A Bibliography of the ACM Turing Awards
(1966–date)

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`, `beebe@acm.org`,
`beebe@computer.org`, `beebe@ieee.org` (Internet)
WWW URL: `http://www.math.utah.edu/~beebe/`

05 September 2024
Version 1.54

Title word cross-reference

$1 [117, 113].

1997 [161].

2019 [141]. **27-year** [27].

360 [85].

50th [127].

'99 [162].

A. [116, 81]. **A.M** [158]. **Abstraction** [45]. **Abstractions** [151]. **ACM** [161, 141, 132, 152, 156, 158, 159, 83, 91, 162, 82, 117, 90, 123, 130, 70, 120, 95, 113]. **Age** [139]. **Agenda** [120]. **AI** [152, 144]. **Alan** [129, 106]. **Algebra** [11, 25]. **Algorithm** [62, 63]. **Algorithmic** [1, 92, 52]. **Algorithms** [152, 151]. **Always** [154]. **Analyst** [5, 67]. **animating** [143]. **anniversary** [127]. **announcement** [141]. **annual** [161, 145]. **approaches** [97]. **Architecture** [114, 132, 130, 139, 120]. **Areas** [152]. **arithmetic** [72]. **Art** [8, 44]. **artificial** [138, 46, 47]. **Assessing** [26, 91]. **Attaining** [142]. **August** [161]. **authorship** [116, 147]. **Avi** [158]. **Award** [159, 83, 69, 12, 82, 79, 37, 77, 43, 76, 81, 80, 60, 78, 127, 128, 119, 107, 95, 131, 141, 132, 152, 156, 157, 158, 116, 117, 147, 135, 123, 130, 70, 100, 120, 96, 113]. **awards** [145].

Backus [12]. **Barbara** [161]. **basics** [149]. **Be** [11, 90, 25]. **Beauty** [104]. **Becomes** [79, 34]. **Berners** [130]. **Berners-Lee** [130]. **best** [109]. **Better** [72]. **Beyond** [59]. **billion** [156]. **billions** [122]. **Bob** [156]. **Boosts** [117]. **Bootstrapping** [82]. **boundaries** [116]. **box** [126]. **Brooks** [121]. **Brought** [120]. **Building** [112, 31, 73]. **byte** [94, 99, 122, 133, 134, 138, 142, 146].

California [161]. **Can** [11, 25]. **celebrate** [127]. **Celebrating** [128]. **changer** [108]. **Changing** [152]. **checking** [27, 92, 33]. **Child** [90]. **Chip** [135]. **Clothes** [15, 38]. **Co** [157, 116]. **Co-authorship** [116]. **Co-Inventor** [157]. **Cocke** [70]. **Code** [110]. **collaboration** [147]. **Collective** [82]. **Combinatorics** [21, 42]. **Comments** [5, 67]. **Commerce** [123]. **Commercial** [120]. **Commercialization** [156]. **Committed** [98]. **compilers** [151]. **Compiling** [23, 164]. **Complexity** [17, 77, 53, 30, 37, 21, 42]. **Computation** [158]. **Computational** [152, 17, 77, 30, 37, 105]. **Computations** [152, 53]. **Computer** [132, 152, 137, 3, 77, 39, 40, 8, 44, 135, 4, 9, 51, 123, 139, 115, 116, 36, 37, 118, 49, 107, 20, 68]. **Computers** [2, 66]. **Computing** [112, 114, 152, 90, 50, 103, 161, 104, 105]. **Concept** [120]. **Concepts** [152]. **concurrency** [118]. **Conference** [162]. **construction** [20, 68]. **Contemporary** [97]. **Content** [4, 49]. **Contributed** [112]. **contribution** [107]. **Contributions** [132, 158, 163]. **Corbató** [74, 137]. **Correctness** [59]. **Countering** [164]. **Cracking** [110]. **creating** [156]. **creative** [93]. **Cryptography** [165, 123, 58, 122]. **Cryptology** [89]. **Cybersecurity** [129].

Dahl [86]. **Dana** [155]. **Data** [162]. **Database** [114, 16, 120, 29]. **day** [122]. **Days** [22, 87, 56, 88]. **debugging** [92]. **Decades** [120]. **Deep** [144]. **Departments** [128]. **describe** [72]. **Design** [83, 62, 63, 20, 68]. **Designed** [130]. **did** [115]. **Dies** [137]. **Diffie** [122, 123]. **Digital** [123]. **dimension** [142]. **directions** [122]. **disciplinary** [116]. **Discipline** [39, 40]. **discusses** [105]. **Distributed** [112, 161]. **Diverse** [164]. **Dollar** [120]. **Dongarra** [152]. **Double** [164]. **Double-Compiling** [164]. **down** [149]. **dozen** [84]. **Dream** [80, 54].

Early [56, 88, 118]. **Ed** [102]. **editor** [148, 145, 150]. **elegance** [104]. **Elements** [48, 76]. **elites** [147]. **Emergence** [39, 40]. **emperor** [38, 15]. **Empirical** [9, 51]. **enables** [156]. **engineering** [163, 81]. **Ethernet** [156, 157]. **every** [122]. **Evolution** [26, 91, 153]. **Examining** [64]. **explosion** [27].

fail [31, 73]. **Father** [137]. **fault** [97]. **Feigenbaum** [102]. **Fernando** [74, 137]. **Field** [120]. **Finding** [122]. **first** [159]. **Form** [4, 49]. **Foundation** [16, 29]. **Foundational** [132, 158, 156]. **Foundations** [165, 146]. **Framework** [82]. **Fred** [121]. **Fueled** [152]. **Fully** [164]. **Functional** [11, 25]. **Future** [26, 91, 64, 81].

Game [108]. **Generality** [46, 47]. **Getting** [149]. **Goes** [120, 114]. **Golden** [139]. **Goldwasser** [165]. **Google** [117]. **Graphics** [152]. **Growth** [152].

heights [138]. **Hellman** [122, 123]. **Helped** [132]. **Hennessy** [132]. **hero** [115]. **High** [152]. **High-Performance** [152]. **History** [22, 56]. **honor** [106]. **Honoring** [109]. **Honors** [152, 156, 158]. **Human** [50]. **Humble** [6, 32].

IBM [85]. **Illogical** [129]. **impact** [147]. **Impacts** [152]. **Improving** [64, 154]. **Inquiry** [9, 51]. **insights** [131]. **Integrated** [130]. **intelligence** [46, 47]. **interaction** [48, 76]. **International** [162]. **Internet** [156, 26, 91, 123]. **Interview** [74, 102, 121, 155, 75, 101]. **Introductions** [90]. **Invention** [156, 123]. **Inventor** [157, 130]. **IoT** [132]. **IQ** [82].

Jack [152]. **Johan** [86]. **John** [12, 116, 70]. **José** [74]. **joy** [93]. **June** [162].

Key [123, 124]. **Kristen** [86].

Lamport [112]. **land** [126]. **language** [20, 68]. **Languages** [10, 146, 57]. **Last** [94, 99, 122, 133, 134, 138, 142, 146]. **laureates** [127]. **Learned** [26, 91]. **Learner** [105]. **learning** [104, 144, 105]. **Lecture** [78, 151, 144, 153, 118, 87, 83, 91, 69, 12, 82, 79, 37, 77, 129, 43, 90, 76, 81, 80, 88, 89, 60, 126, 103]. **Lectures** [159]. **Lee** [130]. **Leslie** [104, 105]. **Lessons** [22, 26, 91, 56]. **letter** [145, 150]. **Letters** [148]. **Liberated** [11, 25]. **life** [156]. **Lifelong** [105]. **Liskov** [93, 94, 96]. **Literate** [160]. **Logic** [129, 10, 57].

M [141, 132, 156, 116, 123, 130, 70, 81]. **machine** [104, 105]. **Made** [123]. **make** [115]. **Man** [3, 36]. **Management** [162, 133, 134]. **Many** [152]. **Martin** [122]. **mathematical** [153]. **means** [119]. **Medal** [116]. **meeting** [122]. **memory** [86]. **Metcalfe** [156]. **Methods** [152]. **Micali** [165]. **Michael** [101]. **Micropipelines** [61, 71]. **Microprocessors** [132]. **Microsoft** [112]. **million** [117, 113]. **Milner** [75]. **Mobile** [132]. **Model** [27, 92, 33]. **Modern** [132, 156]. **much** [156]. **Multibillion** [120].

Multibillion-Dollar [120]. **my** [27].

Nature [77, 37]. **Naur** [125]. **Navigator** [7, 24]. **net** [140]. **networks** [138]. **Neumann** [116, 11, 25]. **Neural** [140, 138]. **neuroscience** [105]. **News** [98, 117, 127, 93, 100, 124, 136, 140, 143, 149, 154, 95, 96, 113, 125, 97]. **next** [84]. **Nobel** [114]. **Notation** [14, 41]. **Nuclear** [129]. **Numerical** [5, 67]. **Nygaard** [86].

Object [86]. **Object-Orientation** [86]. **Old** [15, 38]. **Ole-Johan** [86]. **One** [3, 36]. **Operating** [85]. **Orientation** [86]. **our** [109, 82]. **overcome** [27]. **Overview** [17, 30].

PA [162]. **Paradigms** [13, 35]. **parallel** [104, 105]. **Password** [137]. **Past** [64]. **patterns** [147]. **Patterson** [132]. **Performance** [23, 152, 28, 69, 154]. **Personal** [23, 33]. **Perspective** [33]. **Peter** [125]. **Philadelphia** [162]. **Pioneer** [114, 120]. **Pioneering** [152]. **Pioneers** [132, 123, 163]. **Play** [90]. **Possibilities** [26, 91]. **Possible** [123, 80, 54]. **Power** [45]. **Practical** [16, 29]. **Practice** [112]. **Pre** [22, 87]. **Pre-RSA** [22]. **prescribe** [72]. **President** [109]. **Principles** [161]. **privacy** [124]. **Prize** [114, 117, 113]. **probable** [111]. **problem** [27]. **problems** [84]. **Proceedings** [162, 161]. **processors** [28, 69]. **Productivity** [16, 29, 147]. **profession** [81]. **Programmer** [7, 6, 24, 32]. **Programming** [11, 13, 8, 160, 10, 25, 35, 146, 44, 57, 20, 68]. **Programs** [11, 25]. **Proofs** [111]. **Providing** [165]. **proximity** [116]. **Public** [123]. **Public-Key** [123].

Q&A [94, 99, 105, 110, 122]. **Quest** [59, 104, 27].

Rabin [101]. **raised** [113]. **randomness** [21, 42]. **Reaching** [138]. **reaction** [150]. **Receive** [132, 123, 119]. **Receives** [130]. **recipient** [70]. **recognition** [107]. **recognized** [156]. **Reconsider** [78, 60]. **Reflections** [18, 55, 19, 65]. **Relational** [16, 29, 120]. **remaining** [84]. **Report** [89]. **Research** [18, 120, 122, 55]. **Resulted** [152]. **results** [122]. **review** [12]. **revisited** [147]. **Revolutionized** [123]. **Revolutions** [132]. **Rewarded** [136]. **RISC** [133, 134, 136]. **Robin** [75]. **RSA** [22, 87, 56, 88].

Santa [161]. **Scandinavian** [86]. **School** [86]. **Science** [152, 3, 77, 39, 4, 9, 115, 116, 36, 37, 40, 118, 49, 51, 107, 58]. **scientific** [28, 69]. **scientists** [107]. **Scott** [155]. **Search** [9, 28, 69, 51]. **Security** [129, 123]. **Set** [120]. **Shafi** [165]. **Shaping** [146]. **sharks** [126]. **Should** [90]. **SIGMOD** [162]. **Signatures** [123]. **Significant** [152]. **Silvio** [165]. **simplicity** [104]. **Sir** [130]. **sixteenth** [161]. **Society** [82]. **Software** [152, 163, 18, 153, 55]. **Some** [5, 67]. **Sound** [165]. **spirit** [143]. **squawk** [126]. **Standardization** [156]. **State** [58, 27]. **Status** [89]. **Stonebraker** [120]. **Strategies** [26, 91]. **Style** [11, 25]. **Success** [120, 98]. **supports** [156].

Symbols [9, 51]. **symposium** [161]. **Synthesis** [1, 52]. **System** [85]. **System/360** [85]. **Systems** [112, 114, 1, 120, 103, 31, 73, 52].

Tales [148]. **talks** [104]. **Technologies** [130]. **Technology** [157, 156]. **Thacker** [100]. **their** [151, 122]. **Theory** [112, 158]. **Thinking** [50]. **third** [142]. **Thought** [14, 41]. **Tim** [130]. **Time** [145, 78, 60]. **Today** [132]. **tolerance** [97]. **Tool** [14, 41]. **Tour** [23]. **Trends** [103]. **Trust** [19, 164, 65]. **Trusting** [19, 164, 65]. **Turing** [141, 132, 152, 156, 158, 159, 83, 91, 82, 116, 90, 123, 130, 70, 81, 120, 113, 87, 151, 157, 144, 115, 145, 69, 12, 153, 79, 117, 127, 128, 37, 77, 129, 106, 147, 43, 118, 135, 119, 76, 107, 80, 88, 100, 89, 96, 150, 60, 78, 126, 103, 131]. **Turings** [148]. **twenty** [159]. **two** [145, 148].

Underpin [130]. **USA** [161, 162]. **use** [122]. **users** [156]. **Usher** [132].

Valiant [104, 105]. **Vardi** [131]. **Verification** [81, 59, 92]. **View** [3, 36]. **Viewpoint** [115, 119]. **Visionaries** [135]. **vs** [50].

Web [130]. **Which** [152, 156]. **Whitfield** [122]. **Wide** [130]. **Wigderson** [158]. **will** [31, 73]. **Win** [135]. **winners** [116, 95]. **wins** [100, 96]. **Won** [157, 131]. **Work** [112, 165]. **World** [152, 130]. **World-Changing** [152]. **worth** [140]. **Would** [131].

year [27]. **years** [159, 128, 118].

References

Perlis:1967:SAS

[1] Alan J. Perlis. The synthesis of algorithmic systems. *Journal of the ACM*, 14(1):1–9, January 1967. CODEN JACOAH. ISSN 0004-5411.

Wilkes:1968:CTN

[2] Maurice V. Wilkes. Computers then and now. *Journal of the ACM*, 15 (1):1–7, January 1968. CODEN JACOAH. ISSN 0004-5411.

Hamming:1969:OMV

[3] R. W. Hamming. One man's view of computer science. *Journal of the ACM*, 16(1):3–12, January 1969. CODEN JACOAH. ISSN 0004-5411.

Minsky:1970:FCC

[4] Marvin L. Minsky. Form and content in computer science. *Journal of the ACM*, 17(2):197–215, April 1970. CODEN JACOAH. ISSN 0004-5411.

Wilkinson:1971:SCN

[5] J. H. Wilkinson. Some comments from a numerical analyst. *Journal of the ACM*, 18(2):137–147, April 1971. CODEN JACOAH. ISSN 0004-5411.

Dijkstra:1972:HP

[6] Edsger W. Dijkstra. The humble programmer. *Communications of the ACM*, 15(10):859–866, October 1972. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Bachman:1973:PN

[7] Charles W. Bachman. The programmer as navigator. *Communications of the ACM*, 16(11):653–658, November 1973. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). This is the 1973 ACM Turing Award Lecture.

Knuth:1974:CPA

[8] Donald E. Knuth. Computer programming as an art. *Communications of the ACM*, 17(12):667–673, December 1974. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). French translation, with three supplementary paragraphs, in *L’Informatique Nouvelle*, No. 64 (June 1975), 20–27. Japanese translation by Makoto Arisawa in *bit* **7** (1975), 434–444; reprinted in *Kunusu Sensei no Program-Ron* (see under Books), 2–19. English version reprinted with the supplementary paragraphs in *ACM Turing Award Lectures: The First Twenty Years* (New York: ACM Press, 1987), 33–46; reprinted with corrections in [160, pp. 1–16]. Russian translation by V. V. Martyni͡uk in *Lektsii laureatov premii T’i͡uringa* (Moscow: Mir, 1993), 48–64.

Newell:1976:CSE

[9] Allen Newell and Herbert A. Simon. Computer science as empirical inquiry: Symbols and search. *Communications of the ACM*, 19(3):113–126, March 1976. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Scott:1977:LPL

[10] Dana S. Scott. Logic and programming languages. *Communications of the ACM*, 20(9):634–641, September 1977. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Backus:1978:CPL

[11] John Backus. Can programming be liberated from the von Neumann style? A functional style and its algebra of programs. *Communications of*

the ACM, 21(8):613–641, August 1978. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reproduced in “Selected Reprints on Dataflow and Reduction Architectures” ed. S. S. Thakkar, IEEE, 1987, pp. 215-243.

Dijkstra:1978:RTA

[12] Edsger W. Dijkstra. A review of the 1977 Turing Award Lecture by John Backus. Circulated privately., 1978. URL `http://www.cs.utexas.edu/users/EWD/ewd06xx/EWD692.PDF`.

Floyd:1979:PP

[13] Robert W. Floyd. The paradigms of programming. *Communications of the ACM*, 22(8):455–460, August 1979. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Iverson:1980:NTT

[14] Kenneth E. Iverson. Notation as a tool of thought. *Communications of the ACM*, 23(8):444–465, August 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Hoare:1981:EOC

[15] Charles Anthony Richard Hoare. The Emperor’s old clothes. *Communications of the ACM*, 24(2):75–83, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). This is the 1980 ACM Turing Award Lecture, delivered at ACM’80, Nashville, Tennessee, October 27, 1980.

Codd:1982:RDP

[16] E. F. Codd. Relational database: a practical foundation for productivity. *Communications of the ACM*, 25(2):109–117, February 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Cook:1983:OCC

[17] Stephen A. Cook. An overview of computational complexity. *Communications of the ACM*, 26(6):400–408, June 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Ritchie:1984:RSR

[18] Dennis M. Ritchie. Reflections on software research. *Communications of the ACM*, 27(8):758–760, August 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Thompson:1984:RTT

[19] Ken Thompson. Reflections on trusting trust. *Communications of the ACM*, 27(8):761–763, August 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Wirth:1985:PLD

[20] Niklaus Wirth. From programming language design to computer construction. *Communications of the ACM*, 28(2):160–164, February 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/0001-0782/2789.html`.

Karp:1986:CCR

[21] Richard M. Karp. Combinatorics, complexity, and randomness. *Communications of the ACM*, 29(2):98–109, February 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/0001-0782/5658.html`. This is the 1985 ACM Turing Award Lecture. It traces the development of combinatorial optimization and computational complexity theory. It discusses probabilistic algorithms and probabilistic analysis of approximation algorithms for *NP*-complete optimization problems.

Adleman:1987:PRD

[22] Leonard Adleman. Pre-RSA days: History and lessons. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Allen:1987:CPP

[23] Frances Allen. Compiling for performance: a personal tour. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Bachman:1987:PN

[24] Charles W. Bachman. The programmer as navigator. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Backus:1987:CPL

[25] John Backus. Can programming be liberated from the von Neumann style?: a functional style and its algebra of programs. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Cerf:1987:AIL

[26] Vinton Cerf and Robert E. Kahn. Assessing the Internet: Lessons learned, strategies for evolution, and future possibilities. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Clarke:1987:MCM

[27] Edmund M. Clarke. Model checking: my 27-year quest to overcome the state explosion problem. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Cocke:1987:SPS

[28] John Cocke. The search for performance in scientific processors. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Codd:1987:RDP

[29] E. F. Codd. Relational database: a practical foundation for productivity. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Cook:1987:OCC

[30] Stephen A. Cook. An overview of computational complexity. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Corbato:1987:BSW

[31] Fernando J. Corbató. On building systems that will fail. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Dijkstra:1987:HP

[32] Edsger W. Dijkstra. The humble programmer. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Emerson:1987:MCP

[33] E. Allen Emerson. Model checking: a personal perspective. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Feigenbaum:1987:HWB

[34] Edward A. Feigenbaum. How the 'what' becomes the 'how'. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Floyd:1987:PP

[35] Robert W. Floyd. The paradigms of programming. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Hamming:1987:OMV

[36] R. W. Hamming. One man's view of computer science. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Hartmanis:1987:TAL

[37] Juris Hartmanis. Turing Award Lecture: on computational complexity and the nature of computer science. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Hoare:1987:EOC

[38] Charles Antony Richard Hoare. The emperor's old clothes. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Hopcroft:1987:CSEa

[39] John E. Hopcroft. Computer science: The emergence of a discipline. *Communications of the ACM*, 30(3):198–202, March 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/0001-0782/214750.html`.

Hopcroft:1987:CSEb

[40] John E. Hopcroft. Computer science: the emergence of a discipline. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Iverson:1987:NTT

[41] Kenneth E. Iverson. Notation as a tool of thought. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Karp:1987:CCR

[42] Richard M. Karp. Combinatorics, complexity, and randomness. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Kay:1987:TAL

[43] Alan Kay. Turing Award Lecture. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Knuth:1987:CPA

[44] Donald E. Knuth. Computer programming as an art. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Liskov:1987:PA

[45] Barbara Liskov. The power of abstraction. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

McCarthy:1987:GAIa

[46] John McCarthy. Generality in artificial intelligence. *Communications of the ACM*, 30(12):1030–1035, December 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/0001-0782/33448.html`.

McCarthy:1987:GAIb

[47] John McCarthy. Generality in artificial intelligence. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Milner:1987:EI

[48] Robin Milner. Elements of interaction. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Minsky:1987:FCC

[49] Marvin Minsky. Form and content in computer science. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Naur:1987:CVH

[50] Peter Naur. Computing vs. human thinking. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Newell:1987:CSE

[51] Allen Newell and Herbert A. Simon. Computer science as empirical inquiry: symbols and search. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Perlis:1987:SAS

[52] Alan J. Perlis. The synthesis of algorithmic systems. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Rabin:1987:CC

[53] Michael O. Rabin. Complexity of computations. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Reddy:1987:DPD

[54] Raj Reddy. To dream the possible dream. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Ritchie:1987:RSR

[55] Dennis M. Ritchie. Reflections on software research. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Rivest:1987:EDR

[56] Ronald L. Rivest. The early days of RSA: History and lessons. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Scott:1987:LPL

[57] Dana S. Scott. Logic and programming languages. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Shamir:1987:CSS

[58] Adi Shamir. Cryptography: State of the science. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Sifakis:1987:QCB

[59] Joseph Sifakis. The quest for correctness beyond verification. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Stearns:1987:TAL

[60] Richard Edwin Stearns. Turing Award Lecture: it's time to reconsider time. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Sutherland:1987:M

[61] Ivan E. Sutherland. Micropipelines. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Tarjan:1987:ADa

[62] Robert E. Tarjan. Algorithm design. *Communications of the ACM*, 30(3): 204–212, March 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/0001-0782/214752.html`.

Tarjan:1987:ADb

[63] Robert E. Tarjan. Algorithm design. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Thack:1987:IFE

[64] Charles P. Thack. Improving the future by examining the past. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Thompson:1987:RTT

[65] Ken Thompson. Reflections on trusting trust. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Wilkes:1987:CTN

[66] Maurice V. Wilkes. Computers then and now. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Wilkinson:1987:SCN

[67] J. H. Wilkinson. Some comments from a numerical analyst. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Wirth:1987:PLD

[68] Niklaus Wirth. From programming language design to computer construction. In Ashenhurst [159], page ?? ISBN 0-201-07794-9. LCCN QA76.24 .A33 1987. ACM Turing Award lecture.

Cocke:1988:SPS

[69] John Cocke. The search for performance in scientific processors: the Turing Award Lecture. *Communications of the ACM*, 31(3):250–253, March 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/0001-0782/42394.html`.

Peled:1988:JCA

[70] Abraham Peled. John Cocke: The 1987 ACM A. M. Turing Award recipient. *Communications of the ACM*, 31(3):249, March 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/0001-0782/42393.html`.

Sutherland:1989:M

[71] I. E. Sutherland. Micropipelines. *Communications of the ACM*, 32(6):720–738, June 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/0001-0782/63532.html`.

Kahan:1990:BPA

[72] W. Kahan. Better to prescribe arithmetic than describe it. Technical report, Department of Computer Science, University of California, Berkeley, CA, USA, February 21, 1990. URL `http://www.math.utah.edu/pub/bibnet/authors/k/kahan-william-m.html`. Turing Award Lecture presented at the ACM 18th Annual Computer Science Conference on Cooperation, February 20–22, 1990, Sheraton Washington Hotel, Washington, DC, USA, but never published. Some material from this talk appears in later publications by W. Kahan.

Corbato:1991:BSW

[73] Fernando J. Corbató. On building systems that will fail. *Communications of the ACM*, 34(9):72–81, September 1991. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/0001-0782/114686.html`.

Frenkel:1991:IFJ

[74] Karen A. Frenkel. An interview with Fernando José Corbató. *Communications of the ACM*, 34(9):82–90, September 1991. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/0001-0782/114688.html`.

Frenkel:1993:IRM

[75] Karen A. Frenkel. An interview with Robin Milner. *Communications of the ACM*, 36(1):90–97, January 1993. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/0001-0782/151241.html`.

Milner:1993:EIT

[76] Robin Milner. Elements of interaction: Turing Award Lecture. *Communications of the ACM*, 36(1):78–89, January 1993. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/0001-0782/151240.html`.

Hartmanis:1994:TAL

[77] Juris Hartmanis. Turing Award Lecture: On computational complexity and the nature of computer science. *Communications of the ACM*, 37(10):37–43, October 1994. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/0001-0782/214781.html`.

Stearns:1994:TAL

[78] Richard Edwin Stearns. Turing award lecture: It's time to reconsider time. *Communications of the ACM*, 37(11):95–99, November 1994. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/0001-0782/188379.html`.

Feigenbaum:1996:TAL

[79] Edward A. Feigenbaum. Turing Award Lecture: How the "what" becomes the "how". *Communications of the ACM*, 39(5):97–104, May 1996. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/cacm/229471.html`.

Reddy:1996:TAL

[80] Raj Reddy. Turing Award Lecture: To dream the possible dream. *Communications of the ACM*, 39(5):105–112, May 1996. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://www.acm.org/pubs/toc/Abstracts/cacm/233436.html`.

Pnueli:1997:MTA

[81] Amir Pnueli. A. M. Turing Award Lecture: Verification engineering: a future profession. In ACM [161], page 7. ISBN 0-89791-952-1. LCCN QA76.9.D5 A33 1997. This is the 1996 ACM Turing Award Lecture, but only the abstract is published.

Engelbart:1998:CIF

[82] Douglas Engelbart. Collective IQ and a framework for bootstrapping our society — ACM Turing Award Lecture. Talk at 1998 ACM Conference on Computer Supported Cooperative Work (CSCW'98), Seattle, Washington, USA. Also presented June 24, 1998 at Hypertext (HT'98) and Digital Libraries (DL'98) combined conference, Marriott City Center, Pittsburgh, PA, USA, but does not appear in the proceedings of either conference, November 1998. URL `http://www.acm.org/sigchi/cscw98/`; `http://www.acm.org/sigchi/cscw98/program/plenaries.html#engelbart`.

Brooks:1999:DDA

[83] Frederick P. Brooks, Jr. The design of design: ACM Turing Award Lecture. The Lecture was presented at the SIGGRAPH 2000 Conference. It was reported in [85] to appear in Communications of the ACM, but has yet to be published., 1999. URL `http://terra.cs.nps.navy.mil/DistanceEducation/online.siggraph.org/2001/SpecialSessions/2000TuringLecture-DesignOfDesign/session.html`.

Gray:1999:WND

[84] Jim Gray. What next? A dozen remaining IT problems. Technical report TR-99-50, Microsoft Research, San Francisco, CA, USA, 1999. URL `ftp://ftp.research.microsoft.com/pub/tr/tr-99-50.pdf`; `http://research.microsoft.com/scripts/pubs/view.asp?TR_ID=MSR-TR-99-50`. Also presented at SIGMOD '99 Conference, Philadelphia, PA, USA, June 1–3, 1999, but not published as a paper in the proceedings. A video of the lecture is included in the electronic proceedings [162], but is not accessible without a SIGMOD Authenticator username and password.

Brooks:2002:IOS

[85] Frederick P. Brooks, Jr. The IBM Operating System/360. In Broy and Denert [163], pages 170–178. ISBN 3-540-43081-4. LCCN QA76.2.A2 S62 2002.

Madsen:2002:SSO

[86] Ole Lehrmann Madsen. The Scandinavian School of Object-Orientation — in memory of Ole-Johan Dahl and Kristen Nygaard. OOPSLA 2002 talk., November 7, 2002. URL `http://heim.ifi.uio.no/~kristen/`; `http://oopsla.acm.org/oopsla2002/fp/files/spe-concepts.html`; `http://www.ifi.uio.no/in_memoriam_kristen/`; `http://www.interesting-people.org/archives/interesting-people/200208/msg00032.html`.

Adleman:2003:TLP

[87] Leonard M. Adleman. Turing Lecture on pre RSA days. World-Wide Web slide presentation, video, and audio., 2003. URL `http://www.acm.org/turingawardlecture/RSA/`.

Rivest:2003:TLE

[88] Ronald L. Rivest. Turing Lecture on early RSA days. World-Wide Web slide presentation, video, and audio., 2003. URL `http://www.acm.org/turingawardlecture/RSA/`.

Shamir:2003:TLC

[89] Adi Shamir. Turing Lecture on cryptology: a status report. World-Wide Web slide presentation, video, and audio., 2003. URL `http://www.acm.org/turingawardlecture/RSA/`.

Kay:2004:ATL

[90] Alan Kay. ACM Turing Lecture: Introductions to computing should be child's play. World-Wide Web document., October 26, 2004. URL `http://www.oopsla.org/2004/ShowEvent.do?id=421`.

Cerf:2005:ATL

[91] Vinton Cerf and Robert Kahn. ACM Turing Lecture: Assessing the Internet: Lessons learned, strategies for evolution, and future possibilities. World-Wide Web document, August 22, 2005. URL `http://beansidhe.isc-net.upenn.edu:8080/ramgen/seas/Turing.rm`; `http://www.sigcomm.org/sigcomm2005/turinglecture.html`; `http://www.sigcomm.org/sigcomm2005/webcast.html`.

Clarke:2009:MCA

[92] Edmund M. Clarke, E. Allen Emerson, and Joseph Sifakis. Model checking: algorithmic verification and debugging. *Communications of the ACM*, 52(11):74–84, November 2009. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Frenkel:2009:NLC

[93] Karen A. Frenkel. News: Liskov's creative joy. *Communications of the ACM*, 52(7):20–22, July 2009. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Hoffmann:2009:LBQb

[94] Leah Hoffmann. Last byte: Q&A: Liskov on Liskov. *Communications of the ACM*, 52(7):120–ff, July 2009. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Staff:2009:NAA

[95] CACM Staff. News: ACM award winners. *Communications of the ACM*, 52(7):25, July 2009. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Staff:2009:NLW

[96] CACM Staff. News: Liskov wins Turing Award. *Communications of the ACM*, 52(5):21, May 2009. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Wright:2009:NCA

[97] Alex Wright. News: Contemporary approaches to fault tolerance. *Communications of the ACM*, 52(7):13–15, July 2009. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Anthes:2010:NCS

[98] Gary Anthes. News: Committed to success. *Communications of the ACM*, 53(7):22–23, July 2010. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Hoffmann:2010:LBQ

[99] Leah Hoffmann. Last byte: Q&A. *Communications of the ACM*, 53(7): 112, 111, July 2010. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Rosenberger:2010:NTW

[100] Jack Rosenberger. News: Thacker wins Turing Award. *Communications of the ACM*, 53(5):21, May 2010. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Shasha:2010:IMR

[101] Dennis Shasha. An interview with Michael Rabin. *Communications of the ACM*, 53(2):37–42, February 2010. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Shustek:2010:IIE

[102] Len Shustek. Interview: An interview with Ed Feigenbaum. *Communications of the ACM*, 53(6):41–45, June 2010. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Thacker:2010:TLT

[103] Charles P. Thacker. Turing Lecture: Trends in computing systems. Web video, 2010. URL `http://awards.acm.org/turing/2009`.

Anthes:2011:BEL

[104] Gary Anthes. Beauty and elegance: Leslie Valiant talks about machine learning, parallel computing, and his quest for simplicity. *Communications of the ACM*, 54(6):14–15, June 2011. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Hoffmann:2011:QLL

[105] Leah Hoffmann. Q&A: A lifelong learner: Leslie Valiant discusses machine learning, parallel computing, and computational neuroscience. *Communications of the ACM*, 54(6):128, 127, June 2011. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Hyman:2012:HAT

[106] Paul Hyman. In honor of Alan Turing. *Communications of the ACM*, 55 (9):20–23, September 2012. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Nikiforova:2012:TAS

[107] Irina Nikiforova. *Turing award scientists: contribution and recognition in computer science*. Thesis (Ph.D.), Georgia Institute of Technology, Atlanta, GA, USA, May 18, 2012. ???? pp. URL `http://hdl.handle.net/1853/44756`.

Savage:2012:GC

[108] Neil Savage. Game changer. *Communications of the ACM*, 55(6):22–23, June 2012. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Cerf:2013:PHO

[109] Vinton G. Cerf. From the President: Honoring our best. *Communications of the ACM*, 56(6):7, June 2013. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Hoffmann:2013:QCC

[110] Leah Hoffmann. Q&A: Cracking the code. *Communications of the ACM*, 56(6):120–ff, June 2013. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Savage:2013:PP

[111] Neil Savage. Proofs probable. *Communications of the ACM*, 56(6):22–24, June 2013. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

ACM:2014:MLC

[112] ACM. Microsoft's Lamport contributed to theory and practice of building distributed computing systems that work. Web document, March 18, 2014. URL `http://www.acm.org/press-room/news-releases/2014/pdfs/turing-award-13b.pdf`; `http://www.acm.org/press-room/news-releases/2014/pdfs/turing-award-lt-13a.pdf`; `http://www.acm.org/press-room/news-releases/2014/turing-award-13/`.

Staff:2014:NAT

[113] CACM Staff. News: ACM's Turing Award prize raised to $1 million. *Communications of the ACM*, 57(12):20, December 2014. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://cacm.acm.org/magazines/2014/12/180785/fulltext`.

ACM:2015:NPC

[114] ACM. "Nobel Prize in Computing" goes to MIT database systems architecture pioneer. *R&D Magazine*, ??(??):??, March 25, 2015. URL `http://www.scientificcomputing.com/news/2015/03/nobel-prize-computing-goes-mit-database-systems-architecture-pioneer`.

Bullynck:2015:VWD

[115] Maarten Bullynck, Edgar G. Daylight, and Liesbeth De Mol. Viewpoint: Why did computer science make a hero out of Turing? *Communications of the ACM*, 58(3):37–39, March 2015. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://cacm.acm.org/magazines/2015/3/183592/fulltext`.

Fields:2015:CAP

[116] Chris Fields. Co-authorship proximity of A. M. Turing Award and John von Neumann Medal winners to the disciplinary boundaries of computer science. *Scientometrics*, 104(3):809–825, September 2015. CODEN SCNTDX. ISSN 0138-9130 (print), 1588-2861 (electronic). URL `http://link.springer.com/article/10.1007/s11192-015-1575-9`.

Fisher:2015:NGB

[117] Lawrence M. Fisher. News: Google boosts ACM's Turing Award prize to $1 million. *Communications of the ACM*, 58(1):31, January 2015. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://cacm.acm.org/magazines/2015/1/181631/fulltext`.

Lamport:2015:TLC

[118] Leslie Lamport. Turing lecture: The computer science of concurrency: the early years. *Communications of the ACM*, 58(6):71–76, June 2015. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://cacm.acm.org/magazines/2015/6/187316/fulltext`.

Micali:2015:VWI

[119] Silvio Micali. Viewpoint: What it means to receive the Turing award. *Communications of the ACM*, 58(1):52–53, January 2015. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://cacm.acm.org/magazines/2015/1/181611/fulltext`.

Shriver:2015:ATA

[120] Bruce Shriver and Marie Gentile. ACM Turing Award goes to pioneer in database systems architecture: MIT's Stonebraker brought relational database systems from concept to commercial success, set the research agenda for the multibillion-dollar database field for decades. Web document, March 25, 2015. URL `http://amturing.acm.org/stonebraker_1172121.pdf`.

Shustek:2015:IIF

[121] Len Shustek. Interview: An interview with Fred Brooks. *Communications of the ACM*, 58(11):36–40, November 2015. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://cacm.acm.org/magazines/2015/11/193333/fulltext`.

Hoffmann:2016:LBQb

[122] Leah Hoffmann. Last byte: Q&A: Finding new directions in cryptography: Whitfield Diffie and Martin Hellman on their meeting, their research, and the results that billions use every day. *Communications of the ACM*, 59(6):112–ff, June 2016. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://cacm.acm.org/magazines/2016/6/202666/fulltext`.

Ormond:2016:CPR

[123] Jim Ormond. Cryptography pioneers receive ACM A. M. Turing Award: Diffie and Hellman's invention of public-key cryptography and digital sig-

natures revolutionized computer security and made Internet commerce possible. Web document, March 1, 2016. URL `http://www.acm.org/media-center/2016/march/turing-award-2015`.

Savage:2016:NKP

[124] Neil Savage. News: The key to privacy. *Communications of the ACM*, 59(6):12–14, June 2016. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://cacm.acm.org/magazines/2016/6/202654/fulltext`.

Staff:2016:NPN

[125] CACM Staff. News: Peter Naur: 1928–2016. *Communications of the ACM*, 59(3):22–23, March 2016. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://cacm.acm.org/magazines/2016/3/198858/fulltext`.

Stonebraker:2016:TLL

[126] Michael Stonebraker. Turing Lecture: The land sharks are on the squawk box. *Communications of the ACM*, 59(2):74–83, February 2016. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://cacm.acm.org/magazines/2016/2/197423/fulltext`.

Fisher:2017:NTL

[127] Lawrence M. Fisher. News: Turing laureates celebrate award's 50th anniversary. *Communications of the ACM*, 60(9):20–23, September 2017. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://cacm.acm.org/magazines/2017/9/220435/fulltext`.

Hanson:2017:DCY

[128] Vicki L. Hanson. Departments: Celebrating 50 years of the Turing award. *Communications of the ACM*, 60(2):5, February 2017. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://cacm.acm.org/magazines/2017/2/212441/fulltext`.

Hellman:2017:TLC

[129] Martin E. Hellman. Turing Lecture: Cybersecurity, nuclear security, Alan Turing, and illogical logic. *Communications of the ACM*, 60(12):52–59, December 2017. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://cacm.acm.org/magazines/2017/12/223042-cybersecurity-nuclear-security-alan-turing-and-illogical-logic`.

Ormond:2017:IWW

[130] Jim Ormond. Inventor of World Wide Web receives ACM A. M. Turing Award: Sir Tim Berners-Lee designed integrated architecture and technologies that underpin the Web. ACM press release., April 4, 2017. URL `http://www.acm.org/media-center/2017/april/turing-award-2016`.

Vardi:2017:VIW

[131] Moshe Y. Vardi. Vardi's insights: Would Turing have won the Turing award? *Communications of the ACM*, 60(11):7, November 2017. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `http://cacm.acm.org/magazines/2017/11/222163/fulltext`.

Anonymous:2018:PMC

[132] Anonymous. Pioneers of modern computer architecture receive ACM A. M. Turing Award: Hennessy and Patterson's foundational contributions to today's microprocessors helped usher in mobile and IoT revolutions. ACM press release., March 21, 2018. URL `https://amturing.acm.org/`.

Hoffmann:2018:LBR

[133] Leah Hoffmann. Last byte: RISC management. *Communications of the ACM*, 61(6):104–ff, June 2018. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://cacm.acm.org/magazines/2018/6/228042/fulltext`.

Hoffmann:2018:LBRa

[134] Leah Hoffmann. Last byte: RISC management. *Communications of the ACM*, 61(6):104–ff, June 2018. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://cacm.acm.org/magazines/2018/6/228042/fulltext`.

Metz:2018:CCV

[135] Cade Metz. Computer chip visionaries win Turing Award. *New York Times*, ??(??):??, March 21, 2018. CODEN NYTIAO. ISSN 0362-4331 (print), 1542-667X, 1553-8095. URL `https://www.nytimes.com/2018/03/21/technology/computer-chips-turing-award.html`.

Savage:2018:NRR

[136] Neil Savage. News: Rewarded for RISC. *Communications of the ACM*, 61(6):10–12, June 2018. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://cacm.acm.org/magazines/2018/6/228029/fulltext`.

Hafner:2019:FCF

[137] Katie Hafner. Fernando Corbató, a father of your computer (and your password), dies at 93. *New York Times*, ??(??):??, July 12, 2019. CODEN NYTIAO. ISSN 0362-4331 (print), 1542-667X, 1553-8095. URL `https://www.nytimes.com/2019/07/12/science/fernando-corbato-dead.html`. Fernando J. Corbató was the 1990 ACM Turing Award winner.

Hoffmann:2019:LBRa

[138] Leah Hoffmann. Last byte: Reaching new heights with artificial neural networks. *Communications of the ACM*, 62(6):96–ff, June 2019. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://cacm.acm.org/magazines/2019/6/236987/fulltext`.

Patterson:2019:NGA

[139] Dave Patterson and Cliff Young. A new golden age for computer architecture. ACM Web lecture., August 29, 2019. URL `https://webinars.on24.com/acm/patterson?partnerref=bull2`.

Savage:2019:NNN

[140] Neil Savage. News: Neural net worth. *Communications of the ACM*, 62(6):10–12, June 2019. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://cacm.acm.org/magazines/2019/6/236990/fulltext`.

ACM:2020:AMT

[141] ACM. 2019 ACM A. M. Turing Award announcement. ACM Web site., March 18, 2020. URL `https://www.acm.org/media-center/2019/march/turing-award-2019`.

Hoffmann:2020:LBA

[142] Leah Hoffmann. Last byte: Attaining the third dimension. *Communications of the ACM*, 63(6):96–ff, June 2020. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://dl.acm.org/doi/abs/10.1145/3392697`.

Savage:2020:NAS

[143] Neil Savage. News: An animating spirit. *Communications of the ACM*, 63(6):10–12, June 2020. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://dl.acm.org/doi/abs/10.1145/3392520`.

Bengio:2021:TLD

[144] Yoshua Bengio, Yann LeCun, and Geoffrey Hinton. Turing lecture: Deep learning for AI. *Communications of the ACM*, 64(7):58–65, July 2021. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://dl.acm.org/doi/10.1145/3448250`.

Chien:2021:ELT

[145] Andrew A. Chien. Editor's letter: Time for two annual Turing awards. *Communications of the ACM*, 64(6):5, June 2021. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://dl.acm.org/doi/10.1145/3462459`. See letters [148].

Hoffmann:2021:LBS

[146] Leah Hoffmann. Last byte: Shaping the foundations of programming languages. *Communications of the ACM*, 64(6):120–ff, June 2021. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://dl.acm.org/doi/10.1145/3460442`.

Jin:2021:TAE

[147] Yinyu Jin, Sha Yuan, and Jie Tang. Turing Award elites revisited: patterns of productivity, collaboration, authorship and impact. *Scientometrics*, 126(3):2329–2348, March 2021. CODEN SCNTDX. ISSN 0138-9130 (print), 1588-2861 (electronic). URL `https://link.springer.com/article/10.1007/s11192-020-03860-4`.

Rector:2021:LET

[148] Gary Rector, Alexander Simonelis, Maurice van Swaaij, Alex Thomasian, Rebecca Mercuri, Andrew A. Chien, and Joseph P. Skudlarek. Letters to the editor: Tales of two Turings. *Communications of the ACM*, 64(8):7–9, August 2021. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://dl.acm.org/doi/10.1145/3469876`. Comments on proposal for two annual Turing awards [145].

Savage:2021:NGB

[149] Neil Savage. News: Getting down to basics. *Communications of the ACM*, 64(6):12–14, June 2021. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://dl.acm.org/doi/10.1145/3460734`.

Staff:2021:ELTb

[150] CACM Staff. Editor's letter: Turing reaction. *Communications of the ACM*, 64(9):9, September 2021. CODEN CACMA2. ISSN 0001-

0782 (print), 1557-7317 (electronic). URL `https://dl.acm.org/doi/10.1145/3477598`.

Aho:2022:TLA

[151] Alfred Aho and Jeffrey Ullman. Turing lecture: Abstractions, their algorithms, and their compilers. *Communications of the ACM*, 65(2):76–91, February 2022. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://dl.acm.org/doi/10.1145/3490685`.

Anonymous:2022:ATA

[152] Anonymous. ACM Turing Award honors Jack Dongarra for pioneering concepts and methods which resulted in world-changing computations: Dongarra's algorithms and software fueled the growth of high-performance computing and had significant impacts in many areas of computational science from AI to computer graphics. ACM Web site, March 29, 2022. URL `https://awards.acm.org/about/2021-turing; https://sc22.supercomputing.org/program/acm-a-m-turing-award-lecture/ cm.org/about/2021-turing`.

Dongarra:2022:TLE

[153] Jack J. Dongarra. Turing lecture: The evolution of mathematical software. *Communications of the ACM*, 65(12):66–72, December 2022. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://dl.acm.org/doi/10.1145/3554977`.

Savage:2022:NAI

[154] Neil Savage. News: Always improving performance. *Communications of the ACM*, 65(6):16–18, June 2022. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://dl.acm.org/doi/10.1145/3530689`.

Shustek:2022:IID

[155] Len Shustek. Interview: An interview with Dana Scott. *Communications of the ACM*, 65(8):25–29, August 2022. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL `https://dl.acm.org/doi/10.1145/3544551`.

Anonymous:2023:AMT

[156] Anonymous. ACM A. M. Turing Award honors Bob Metcalfe for invention, standardization, and commercialization of Ethernet. Metcalfe is recognized for creating the foundational technology of the Internet which supports more than 5 billion users and enables much of modern life. Web site, March 22, 2023. URL `https://awards.acm.org/about/2022-turing`.

Anonymous:2023:TAW

[157] Anonymous. Turing Award won by co-inventor of Ethernet technology. *New York Times*, ??(??):??, March 22, 2023. URL `https://www.nytimes.com/2023/03/22/technology/turing-award-bob-metcalfe-ethernet.html`.

Anonymous:2024:AMT

[158] Anonymous. ACM A.M. Turing Award honors Avi Wigderson for foundational contributions to the theory of computation. ACM press release, April 10, 2024. URL `https://awards.acm.org/about/2023-turing`.

Ashenhurst:1987:ATA

[159] Robert L. Ashenhurst, editor. *ACM Turing Award Lectures: the first twenty years, 1966–1985*. ACM Press anthology series. ACM Press and Addison-Wesley, New York, NY 10036, USA and Reading, MA, USA, 1987. ISBN 0-201-07794-9. xviii + 483 pp. LCCN QA76.24 .A33 1987.

Knuth:1992:LP

[160] Donald E. Knuth. *Literate Programming*, volume 27 of *CSLI Lecture Notes*. Stanford University Center for the Study of Language and Information, Stanford, CA, USA, 1992. ISBN 0-937073-80-6 (paperback), 0-937073-81-4 (hardcover). xv + 368 pp. LCCN QA76.6.K644. URL `http://csli-www.stanford.edu/publications/literate.html`.

ACM:1997:PSA

[161] ACM, editor. *Proceedings of the sixteenth annual ACM symposium on Principles of distributed computing 1997, Santa Barbara, California, USA, August 21–24, 1997*. ACM Press, New York, NY 10036, USA, 1997. ISBN 0-89791-952-1. LCCN QA76.9.D5 A33 1997. ACM order number 536970.

Delis:1999:PAS

[162] Alex Delis, Christos Faloutsos, and Shahram Ghandeharizadeh, editors. *Proceedings of the 1999 ACM SIGMOD International Conference on Management of Data: SIGMOD '99, Philadelphia, PA, USA, June 1–3, 1999*, volume 28(2) of *SIGMOD Record (ACM Special Interest Group on Management of Data)*. ACM Press, New York, NY 10036, USA, 1999. ISBN ???? ISSN 0163-5808 (print), 1943-5835 (electronic). LCCN QA1 .A87. URL `http://www.sigmod.org/sigmod/disc/m_plenary_talks.htm`; `http://www.sigmod.org/sigmod/disc/m_search.htm`.

Broy:2002:SPC

[163] M. Broy and Ernst Denert, editors. *Software pioneers: contributions to software engineering*. Springer-Verlag, Berlin, Germany / Heidelberg, Ger-

many / London, UK / etc., 2002. ISBN 3-540-43081-4. LCCN QA76.2.A2 S62 2002.

Wheeler:2009:FCT

[164] David A. Wheeler. *Fully Countering Trusting Trust through Diverse Double-Compiling.* Ph.D. dissertation, George Mason University, Fairfax, VA, USA, Fall 2009. URL `https://www.dwheeler.com/trusting-trust`.

Goldreich:2019:PSF

[165] Oded Goldreich, editor. *Providing Sound Foundations for Cryptography: On the Work of Shafi Goldwasser and Silvio Micali.* ACM Press, New York, NY 10036, USA, October 2019. ISBN 1-4503-7266-X (hardcover), 1-4503-7266-X (paperback), 1-4503-7267-8 (e-pub). ISSN 2374-6777. xxxv + 800 pp. LCCN TK5102.94 .P767 2019.