i>IEEE Spectrum</i> , 48(7):30, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). |
|          | <b>Lucky:2010:DDR</b>   | <b>Lucky:2011:OSR</b>   |
| [Luc10e] | R. W. Lucky. Driven to distraction [reflections]. <i>IEEE Spectrum</i> , 47(1):31, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                | R. W. Lucky. Open systems [reflections]. <i>IEEE Spectrum</i> , 48(3):29, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                           |
|          | <b>Lucky:2010:ENR</b>   | <b>Lucky:2012:CR</b>  |
| [Luc10f] | R. W. Lucky. The ephemeral now [reflections]. <i>IEEE Spectrum</i> , 47(5):27, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                        | R. W. Lucky. Curiosity [reflections]. <i>IEEE Spectrum</i> , 49(7):25, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                               |
|          | <b>Lucky:2011:ARF</b>   | <b>Lucky:2012:DER</b>   |
| [Luc11a] | R. W. Lucky. Adventures in research [reflections]. <i>IEEE Spectrum</i> , 48(9):30, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).             | R. W. Lucky. Disposable electronics [reflections]. <i>IEEE Spectrum</i> , 49(9):34, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).             |
|          | <b>Lucky:2011:ABR</b>   | <b>Lucky:2012:CIS</b>   |
| [Luc11b] | R. W. Lucky. The advice business [reflections]. <i>IEEE Spectrum</i> , 48(11):28, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                | R. W. Lucky. In celebration of the IRE [spectral lines]. <i>IEEE Spectrum</i> , 49(5):8, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).              |
|          | <b>Lucky:2011:STR</b>   | <b>Lucky:2012:MSR</b>   |
| [Luc11c] | R. W. Lucky. Are social technologies really invented? [reflections]. <i>IEEE Spectrum</i> , 48(5):27, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). | R. W. Lucky. Is math still relevant? [reflections]. <i>IEEE Spectrum</i> , 49(3):23, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                |
|          | <b>Lucky:2011:CR</b>  | <b>Lucky:2012:VUR</b>   |
| [Luc11d] | R. W. Lucky. Clickphobia [reflections]. <i>IEEE Spectrum</i> , 48(1):25, January 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                          | R. W. Lucky. Visual ubiquity [reflections]. <i>IEEE Spectrum</i> , 49(1):27, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                      |



**Lucky:2012:WWR****Lucky:2014:DDC**

- [Luc12f] R. W. Lucky. Wires and wireless [reflections]. *IEEE Spectrum*, 49(11):32, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- R. W. Lucky. The drive for driverless cars [reflections]. *IEEE Spectrum*, 51(7):28, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Lucky:2013:ALP****Lucky:2014:RR**

- [Luc13a] R. W. Lucky. All of life in pi? [reflections]. *IEEE Spectrum*, 50(7):26, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- R. W. Lucky. On reflections [reflections]. *IEEE Spectrum*, 51(9):28, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Lucky:2013:ASR****Lucky:2014:PPR**

- [Luc13b] R. W. Lucky. Antifragile systems [reflections]. *IEEE Spectrum*, 50(3):28, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- R. W. Lucky. The PC plateau [reflections]. *IEEE Spectrum*, 51(11):32, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Lucky:2013:SER****Lucky:2015:SRR**

- [Luc13c] R. W. Lucky. Sensuous electronics [reflections]. *IEEE Spectrum*, 50(5):30, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- R. W. Lucky. Seeing radio [reflections]. *IEEE Spectrum*, 52(5):30, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Lucky:2013:WW****Lucky:2015:TTR**

- [Luc13d] R. W. Lucky. Whither wireless? *IEEE Spectrum*, 50(9):28, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- R. W. Lucky. Techies on TV [reflections]. *IEEE Spectrum*, 52(9):30, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Lucky:2014:AMW****Lucky:2015:UCR**

- [Luc14a] R. W. Lucky. The answer machine: who is the crowd? [reflections]. *IEEE Spectrum*, 51(3):30, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- R. W. Lucky. The ubiquitous camera [reflections]. *IEEE Spectrum*, 52(3):30, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Lucky:2014:CSV****Lucky:2016:EDT**

- [Luc14b] R. W. Lucky. Cloning Silicon Valley [reflections]. *IEEE Spectrum*, 51(5):30, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- R. Lucky. Are engineers designing their robotic replacements? [reflections]. *IEEE Spectrum*, 53(5):27, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Luc16b] R. W. Lucky. The end of the smartphone? [reflections]. *IEEE Spectrum*, 53(3):28, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lucky:2016:ESR**
- [Luc16c] R. W. Lucky. The ever-evolving field of electrical engineering [reflections]. *IEEE Spectrum*, 53(11):27, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lucky:2016:EEF**
- [Luc16d] R. W. Lucky. Planning for greatness. *IEEE Spectrum*, 53(1):28, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lucky:2016:PG**
- [Luc16e] R. W. Lucky. Was the Internet inevitable? [reflections]. *IEEE Spectrum*, 53(7):25, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lucky:2016:WII**
- [Luc17a] R. W. Lucky. The counterintuitive cloud [reflections]. *IEEE Spectrum*, 54(5):25, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lucky:2017:CCRb**
- [Luc17b] R. W. Lucky. Cozying up to complexity [reflections]. *IEEE Spectrum*, 54(1):25, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lucky:2017:CCRa**
- [Luc17c] R. W. Lucky. The millimeter wireless frontier [reflections]. *IEEE Spectrum*, 54(3):25, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lucky:2017:MWF**
- [Luc17d] R. W. Lucky. The structure of scaling [reflections]. *IEEE Spectrum*, 54(9):25, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lucky:2017:SSR**
- [Luc17e] R. W. Lucky. Technological distraction. *IEEE Spectrum*, 54(7):25, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lucky:2017:TD**
- [Luc18a] R. W. Lucky. Deep complexities in EE [reflections]. *IEEE Spectrum*, 55(5):25, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lucky:2018:DCE**
- [Luc18b] R. W. Lucky. Riding the wave of electronics [reflections]. *IEEE Spectrum*, 55(3):27, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lucky:2018:RWE**
- [Lun18] B. M. Lunt. A view to the cloud: What really happens when your data is stored on far-off servers in distant data centers. *IEEE Spectrum*, 55(8):40–43, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lunt:2018:VCW**
- [Lyk12] J. C. Lyke. Plug-and-play satellites. *IEEE Spectrum*, 49(8):36–42, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Lyke:2012:PPS**
- [Mcf17] P. Mcfedries and M. Atwood. The dark dialect [technically speaking]. *IEEE Spectrum*, 54(10):22, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Mcfedries:2017:DDT**



IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Makris:2011:UFO**

[Mak11]

**Mackenzie:2010:ONM**

[Mac10a] D. Mackenzie. Old and new media [the data]. *IEEE Spectrum*, 47(5):60, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Mal14]

**Mackenzie:2010:WPM**

[Mac10b] D. Mackenzie. Who pays more for wireless? It depends on whom you ask [the data]. *IEEE Spectrum*, 47(7):60, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Man13]

**Mackinnon:2010:LSB**

[Mac10c] R. Mackinnon. Liberty or safety? Both — or neither [spectral lines]. *IEEE Spectrum*, 47(5):10, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Man17]

**Mack:2015:MLM**

[Mac15] C. Mack. The multiple lives of Moore’s Law. *IEEE Spectrum*, 52(4):31, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). See errata [Ano15-41].

[Mar12]

**Macfarlane:2019:WAR**

[Mac19] J. Macfarlane. When apps rule the road: The proliferation of navigation apps is causing traffic chaos. It’s time to restore order. *IEEE Spectrum*, 56(10):22–27, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Mar18a]

**Magoun:2012:PRA**

[Mag12] A. B. Magoun. “Please rush all possible assistance” [history]. *IEEE Spectrum*, 49(4):22–23, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Mar18b]

N. Makris. Unidentified floating objects. *IEEE Spectrum*, 48(8):48–54, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Maltz:2014:HDY**

A. Maltz. How do you store a digital movie for 100 years? *IEEE Spectrum*, 51(3):40–44, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Mann:2013:V**

S. Mann. Vision 2.0. *IEEE Spectrum*, 50(3):42–47, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Mandelbaum:2017:DML**

R. F. Mandelbaum. Digital music’s language maestro [resources geek life]. *IEEE Spectrum*, 54(3):23, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Martel:2012:JCT**

S. Martel. Journey to the center of a tumor. *IEEE Spectrum*, 49(10):48–53, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Marsh:2018:AAP**

A. Marsh. Audio archaeology [past forward]. *IEEE Spectrum*, 55(5):56, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Marsh:2018:CSR**

A. Marsh. Computing by slide rule. *IEEE Spectrum*, 55(2):56, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Mar18c] A. Marsh. Edison and the King [past forward]. *IEEE Spectrum*, 55(4):52, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Marsh:2018:EKP**
- [Mar18d] A. Marsh. Elektro the Moto-Man — [past forward by Allison Marsh]. *IEEE Spectrum*, 55(10):56, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Marsh:2018:EMM**
- [Mar18e] A. Marsh. Past forward: The ABCs of telegraphy — [past forward by Allison Marsh]. *IEEE Spectrum*, 55(9):56, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Marsh:2018:PFA**
- [Mar18f] A. Marsh. Plowing with precision [past forward]. *IEEE Spectrum*, 55(3):56, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Marsh:2018:PPP**
- [Mar19a] A. Marsh. The Beagle has landed: Past forward by Allison Marsh. *IEEE Spectrum*, 56(7):60, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Marsh:2019:BLP**
- [Mar19b] A. Marsh. An instrument for the birds — [past forward by Allison Marsh]. *IEEE Spectrum*, 56(10):60, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Marsh:2019:IBP**
- [Mat12] G. L. Matloff. Deflecting asteroids. *IEEE Spectrum*, 49(4):56–62, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Matloff:2012:DA**
- J. Mattheij. Neural nets vs. Lego bricks [resources]. *IEEE Spectrum*, 54(7):17–18, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Mattheij:2017:NNV**
- M. Mosko and V. Bellotti. Smart conservation for the lazy consumer [tech life]. *IEEE Spectrum*, 49(7):26–30, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Mosko:2012:SCL**
- J. McEachern and E. Burger. How to shut down robocallers: The STIR/SHAKEN protocol will stop scammers from exploiting a caller ID loophole. *IEEE Spectrum*, 56(12):46–52, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **McEachern:2019:HSR**
- D. McCormick. Forecasting tomorrow’s technology today [spectral lines]. *IEEE Spectrum*, 52(2):7, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **McCormick:2015:FTT**
- P. Mcfedries. The Age of Spimes [technically speaking]. *IEEE Spectrum*, 47(10):25, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Mcfedries:2010:AST**
- P. Mcfedries. Day of the living dead. *IEEE Spectrum*, 47(12):23, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Mcfedries:2010:DLD**



- |          |  |  |
|----------|--|--|
|          | <b>Mcfedries:2010:HPT</b>  | <b>McFedries:2011:CDD</b>  |
| [Mcf10c] | P. Mcfedries. Hacking the planet [technically speaking]. <i>IEEE Spectrum</i> , 47(8):23, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).     | Paul McFedries. The coming data deluge [technically speaking]. <i>IEEE Spectrum</i> , 48(2):19, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).         |
|          | <b>Mcfedries:2010:RPC</b>  | <b>McFedries:2011:DGR</b>  |
| [Mcf10d] | P. Mcfedries. The rise of peep culture [technically speaking]. <i>IEEE Spectrum</i> , 47(6):21, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). | Paul McFedries. The data gold rush [technically speaking]. <i>IEEE Spectrum</i> , 48(12):26, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).            |
|          | <b>Mcfedries:2010:YAP</b>  | <b>McFedries:2011:NNN</b>  |
| [Mcf10e] | P. Mcfedries. Your attention, please [technically speaking]. <i>IEEE Spectrum</i> , 47(4):27, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).  | Paul McFedries. New networks need new insults. <i>IEEE Spectrum</i> , 48(6):28, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                             |
|          | <b>McFedries:2010:CC</b>   | <b>Mcfedries:2012:IMM</b>  |
| [McF10f] | Paul McFedries. Carbon copy. <i>IEEE Spectrum</i> , 47(2):25, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                               | P. Mcfedries. I'm in the mood for MOOCS. <i>IEEE Spectrum</i> , 49(12):30, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                              |
|          | <b>Mcfedries:2011:LDT</b>  | <b>Mcfedries:2012:MIA</b>  |
| [Mcf11a] | P. Mcfedries. The Locavore's Dilemma [technically speaking]. <i>IEEE Spectrum</i> , 48(4):27, April 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).  | P. Mcfedries. Measuring the impact of altmetrics [technically speaking]. <i>IEEE Spectrum</i> , 49(8):28, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). |
|          | <b>Mcfedries:2011:PP</b>   | <b>Mcfedries:2012:OET</b>  |
| [Mcf11b] | P. Mcfedries. Pancake people. <i>IEEE Spectrum</i> , 48(10):28, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                              | P. Mcfedries. Occupy English [technically speaking]. <i>IEEE Spectrum</i> , 49(4):30, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                      |
|          | <b>Mcfedries:2011:SM</b>   | <b>McFedries:2012:CTS</b>  |
| [Mcf11c] | P. Mcfedries. The selfish meme [technically speaking]. <i>IEEE Spectrum</i> , 48(8):28, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).       | Paul McFedries. Consumption 2.0 [technically speaking]. <i>IEEE Spectrum</i> , 49(6):26, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).                    |



**McFedries:2012:SST**

- [McF12e] Paul McFedries. From surf to serf [technically speaking]. *IEEE Spectrum*, 49(10):32, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**McFedries:2012:TIT**

- [McF12f] Paul McFedries. Tufte-isms [technically speaking]. *IEEE Spectrum*, 49(2):25, February 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Mcfedries:2013:JJF**

- [Mcf13a] P. Mcfedries. The jargon of junk food. *IEEE Spectrum*, 50(6):23, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Mcfedries:2013:MDT**

- [Mcf13b] P. Mcfedries. Meet the datasexual [technically speaking]. *IEEE Spectrum*, 50(10):26, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Mcfedries:2013:TQS**

- [Mcf13c] P. Mcfedries. Tracking the quantified self [technically speaking]. *IEEE Spectrum*, 50(8):24, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**McFedries:2013:CCT**

- [McF13d] Paul McFedries. Clamorous computing [technically speaking]. *IEEE Spectrum*, 50(12):28, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**McFedries:2013:HYI**

- [McF13e] Paul McFedries. Hashtag, you're it [technically speaking]. *IEEE Spectrum*, 50(4):24, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Mcfedries:2014:CCT**

- P. Mcfedries. The city as computer [technically speaking]. *IEEE Spectrum*, 51(2):28, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**McFedries:2014:CST**

- Paul McFedries. The city as system [technically speaking]. *IEEE Spectrum*, 51(4):36, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**McFedries:2014:MRN**

- Paul McFedries. Mapheads and roadgeeks: the new cartography [technically speaking]. *IEEE Spectrum*, 51(10):34, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**McFedries:2014:SAT**

- Paul McFedries. Stop, attention thief! [technically speaking]. *IEEE Spectrum*, 51(6):28, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Mcfedries:2015:YIR**

- P. Mcfedries. Your inevitable robocar future [technically speaking]. *IEEE Spectrum*, 52(4):28, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**McFedries:2015:LBT**

- Paul McFedries. The language of e-books [technically speaking]. *IEEE Spectrum*, 52(2):30, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**McFedries:2016:YMY**

- Paul McFedries. Are you master of your own stuff? [technically speaking]. *IEEE Spectrum*, 53(6):24, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [McF16b] Paul McFedries. Death by smartph[McF16b] [technically speaking]. *IEEE Spectrum*, 53(8):25, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [McF16c] Paul McFedries. When technology hates us [technically speaking]. *IEEE Spectrum*, 53(2):26, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Mcf17a] P. Mcfedries. Agile words [technically speaking]. *IEEE Spectrum*, 54(6):21, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Mcf17b] P. Mcfedries. Escaping the PowerPoint prison [technically speaking]. *IEEE Spectrum*, 54(4):25, April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [McF17c] Paul McFedries. Jerktech [technically speaking]. *IEEE Spectrum*, 54(8):25, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Mck14] M. Mckee. To low Earth orbit and beyond. *IEEE Spectrum*, 51(1):58–59, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [McM11] William W. McMillan. The soul [McM11] [virtually speaking]. *IEEE Spectrum*, 48(7):44–59, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [McMahon:2018:SOP] P. McMahon. To solve optimization problems, just add lasers: An ODD device known as an optical Ising machine could untangle tricky logistics. *IEEE Spectrum*, 55(12):42–47, December 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Mailland:2017:FCM] J. Mailland and K. Driscoll. The French connection machine. *IEEE Spectrum*, 54(7):32–37, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Miles:2012:BBL] R. B. Miles, A. Dogariu, and J. B. Michael. Bringing bombs to light. *IEEE Spectrum*, 49(2):38–43, February 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Meier:2017:SRC] K. Meier. Special report: Can we copy the brain? — The brain as computer. *IEEE Spectrum*, 54(6):28–33, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Melville:2018:RRD] R. Melville. Resources: Resurrecting the dead bug method: An unconventional approach to prototyping high-frequency circuits — [resources hands on]. *IEEE Spectrum*, 55(10):16–17, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Myhrvold:2014:RBO] N. Myhrvold and W. W. Gibbs. Recipe for a better oven. *IEEE Spectrum*, 51(7):36–55, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [MGKT18] O. Milenkovic, R. Gabrys, H. M. Kiah, and S. M. H. Tabatabaei Yazdi. Exabytes in a test tube. *IEEE Spectrum*, 55(5):40–45, May 2018. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Milenkovic:2018:ETT**
- [MH13] N. Myhrvold and P. Holman. Tasty morxels. *IEEE Spectrum*, 50(6):78–82, June 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Myhrvold:2013:TM**
- [Mir12] M. Miranda. When every atom counts. *IEEE Spectrum*, 49(7):32, July 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Miranda:2012:WEA**
- [Mis10] R. P. Mislan. Cellphone crime solvers. *IEEE Spectrum*, 47(7):34–39, July 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Mislan:2010:CCS**
- [Mit11] S. Mitra. Search engine ABCs [the data]. *IEEE Spectrum*, 48(9):72, September 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Mitra:2011:SEA**
- [MJ13] P. Mcfedries and N. Jurgenson. Balancing act [technically speaking]. *IEEE Spectrum*, 50(2):28, February 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Mcfedries:2013:BAT**
- [ML19] D. Moreels and P. Leijnen. Turning the electric motor inside out: A Belgian startup’s axial-flux motor for EVs is small, light, and powerful. *IEEE Spectrum*, 56(10):40–45, October 2019. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Moreels:2019:TEM**
- C. C. M. Mody. The little-known history of Jack Kilby’s misadventure in solar power. *IEEE Spectrum*, 53(10):50–55, October 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Mody:2016:LKH**
- J. E. Moore. Topological insulators. *IEEE Spectrum*, 48(7):38–57, July 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Moore:2011:TI**
- Samuel K. Moore. China’s supercomputing prowess [the data]. *IEEE Spectrum*, 48(4):64, April 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Moore:2011:CSP**
- Samuel K. Moore. The psychiatrist in the machine [update]. *IEEE Spectrum*, 48(3):11–12, March 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Moore:2011:PMU**
- Samuel K. Moore. Computing’s power limit demonstrated. *IEEE Spectrum*, 49(5):14–16, May 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Moore:2012:CPL**
- Samuel K. Moore. Electromagnetic depression treatment nears approval. *IEEE Spectrum*, 49(6):13, June 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Moore:2012:EDT**
- Samuel K. Moore. Follow the wandering nerve. *IEEE Spectrum*, 52(6):78–82, June 2015. CO-



DEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Moore:2018:ELF**

- [Moo16a] Samuel K. Moore. “Brainprint” biometric id hits 100% accuracy [news]. *IEEE Spectrum*, 53(6):14, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Moore:2016:BBI**

- [Moo16b] Samuel K. Moore. Breaking the multicore bottleneck [news]. *IEEE Spectrum*, 53(11):16–17, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Moore:2016:BMB**

- [Moo17a] Samuel K. Moore. Bespoke processors: A new path to cheap chips [news]. *IEEE Spectrum*, 54(8):11–12, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Moore:2017:BNP**

- [Moo17b] Samuel K. Moore. Super-accurate GPS coming to smartphones in 2018 [news]. *IEEE Spectrum*, 54(11):10–11, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Moore:2017:SAG**

- [Moo18a] Samuel K. Moore. 3 directions for Moore’s Law: The last few months have sent mixed signals about where chips are headed. *IEEE Spectrum*, 55(11):14–15, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Moore:2018:DML**

- [Moo18b] Samuel K. Moore. 4 strange new ways to compute [news]. *IEEE Spectrum*, 55(1):10–11, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Moore:2018:SNW**

Samuel K. Moore. EUV lithography finally ready for fabs. *IEEE Spectrum*, 55(1):46–48, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Moore:2018:NDM**

Samuel K. Moore. The nextgen display: MicroLEDs [news]. *IEEE Spectrum*, 55(4):9–10, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Moore:2018:RSS**

Samuel K. Moore. Rough seas for the superconducting wind turbine: To keep offshore turbines light, engineers look beyond superconductors to a new permanent-magnet tech. *IEEE Spectrum*, 55(8):32–39, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Moore:2018:SDC**

Samuel K. Moore. Spying deadly chemicals from 30 meters [news]. *IEEE Spectrum*, 55(5):9–10, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Moore:2019:AST**

S. K. Moore. Another step toward the end of moore’s law: Samsung and tsmc move to 5-nanometer manufacturing — [news]. *IEEE Spectrum*, 56(6):9–10, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Moore:2019:CDG**

Samuel K. Moore. A chip design with 40 GPUs: Engineers plan to use silicon interconnect fabric to put 40 GPUs on a single wafer — [news]. *IEEE Spectrum*, 56(3):10–11, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Moo19c] Samuel K. Moore. Finally, a functional carbon-nanotube CPU: Three breakthroughs make commercial nanotube processors possible — [news]. *IEEE Spectrum*, 56(10):8–9, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Moore:2019:FFC**
- [Moo19d] Samuel K. Moore. MicroLED displays expected in 2020: The last remaining hurdle is mastering mass production — [news]. *IEEE Spectrum*, 56(8):8–9, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Moore:2019:MDE**
- [Moo19e] Samuel K. Moore. New silicon revives an old algorithm: Optimo chip breaks up big optimization problems into bite-size bits — [news]. *IEEE Spectrum*, 56(7):12–13, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Moore:2019:NSR**
- [Moo19f] Samuel K. Moore. Shape-shifting electrodes for the brain: Materials that have memory could make medical implants easier to place — [news]. *IEEE Spectrum*, 56(2):10–11, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Moore:2019:SSE**
- [Mor13] J. Morris. The race for the pole. *IEEE Spectrum*, 50(8):44–50, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Morris:2013:RP**
- [Mor14] E. Morozov. Computing, consciousness, and the future. *IEEE Spectrum*, 51(8):29, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Morozov:2014:CC**
- E. Mori. The italian computer: Italy’s olivetti was an early pioneer of digital computers and transistors. *IEEE Spectrum*, 56(6):40–47, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Mori:2019:ICI**
- M. A. McHenry, D. Roberson, and R. J. Matheson. Phone to fridge: shut up! *IEEE Spectrum*, 52(9):50–56, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **McHenry:2015:PFS**
- Samuel K. Moore and E. Strickland. An industrial revolution in genetics. *IEEE Spectrum*, 50(6):49–54, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Moore:2013:IRG**
- W. Mazurczyk, K. Szczypiorski, and J. Lubacz. Four ways to smuggle messages through Internet services. *IEEE Spectrum*, 50(11):42–45, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Mazurczyk:2013:FWS**
- D. Mulvaney. Solar’s green dilemma. *IEEE Spectrum*, 51(9):30–33, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Mulvaney:2014:SGD**
- K. Murphy. Frank Oppenheimer, the man who made science fun [review of “*Something*”]. *IEEE Spectrum*, 51(8):29, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Murphy:2010:FOM**



*Incredible Wonderful Happens: Frank Oppenheimer and the World He Made Up* (Gell-Man, M.; 2009)]. *IEEE Spectrum*, 47(3):25, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Mote:2018:SHT**

**Nathan:2015:BBF**

S. Nathan. Building bloodhound: the fastest car in the world. *IEEE Spectrum*, 52(8):30–35, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Neuman:2016:FES**

- [MWL18] C. D. Mote, S. E. Widnall, and E. Lazowska. Sexual harassment is a threat to engineering: A national academies report finds that it’s not just individuals who suffer when gender-based abuse goes unaddressed — [spectral lines]. *IEEE Spectrum*, 55(11):6–7, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Mitra:2015:TPC**

- [MWW15] Subhasish Mitra, H.-S. Philip Wong, and Simon Wong. The Trojan-proof chip. *IEEE Spectrum*, 52(2):46–51, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nikiforakis:2014:BYO**

- [NA14] N. Nikiforakis and G. Acar. Browse at your own risk. *IEEE Spectrum*, 51(8):30–35, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Naasani:2016:FCQ**

- [Naa16] I. Naasani. Fighting cancer with quantum dots. *IEEE Spectrum*, 53(10):26–31, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Namuduri:2017:FCT**

- [Nam17] K. Namuduri. Flying cell towers to the rescue. *IEEE Spectrum*, 54(9):38–43, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nathan:2014:FF**

S. Nathan and B. Keim. The fast and the formula E. *IEEE Spectrum*, 51(1):43–64, Jan-

T. Neuman. Fly the electric skies. *IEEE Spectrum*, 53(6):44–48, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Newman:2013:NRT**

L. H. Newman. A new record for terahertz transmission [news]. *IEEE Spectrum*, 50(12):15–16, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Newman:2013:YYH**

L. H. Newman. You are your heartbeat [news]. *IEEE Spectrum*, 50(12):13, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Newman:2014:SSS**

L. H. Newman. Small Swiss supercomputer shows the way ahead on efficiency. *IEEE Spectrum*, 51(2):13–14, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ngo:2016:WWF**

T. Ngo. Why Wi-Fi stinks — and how to fix it. *IEEE Spectrum*, 53(7):44–50, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



uary 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2016:HRS**

**Nocks:2017:YHR**

- [Noc17] L. Nocks. 500 years of humanoid robots automata have been around longer than you think [resources review]. *IEEE Spectrum*, 54(10):18–19, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2015:FOF**

- [Nor15] A. Nordrum. Fiber optics for the far North [news]. *IEEE Spectrum*, 52(1):11–13, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2016:WBD**

- [Nor16a] A. Nordrum. 3 ways to bridge the digital divide [news]. *IEEE Spectrum*, 53(6):9–10, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2016:ASU**

- [Nor16b] A. Nordrum. Analysis shows that U.S. intelligence agencies see less phone metadata [news]. *IEEE Spectrum*, 53(7):11–12, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2016:ACB**

- [Nor16c] A. Nordrum. Ari Caroline: This big-data guru mines analytics to help cancer patients [resources careers]. *IEEE Spectrum*, 53(5):23, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2016:FAT**

- [Nor16d] A. Nordrum. The fight over .africa: Two registries have claimed the continent's internet domain [news]. *IEEE Spectrum*, 53(5):16, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

A. Nordrum. How to run a successful mobile crowdsourcing project developers must respect the quirks of smartphone culture [resources at work]. *IEEE Spectrum*, 53(8):22, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2016:IFT**

A. Nordrum. The Internet of fewer things [news]. *IEEE Spectrum*, 53(10):12–13, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2016:PCS**

A. Nordrum. Profile: Cypher — this startup pivoted from cleaning up calls to helping machines hear [resources startups]. *IEEE Spectrum*, 53(11):23, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2016:PKC**

A. Nordrum. Profile: Kepler Communications [resources startups]. *IEEE Spectrum*, 53(7):23, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2017:BB**

A. Nordrum. Broadband or bust. *IEEE Spectrum*, 54(12):40, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2017:FAM**

A. Nordrum. FBI agent Mitchell Thompson [resources careers]. *IEEE Spectrum*, 54(2):21, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Nordrum:2017:FSC**

- [Nor17c] A. Nordrum. Fold-up screens could make their big debut [top tech 2017]. *IEEE Spectrum*, 54(1):50–51, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2017:GBD**

- [Nor17d] A. Nordrum. Govern by blockchain: Dubai wants one platform to rule them all, while Illinois will try anything. *IEEE Spectrum*, 54(10):54–55, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2017:HCW**

- [Nor17e] A. Nordrum. Here comes 5G-whatever that is [top tech 2017]. *IEEE Spectrum*, 54(1):44–45, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2017:ITB**

- [Nor17f] A. Nordrum. Is it time to become a blockchain developer? [resources careers]. *IEEE Spectrum*, 54(9):21, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2017:LIU**

- [Nor17g] A. Nordrum. A language for the Internet of Underwater Things [news]. *IEEE Spectrum*, 54(9):9–10, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2017:WSO**

- [Nor17h] A. Nordrum. Wall Street could join the blockchain — financial firms plan to move trillions in assets to blockchains in 2018. *IEEE Spectrum*, 54(10):40–45, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2018:ABM**

- A. Nordrum. Algae 2.0 [blueprints for a miracle]. *IEEE Spectrum*, 55(6):56–61, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2018:ARN**

- A. Nordrum. The art of release notes [resources at work]. *IEEE Spectrum*, 55(1):21, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2018:FVF**

- A. Nordrum. Forging voices and faces [news]. *IEEE Spectrum*, 55(5):14–15, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2018:ILN**

- A. Nordrum. Italy launches new IoT network [news]. *IEEE Spectrum*, 55(1):9–10, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2019:LMS**

- A. Nordrum. At last, a massive solar park for Egypt: A 1.8-GW, \$4 billion solar power plant is coming on line in the Sahara — [news]. *IEEE Spectrum*, 56(11):8–9, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Nordrum:2019:FPN**

- A. Nordrum. Facebook pushes networking tech: The company’s Terragraph technology will soon be available in commercial gear — [news]. *IEEE Spectrum*, 56(4):8–9, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Nor19c] A. Nordrum. The fight for the future of the disk drive. *IEEE Spectrum*, 56(1):44–47, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Nordrum:2019:FFD**
- [Nor19d] A. Nordrum. A safer way for batteries to fail: Putting a gap in the right place can stop lithium-ion batteries from exploding — [news]. *IEEE Spectrum*, 56(1):12–13, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Nordrum:2019:SWB**
- [Nuw15] R. Nuwer. Waste-to-energy at the roof of the world [news]. *IEEE Spectrum*, 52(5):11–13, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Nuwer:2015:WER**
- [Obe10a] J. Oberg. Fetching a piece of heaven [news briefs]. *IEEE Spectrum*, 47(5):19, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Oberg:2010:FPH**
- [Obe10b] J. Oberg. U.S. Air Force launches secret flying twinkie. *IEEE Spectrum*, 47(4):11–12, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Oberg:2010:UAF**
- [Obe11] J. Oberg. 12 space shuttle missions that weren’t. *IEEE Spectrum*, 48(6):13, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Oberg:2011:SSM**
- [Obe12] J. Oberg. Up, up, and away. *IEEE Spectrum*, 49(1):54–55, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Oberg:2012:UUA**
- E. O’Neill-Carrillo and A. Irizarry-Rivera. How to harden Puerto Rico’s grid against hurricanes. *IEEE Spectrum*, 56(11):42–48, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **O’Neill-Carrillo:2019:HHP**
- P. O’Donovan. The TV’s vanishing act: radical new display and content-delivery technologies will doom the television set. *IEEE Spectrum*, 53(5):48–53, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **O’Donovan:2016:TVA**
- S. Ong. Electric air taxi flies over Singapore — [news]. *IEEE Spectrum*, 56(12):7–8, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ong:2019:EAT**
- A. Ossola. A Google for DNA. *IEEE Spectrum*, 52(4):16, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ossola:2015:GD**
- B. Ozpineci and L. Tolbert. Smaller, faster, tougher. *IEEE Spectrum*, 48(10):45–66, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ozpineci:2011:SFT**
- John Ousterhout. The future of storage. *IEEE Spectrum*, 52(11):34–40, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ousterhout:2015:FS**



- [PA19] Tekla S. Perry and P. Adams. [Pat10c] Marvelous Mr. MEMS: an ink stain led Kurt Petersen, 2019 IEEE Medal of Honor recipient, to a lifetime of building microdevices. *IEEE Spectrum*, 56(5):44–51, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pat10d]
- [Pag17] S. Page. When diversity delivers — and when it doesn't [resources Q&A]. *IEEE Spectrum*, 54(9):22–23, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pat10e]
- [Pal12a] K. M. Palmer. An extremely fine line. *IEEE Spectrum*, 49(1):47–50, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pat10f]
- [Pal12b] K. M. Palmer. Metamaterials make for a broadband breakthrough. *IEEE Spectrum*, 49(1):13–14, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pat10g]
- [Pat10a] P. Patel. Batteries that go with the flow. *IEEE Spectrum*, 47(5):18, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pat10h]
- [Pat10b] P. Patel. Computing the cavema[Pat10i] P. Patel. Engineer versus the volcano. *IEEE Spectrum*, 47(2):30–31, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pat10j]
- P. Patel. It's lonelier at the top [careers]. *IEEE Spectrum*, 47(5):25, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pat10k]
- P. Patel. Where the jobs are [careers]. *IEEE Spectrum*, 47(7):25, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pat10l]
- D. Patterson. The trouble with multi-core. *IEEE Spectrum*, 47(7):28–32, 53, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pat10m]
- P. Patel. The aging nuclear workforce [careers]. *IEEE Spectrum*, 48(5):26, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pat10n]
- P. Patel. Germany leads the PV market for now [the data]. *IEEE Spectrum*, 48(2):64, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pat10o]
- P. Patel. Mit, you're not all that [education]. *IEEE Spectrum*, 48(8):26, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pat10p]



**Patel:2011:PBB****Patel:2012:MEC**

- [Pat11d] P. Patel. Plan B: B-School [careers]. *IEEE Spectrum*, 48(2):22–23, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- P. Patel. MBAs in Europe [careers]. *IEEE Spectrum*, 49(6):22–23, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Patel:2011:TIG****Patel:2012:PDF**

- [Pat11e] P. Patel. Tech is invented globally but adopted one country at a time [the data]. *IEEE Spectrum*, 48(12):76, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- P. Patel. Predicting the future of drought prediction. *IEEE Spectrum*, 49(9):18–22, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Patel:2011:WYE****Patel:2012:QDB**

- [Pat11f] P. Patel. What young engineers want out of the revolutions. *IEEE Spectrum*, 48(6):11–12, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- P. Patel. Quantum dots are behind new displays. *IEEE Spectrum*, 49(8):14–17, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Patel:2011:WJS****Patel:2012:WJC**

- [Pat11g] P. Patel. Where the jobs are: software engineering [careers]. *IEEE Spectrum*, 48(9):28, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- P. Patel. Where the jobs are: 2012 [careers]. *IEEE Spectrum*, 49(9):26, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Patel:2011:WNE****Patel:2013:DBD**

- [Pat11h] P. Patel. Will nuclear energy charge ahead? [the data]. *IEEE Spectrum*, 48(5):60, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- P. Patel. A degree in big data. *IEEE Spectrum*, 50(6):21, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Patel:2012:CDE****Patel:2013:SJG**

- [Pat12a] P. Patel. The \$10000 college degree [education]. *IEEE Spectrum*, 49(8):26, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- P. Patel. Sunny job growth [data flow]. *IEEE Spectrum*, 50(2):72, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Patel:2012:GNC****Patel:2013:WJR**

- [Pat12b] P. Patel. Going nuclear [careers]. *IEEE Spectrum*, 49(3):22, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- P. Patel. Where the jobs are: 2013 [resources careers]. *IEEE Spectrum*, 50(7):24, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Pat14a] P. Patel. Defense against the dark arts (of cyberspace) universities are offering graduate degrees in cybersecurity. *IEEE Spectrum*, 51(6):26, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Patel:2014:DAD**
- [Pat14b] P. I. Patel. Where the jobs are: 2014 the manufacturing and petrochemical industries need EEs. *IEEE Spectrum*, 51(8):26–27, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Patel:2014:WJM**
- [Pat15a] N. V. Patel. Averting space doom [news]. *IEEE Spectrum*, 52(2):16–17, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Patel:2015:ASD**
- [Pat15b] N. V. Patel. Symphony for oscilloscope [resources geeklife]. *IEEE Spectrum*, 52(3):26, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Patel:2015:SOR**
- [Pat15c] N. V. Patel. An ultrasonic scalpel for brain surgery [news]. *IEEE Spectrum*, 52(1):16–17, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Patel:2015:USB**
- [Pat15d] P. Patel. Antineutrinos could reveal rogue nuclear programs [news]. *IEEE Spectrum*, 52(10):11–12, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Patel:2015:ACR**
- [Pat15e] P. Patel. Four new ways to (Pat15b) ships [news]. *IEEE Spectrum*, 52(12):12–13, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Patel:2015:FNW**
- P. Patel. Profile: CyPhy Works [resources start-ups]. *IEEE Spectrum*, 52(2):27, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Patel:2015:PCW**
- P. Patel. T2 biosystems. *IEEE Spectrum*, 52(1):21–22, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Patel:2015:TB**
- P. Patel. Where the jobs are: 2015 [resources]. *IEEE Spectrum*, 52(7):21–22, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Patel:2015:WJR**
- P. Patel. Agriculture drones are finally cleared for takeoff [news]. *IEEE Spectrum*, 53(11):13–14, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Patel:2016:ADF**
- P. Patel. Three advances make magnetic tape more than a memory [news]. *IEEE Spectrum*, 54(10):9–11, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Patel:2017:TAM**
- P. Patel. New battery tech launches in drones [news]. *IEEE Spectrum*, 55(7):7–9, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Patel:2018:NBT**
- P. Patel. Sexual harassment prevention: What really works: Some U.S. engineering schools



are training people to intervene when they see abuse — [news]. *IEEE Spectrum*, 55(11):12–13, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Patel:2019:PMO**

**Paden:2011:BIS**

J. Paden, D. Braaten, and P. Gogineni. Beneath the ice sheets. *IEEE Spectrum*, 48(9):36–42, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- [Pat19a] P. Patel. 4 products to manufacture in orbit. *IEEE Spectrum*, 56(12):12–13, December 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pec11]

**Peck:2011:CS**

M. Peck. Chips in space. *IEEE Spectrum*, 48(8):42–47, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Patel:2019:TEF**

- [Pat19b] P. Patel. Thailand experiments with floating solar plants: The state-run utility aims to install the tech at eight dams over the next two decades — [news]. *IEEE Spectrum*, 56(3):12, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pec12a]

**Peck:2012:CAC**

Morgan E. Peck. The cryptoanarchists’ answer to cash. *IEEE Spectrum*, 49(6):50–56, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Patel:2019:TLT**

**Peck:2012:SDW**

- [Pat19c] P. Patel. Turn left at Tranquility [Post21a]. Astrobot’s autonomous navigation will help lunar landers, rovers, and drones find their way. *IEEE Spectrum*, 56(7):48–51, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pec12b]

**Paul:2019:RCS**

**Peck:2013:BAR**

- [Pau19] J. D. Paul. Re-creating the Sigaly quantizer: This 1943 analog-to-digital converter gave the Allies an unbreakable scrambler — [resources]. *IEEE Spectrum*, 56(2):16–17, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pec13]

**Posch:2015:GMH**

**Peck:2015:BNG**

Morgan E. Peck. The Bitcoin arms race is on! *IEEE Spectrum*, 50(6):11–13, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

- [PBEC15] C. Posch, R. Benosman, and R. Etienne-Cummings. Giving machines humanlike eyes. *IEEE Spectrum*, 52(12):44–49, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pec15]

**Peck:2016:BCB**

Morgan E. Peck. Bitcoin needs to get its act together [news]. *IEEE Spectrum*, 52(11):9–11, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

M. Peck. A blockchain currency that beat’s Bitcoin on privacy [news]. *IEEE Spectrum*, 53(12):11–13, December 2016. CODEN



IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Peplow:2016:DU**

[Pep16b]  
**Peck:2017:BWD**

- [Pec17a] Morgan E. Peck. Blockchain world — do you need a blockchain? This chart will tell you if the technology can solve your problem. *IEEE Spectrum*, 54(10):38–60, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Peck:2017:BHT**

- [Pec17b] Morgan E. Peck. Blockchains: How they work and why they'll change the world. *IEEE Spectrum*, 54(10):26–35, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Pecht:2018:WCG**

- [Pec18] M. Pecht. When e-cigarettes go boom. *IEEE Spectrum*, 55(7):42–45, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Peeper:2015:DDP**

- [Pee15] D. Peeper. Deep-dish peeper [the big picture]. *IEEE Spectrum*, 52(11):16–17, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Peplow:2014:PRN**

- [Pep14] M. Peplow. The perovskite revolution [news]. *IEEE Spectrum*, 51(7):16–17, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Pepitone:2016:WTJ**

- [Pep16a] J. Pepitone. Where the tech jobs are: 2016. *IEEE Spectrum*, 53(9):19–20, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

M. Peplow. The digital underground. *IEEE Spectrum*, 53(4):29–35, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Pepitone:2017:WJR**

J. Pepitone. Where the jobs are: 2017 [resources careers]. *IEEE Spectrum*, 54(8):21–22, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Pepitone:2018:RFE**

J. Pepitone. Radio free everywhere [resources]. *IEEE Spectrum*, 55(7):20, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Pepitone:2018:WJR**

J. Pepitone. Where the jobs are: 2018 [resources]. *IEEE Spectrum*, 55(7):19, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Pepitone:2019:SCS**

J. Pepitone. The steps to the C-suite: How to lead at every stage of your career — [resources careers]. *IEEE Spectrum*, 56(2):19, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Pepitone:2019:WJE**

J. Pepitone. Where the jobs are in 2019: Engineers who can protect and wrangle data are really in luck — [resources careers]. *IEEE Spectrum*, 56(6):18–19, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2010:AVF**

Tekla S. Perry. Andrew Viterbi's fabulous formula [Medal of Honor]. *IEEE Spectrum*, 47(5):



47–50, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2010:D**

- [Per10b] Tekla S. Perry. Dreamworker. *IEEE Spectrum*, 47(2):26–28, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2010:GT**

- [Per10c] Tekla S. Perry. The greening of television. *IEEE Spectrum*, 47(1):26, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2010:MI**

- [Per10d] Tekla S. Perry. Marvell inside. *IEEE Spectrum*, 47(11):40–62, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2010:PPD**

- [Per10e] Tekla S. Perry. The perfect portable display—will it ever be less than 10 years away? *IEEE Spectrum*, 47(3):8, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2010:R**

- [Per10f] Tekla S. Perry. Robodoc. *IEEE Spectrum*, 47(2):36–37, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2010:TTH**

- [Per10g] Tekla S. Perry. Tesla tragedy: How much engineers matter. *IEEE Spectrum*, 47(4):8, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2011:FGP**

- [Per11a] Tekla S. Perry. Facebook and Google put my grandmother on the map [spectral lines].

*IEEE Spectrum*, 48(6):8, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2011:FF**

Tekla S. Perry. Foundry father. *IEEE Spectrum*, 48(5):46–50, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2011:QSF**

Tekla S. Perry. From quickbooks to slow food. *IEEE Spectrum*, 48(3):23, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2012:JHR**

Tekla S. Perry. John L. Hennessy: risk taker. *IEEE Spectrum*, 49(5):28–32, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2012:MMG**

Tekla S. Perry. Marissa Mayer: Google’s chic geek — this self-proclaimed “girly girl” runs one of Google’s fastest-growing services. *IEEE Spectrum*, 49(4):32–64, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2012:NGI**

Tekla S. Perry. Navigating the great indoors. *IEEE Spectrum*, 49(11):20, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2013:CC**

Tekla S. Perry. Captain cellular. *IEEE Spectrum*, 50(5):52–55, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Per13b] Tekla S. Perry. Online educator [resources jobs 2013 — software]. *IEEE Spectrum*, 50(2):44–45, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2013:OED**
- [Per13c] Tekla S. Perry. Profile: Veebot [resources start-ups]. *IEEE Spectrum*, 50(8):23, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2013:PVR**
- [Per14a] Tekla S. Perry. All hail Nikola Tesla! [resources geek life]. *IEEE Spectrum*, 51(2):26, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2014:AHN**
- [Per14b] Tekla S. Perry. The bean [resources tools]. *IEEE Spectrum*, 51(10):32, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2014:BRT**
- [Per14c] Tekla S. Perry. Leaving the Uncanny Valley behind. *IEEE Spectrum*, 51(6):48–53, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2014:LCV**
- [Per15a] Tekla S. Perry. Giving your body a “check engine” light. *IEEE Spectrum*, 52(6):34–84, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2015:GYB**
- [Per15b] Tekla S. Perry. A man and his [resources review]. *IEEE Spectrum*, 52(6):23, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2015:MHM**
- Tekla S. Perry. Sanstreak lowers the cost of high-speed photography [resources startups]. *IEEE Spectrum*, 52(3):27, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2015:SLC**
- T. A. S. Perry. Reinventing retail: the latest Silicon Valley adventure is in brick-and-mortar. *IEEE Spectrum*, 53(4):21, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2016:RRL**
- Tekla S. Perry. Heads in the clouds: Tech-industry vets fight climate change [resources geek life]. *IEEE Spectrum*, 53(2):23–24, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2016:HCT**
- Tekla S. Perry. Life tales of Atari: New stories of a legendary company come to light [resources geek life]. *IEEE Spectrum*, 53(11):24, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2016:LTA**
- Tekla S. Perry. Virtual reality goes social. *IEEE Spectrum*, 53(1):56–57, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2016:VRG**
- M. Perlmutter. The lost picture show. *IEEE Spectrum*, 54(5):26–31, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perlmutter:2017:LPS**



- [Per17b] Tekla S. Perry. A \$2 million contest seeks solutions [spectral lines]. *IEEE Spectrum*, 54(9):8, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2017:MCS**
- [Per17c] Tekla S. Perry. Augmented reality: forget the glasses. *IEEE Spectrum*, 54(1):36–39, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2017:ARF**
- [Per17d] Tekla S. Perry. H-1B visas by the numbers [resources at work]. *IEEE Spectrum*, 54(2):23, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2017:HVN**
- [Per17e] Tekla S. Perry. Home 3d printer showdown [resources tools]. *IEEE Spectrum*, 54(6):18–19, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2017:HPS**
- [Per17f] Tekla S. Perry. Need to build a better hospital? Use chip design [spectral lines]. *IEEE Spectrum*, 54(11):6, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2017:NB**
- [Per17g] Tekla S. Perry. The PIT boss. *IEEE Spectrum*, 54(5):32–50, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2017:FB**
- [Per17h] Tekla S. Perry. To design better hardware, think like a cyber-criminal [resources at work]. *IEEE Spectrum*, 54(7):22–23, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2017:MCS**
- Tekla S. Perry. Addicted to your smartphone? Welcome to Apple rehab [spectral lines]. *IEEE Spectrum*, 55(7):6, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2018:AYS**
- Tekla S. Perry. GPS’s navigator in chief. *IEEE Spectrum*, 55(5):46–51, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2018:GNC**
- Tekla S. Perry. I was a Russian Facebook troll named Martha [spectral lines]. *IEEE Spectrum*, 55(6):6, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2018:WRF**
- Tekla S. Perry. Labor of love: Re-creating the burned HP archives [spectral lines]. *IEEE Spectrum*, 55(2):6, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2018:LLR**
- Tekla S. Perry. Move over, Moore’s Law. Make way for Huang’s Law [spectral lines]. *IEEE Spectrum*, 55(5):7, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2018:MML**
- Tekla S. Perry. Quantum-computing startups emerge — does every tech company need a “quantum person”? [resources startups]. *IEEE Spectrum*, 55(5):7, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Perry:2018:QCS**



*IEEE Spectrum*, 55(6):16, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Per19c]

**Perry:2018:SDS**

- [Per18g] Tekla S. Perry. San Diego’s streetlights get smart. *IEEE Spectrum*, 55(1):30–31, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Per19d]

**Perry:2018:WSD**

- [Per18h] Tekla S. Perry. Wearable sensor detects stress in sweat: Cortisol is key to tracking stress, but it’s tough to measure in an instant — [news]. *IEEE Spectrum*, 55(9):14–15, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pet10]

**Perry:2018:WBC**

- [Per18i] Tekla S. Perry. What’s the best city for software engineers?: Hint: It’s not San Jose or San Francisco — [spectral lines]. *IEEE Spectrum*, 55(8):5, August 2018. [P8816] CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2019:DDS**

- [Per19a] Tekla S. Perry. Defining data scientists: A certification program AIMS to help — [resources at work]. *IEEE Spectrum*, 56(3):20–21, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [PJD10]

**Perry:2019:ARH**

- [Per19b] Tekla S. Perry. For AI rollouts, hazards reported ahead: Getting machine learning to work is made a lot harder by HR and IT issues — [spectral lines]. *IEEE Spectrum*, 56(11):4, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2019:WEW**

Tekla S. Perry. What employers want from coders: In-demand job skills vary by region — [resources careers]. *IEEE Spectrum*, 56(5):18, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2019:WTW**

Tekla S. Perry. Where techies want to work: Airbnb, Google, and SpaceX top the rankings — [resources careers]. *IEEE Spectrum*, 56(11):16–17, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Petroski:2010:ES**

H. Petroski. Engineering science. *IEEE Spectrum*, 47(12):8, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Psiaki:2016:ACS**

M. L. Psiaki, T. E. Humphreys, and B. Stauffer. Attackers can spoof navigation signals without our knowledge. Here’s how to fight back GPS lies. *IEEE Spectrum*, 53(8):26–53, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Pienkos:2010:GG**

P. T. Pienkos, E. Jarvis, and A. Darzins. Green gold. *IEEE Spectrum*, 47(11):34–39, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Porfyrakis:2017:KPT**

K. Porfyrakis and E. A. Laird. Keeping perfect time with caged atoms. *IEEE Spectrum*, 54(12):34–39, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Plu11] M. Plumb. Faster networks seek killer apps. *IEEE Spectrum*, 48(10):13–14, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Plumb:2011:FNS**
- [Plu12] M. Plumb. Fantastic 4g. *IEEE Spectrum*, 49(1):51–53, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Plumb:2012:F**
- [PM17] Morgan E. Peck and Samuel K. Moore. The blossoming of the blockchain. *IEEE Spectrum*, 54(10):24–25, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Peck:2017:BB**
- [PN15] W. Porod and M. Niemier. Better computing with magnets — the simple bar magnet, shrunk down to the nanoscale, could be a powerful logic device. *IEEE Spectrum*, 52(9):44–60, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Porod:2015:BCM**
- [Poo11] A. Poor. LCDs’ bright future. *IEEE Spectrum*, 48(10):24–25, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Poor:2011:LBF**
- [Poo12a] A. Poor. Reformulating displays [tools toys]. *IEEE Spectrum*, 49(9):28–29, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Poor:2012:RDT**
- [Poo12b] A. Poor. Smart TV [tools toys]. *IEEE Spectrum*, 49(7):22–23, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Poor:2012:STT**
- A. Poor. Next-generation displays: Reality sets in. *IEEE Spectrum*, 50(9):26, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Poor:2013:NGD**
- A. Poor. Will quantum dots dominate displays? [resources tools toys]. *IEEE Spectrum*, 51(9):26–27, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Poor:2014:WQD**
- A. Poor. Reaping the energy harvest [resources]. *IEEE Spectrum*, 52(4):23–24, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Poor:2015:REH**
- A. Poon. A new kind of wireless mouse. *IEEE Spectrum*, 53(12):26–32, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Poon:2016:NKW**
- R. J. Pope. The bicycle barometer [resources]. *IEEE Spectrum*, 50(6):19–20, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Pope:2013:BBR**
- H. Postley. Sports: 3-D TV’s toughest challenge. *IEEE Spectrum*, 49(11):40–66, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Postley:2012:SDT**
- P. Patel and Tekla S. Perry. Cheap earthquake warning systems [news]. *IEEE Spec-*



*trum*, 52(6):15–16, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Pro15]

**Perry:2012:DJS**

- [PPC<sup>+</sup>12] Tekla S. Perry, M. Plumb, Rachel Courtland, E. Guizzo, E. Strickland, A. G. Levine, and D. Schneider. Dream jobs — 2012 [special report]. *IEEE Spectrum*, 49(2):44–57, February 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [PT16]

**Predd:2011:CST**

- [Pre11] J. B. Predd. Could Shakespeare have tweeted Hamlet? [the data]. *IEEE Spectrum*, 48(8):64, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [PTdRM17]

**Pretz:2014:BIS**

- [Pre14] K. K. Pretz. The birth of the Institute [spectral lines]. *IEEE Spectrum*, 51(4):8–10, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [PW17]

**Primack:2012:US**

- [Pri12] J. R. Primack. The universe in a supercomputer. *IEEE Spectrum*, 49(10):42–47, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Priestly:2015:WAD**

- [Pri15] J. Priestly. We’re all data geeks now. *IEEE Spectrum*, 52(8):29, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Proffitt:2011:OAB**

- [Pro11] B. Proffitt. Open Android — for better and for worse [tools toys]. *IEEE Spectrum*, 48(5):22–24, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [PZ13]

**Proudfoot:2015:WTH**

D. Proudfoot. What Turing himself said about the imitation game. *IEEE Spectrum*, 52(7):42–47, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perrault:2016:BCM**

P. Perrault and M. Teachman. Bee counters: Measuring a nest’s occupation by its capacitance [resources hands on]. *IEEE Spectrum*, 53(2):20–21, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perdikis:2017:BR**

S. Perdikis, L. Tonin, and J. del R. Millan. Brain racers. *IEEE Spectrum*, 54(9):44–51, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Peck:2017:ETF**

Morgan E. Peck and David Wagman. Energy trading for fun and profit buy your neighbor’s rooftop solar power or sell your own — it’ll all be on a blockchain. *IEEE Spectrum*, 54(10):56–61, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Pavlichin:2018:QSG**

D. Pavlichin, T. Weissman, and G. Mably. The quest to save genomics: Unless researchers solve the looming data compression problem, biomedical science could stagnate. *IEEE Spectrum*, 55(9):27–31, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Perry:2013:OTA**

Tekla S. Perry and Glenn Zorpette. OLED TV arrives [2013 tech to watch]. *IEEE Spectrum*, 50(1):46–47, January 2013. CODEN



IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Rautio:2014:LRM**

[Rau14]

**Popa:2015:HCD**

[PZ15]

R. A. Popa and N. Zeldovich. How to compute with data you can't see. *IEEE Spectrum*, 52(8):42–47, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [RBB17]

**Radasky:2014:FFE**

[Rad14]

W. A. Radasky. Fear of frying electromagnetic weapons threaten our data networks. Here's how to stop them. *IEEE Spectrum*, 51(9):46–51, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Rei15]

**Rafter:2019:UTR**

[Raf19]

M. V. Rafter. U.S. truckers race to deploy electronic logging devices: Early data suggests the technology is making the roads safer — [news]. *IEEE Spectrum*, 56(10):6–7, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ren10]

**Ramana:2015:FHS**

[Ram15]

M. V. Ramana. The forgotten history of small nuclear reactors. *IEEE Spectrum*, 52(5):44–58, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Rao:2015:AJR**

[Rao15]

G. Rao. Ashok Jhunjhunwala [resumes/careers]. *IEEE Spectrum*, 52(5):27, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [RHH17]

**Rauscher:2013:WRC**

[Rau13]

K. Rauscher. Writing the rules [RM12] for war. *IEEE Spectrum*, 50(12):30–32, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

J. C. Rautio. The long road to Maxwell's equations. *IEEE Spectrum*, 51(12):36–56, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ray:2017:PIT**

S. Ray, A. Basak, and S. Bhunia. Patching the Internet of Things. *IEEE Spectrum*, 54(11):30–35, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Reitsema:2015:SS**

H. Reitsema. A sentinel for space. *IEEE Spectrum*, 52(5):32–56, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Rennie:2010:RKS**

J. Rennie. Ray Kurzweil's slippery futurism. *IEEE Spectrum*, 47(12):24–28, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Richards:2011:TTG**

M. Richards. Taking a taste of Google [back story]. *IEEE Spectrum*, 48(6):4, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Roesler:2017:OM**

G. Roesler, P. Jaffe, and G. Henshaw. Orbital mechanics. *IEEE Spectrum*, 54(3):44–50, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ross:2012:TT**

P. E. Ross and Samuel K. Moore. Top tech 2012. *IEEE Spectrum*, 49(1):28–29, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Rom10a] J. J. Romero. The iPad, the Kindle, and the immutable laws of the marketplace [tools toys]. *IEEE Spectrum*, 47(10):22, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Romero:2010:IKI**
- [Rom10b] J. J. Romero. The take-anywhere, do-anything display. *IEEE Spectrum*, 47(1):46–51, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Romero:2010:TAD**
- [Rom11] J. J. Romero. Fast start for world's largest biometrics ID project. *IEEE Spectrum*, 48(5):11–12, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Romero:2011:FSW**
- [Rom12a] J. J. Romero. Blackouts illuminate India's power problems. *IEEE Spectrum*, 49(10):11–12, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Romero:2012:BII**
- [Rom12b] J. J. Romero. India's big bet on identity. *IEEE Spectrum*, 49(3):48–56, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Romero:2012:IBB**
- [Rom12c] J. J. Romero. The lessons of Thailand's flood [update]. *IEEE Spectrum*, 49(11):11–12, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Romero:2012:LTF**
- [Rom12d] J. J. Romero. No more waiting on near field communication. *IEEE Spectrum*, 49(6):64, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Romero:2012:NMW**
- J. J. Romero. Resources [tools]. *IEEE Spectrum*, 50(10):19–20, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Romero:2013:RT**
- J. J. Romero. Why net neutrality analogies will always fail [news]. *IEEE Spectrum*, 52(4):10–12, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Romero:2015:WNN**
- P. E. Ross. Discharged. *IEEE Spectrum*, 47(1):36–38, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ross:2010:D**
- P. E. Ross. Island dreams. *IEEE Spectrum*, 47(2):39–40, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ross:2010:ID**
- P. E. Ross. Target practice. *IEEE Spectrum*, 47(1):8, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ross:2010:TP**
- P. E. Ross. Whimsy and invention [spectral lines]. *IEEE Spectrum*, 47(8):7, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ross:2010:WIS**
- P. E. Ross. Winners losers. *IEEE Spectrum*, 47(1):33, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ross:2010:WL**



- |   |  |
|---|--|
| <div style="text-align: right; border: 1px solid black; padding: 2px; margin-bottom: 5px;"><b>Ross:2010:WWH</b></div> <p>[Ros10f] P. E. Ross. The winners write the history books [spectral lines]. <i>IEEE Spectrum</i>, 47(11):10, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).</p> | <div style="text-align: right; border: 1px solid black; padding: 2px; margin-bottom: 5px;"><b>Ross:2013:SOA</b></div> <p>P. E. Ross. Score one for antimissiles. <i>IEEE Spectrum</i>, 50(1):16, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).</p>             |
| <div style="text-align: right; border: 1px solid black; padding: 2px; margin-bottom: 5px;"><b>Ross:2011:JDS</b></div> <p>[Ros11a] P. E. Ross. The jacked-in decade [spectral lines]. <i>IEEE Spectrum</i>, 48(1):8, January 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).</p>                   | <div style="text-align: right; border: 1px solid black; padding: 2px; margin-bottom: 5px;"><b>Ross:2014:OSD</b></div> <p>P. E. Ross. Open-source drones for fun and profit. <i>IEEE Spectrum</i>, 51(3):54–59, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).</p> |
| <div style="text-align: right; border: 1px solid black; padding: 2px; margin-bottom: 5px;"><b>Ross:2011:WWS</b></div> <p>[Ros11b] P. E. Ross. When will software have the right stuff? <i>IEEE Spectrum</i>, 48(12):38–43, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).</p>           | <div style="text-align: right; border: 1px solid black; padding: 2px; margin-bottom: 5px;"><b>Ross:2014:RYC</b></div> <p>P. E. Ross. Robot, you can drive my car. <i>IEEE Spectrum</i>, 51(6):60–90, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).</p>            |
| <div style="text-align: right; border: 1px solid black; padding: 2px; margin-bottom: 5px;"><b>Ross:2012:PM</b></div> <p>[Ros12a] P. E. Ross. Phone-y money. <i>IEEE Spectrum</i>, 49(6):60–63, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).</p>   | <div style="text-align: right; border: 1px solid black; padding: 2px; margin-bottom: 5px;"><b>Ross:2015:DNE</b></div> <p>P. E. Ross. Diabetes has a new enemy: Robopancreas. <i>IEEE Spectrum</i>, 52(6):40–44, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).</p> |
| <div style="text-align: right; border: 1px solid black; padding: 2px; margin-bottom: 5px;"><b>Ross:2012:TIG</b></div> <p>[Ros12b] P. E. Ross. Taking innovation for granted. <i>IEEE Spectrum</i>, 49(1):8, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).</p>                           | <div style="text-align: right; border: 1px solid black; padding: 2px; margin-bottom: 5px;"><b>Ross:2015:R</b></div> <p>P. E. Ross. Resources. <i>IEEE Spectrum</i>, 52(4):21–22, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).</p>                               |
| <div style="text-align: right; border: 1px solid black; padding: 2px; margin-bottom: 5px;"><b>Ross:2013:BBB</b></div> <p>[Ros13a] P. E. Ross. Boeing’s battery blues [news]. <i>IEEE Spectrum</i>, 50(3):11–12, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).</p>                         | <div style="text-align: right; border: 1px solid black; padding: 2px; margin-bottom: 5px;"><b>Ross:2015:TSA</b></div> <p>P. E. Ross. Thus spoke the autobahn. <i>IEEE Spectrum</i>, 52(1):52–55, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).</p>             |
| <div style="text-align: right; border: 1px solid black; padding: 2px; margin-bottom: 5px;"><b>Ross:2013:OAC</b></div> <p>[Ros13b] P. E. Ross. Our annual crystal ball [spectral lines]. <i>IEEE Spectrum</i>, 50(1):8, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).</p>                | <div style="text-align: right; border: 1px solid black; padding: 2px; margin-bottom: 5px;"><b>Ross:2016:HNP</b></div> <p>P. E. Ross. Hyperloop: No pressure. <i>IEEE Spectrum</i>, 53(1):51–54, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).</p>              |



- [Ros16b] P. E. Ross. Run silent, run steep. *IEEE Spectrum*, 53(11):48–53, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Ross:2016:RSR
- [Ros17a] P. E. Ross. The battle for the smart-car brain [news]. *IEEE Spectrum*, 54(12):14, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Ross:2017:BSC
- [Ros17b] P. E. Ross. Fly robotic? [top tech 2017]. *IEEE Spectrum*, 54(1):54–55, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Ross:2017:FRT
- [Ros18a] P. E. Ross. The curious incident of the robot car in the night-time. *IEEE Spectrum*, 55(1):44–45, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Ross:2018:CIR
- [Ros18b] P. E. Ross. Iceland’s consumers try drone delivery: The startup Aha takes on Amazon with basic drones bearing burgers — [news]. *IEEE Spectrum*, 55(10):12–13, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Ross:2018:ICT
- [Ros18c] P. E. Ross. The prius of the sky [blueprints for a miracle]. *IEEE Spectrum*, 55(6):42–49, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Ross:2018:PSB
- [Ros18d] P. E. Ross. What will the transportation miracle be? [blueprints for a miracle]. *IEEE Spectrum*, 55(6):46–47, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Ross:2018:WWT
- P. E. Ross. Self-driving tech for non-cars: From mall shuttles to monster trucks, perone robotics is ready to debut its self-driving tech — [news]. *IEEE Spectrum*, 56(3):9–10, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Ross:2019:SDT
- P. E. Ross. Taxis without drivers — or steering wheels. *IEEE Spectrum*, 56(1):33–34, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Ross:2019:TDS
- F. Rothganger. Special report: Can we copy the brain? — The dawn of the real thinking machine. *IEEE Spectrum*, 54(6):22–25, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Rothganger:2017:SRC
- T. S. Rappaport, W. Roh, and K. Cheun. Mobile’s millimeter-wave makeover. *IEEE Spectrum*, 51(9):34–58, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Rappaport:2014:MMW
- P. E. Ross, T. S. Romero, Willie D. Jones, A. Bleicher, J. Calamia, J. Middleton, R. Stevenson, Samuel K. Moore, Sandra Upson, D. Schneider, Willie D. Jones, E. Guizzo, Tekla S. Perry, and G. Zorpette. Top 11 technologies of the decade. *IEEE Spectrum*, 48(1):27–63, January 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). Ross:2011:TTD



- [RS10] P. E. Ross and D. Schneider. Top tech cars — 2010. *IEEE Spectrum*, 47(4):28–58, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ross:2010:TTT**
- [Rus13] A. L. Russell. The Internet that wasn't. *IEEE Spectrum*, 50(8):39–43, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Russell:2013:IW**
- [Rus19] S. Russell. It's not too soon to be wary of AI: We need to act now to protect humanity from future superintelligent machines. *IEEE Spectrum*, 56(10):46–51, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Russell:2019:TSW**
- [RWK19] J. Ramos, A. Wang, and S. Kim. The brain in the machine: Mit is building robots that use full-body teleoperation to move with greater agility. *IEEE Spectrum*, 56(6):22–27, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ramos:2019:BMB**
- [RZ11] J. Rennie and Glenn Zorpette. The social era of the Web starts now. *IEEE Spectrum*, 48(6):30–33, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Rennie:2011:SEW**
- [Sac19] D. Sachan. 3 ways to leverage your social media: Boost your career with Twitter [resources at work]. *IEEE Spectrum*, 56(09):18–50, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Sachan:2019:WLY**
- [Sael14] D. Saelinger. As I see it. *IEEE Spectrum*, 51(6):64–65, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Saelinger:2014:SI**
- [Salmi:2019:PRI] B. Salmi. 3D printing a rocket: I'll never forget the first time I saw a rocket materialize before my eyes. *IEEE Spectrum*, 56(11):22–29, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Samuelson:2017:AFB] S. Samuelson. The automotive future belongs to fuel cells range, adaptability, and refueling time will ultimately put hydrogen fuel cells ahead of batteries. *IEEE Spectrum*, 54(2):38–43, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Santo:2019:BBS] B. Santo. Bringing big sound to small devices: One module revolutionized how we listen — [resources tools]. *IEEE Spectrum*, 56(10):17, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Santo:2019:SWG] B. Santo. The Sony Walkman: The gadget that let people create a mobile personal soundtrack — [resources tools toys]. *IEEE Spectrum*, 56(1):16, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- [Sargent:2010:CQD] E. H. Sargent. Connecting the quantum dots. *IEEE Spectrum*, 47(2):48–52, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Sas14] S. Sasaki. It's always sunny in space. *IEEE Spectrum*, 51(5):46–51, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Sasaki:2014:ASS**
- [Sav10a] Neil Savage. Z-RAM takes on DRAM. *IEEE Spectrum*, 47(7):18, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2010:ZRT**
- [Sat18] M. Satyanarayanan. Saving software from oblivion. *IEEE Spectrum*, 55(10):36–41, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Satyanarayanan:2018:SSO**
- [Sav10b] Neil Savage. The laser at 50. *IEEE Spectrum*, 47(5):13–14, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2010:L**
- [Sav10c] Neil Savage. Light at the end of the chip. *IEEE Spectrum*, 47(5):19, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2010:LEC**
- [Sav10d] Neil Savage. Medical imagers lower the dose. *IEEE Spectrum*, 47(3):14–16, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2010:MIL**
- [Sav10e] Neil Savage. One graphene device makes three amplifiers. *IEEE Spectrum*, 47(12):12–13, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2010:OGD**
- [Sav11a] Neil Savage. Batteries that breathe. *IEEE Spectrum*, 48(2):13, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2011:BB**
- [Sav11b] Neil Savage. Drawing diodes. *IEEE Spectrum*, 48(4):13, April 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2011:DD**
- [Sav11c] Neil Savage. Electronics on anything. *IEEE Spectrum*, 48(1):14–16, January 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2011:EA**
- [Sav11d] Neil Savage. A new angle on imaging. *IEEE Spectrum*, 48(12):15, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2011:NAI**
- [Sav11e] Neil Savage. Photon recycling breaks solar power record. *IEEE Spectrum*, 48(8):16, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2011:PRB**
- [Sav12a] Neil Savage. Electronic cotton. *IEEE Spectrum*, 49(1):16–18, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2012:EC**



- [Sav12b] Neil Savage. Graphene's new rival [news]. *IEEE Spectrum*, 49(4):16–20, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2012:GNR**
- [Sav12c] Neil Savage. Nanostructures catch the light. *IEEE Spectrum*, 49(2):18–19, February 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2012:NCL**
- [Sav12d] Neil Savage. Soft robots for hard problems. *IEEE Spectrum*, 49(5):13, May 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2012:SRH**
- [Sav13a] Neil Savage. A glimmer of light from silicon. *IEEE Spectrum*, 50(6):14–15, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2013:GLS**
- [Sav13b] Neil Savage. Path found to combined MRI and CT Scanner [news]. *IEEE Spectrum*, 50(4):16–18, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2013:PFC**
- [Sav13c] Neil Savage. The world's most powerful MRI takes shape. *IEEE Spectrum*, 50(11):11–12, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2013:WMP**
- [Sav14a] Neil Savage. Identifying explosives [news]. *IEEE Spectrum*, 51(10):19–20, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2014:IED**
- Neil Savage. The practical polariton laser [news]. *IEEE Spectrum*, 51(8):18, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2014:PPL**
- Neil Savage. Three weird ways to make things disappear [news]. *IEEE Spectrum*, 51(5):18–19, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2014:TWW**
- Neil Savage. All-natural electronics [news]. *IEEE Spectrum*, 52(2):18, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2015:ANE**
- Neil Savage. Linking chips with light [news]. *IEEE Spectrum*, 53(2):11–12, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Savage:2016:LCL**
- A. Sampson, L. Ceze, and D. Grossman. Good-enough computing. *IEEE Spectrum*, 50(10):54–59, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Sampson:2013:GEC**
- E. Schindler. A different kind of multithreading [tools toys]. *IEEE Spectrum*, 47(12):21–22, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schindler:2010:DKM**
- D. Schneider. Biofoolish. *IEEE Spectrum*, 47(1):48–50, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2010:B**



- [Sch10c] D. Schneider. Biofuel's water problem [hands on]. *IEEE Spectrum*, 47(6):50–51, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2010:BWP**
- [Sch10d] D. Schneider. Camera hacking [hands on]. *IEEE Spectrum*, 47(12):18–19, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2010:CHH**
- [Sch10e] D. Schneider. DIY as an extreme sport [spectral lines]. *IEEE Spectrum*, 47(10):7, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2010:DESB**
- [Sch10f] D. Schneider. DIY eye in the sky. *IEEE Spectrum*, 47(2):20–22, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2010:DESA**
- [Sch10g] D. Schneider. The gift of gadgetry [gifts]. *IEEE Spectrum*, 47(11):24–25, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2010:GGG**
- [Sch10h] D. Schneider. I, office worker [hands on]. *IEEE Spectrum*, 47(10):20–21, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2010:OWH**
- [Sch10i] D. Schneider. Radio daze. *IEEE Spectrum*, 47(7):8, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2010:RD**
- D. Schneider. Targeted relief. *IEEE Spectrum*, 47(8):11–12, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2010:TR**
- D. Schneider. Wireless networking dashes in a new direction. *IEEE Spectrum*, 47(2):9–10, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2010:WND**
- D. Schneider. Wireless power at a distance is still far away [electrons unplugged]. *IEEE Spectrum*, 47(5):34–39, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2010:WPD**
- V. Schneider. A smarter, cheaper thermostat [hands on]. *IEEE Spectrum*, 47(6):16–18, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2010:SCT**
- D. Schneider. Augmented-reality TV [hands on]. *IEEE Spectrum*, 48(10):22–23, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2011:ART**
- D. Schneider. Build your own robosub [hands on]. *IEEE Spectrum*, 48(9):24–26, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2011:BYO**
- D. Schneider. A droid for all seasons [hands on]. *IEEE Spectrum*, 48(12):20–22, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2011:DAS**



- [Sch11d] D. Schneider. Network defense goes online [update]. *IEEE Spectrum*, 48(2):11–12, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2011:NDG**
- [Sch11e] D. Schneider. The shape of things to come [hands on]. *IEEE Spectrum*, 48(4):24–25, April 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2011:STC**
- [Sch11f] D. Schneider. Trading at the speed of light. *IEEE Spectrum*, 48(10):11–12, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2011:TSL**
- [Sch12a] D. Schneider. Could supercomputing turn to signal processors (again)? *IEEE Spectrum*, 49(10):13–14, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2012:CST**
- [Sch12b] D. Schneider. GPS-interference controversy comes to a boil. *IEEE Spectrum*, 49(2):13–14, February 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2012:GIC**
- [Sch12c] D. Schneider. Helicopters go electronic. *IEEE Spectrum*, 49(1):11–12, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2012:HGE**
- [Sch12d] D. Schneider. IR eye [hands on]. *IEEE Spectrum*, 49(2):20–21, February 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2012:IEH**
- [Sch12e] D. Schneider. Khan Academy unplugged [hands on]. *IEEE Spectrum*, 49(8):22–23, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2012:KAU**
- [Sch12f] D. Schneider. The microsecond market. *IEEE Spectrum*, 49(6):66–81, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2012:MM**
- [Sch12g] D. Schneider. Plug-ins proliferate. *IEEE Spectrum*, 49(1):36–37, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2012:PIP**
- [Sch12h] D. Schneider. Teleconferencing on the cheap [hands on]. *IEEE Spectrum*, 49(7):20–21, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2012:TCH**
- [Sch12i] David Schneider. A faster Fast Fourier Transform. *IEEE Spectrum*, 49(3):12–13, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2012:FFF**
- [Sch12j] K. Schweller. Apes with apps. *IEEE Spectrum*, 49(7):38–45, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schweller:2012:AA**
- [Sch12k] D. Schneider. Clad in controversy. *IEEE Spectrum*, 50(8):32–37, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2013:CC**



- [Sch13b] D. Schneider. Forget-me-not be [resources hands on]. *IEEE Spectrum*, 50(8):20–21, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2013:FMB**
- [Sch13c] D. Schneider. Hands off hands of [resources hands on]. *IEEE Spectrum*, 50(2):8, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2013:HHS**
- [Sch13d] D. Schneider. Hands-on teacher [dream jobs & 2013 — education]. *IEEE Spectrum*, 50(2):38–40, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2013:HTD**
- [Sch13e] D. Schneider. New camera chip captures only what it needs. *IEEE Spectrum*, 50(3):13–14, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2013:NCC**
- [Sch13f] D. Schneider. Ride by wire [resources hands on]. *IEEE Spectrum*, 50(5):22–24, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2013:RWR**
- [Sch13g] D. Schneider. You are here. *IEEE Spectrum*, 50(12):34–39, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2013:YH**
- [Sch14a] D. Schneider. The 3-D view from above [resources hands on]. *IEEE Spectrum*, 51(2):22–23, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2014:DVA**
- [Sch14b] D. Schneider. DIY exoplanet detector. *IEEE Spectrum*, 51(12):27–28, December 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2014:DED**
- [Sch14c] D. Schneider. In search of NwAvGuy: an audio engineer created spectacular DIY designs and then vanished [resources geek life]. *IEEE Spectrum*, 51(3):27–28, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2014:SNA**
- [Sch14d] D. Schneider. Muscle-memory programmer [resources-hands on]. *IEEE Spectrum*, 51(9):23–25, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2014:MMP**
- [Sch14e] D. Schneider. Open season on drones? *IEEE Spectrum*, 51(1):32–33, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2014:OSD**
- [Sch14f] D. Schneider. The power broker. *IEEE Spectrum*, 51(5):52–58, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2014:PB**
- [Sch14g] D. Schneider. Resources. *IEEE Spectrum*, 51(7):23–24, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2014:R**
- [Sch15a] D. Schneider. Defying the drone data deluge [resources startups]. *IEEE Spectrum*, 52(9): **Schneider:2015:DDD**



26, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Schneider:2015:FSB**

- [Sch15b] D. Schneider. Flying selfie bots. *IEEE Spectrum*, 52(1):49–51, January 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Schneider:2015:UDR**

- [Sch15c] D. Schneider. Is U.S. drone racing legal? Maaaaybe. *IEEE Spectrum*, 52(11):19–20, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Schneider:2015:TYP**

- [Sch15d] D. Schneider. Take your Pi for a ride [spinning up a Raspberry Pi-based cycling computer]. *IEEE Spectrum*, 52(8):24–25, August 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Schneider:2016:MSI**

- [Sch16a] D. Schneider. \$100 million SETI initiative starts listening for E.T. *IEEE Spectrum*, 53(1):41–42, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Schneider:2016:DEB**

- [Sch16b] D. Schneider. DIY emergency button. *IEEE Spectrum*, 53(9):20–21, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Schneider:2016:DEE**

- [Sch16c] D. Schneider. Don't expect encrypted e-mail in 2016. *IEEE Spectrum*, 53(1):42–43, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Schneider:2017:ATC**

- [Sch17a] D. Schneider. Air traffic control for delivery drones [top tech 2017]. *IEEE Spectrum*, 54(1):

32–33, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Schneider:2017:DCM**

- D. Schneider. Deeper and cheaper machine learning [top tech 2017]. *IEEE Spectrum*, 54(1):42–43, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Schneider:2017:EYD**

- D. Schneider. Earning your drone wings [resources geek life]. *IEEE Spectrum*, 54(6):17, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Schneider:2017:ELP**

- D. Schneider. Electronic license plates for drones [spectral lines]. *IEEE Spectrum*, 54(5):8, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Schneider:2017:HBT**

- D. Schneider. Hold back the tide [resources hands on]. *IEEE Spectrum*, 54(4):21–22, April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Schneider:2017:HMU**

- D. Schneider. Hot, mobile, and under control [resources]. *IEEE Spectrum*, 54(11):17–18, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Schneider:2017:WFH**

- D. Schneider. Wi-Fi + HD video + drones = still wobbly [resources hands on]. *IEEE Spectrum*, 54(9):19–20, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Sch18a] D. Schneider. Ad astra diplomacy [spectral lines]. *IEEE Spectrum*, 55(1):6, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2018:AAD**
- [Sch18b] D. Schneider. Build a neural synthesizer. *IEEE Spectrum*, 55(7):16–17, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2018:BNSb**
- [Sch18c] D. Schneider. Build a nixie-S style clock without the fuss. *IEEE Spectrum*, 55(2):19–20, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2018:BNSa**
- [Sch18d] D. Schneider. Hack a safer bike light projecting light onto the ground makes a bicyclist easy to spot [resources hands on]. *IEEE Spectrum*, 55(4):17–18, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2018:HSB**
- [Sch18e] D. Schneider. U.S. supercomputing strikes back. *IEEE Spectrum*, 55(1):52–53, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2018:USS**
- [Sch18f] D. Schneider. Wall street tries shortwave radio [news]. *IEEE Spectrum*, 55(7):12, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2018:WST**
- [Sch19a] J. Schmuecker. The carbon-free farm. *IEEE Spectrum*, 56(11):30–35, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schmuecker:2019:CFF**
- D. Schneider. Build your own radio telescope: Track the movement of the Milky Way — [hands on]. *IEEE Spectrum*, 56(10):14–16, October 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2019:BYO**
- D. Schneider. Machine learning predicts home prices. *IEEE Spectrum*, 56(1):42–43, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2019:MLP**
- D. Schneider. Regulators seek ways to down rogue drones: Growing antidrone industry offers radar, remote ID, and other tools — [news]. *IEEE Spectrum*, 56(4):10–11, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2019:RSW**
- D. Schneider. A retro timekeeper that never was: Apollo-era meters and GPS merge past and present — [resources hands on]. *IEEE Spectrum*, 56(7):14–15, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2019:RTN**
- D. Schneider. Silicon anodes will give lithium-ion batteries a boost. *IEEE Spectrum*, 56(1):48–49, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2019:SAW**
- D. Schneider. Squeezing rocket fuel from Moon rocks. *IEEE Spectrum*, 56(7):46–47, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schneider:2019:SRF**



**Scudellari:2016:GGR****Strickland:2013:GCC**

- [Scu16] M. Scudellari. Google Glass is revived in the ER [news]. *IEEE Spectrum*, 53(7):14, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

E. Strickland and P. Fairley. The Great Canal of China [2013 tech to watch]. *IEEE Spectrum*, 50(1):32–33, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Scudellari:2017:SDW****Strickland:2013:WGM**

- [Scu17] M. Scudellari. Self-driving wheelchairs debut in hospitals and airports [news]. *IEEE Spectrum*, 54(10):14, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

E. Strickland and E. Guy. Watson goes to med school [2013 tech to watch]. *IEEE Spectrum*, 50(1):42–45, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Scudellari:2018:GPY****Su:2019:HHE**

- [Scu18] M. Scudellari. Get paid for your genetic data [spectral lines]. *IEEE Spectrum*, 55(4):6, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

C. Su, J. M. Guerrero, and S. Chen. Happiness is a hybrid — electric: A diesel-burning boat finds new life with a direct-current microgrid. *IEEE Spectrum*, 56(8):42–47, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Scudellari:2019:WHR****Schneider:2011:UHG**

- [Scu19] M. Scudellari. Wanted: HI-RES, surgery-free brain interfaces: DARPA aims to develop wearable devices that let soldiers communicate directly with machines — [news]. *IEEE Spectrum*, 56(7):9–10, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

D. Schneider and Q. Hardy. Under the hood at Google and Facebook. *IEEE Spectrum*, 48(6):63–67, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Schow:2010:GOB****Schneider:2019:QCP**

- [SDK10] C. Schow, F. Doany, and J. Kash. Get on the optical bus. *IEEE Spectrum*, 47(9):32–56, September 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

D. A. Schneider and S. Hassler. Quantum computing’s prospects: How long will it be before we see practical quantum-computing machines? — [spectral lines]. *IEEE Spectrum*, 56(3):6, March 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Seabaugh:2013:TT****Shapiro:2010:YS**

- [Sea13] A. Seabaugh. The tunneling transistor. *IEEE Spectrum*, 50(10):35–62, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

A. D. Shapiro. Yellow submarine. *IEEE Spectrum*, 47(3):40–45, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Shi16] K. Shirriff. The surprising story of the first microprocessors. *IEEE Spectrum*, 53(9):48–54, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Shirriff:2016:SSF**
- [Shi19] K. Shirriff. The quiet remaking of computer power supplies: A half century ago, better transistors and switching regulators revolutionized the design of computer power supplies. *IEEE Spectrum*, 56(8):36–41, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Shirriff:2019:QRC**
- [Shr19] V. S. Shridhar. The India of Things: Tata Communications’ countrywide IoT network aims to improve traffic, manufacturing, and health care. *IEEE Spectrum*, 56(2):42–47, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Shridhar:2019:ITT**
- [SHS15] Ioan Stefanovici, Andy Hwang, and Bianca Schroeder. Battling borked bits. *IEEE Spectrum*, 52(12):34–53, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Stefanovici:2015:BBB**
- [Sie12] D. Siewiorek. Generation smartphone. *IEEE Spectrum*, 49(9):54–58, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Siewiorek:2012:GS**
- [Sil17a] A. Silver. 4 new ways to store renewable energy with water [news]. *IEEE Spectrum*, 54(2):13–15, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Silver:2017:NWS**
- A. Silver. Rethinking CS101 [resources education]. *IEEE Spectrum*, 54(4):23, April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Silver:2017:RCR**
- S. Singh. Pumping Punjab dry. *IEEE Spectrum*, 47(6):52–55, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Singh:2010:PPD**
- G. Sinclair. The strange evolution of the Poco: A game-friendly kit began as a camcorder — [resource]. *IEEE Spectrum*, 56(1):14–15, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Sinclair:2019:SEP**
- M. S. Strano and K. Kalantar-Zadeh. Nano-DYNAMITE. *IEEE Spectrum*, 48(12):44–49, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strano:2011:N**
- C. Sung and J. U. Lee. The ultimate switch. *IEEE Spectrum*, 49(2):32–59, February 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Sung:2012:US**
- M. C. Schatz and B. Langmead. The DNA data deluge. *IEEE Spectrum*, 50(7):28–33, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Schatz:2013:DDD**
- E. E. Sabelman and R. Lam. The real-life dangers of augmented reality. *IEEE Spectrum*, 52(7):48–53, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Sabelman:2015:RLD**



- [Sme15] R. Smeets. Safeguarding the supergrid [numbers don't lie]. *IEEE Spectrum*, 52(12):38–43, December 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Smeets:2015:SS**
- [Smi11] J. M. Smith. The doctor will see you now ALWAYS. *IEEE Spectrum*, 48(10):56–62, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Smith:2011:DWS**
- [Smi12] V. Smil. A skeptic looks at alternative energy. *IEEE Spectrum*, 49(7):46–52, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Smil:2012:SLA**
- [Smi15a] V. Smil. It's too soon to judge shale gas [numbers don't lie]. *IEEE Spectrum*, 52(2):28, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Smil:2015:TSJ**
- [Smi15b] V. Smil. Keep on flying [numbers don't lie]. *IEEE Spectrum*, 52(5):28, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Smil:2015:KFN**
- [Smi15c] V. Smil. “New Japan” at 70 [numbers don't lie]. *IEEE Spectrum*, 52(9):28, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Smil:2015:NJN**
- [Smi15d] V. Smil. The visionary energy solution: triple windows [number don't lie]. *IEEE Spectrum*, 52(3):28, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Smil:2015:VES**
- V. Smil. Boeing at 100 [numbers don't lie]. *IEEE Spectrum*, 53(8):24, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Smil:2016:BND**
- V. Smil. Embodied energy: Mobile devices and cars [numbers don't lie]. *IEEE Spectrum*, 53(5):26, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Smil:2016:EEM**
- V. Smil. Flying without kerosene [numbers don't lie]. *IEEE Spectrum*, 53(7):24, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Smil:2016:FKN**
- V. Smil. Food waste [numbers don't lie]. *IEEE Spectrum*, 53(2):25, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Smil:2016:FWN**
- V. Smil. Heating houses: Running out of combustion efficiency [numbers don't lie]. *IEEE Spectrum*, 53(6):22, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Smil:2016:HHR**
- V. Smil. Running, sweating, and persistence hunting [numbers don't lie]. *IEEE Spectrum*, 53(11):26, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Smil:2016:RSP**
- V. Smil. What I see when I see a wind turbine [numbers don't lie]. *IEEE Spectrum*, 53(3):27, **Smil:2016:WSW**



March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Smil:2017:BTF**

- [Smi17a] V. Smil. Bluefin tuna: Fast, but ~~not~~ fast enough [numbers don't lie]. *IEEE Spectrum*, 54(9):24, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Smil:2017:DEN**

- [Smi17b] V. Smil. Diesel engine at 120 [numbers don't lie]. *IEEE Spectrum*, 54(2):24, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Smil:2017:PCN**

- [Smi17c] V. Smil. Planet of the cows [numbers don't lie]. *IEEE Spectrum*, 54(4):24, April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Smil:2017:SCN**

- [Smi17d] V. Smil. Slow cycling [numbers don't lie]. *IEEE Spectrum*, 54(6):20, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Smil:2017:SND**

- [Smi17e] V. Smil. Sputnik at 60 [numbers don't lie]. *IEEE Spectrum*, 54(10):20, October 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Smil:2017:TMC**

- [Smi17f] V. Smil. Thank Maxwell for cellphone [numbers don't lie]. *IEEE Spectrum*, 54(3):24, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Smil:2017:TUT**

- [Smi17g] V. Smil. Transformers, the unsung ~~technology~~ [numbers don't lie]. *IEEE Spectrum*, 54(8):24,

August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Smil:2017:UPN**

- V. Smil. Unemployment: Pick a number [numbers don't lie]. *IEEE Spectrum*, 54(5):24, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Smil:2018:CAN**

- V. Smil. Crossing the Atlantic [numbers don't lie]. *IEEE Spectrum*, 55(4):23, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Smil:2018:FFP**

- V. Smil. February 1878: The first phonograph. *IEEE Spectrum*, 55(2):24, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Smil:2018:IHT**

- V. Smil. It'll be harder than we thought to get the carbon out [blueprints for a miracle]. *IEEE Spectrum*, 55(6):72–75, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Smil:2018:JEE**

- V. Smil. January 1958: European Economic Community. *IEEE Spectrum*, 55(1):22, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Smil:2018:MFP**

- V. Smil. March 1958: The first PVS in orbit [numbers don't lie]. *IEEE Spectrum*, 55(3):26, March 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Smil:2018:MTF**

- V. Smil. May 1888: Tesla files his patents for the electric motor [numbers don't lie].



*IEEE Spectrum*, 55(5):24, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Sre13]

**Smil:2019:AVA**

- [Smi19] V. Smil. Animals vs. artifacts: Which are more diverse? [opinion]. *IEEE Spectrum*, 56(8):21, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [SRGD13]

**Schaeffer:2014:GBG**

- [SMK14] J. Schaeffer, M. Müller, and A. Kishimoto. Gobot, go. *IEEE Spectrum*, 51(7):48–53, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Sri10]

**Someya:2013:BBS**

- [Som13] T. Someya. Building bionic skin. *IEEE Spectrum*, 50(9):50–56, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [SSBP14]

**Spira:2011:ITA**

- [Spi11] J. B. Spira. Internet TV: almost ready for prime time [tools toys]. *IEEE Spectrum*, 48(7):24–26, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Sri10]

**Spinell:2016:DLC**

- [Spi16] D. Spinell. A DIY Lego controller: A low-cost way to program Lego machines [resources hands on]. *IEEE Spectrum*, 53(11):21–22, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Sta18]

**Sreeharsha:2011:BSC**

- [Sre11] V. Sreeharsha. Brazil starts a chip industry. *IEEE Spectrum*, 48(12):13–15, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Sta18]

**Sreeharsha:2013:BDB**

V. Sreeharsha. Brazil doubles down on biofuel [2013 tech to watch]. *IEEE Spectrum*, 50(1):54–55, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Schneider:2013:IBT**

D. Schneider, P. E. Ross, E. Guy, and L. Dopa. To infinity and beyond: tickets, please! [2013 tech to watch]. *IEEE Spectrum*, 50(1):34–37, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Srihari:2010:CSC**

S. N. Srihari. Computing the scene of a crime. *IEEE Spectrum*, 47(12):38–43, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Strickland:2014:DJ**

E. Strickland, D. Schneider, Ariel Bleicher, and T. S. Perry. Dream jobs 2014. *IEEE Spectrum*, 51(2):39–48, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Sinitskii:2010:GEU**

A. Sinitskii and J. M. Tour. Graphene electronics, unzipped. *IEEE Spectrum*, 47(11):28–33, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Staedter:2018:SNM**

T. Staedter. Sensor network monitors 1,400-km canal [news]. *IEEE Spectrum*, 55(4):10–11, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Staedter:2019:AOF**

T. Staedter. An automated offshore fish farm comes to Norway: Giant remote-controlled pens will tend to millions of salmon — [news].



*IEEE Spectrum*, 56(09):8–9, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ste11b]

**Staedter:2019:CCN**

- [Sta19b] T. Staedter. A cooler cloud: A new type of thermal conductor cools data centers without water, refrigerants, chillers, or server fans — [news]. *IEEE Spectrum*, 56(2):9–10, February 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ste11a]

**Stevenson:2010:CM**

- [Ste10a] R. Stevenson. Crystal method. *IEEE Spectrum*, 47(1):52–57, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ste12a]

**Stevenson:2010:DHG**

- [Ste10b] R. Stevenson. A dark-horse green laser shines. *IEEE Spectrum*, 47(8):14, August 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ste12b]

**Stevenson:2010:LGG**

- [Ste10c] R. Stevenson. Lasers get the green light. *IEEE Spectrum*, 47(3):34–39, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ste12c]

**Stevenson:2010:WBG**

- [Ste10d] R. Stevenson. The world’s best gallium nitride. *IEEE Spectrum*, 47(7):40–45, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ste13a]

**Stevenson:2011:DSS**

- [Ste11a] R. Stevenson. A driver’s sixth sense. *IEEE Spectrum*, 48(10):50–55, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Ste13b]

**Stevenson:2011:ELD**

R. Stevenson. Explaining LEDs’ diminishing returns. *IEEE Spectrum*, 48(11):20, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Stevenson:2011:SKQ**

R. Stevenson. Silicon is key to quest for \$5 led light bulb. *IEEE Spectrum*, 48(6):20, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Stevenson:2012:LL**

R. Stevenson. LEDs for less. *IEEE Spectrum*, 49(1):39–40, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Stevenson:2012:PPA**

R. Stevenson. Powerful PVs approach 50 percent efficiency. *IEEE Spectrum*, 49(12):14–16, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Stevenson:2012:TPS**

R. Stevenson. Tapping the power of 100 suns. *IEEE Spectrum*, 49(9):48–53, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Steckl:2013:CC**

A. J. Steckl. Circuits on cellulose. *IEEE Spectrum*, 50(2):48–61, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Stevenson:2013:CC**

R. Stevenson. Changing the channel. *IEEE Spectrum*, 50(7):34–39, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Ste16a] E. Stein. Top tech for 2016. *IEEE Spectrum*, 53(1):29, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Stein:2016:TT**
- [Ste16b] R. Stevenson. Power electronics' cool new flavor [news]. *IEEE Spectrum*, 53(4):11–12, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Stevenson:2016:PEC**
- [Ste16c] R. Stevenson. Rise of the nanowire transistor [news]. *IEEE Spectrum*, 53(2):9–11, February 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Stevenson:2016:RNT**
- [Ste17] R. Stevenson. Self-healing transistors for chip-scale starships [news]. *IEEE Spectrum*, 54(2):11–13, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Stevenson:2017:SHT**
- [Ste18] Hallam Stevens. Hans Peter Luhn and the birth of the hashing algorithm. *IEEE Spectrum*, 55(2):44–49, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Stevens:2018:HPL**
- [Sto18] A. Stoll. Reinventing the wing: With electric propulsion and lots of propellers, planes can use smaller wings to fly efficiently. *IEEE Spectrum*, 55(8):26–31, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Stoll:2018:RWE**
- E. Strickland. 24 hours at Fukushima. *IEEE Spectrum*, 48(11):35–42, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2011:HF**
- E. Strickland. China's research sub dives deep. *IEEE Spectrum*, 48(9):11–12, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2011:CRS**
- E. Strickland. Cisco bets on South Korean smart city. *IEEE Spectrum*, 48(8):11–12, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2011:CBS**
- E. Strickland. Cracking down on conflict minerals. *IEEE Spectrum*, 48(12):11–12, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2011:CCM**
- E. Strickland. A new kind of cool. *IEEE Spectrum*, 48(6):16, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2011:NKC**
- E. Strickland. Supercomputers predict a stormy hurricane season. *IEEE Spectrum*, 48(7):11–12, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2011:SPS**
- E. Strickland. Blood and money. *IEEE Spectrum*, 49(6):36–41, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2012:BM**



- [Str12a] E. Strickland. Can Japan phase out nuclear power? *IEEE Spectrum*, 49(11):13–14, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2012:CJP**
- [Str12b] E. Strickland. Chinese search giant goes mobile. *IEEE Spectrum*, 49(8):11–12, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2012:CSG**
- [Str12c] E. Strickland. Future vision. *IEEE Spectrum*, 49(1):41, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2012:FV**
- [Str12d] E. Strickland. Good-bye, wheelchair. *IEEE Spectrum*, 49(1):30–32, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2012:GBW**
- [Str12e] E. Strickland. Profile [Allan Robinson]. *IEEE Spectrum*, 49(11):27, November 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2012:PAR**
- [Str12f] E. Strickland. A test case for IP in China. *IEEE Spectrum*, 49(3):9–10, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2012:TCI**
- [Str12g] E. Strickland. Voyage to the bottom of the sea. *IEEE Spectrum*, 49(3):36–41, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2012:VBS**
- [Str12h] E. Strickland. Adrian Cheok: making a huggable Internet [resources profile]. *IEEE Spectrum*, 50(1):19, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2013:ACM**
- [Str13a] E. Strickland. Bluetooth toothbrush [resources-tools]. *IEEE Spectrum*, 50(2):23, February 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2013:BTR**
- [Str13b] E. Strickland. Can an AI get into the University of Tokyo? *IEEE Spectrum*, 50(9):13–14, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2013:CAG**
- [Str13c] E. Strickland. China’s Moon machine [news]. *IEEE Spectrum*, 50(12):17, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2013:CMM**
- [Str13d] E. Strickland. The gene machine and me. *IEEE Spectrum*, 50(3):30–59, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2013:GMM**
- [Str13e] E. Strickland. Lockheed Martin pioneers ocean energy in China [news]. *IEEE Spectrum*, 50(8):11–12, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2013:LMP**
- [Str13f] E. Strickland. Shapeways bringing 3-D printing to the masses. *IEEE Spectrum*, 50(11):22, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2013:SBD**



- [Str13h] E. Strickland. Tracking every tomato [news]. *IEEE Spectrum*, 50(6):72–77, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2013:TET**
- [Str13i] E. Strickland. A wiring diagram of the brain [news]. *IEEE Spectrum*, 50(5):12–14, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2013:WDB**
- [Str14a] E. Strickland. Akili: diagnosing Alzheimer’s with a game [resources start-up]. *IEEE Spectrum*, 51(5):25–26, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2014:ADA**
- [Str14b] E. Strickland. Big data comes to the forest [news]. *IEEE Spectrum*, 51(6):11–12, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2014:BDC**
- [Str14c] E. Strickland. Biochip vs. superbug. *IEEE Spectrum*, 51(4):22, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2014:BVS**
- [Str14d] E. Strickland. Brain hacking [resources start-up]. *IEEE Spectrum*, 51(5):23–25, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2014:BHR**
- [Str14e] E. Strickland. The deepest dark matter [news]. *IEEE Spectrum*, 51(2):20, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2014:DDD**
- E. Strickland. The end of disability. *IEEE Spectrum*, 51(6):30–35, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2014:ED**
- E. Strickland. Fukushima’s next 40 years. *IEEE Spectrum*, 51(3):46–53, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2014:FNY**
- E. Strickland. Making a human memory chip [news]. *IEEE Spectrum*, 51(9):16–17, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2014:MHM**
- E. Strickland. The next space super-power. *IEEE Spectrum*, 51(1):48–51, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2014:NSS**
- E. Strickland. Smartphone app keeps watch over schizophrenic patients [news]. *IEEE Spectrum*, 51(7):15–16, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2014:SAK**
- E. Strickland. Transatomic power building a “walk-away safe” reactor. *IEEE Spectrum*, 51(7):25–26, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2014:TPB**
- E. Strickland. Telekinesis made simple. *IEEE Spectrum*, 52(7):11–12, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2015:TMS**



- [Str15b] E. Strickland. Their prescription: big data. *IEEE Spectrum*, 52(6):58–85, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2015:TPB**
- [Str16a] E. Strickland. 4 steps to dust-size neural implants [news]. *IEEE Spectrum*, 53(11):14–15, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2016:SDS**
- [Str16b] E. Strickland. “Barefoot” matriarchs take on India’s electricity gap [news]. *IEEE Spectrum*, 53(3):11–14, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2016:BMT**
- [Str16c] E. Strickland. Cyborgs go for gold. *IEEE Spectrum*, 53(1):30–33, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2016:CGG**
- [Str16d] E. Strickland. DNA manufacturing enters the age of mass production. *IEEE Spectrum*, 53(1):55–56, January 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2016:DME**
- [Str16e] E. Strickland. Doc bot preps for the O.R. *IEEE Spectrum*, 53(6):32–60, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2016:DBP**
- [Str16f] E. Strickland. From the cosmos to the core — they come from outer space. *IEEE Spectrum*, 53(3):36–41, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2016:CCT**
- E. Strickland. India’s startup boom Amit Agrawal says foreign investors need to avoid the familiar. *IEEE Spectrum*, 53(4):23–24, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2016:ISB**
- E. Strickland. A new kind of juice. *IEEE Spectrum*, 53(9):34–40, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2016:NKJ**
- E. Strickland. The river dolphin’s distress call: Sonar engineers fight to save an endangered species in the Ganges. *IEEE Spectrum*, 53(5):34–58, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2016:RDD**
- E. Strickland. The robot revolution comes to synthetic biology [news]. *IEEE Spectrum*, 53(12):9–11, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2016:RRC**
- E. Strickland. Tech companies mull archiving data in DNA [news]. *IEEE Spectrum*, 53(7):9–11, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2016:TCM**
- E. Strickland. Three ways to build an artificial kidney. *IEEE Spectrum*, 53(9):12–13, September 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2016:TWB**



- [Str17a] E. Strickland. At-home electric headband for depression could go mainstream [news]. *IEEE Spectrum*, 54(3):10–11, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2017:HEH**
- [Str17b] E. Strickland. New buzz on brain stimulation for depression [news]. *IEEE Spectrum*, 54(6):11–12, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2017:NBB**
- [Str17c] E. Strickland. Electric fields fight deadly brain tumors [news]. *IEEE Spectrum*, 54(1):11–13, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2017:EFF**
- [Str17d] E. Strickland. Silicon Valley’s latest craze: brain tech [news]. *IEEE Spectrum*, 54(7):8–9, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2017:SVL**
- [Str17e] E. Strickland. Face recognition tech goes on trial [top tech 2017]. *IEEE Spectrum*, 54(1):40–41, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2017:SRCa**
- [Str17f] E. Strickland. Fake malaria meds meet their match [news]. *IEEE Spectrum*, 54(8):9–10, August 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2017:FRT**
- [Str17g] E. Strickland. Special report: Can we copy the brain? — An engineer’s guide to the brain. *IEEE Spectrum*, 54(6):26–27, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2017:FMM**
- [Str17h] E. Strickland. A make-or-break year for artificial hearts [top tech 2017]. *IEEE Spectrum*, 54(1):30–31, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2017:SRCb**
- [Str17i] E. Strickland. Special report: Can we copy the brain? — From animal intelligence to artificial intelligence. *IEEE Spectrum*, 54(6):40–45, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2017:MBY**
- [Str17j] E. Strickland. 3 sensors to track every bite and gulp [news]. *IEEE Spectrum*, 55(7):9–10, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2017:MRG**
- [Str17k] E. Strickland. Medical robots go soft [news]. *IEEE Spectrum*, 54(4):11–12, April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2018:STE**
- [Str17l] E. Strickland. AI-human partnerships tackle “fake news”: Machine learning can get you only so far — then human judgment is required — [news]. *IEEE Spectrum*, 55(9):12–13, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2017:NTZ**
- [Str17m] E. Strickland. “Neural tourniquet” zaps a nerve to stop bleeding [news]. *IEEE Spectrum*, 54(2):9–11, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2018:AHP**



- [Str18c] E. Strickland. The digital fingerprint of brain disorders [news]. *IEEE Spectrum*, 55(5):12–13, May 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2018:DFB**
- [Str18d] E. Strickland. Hospitals fight sepsis with AI: By predicting cases, sepsis watch could save lives — [news]. *IEEE Spectrum*, 55(11):9–10, November 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2018:HFS**
- [Str18e] E. Strickland. Making medical AI trustworthy: Researchers are trying to crack open the black box of AI so it can be deployed in health care — [news]. *IEEE Spectrum*, 55(8):8–9, August 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2018:MMA**
- [Str18f] E. Strickland. Mind games. *IEEE Spectrum*, 55(1):40–41, January 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2018:MG**
- [Str18g] E. Strickland. Music for aliens: Jonathon Keats creates instruments for nonhuman senses — [resources geeklife]. *IEEE Spectrum*, 55(9):20, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2018:MAJ**
- [Str18h] E. Strickland. Training tomorrow’s doctor-engineers: The medical profession is changing, and so must medical education — [spectral lines]. *IEEE Spectrum*, 55(9):8, September 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2018:TTD**
- E. Strickland. AI agents play hide-and-seek: An OpenAI project demonstrated “emergent behavior” by AI players — [news]. *IEEE Spectrum*, 56(11):6–7, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2019:AAP**
- E. Strickland. Engineering change in Africa: Facing urgent needs, African nations are pioneering new technologies — [spectral lines]. *IEEE Spectrum*, 56(5):4, May 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2019:ECA**
- E. Strickland. How smart is artificial intelligence? Are today’s best artificial-intelligence systems as smart as a mouse? A crow? A chimp? A new contest aims to find out — [spectral lines]. *IEEE Spectrum*, 56(4):4, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2019:HSA**
- E. Strickland. IBM Watson, heal thyself: How IBM overpromised and underdelivered on AI health care. *IEEE Spectrum*, 56(4):24–31, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2019:IWH**
- E. Strickland. “Iron Man” suits are coming to factory floors. *IEEE Spectrum*, 56(1):27–29, January 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Strickland:2019:IMS**
- E. Strickland. Three steps to a Moon base. *IEEE Spectrum*, 56(7):30–31, July 2019. CO-
- Strickland:2019:TSM**



DEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Strickland:2019:WAC**

- [Str19g] E. Strickland. Why AIs are chasing chickens in Minecraft: The path to a generally intelligent AI might run through this virtual universe — [news]. *IEEE Spectrum*, 56(1):10–11, January 2019. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Surowiecki:2012:BHM**

- [Sur12] J. Surowiecki. A brief history of money. *IEEE Spectrum*, 49(6):44–79, June 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Svigals:2012:LLI**

- [Svi12] J. Svigals. The long life and imminent death of the mag-stripe card. *IEEE Spectrum*, 49(6):72–76, June 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Sweet:2010:ECA**

- [Swe10a] W. Sweet. Energy climate: All talk, no action? *IEEE Spectrum*, 47(12):84, December 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Sweet:2010:EGR**

- [Swe10b] W. Sweet. Evil genius [review of “*Peddling Peril: How the Secret Nuclear Trade Threatens America’s Agencies*” (Albright, D.; 2010)]. *IEEE Spectrum*, 47(9):24, September 2010. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Sweet:2011:CCR**

- [Swe11] W. Sweet. Civility of climate [SZ19]. “*Fixing the Sky: The Checkered History of Weather and Climate Control*” (Fleming, J. R.; 2010) and “*Merchants of Doubt: How a*

*Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*” (Oreskes, N.; 2010)]. *IEEE Spectrum*, 48(4):26, April 2011. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Sweet:2012:AHG**

W. Sweet. The age of hard-to-get oil [the data]. *IEEE Spectrum*, 49(8):64, August 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Sweet:2012:BOB**

W. Sweet. Beyond oil [books]. *IEEE Spectrum*, 49(1):25, January 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Sweet:2012:DD**

W. Sweet. Drilling directions. *IEEE Spectrum*, 49(11):92, November 2012. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Sweet:2013:FFF**

W. Sweet. A fission-fusion fusion. *IEEE Spectrum*, 50(1):9–10, January 2013. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Shulaker:2016:CCN**

M. Shulaker, H.-S. Philip Wong, and Subhasish Mitra. Computing with carbon nanotubes. *IEEE Spectrum*, 53(7):26–52, July 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Strickland:2019:CMR**

E. Strickland and Glenn Zorpette. The coming Moon rush: Technology, billionaires, and geopolitics will all help get us back to the Moon, but they won’t be enough to let us live



there indefinitely. *IEEE Spectrum*, 56(7):22–25, July 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Tea11]

**Tallon:2016:PCM**

- [Tal16] S. Tallon. A pocket camera with many eyes. *IEEE Spectrum*, 53(11):34–40, November 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Tea12]

**Tatarchenko:2018:GSC**

- [Tat18] K. Tatarchenko. The great Soviet calculator hack: Programmable calculators and a sci-fi story brought Soviet teens into the digital age. *IEEE Spectrum*, 55(10):42–47, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Tea12]

**Taylor:2011:DR**

- [TC11] G. Taylor and G. Cox. Digital radio chess. *IEEE Spectrum*, 48(9):32–58, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [TCB17]

**Teasley:2010:ATL**

- [Tea10a] H. Teasley. Ahead of its time: Lenovo Ideapad Y560D. *IEEE Spectrum*, 47(11):27, November 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [Tea14]

**Teasley:2010:RAM**

- [Tea10b] H. Teasley. Review: Alienware M14X [tools toys]. *IEEE Spectrum*, 47(7):26, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [The13]

**Teasley:2010:YVO**

- [Tea10c] H. Teasley. Your very own cloud [tools toys]. *IEEE Spectrum*, 47(5):22, May 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). [The15]

**Teasley:2011:GCM**

H. Teasley. Gestures creep into mouse interfaces. *IEEE Spectrum*, 48(11):26, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Teasley:2012:STT**

H. Teasley. A soft touch [tools toys]. *IEEE Spectrum*, 49(2):22–23, February 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Teska:2012:PEB**

Kirk Teska. The patent eligibility bar gets raised again [innovation]. *IEEE Spectrum*, 49(6):24, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Tehranipoor:2017:IHS**

M. M. Tehranipoor, U. Guin, and S. Bhunia. Invasion of the hardware snatchers. *IEEE Spectrum*, 54(5):36–41, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Thakor:2014:CBW**

N. V. Thakor. Catching brain waves in a net. *IEEE Spectrum*, 51(9):40–45, September 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Editors:2013:API**

The Editors. The age of plenty [issue intro.]. *IEEE Spectrum*, 50(6):25, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Thoreau:2015:ECM**

H. D. Thoreau. Ever closer to the machine [technically speaking]. *IEEE Spectrum*, 52(6):26, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Til19] P. Tilghman. Will rule the airwaves. A darpa grand challenge seeks autonomous radios to manage the wireless spectrum. *IEEE Spectrum*, 56(6):28–33, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Tilghman:2019:WRA**
- [Tim17] A. Timms. Data divination [technically speaking by Paul McFedries]. *IEEE Spectrum*, 54(2):25, February 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Timms:2017:DDT**
- [TIU14] S. Tachi, M. Inami, and Y. Uema. The transparent cockpit. *IEEE Spectrum*, 51(11):52–56, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Tachi:2014:TC**
- [TNS13] J. Traugott, A. Nesterova, and G. Sachs. The flight of the albatross. *IEEE Spectrum*, 50(7):46–54, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Traugott:2013:FA**
- [Ton18] O. K. Tonguz. Red light, green light no light: Tomorrow’s communicative cars could take turns at intersections. *IEEE Spectrum*, 55(10):24–29, October 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Tonguz:2018:RLG**
- [Too11] W. Toomey. The strange birth and long life of Unix. *IEEE Spectrum*, 48(12):34–51, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Toomey:2011:SBL**
- J. Torous. Digital psychiatry. *IEEE Spectrum*, 54(7):45–50, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Torous:2017:DP**
- Christopher Tozzi. Linux turns 25. *IEEE Spectrum*, 53(4):48–56, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Tozzi:2016:LT**
- C. Thompson and Tekla S. Perry. Read free or die [2013 tech to watch]. *IEEE Spectrum*, 50(1):52–53, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Thompson:2013:RFT**
- M. Traverso. Five electric planes to watch [news]. *IEEE Spectrum*, 50(8):9–11, August 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Traverso:2013:FEP**
- N. A. Trayanova. Your personal virtual heart. *IEEE Spectrum*, 51(11):34–59, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Trayanova:2014:YPV**
- Y. Tsividis. Not your father’s analog computer. *IEEE Spectrum*, 55(2):38–43, February 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Tsividis:2018:YFA**
- V. T. Toth and S. G. Turyshhev. Finding the source of the pioneer anomaly. *IEEE Spectrum*, 49(12):38–62, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Toth:2012:FSP**



IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Tucker:2013:ALS**

- [Tuc13] R. S. Tucker. Australia's (less super), super-highway. *IEEE Spectrum*, 50(12):46–52, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Turner:2010:BC**

- [Tur10a] J. Turner. Board certified. *IEEE Spectrum*, 47(4):24–25, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Turner:2010:SPS**

- [Tur10b] J. Turner. The smart power strip. *IEEE Spectrum*, 47(3):22–23, March 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Turner:2010:TBS**

- [Tur10c] J. Turner. Think big, see small [hands on]. *IEEE Spectrum*, 47(7):22–23, July 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Turner:2011:BBP**

- [Tur11a] J. Turner. Balloon-borne photography [hands on]. *IEEE Spectrum*, 48(2):20–21, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Turner:2011:DEH**

- [Tur11b] J. Turner. DIY essentials [hands on]. *IEEE Spectrum*, 48(8):22–23, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Turner:2011:SMI**

- [Tur11c] J. Turner. Scoping out my iPad oscilloscoping, that is [hands on]. *IEEE Spectrum*, 48(9):

26, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Turner:2012:DMH**

J. Turner. DIY manufacturing [hands on]. *IEEE Spectrum*, 49(3):20–21, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Tweed:2013:CRH**

K. Tweed. Colorado river hydropower faces a dry future [news]. *IEEE Spectrum*, 50(10):14–15, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Tweed:2014:BGN**

K. Tweed. Bulletproofing the grid [news]. *IEEE Spectrum*, 51(5):13–14, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Tyler:2016:RHT**

D. J. Tyler. Restoring the human touch: Prosthetics imbued with haptics give their wearers fine motor control and a sense of connection. *IEEE Spectrum*, 53(5):28–33, May 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ubell:2017:MCB**

R. Ubell. MOOCs come back to Earth [resources education]. *IEEE Spectrum*, 54(3):22, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ulrich:2013:CCT**

L. Ulrich and P. Fairley. Carbon car [2013 tech to watch]. *IEEE Spectrum*, 50(1):30–31, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Ulr10] L. Ulrich. The greening of the supercar 15. *IEEE Spectrum*, 47(10):36–41, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ulrich:2010:GS** **Ulrich:2015:TTC**
- [Ulr11] L. Ulrich. Top 10 tech cars 2011. *IEEE Spectrum*, 48(4):28–39, April 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ulrich:2011:TTC** **Ulrich:2016:S**
- [Ulr12a] L. Ulrich. 2012 top 10 tech cars. *IEEE Spectrum*, 49(4):44–55, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ulrich:2012:TTC** **Ulrich:2016:TTT**
- [Ulr12b] L. Ulrich. State of charge. *IEEE Spectrum*, 49(1):56–59, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ulrich:2012:SC** **Ulrich:2017:TTT**
- [Ulr13a] L. Ulrich. Top 10 tech cars: slenderized. *IEEE Spectrum*, 50(4):34–41, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ulrich:2013:TTC** **Ulrich:2018:TTC**
- [Ulr13b] L. Ulrich. Whiter brights with lasers. *IEEE Spectrum*, 50(11):36–56, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ulrich:2013:WBL** **Ulrich:2019:SPE**
- [Ulr14] L. Ulrich. Top ten tech cars. *IEEE Spectrum*, 51(4):38–47, April 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Ulrich:2014:TTT** **Ulrich:2019:TTT**
- L. Ulrich. Top 10 tech cars 2015. *IEEE Spectrum*, 52(4):46–55, April 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- L. Ulrich. Supercar 2.0. *IEEE Spectrum*, 53(10):32–37, October 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- L. Ulrich. Top ten tech cars 2016. *IEEE Spectrum*, 53(4):36–47, April 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- L. Ulrich. 2017 top ten tech cars. *IEEE Spectrum*, 54(4):26–35, April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- L. Ulrich. Top 10 tech cars: 2018 [top 10 tech cars]. *IEEE Spectrum*, 55(4):30–41, April 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- L. Ulrich. Startup promises an electric-motor revolution: Linear labs says its superefficient motor could power cars, robots, and more. *IEEE Spectrum*, 56(11):10–11, November 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).
- L. Ulrich. Top ten tech cars 2019: Self-driving and electric technologies are infiltrating everyday cars slowly. *IEEE Spectrum*, 56(4):32–43,



April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Upson:2010:GBG**

- [Ups10a] Sandra Upson. Green-building guru. *IEEE Spectrum*, 47(2):38–39, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Upson:2010:LUE**

- [Ups10b] Sandra Upson. Laser uranium enrichment makes a comeback [update]. *IEEE Spectrum*, 47(10):11–13, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Upson:2010:MEF**

- [Ups10c] Sandra Upson. The Middle East’s first synchrotron is in peril. *IEEE Spectrum*, 47(4):48–53, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Upson:2010:RRR**

- [Ups10d] Sandra Upson. Russia reinvents its road. *IEEE Spectrum*, 47(1):40–45, January 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Upson:2010:WWC**

- [Ups10e] Sandra Upson. Wizards of the web. *IEEE Spectrum*, 47(6):56–61, June 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Upson:2011:BP**

- [Ups11] Sandra Upson. Bionic pancreas. *IEEE Spectrum*, 48(1):11, January 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Upton:2015:TEH**

- [UVG<sup>+</sup>15] E. Upton, M. Veloso, A. Gadgil, V. Vaita, B. Monks, and R. Malkin. Today’s engineering

heroes. *IEEE Spectrum*, 52(3):39–49, March 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Vaidhyanathan:2011:WSS**

S. Vaidhyanathan. Welcome to the surveillance society. *IEEE Spectrum*, 48(6):48–51, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Versace:2010:BNM**

M. Versace and B. Chandler. The brain of a new machine. *IEEE Spectrum*, 47(12):30–37, December 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Vinsel:2016:SRT**

L. Vinsel. The smart road not taken [tech history]. *IEEE Spectrum*, 53(8):46–51, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Voelcker:2010:ECS**

J. Voelcker. Electric-car surfer. *IEEE Spectrum*, 47(2):28–29, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Voelcker:2011:CVS**

J. Voelcker. Chevy Volt sparks a series of plug-in hybrids [update]. *IEEE Spectrum*, 48(2):16–18, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Voelcker:2011:OMP**

J. Voelcker. One million plug-in cars by 2015? [update]. *IEEE Spectrum*, 48(4):11–13, April 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Voelcker:2013:EVN**

J. Voelcker. Electric vehicles need more study, less emotion. *IEEE Spectrum*, 50(8):8, Au-



gust 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Wag17]

**Voelcker:2013:FAF**

**Wagner:2017:TW**

- [Voe13b] J. Voelcker. Fisker automotive: fraught with failure [spectral lines]. *IEEE Spectrum*, 50(5):8, May 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Wag18]

**Voelcker:2014:SYM**

**Wagman:2018:PPR**

- [Voe14] J. Voelcker. Should you move into mechatronics? *IEEE Spectrum*, 51(1):28, January 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Wal10]

**Voelcker:2019:PFC**

**Wallich:2010:DPP**

- [Voe19] J. Voelcker. Porsche's fast-charge power play: The new, all-electric Taycan will come with a mighty thirst. This charging technology will slake it. *IEEE Spectrum*, 56(9):30–37, September 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Wal11a]

**Voss:2013:GAS**

**Wallich:2011:AF**

- [Vos13] P. Voss. Gasping for airspace [spectral lines]. *IEEE Spectrum*, 50(12):8, December 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Wal12]

**Villasenor:2013:CSE**

**Wallich:2011:BH**

- [VT13] J. Villasenor and M. Tehranipoor. Chop shop electronics. *IEEE Spectrum*, 50(10):41–45, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Wal11b]

**Wachs:2013:R**

**Wallich:2011:BYO**

- [Wac13] J. Wachs. Resources. *IEEE Spectrum*, 50(9):23–24, September 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Wal11c]

**Wallich:2011:FOC**

L. Wagner. Turbocharging the web. *IEEE Spectrum*, 54(12):48–53, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

David Wagman. This power plant runs on CO<sub>2</sub> [blueprints for a miracle]. *IEEE Spectrum*, 55(6):26–77, June 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Wallich. 3-D printers proliferate [hands on]. *IEEE Spectrum*, 47(9):23, September 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Wallich. Absolutely fab. *IEEE Spectrum*, 48(11):22–23, November 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Wallich. Beehackers [hands on]. *IEEE Spectrum*, 48(5):20–21, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Wallich. Building your own arcade game [hands on]. *IEEE Spectrum*, 48(7):26–27, July 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Wallich. Fix that old clock radio! [books]. *IEEE Spectrum*, 48(12):22, December 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Wallich:2011:LRB****Waltz:2012:HQM**

- [Wal11e] P. Wallich. The lightbulb that really [Wal12f] idea [tools toys]. *IEEE Spectrum*, 48(1):20–22, January 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

E. Waltz. How I quantified myself. *IEEE Spectrum*, 49(9):42–47, September 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wallich:2011:TTT****Wallich:2013:EYA**

- [Wal11f] P. Wallich. A typewriter is a terrible thing to waste [hands on]. *IEEE Spectrum*, 48(3):22–23, March 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Wallich. Everything you always wanted to know about big ag. *IEEE Spectrum*, 50(6):34–37, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wallich:2012:AP****Wallich:2013:PPR**

- [Wal12a] P. Wallich. Arducopter parenting. *IEEE Spectrum*, 49(12):26–28, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Wallich. Parsing power [resources hand on]. *IEEE Spectrum*, 50(3):23–24, March 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wallich:2012:LCP****Wallich:2013:PSW**

- [Wal12b] P. Wallich. Laser cuts paper [hands on]. *IEEE Spectrum*, 49(6):21–22, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Wallich. Point-and-shoot weather data [resources hands on]. *IEEE Spectrum*, 50(10):20–21, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wallich:2012:LMH****Waltz:2013:EAE**

- [Wal12c] P. Wallich. Laser mouse [hands on]. *IEEE Spectrum*, 49(10):24–25, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

E. Waltz. An electrifying awakening electrical stimulation of the spinal cord could let paralyzed people move again. *IEEE Spectrum*, 50(11):46–52, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wallich:2012:TS****Wallich:2014:AYH**

- [Wal12d] P. Wallich. Taking shape. *IEEE Spectrum*, 49(1):63–64, January 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

P. Wallich. Automate your home without rewiring [resources hands on]. *IEEE Spectrum*, 51(5):26–28, May 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wallich:2012:TWT****Waltz:2014:NPR**

- [Wal12e] P. Wallich. Tangled web of trust [books]. *IEEE Spectrum*, 49(4):28, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

E. Waltz. New probes replace surgeons' sense of touch. *IEEE Spectrum*, 51(2):16–18, Febru-



ary 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Wal17b]

**Wallich:2015:EWS**

**Waltz:2017:FAP**

- [Wal15a] P. Wallich. An early-warning system for your bike. *IEEE Spectrum*, 52(7):22–23, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Waltz:2015:QO**

**Waltz:2019:LDC**

- [Wal15b] E. Waltz. The quantified Olympian. *IEEE Spectrum*, 52(6):44–45, June 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Waltz:2015:WTB**

**Wang:2017:DLR**

- [Wal15c] E. Waltz. A wearable turns baseball pitching into a science [news]. *IEEE Spectrum*, 52(9):16–17, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wallich:2016:DLB**

**Weiss:2010:RD**

- [Wal16a] P. Wallich. DIY light-based 3d printing an enticing idea turns out to be devilishly complex [resources hands on]. *IEEE Spectrum*, 53(7):20–21, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Wei11]

**Waltz:2016:SHC**

**Weiss:2011:ARF**

- [Wal16b] E. Waltz. Software helps CRISPR live up to its hype [news]. *IEEE Spectrum*, 53(3):14–16, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Wei12]

**Waltz:2017:BMB**

**Weir:2012:DCL**

- [Wal17a] E. Waltz. Biocomputer and memory built inside living bacteria [news]. *IEEE Spectrum*, 54(9):11–12, September 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Wein17]

**Weinberger:2017:BWW**

E. Waltz. FDA approves a prescription-only app for addiction [news]. *IEEE Spectrum*, 54(11):9–10, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

E. Waltz. Laser detects cancer cells in the bloodstream: New treatment counts and kills cancer cells before they spread — [news]. *IEEE Spectrum*, 56(8):10–11, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

D. Wang. Deep learning reinvents the hearing aid. *IEEE Spectrum*, 54(3):32–37, March 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

G. Weiss. Rapture of the deep. *IEEE Spectrum*, 47(2):40–41, February 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

L. G. Weiss. Autonomous robots in the fog of war. *IEEE Spectrum*, 48(8):30–57, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

B. Weir. Driving the 21st century’s lights. *IEEE Spectrum*, 49(3):42–47, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

S. Weinberger. The bunny, the witch, and the war room. *IEEE Spectrum*, 54(4):36–41,



April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wiens:2017:FFI**

- [WGB17] K. Wiens and G. Gordon-Byrne. The fight to fix it. *IEEE Spectrum*, 54(11):24–29, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wager:2011:TFF**

- [WH11] J. F. Wager and R. Hoffman. Thin, fast, and flexible. *IEEE Spectrum*, 48(5):42–56, May 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Whitehead:2018:WMR**

- [WH18] A. Whitehead and C. Hilton. In-wheel motors roll again. *IEEE Spectrum*, 55(7):24–29, July 2018. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wheeler:2015:THB**

- [Whe15] B. Wheeler. Tiny houses, big lexicon. *IEEE Spectrum*, 52(10):28, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Wol12]

**Willyard:2011:MM**

- [Wil11] C. Willyard. Me, myself, or I. *IEEE Spectrum*, 48(6):52–84, June 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

[Wri16]

**Willner:2016:CT**

- [Wil16] A. E. Willner. Communication with a twist. *IEEE Spectrum*, 53(8):34–39, August 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wipprecht:2019:BIC**

[WS11]

- [Wip19] A. Wipprecht. A brain interface to capture your attention: An eeg headpiece for

children with adhd is now maker friendly — [resources<sub>handson</sub>]. *IEEE Spectrum*, 56(6):14–15, June 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wisnioski:2015:BI**

M. Wisnioski. The birth of innovation. *IEEE Spectrum*, 52(2):40–61, February 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wilcke:2016:KBL**

W. W. Wilcke and H. Kim. The 800-km battery lithium-ion batteries are played out. Next up: lithium-air. *IEEE Spectrum*, 53(3):42–62, March 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wanke:2011:TF**

M. C. Wanke and M. Lee. The terahertz frontier. *IEEE Spectrum*, 48(9):44–61, September 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wolman:2012:C**

D. Wolman. Cashing out. *IEEE Spectrum*, 49(6):42–43, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wright:2016:DMC**

C. Wright. A digital movie camera with vintage lenses: Capture the 8-mm film look of yesteryear with a Pi [resources hands on]. *IEEE Spectrum*, 53(6):17–18, June 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Wiegand:2011:PHR**

T. Wiegand and G. J. Sullivan. The picturephone is here. Really. *IEEE Spectrum*, 48(9):50–54, September 2011. CODEN



IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Young:2015:Y**

**Weller:2013:BBD**

- [WW13] D. Weller and B. Woodcock. Bandwidth bottleneck [data flow]. *IEEE Spectrum*, 50(1):80, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Yang:2017:UGB**

- [Yan17] Z. G. Yang. Is this the ultimate grid battery? *IEEE Spectrum*, 54(11):36–41, November 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ye:2016:SC**

- [Ye16] P. Ye. Switching channels. *IEEE Spectrum*, 53(12):40–45, December 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Ye:2019:LST**

- [YEK19] P. Ye, T. Ernst, and M. V. Khare. The last silicon transistor: Nanosheet devices could be the final evolutionary step for Moore’s Law. *IEEE Spectrum*, 56(8):30–35, August 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Yano:2012:SH**

- [YLC12] K. Yano, S. Lyubomirsky, and J. Chancellor. Sensing happiness. *IEEE Spectrum*, 49(12):32–37, December 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Young:2015:TEP**

- [You15a] L. J. Young. Telecom experts plot to 5G [news]. *IEEE Spectrum*, 52(10):14–15, October 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

L. J. Young. Yeloha. *IEEE Spectrum*, 52(11):22, November 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Yamanoor:2017:DDD**

S. Yamanoor and S. H. Yamanoor. DIY digital decorations. *IEEE Spectrum*, 54(12):22–23, December 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zachary:2011:WSL**

G. Pascal Zachary. The E-word [spectral lines]. *IEEE Spectrum*, 48(2):8, February 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zachary:2011:JIS**

G. Pascal Zachary. Jobless innovation [spectral lines]. *IEEE Spectrum*, 48(4):8, April 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zachary:2011:SSM**

G. Pascal Zachary. Saving smart meters from a backlash. *IEEE Spectrum*, 48(8):8, August 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zachary:2011:SJF**

G. Pascal Zachary. Steve Jobs in four easy steps. *IEEE Spectrum*, 48(10):14–16, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zachary:2012:ADI**

G. Pascal Zachary. Africans dial up innovation [spectral lines]. *IEEE Spectrum*, 49(8):8, August 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



**Zachary:2012:LKI****Zachary:2013:SL**

- [Zac12b] G. Pascal Zachary. Lessons from ~~Zac13d~~ [spectral lines]. *IEEE Spectrum*, 49(3):8, March 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

G. Pascal Zachary. Spectral lines. *IEEE Spectrum*, 50(10):8, October 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zachary:2012:ORU****Zachary:2013:WIG**

- [Zac12c] G. Pascal Zachary. Obama, Romney, and the U.S. R&D complex. *IEEE Spectrum*, 49(10):10, October 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

G. Pascal Zachary. When innovating, go slow [spectral lines]. *IEEE Spectrum*, 50(4):8, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zachary:2012:SAM****Zachary:2013:WAC**

- [Zac12d] G. Pascal Zachary. Solar for all? ~~Zac13f~~ Not in my lifetime [spectral lines]. *IEEE Spectrum*, 49(7):8, July 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

G. Pascal Zachary. Why Africa can feed itself — and help feed the world too. *IEEE Spectrum*, 50(6):56–57, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zachary:2012:WAD****Zachary:2014:ENM**

- [Zac12e] G. Pascal Zachary. The world according to DARPA [spectral lines]. *IEEE Spectrum*, 49(4):8, April 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

G. Pascal Zachary. Engineering needs more heroes. *IEEE Spectrum*, 51(7):42–46, July 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zachary:2013:AFS****Zachary:2015:EDS**

- [Zac13a] G. Pascal Zachary. Africa's food solution [spectral lines]. *IEEE Spectrum*, 50(6):8, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

G. Pascal Zachary. The engineered death [spectral lines]. *IEEE Spectrum*, 52(9):10, September 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zachary:2013:NGH****Zachary:2015:HSK**

- [Zac13b] G. Pascal Zachary. The new global living hall [spectral lines]. *IEEE Spectrum*, 50(11):8, November 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

G. Pascal Zachary. How to stop killer asteroids [spectral lines]. *IEEE Spectrum*, 52(5):8, May 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zachary:2013:REP****Zachary:2015:LSA**

- [Zac13c] G. Pascal Zachary. Remembrance ~~Zac15c~~ of everything past [spectral lines]. *IEEE Spectrum*, 50(7):8, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

G. Pascal Zachary. Let's shape AI before AI shapes us. *IEEE Spectrum*, 52(7):8, July 2015. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Zac15d] G. Pascal Zachary. Spectral lines [when the past is not a preview]. *IEEE Spectrum*, 52(3):10, March 2015. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zachary:2015:SLW**
- [Zac15e] G. Pascal Zachary. Technological progress and the perpetual learning curve [spectral lines]. *IEEE Spectrum*, 52(11):8, November 2015. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zachary:2015:TPP**
- [Zac15f] G. Pascal Zachary. Technology alone won't improve health in Africa [spectral lines]. *IEEE Spectrum*, 52(1):7, January 2015. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zachary:2015:TAW**
- [Zac16a] G. Pascal Zachary. Celebrating Claude Shannon [spectral lines]. *IEEE Spectrum*, 53(4):8, April 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zachary:2016:CCS**
- [Zac16b] G. Pascal Zachary. Cognitive enhancement on the (pokémon) go. *IEEE Spectrum*, 53(9):8, September 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zachary:2016:CEP**
- [Zac16c] G. Pascal Zachary. The invisible technology [spectral lines]. *IEEE Spectrum*, 53(11):10, November 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zachary:2016:ITS**
- [Zac16d] G. Pascal Zachary. The search for a better battery: Government funding and venture capital won't buy us better batteries anytime soon [spectral lines]. *IEEE Spectrum*, 53(5):7, May 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zachary:2016:TPD**
- G. Pascal Zachary. Thwarting poachers with data [spectral lines]. *IEEE Spectrum*, 53(7):8, July 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zachary:2016:TTS**
- G. Pascal Zachary. The trouble with targets [spectral lines]. *IEEE Spectrum*, 53(2):8, February 2016. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zachary:2017:CTM**
- G. Pascal Zachary. Can tech moguls cure what ails medicine? [spectral lines]. *IEEE Spectrum*, 54(12):8, December 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zachary:2017:MWB**
- G. Pascal Zachary. Make the web better for everyone [spectral lines]. *IEEE Spectrum*, 54(10):8, October 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zachary:2017:NWC**
- G. Pascal Zachary. The nuclear weapons complexities [spectral lines]. *IEEE Spectrum*, 54(8):8, August 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zachary:2017:WFC**
- G. Pascal Zachary. What Frankenstein can teach engineers [spectral lines]. *IEEE Spectrum*, 54(2):8, February 2017. CODEN IIESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).



- [Zac17e] G. Pascal Zachary. When innovation moves too fast. *IEEE Spectrum*, 54(7):6, July 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zachary:2017:WIM**
- [Zeh13] O. Zehner. Unclean at any speed. *IEEE Spectrum*, 50(7):40–45, July 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zehner:2013:US**
- [Zei10] B. Zeidman. Software v. software. *IEEE Spectrum*, 47(10):32–53, October 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zeidman:2010:SVS**
- [Zha19] Y. S. Zhang. A medical mini-me one day your doctor could prescribe drugs based on now a biochip version of you reacts. *IEEE Spectrum*, 56(4):44–49, April 2019. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zhang:2019:MMM**
- [Zor10] Glenn Zorpette. Reverse engineering the human face. *IEEE Spectrum*, 47(4):18, April 2010. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zorpette:2010:REH**
- [Zor11] Glenn Zorpette. Re-engineering Afghanistan. *IEEE Spectrum*, 48(10):30–43, October 2011. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). See [Has11c]. **Zorpette:2011:REA**
- [Zor12] Glenn Zorpette. The beginning of [Zor14d] of cash [special report]. *IEEE Spectrum*, 49(6): 27–29, June 2012. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zorpette:2012:BEC**
- [Zor13a] Glenn Zorpette. The do-it-all display [2013 tech to watch]. *IEEE Spectrum*, 50(1):40–66, January 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zorpette:2013:DIA**
- [Zor13b] Glenn Zorpette. Muscling out meat. *IEEE Spectrum*, 50(6):64–70, June 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zorpette:2013:MM**
- [Zor13c] Glenn Zorpette. Saving photo slides [resources tools]. *IEEE Spectrum*, 50(4):19–20, April 2013. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zorpette:2013:SPS**
- [Zor14a] Glenn Zorpette. Exploring the radio spectrum [spectral lines]. *IEEE Spectrum*, 51(11):10–12, November 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zorpette:2014:ERS**
- [Zor14b] Glenn Zorpette. Famous bylines in *IEEE Spectrum* [spectral lines]. *IEEE Spectrum*, 51(8):8–11, August 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zorpette:2014:FBI**
- [Zor14c] Glenn Zorpette. From Three Mile Island to Fukushima Daiichi [spectral lines]. *IEEE Spectrum*, 51(3):8–12, March 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). **Zorpette:2014:TMI**
- [Zor14d] Glenn Zorpette. My favorite things [spectral lines]. *IEEE Spectrum*, 51(12):8–10, Decem-



ber 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zorpette:2017:ESPb**

- [Zor14e] Glenn Zorpette. The pitfalls of prediction [spectral lines]. *IEEE Spectrum*, 51(6):8–9, June 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zorpette:2014:PPS**

Glenn Zorpette. Earphone showdown, part 2 — the DQSM D2, LKER I8, and Crazy Cello [resources review]. *IEEE Spectrum*, 54(5):23, May 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zorpette:2017:ESPa**

- [Zor14f] Glenn Zorpette. Remember the reader — Donald Christiansen and the making of *IEEE Spectrum* [spectral lines]. *IEEE Spectrum*, 51(2):8–12, February 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zorpette:2014:RDD**

Glenn Zorpette. Earphone showdown, part one the etymotic ER4, audio-technica ATH-IM70, and LKERi1 [resources review]. *IEEE Spectrum*, 54(4):19–21, April 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zorpette:2014:WFR**

- [Zor14g] Glenn Zorpette. When freedom rang [spectral lines]. *IEEE Spectrum*, 51(10):8–14, October 2014. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zorpette:2016:RDD**

- [Zor16] Glenn Zorpette. Review: DragonFly DACs: upgrade your smartphone’s audio with these slim digital-to-analog converters [resources]. *IEEE Spectrum*, 53(7):19–20, July 2016. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zorpette:2017:BWP**

- [Zor17a] Glenn Zorpette. Bowers Wilkins P9 signature headphones [resources review]. *IEEE Spectrum*, 54(1):22, January 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

**Zorpette:2017:CWC**

- [Zor17b] Glenn Zorpette. Can we copy the brain? [spectral lines]. *IEEE Spectrum*, 54(6):8, June 2017. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).