

1. Biographical and Personal Information

Donald E. Knuth, born January 10, 1938, Milwaukee, Wisconsin; U. S. citizen.

Chinese name 高德纳 (pronounced Gāo Dénà or Ko Tokuno).

Married to Nancy Jill Carter [高精蘭] (b. July 15, 1939), June 24, 1961.

Children: John Martin (b. July 21, 1965), Jennifer Sierra (b. December 12, 1966).

2. Academic History

Case Institute of Technology, September 1956–June 1960; B.S., summa cum laude, June, 1960; M.S. (by special vote of the faculty), June 1960.

California Institute of Technology, September 1960–June 1963; Ph.D. in Mathematics, June 1963. Thesis: “Finite Semifields and Projective Planes.”

3. Employment Record

Consultant, Burroughs Corp., Pasadena, California, 1960–1968.

Assistant Professor of Mathematics, California Institute of Technology, 1963–1966.

Associate Professor of Mathematics, California Institute of Technology, 1966–1968.

Professor of Computer Science, Stanford University, 1968–.

Staff Mathematician, Institute for Defense Analyses—Communications Research Division, 1968–1969.

Guest Professor of Mathematics, University of Oslo, 1972–1973.

Professor of Electrical Engineering (by courtesy), Stanford University, 1977–.

Fletcher Jones Professor of Computer Science, Stanford University, 1977–1989.

Professor of The Art of Computer Programming, Stanford University, 1990–1992.

Professor of The Art of Computer Programming, Emeritus, Stanford University, 1993–.

4. Professional Societies

American Guild of Organists, 1965–.

American Mathematical Society, 1961–.

Committee on Composition Technology, 1978–1981.

Association for Computing Machinery, 1959–.

Chairman, subcommittee on ALGOL, 1963–1964.

General technical achievement awards subcommittee, 1975–1979.

National Lecturer, 1966–1967.

Visiting Scientist, 1966–1967.

Mathematical Association of America, 1959–.

Society for Industrial and Applied Mathematics, 1965–.

5. Publications

(see attached list)

6. Patents

3422405 (with R. E. Packard) Digital computers having an indirect field length operation. January 14, 1969.

3454929 (with D. P. Hynes) Computer Edit System. July 8, 1969.

3548174 Random number generator. December 15, 1970.

3626167 (with L. R. Guck, L. G. Hanson) Scaling and number base converting method and apparatus. December 7, 1971.

5305118 (with Stephen N. Schiller) Methods of controlling dot size in digital halftoning with multi-cell threshold arrays. April 19, 1994. European patent 96108227.8-2202, July 17, 1996.

7. Principal Invited Lectures Given

ACM National Convention, Syracuse, 1962.
NATO Summer School, Denmark, 1967.
Britannica Scholar, Chicago, 1968.
International Symposium on Teaching of Programming, Newcastle-Upon-Tyne, 1970.
International Congress of Mathematicians, Nice, 1970.
IFIP Congress, Ljubljana, 1971.
International Congress on Logic, Methodology, and Philosophy of Science, Bucharest, 1971.
Mathematical Association of America, San Francisco, 1974.
The Computer Science Lecture, Carnegie-Mellon University, 1974.
ACM National Convention, San Diego, 1974.
Symposium on Computational Systems, Monterrey, Mexico, 1975.
Chaire Aisenstadt, Montréal, 1975.
American Association for the Advancement of Science, Boston, 1976; see paper P82 below.
Gibbs Lecture (American Mathematical Society), Atlanta, 1978; see paper P91 below.
Gillies Lectures, University of Illinois, 1979.
Hitchcock Professor, University of California, 1979.
Ritt Lecturer, Columbia University, 1980.
International Colloquium on Automata, Languages, and Programming, Epidaurus, Greece, 1985; see paper Q82 below.
SIAM Conference on Combinatorics, San Francisco, 1988.
IFIP Congress, San Francisco, 1989 (keynote address); see paper P138 below.
Organick Memorial Lectures, University of Utah, 1990.
Donegall Lecturer in Mathematics, Trinity College, Dublin, 1992.
International Symposium on Teaching of Programming, Newcastle-Upon-Tyne (25th Anniversary Year), 1992.
Weizmann Memorial Lectures, Weizmann Institute of Science, 1992.
ACM-SIAM Symposium on Discrete Algorithms, Austin, 1993.
ATypI Congress, San Francisco, 1994.
Unicode Conference, San José, 1995.
Commemorative lecture for Fiftieth Anniversary of Mathematisch Centrum, Amsterdam, 1996.
Commemorative lecture for Kyoto Prize, Kyoto, 1996.
SIAM Annual Meeting, Stanford, 1997.
God and Computer Lectures, MIT, 1999.
Pascal Lectures, University of Waterloo, 2000.
Strachey Lecture, Oxford University, 2001.

8. Editorial Boards

Acta Informatica, 1970–1979.
Advances in Mathematics, 1971–1979.
Applied Mathematics Letters, 1987–.
Communications of the ACM, 1966.
Combinatorica, 1985–.
Computers and Mathematics with Applications, 1973–1979.
Discrete Applied Mathematics, 1979.
Discrete and Computational Geometry, 1986–.
Discrete Mathematics, 1970–1978.
Fibonacci Quarterly, 1964–1979.
Historia Mathematica, 1972–1979.
Human-Computer Interaction, 1985–1995.
IEEE Transactions on Software Engineering, 1975–1979.
Information Processing Letters, 1970–1979.
Japan Journal of Industrial and Applied Mathematics, 1997–.
Journal of Algorithms, 1979–.
Journal of Computer and Information Sciences, 1969–1979.
Journal of Computer and System Sciences, 1969–.
Journal of Computer Science and Technology, 1989–.
Journal of Experimental Algorithmics, 1996–.
Journal of Graph Algorithms and Applications, 1996–.
Journal of Graph Theory, 1975–1979.
Journal of the ACM, 1964–1967.
Journal on Statistical Planning and Inference, 1975–1979.
Mathematica Journal, 1990–.
The Mathematical Intelligencer, 1978–1979.
Random Structures and Algorithms, 1990–.
SIAM Journal on Computing, 1973–1979.
Software — Practice and Experience, 1979–.
Structured Programming, 1989–1993; Software Concepts and Tools, 1994–2000.
Utilitas Mathematica, 1970–1972.

9. Honors and Awards

Member, Pi Delta Epsilon, 1958–.
Member, Tau Beta Pi, 1958–.
Member, Blue Key, 1959–.
Case Honor Key, 1959.
Member, Sigma Xi, 1960–.
Woodrow Wilson Fellow, 1960.
National Science Foundation Fellow, 1960.
Grace Murray Hopper Award (first recipient). Association for Computing Machinery, 1971. (\$1000)
Guggenheim Fellow, 1972–1973.
Fellow, American Academy of Arts and Sciences (Class I, Section 5), 1973–.
Alan M. Turing Award, Association for Computing Machinery, 1974. (\$1000)
Member, National Academy of Sciences (Class III, Section 33), 1975–.
Lester R. Ford Award, Mathematical Association of America, 1975. (\$100, for paper P63.)
California Institute of Technology Distinguished Alumni Award, 1978.
National Medal of Science, 1979.
W. Wallace McDowell Award, IEEE Computer Society, 1980. (\$1000)
Doctor of Science, honoris causa, Case Western Reserve University, 1980.
Distinguished Fellow, The British Computer Society, 1980.
Priestley Award, Dickinson College, 1981. (\$1000)
Member, National Academy of Engineering, 1981–.
Honorary member, IEEE, 1982–.
IEEE Computer Pioneer Award (charter recipient), 1982.
Doctor of Science, honoris causa, Luther College, 1985.
Doctor of Science, honoris causa, Lawrence University, 1985.
Golden Plate Award, American Academy of Achievement, 1985.
ACM SIGCSE Award, 1986. (\$500)
Doctor of Science, honoris causa, Muhlenberg College, 1986.
Doctor of Science, honoris causa, University of Pennsylvania, 1986.
Docteur honoris causa, University of Paris–Sud (Orsay), 1986.
ACM Software Systems Award, 1986.
Doctor of Science, honoris causa, University of Rochester, 1986.
Steele Prize for Expository Writing, American Mathematical Society, 1986. (\$4000)
Doctor of Science, honoris causa, State University of New York at Stony Brook, 1987.
The New York Academy of Sciences Award, 1987. (\$5000)
Franklin Medal, Franklin Institute, Philadelphia, 1988.
Doctor of Science, honoris causa, Valparaiso University, 1988.
Doctor of Science, honoris causa, University of Oxford, 1988.
Doctor of Science, honoris causa, Brown University, 1988.
Doctor of Science, honoris causa, Grinnell College, 1989.
J. D. Warnier Prize, 1989. (\$3000)
Gold Medal Award, Case Alumni Association, 1990.
Doctor of Science, honoris causa, Dartmouth College, 1990.
Doctor of Science, honoris causa, Concordia University, Montréal, 1991.
Honorary Doctor of Technology, Royal Institute of Technology, Stockholm, 1991.
Associé Étranger, l'Académie des Sciences, Paris, 1992–.
Pochëtnyj Doktor, Saint Petersburg University, 1992.
Doctor of Science, honoris causa, Adelphi University, 1993.
Utenlandsk medlem, Det Norske Videnskaps-Akademi, 1993–.
Lester R. Ford Award, Mathematical Association of America, 1993. (\$250, for paper P137.)
Docteur honoris causa, University of Marne-la-Vallée, 1993.
Best New Book: Computer Science, Association of American Publishers, 1994. [Awarded for *The Stanford GraphBase*.]

ACM Fellow (charter recipient), 1994.
 Adelsköld Medal, Royal Swedish Academy of Sciences, 1994.
 IEEE John von Neumann Medal, 1995. (\$10,000)
 Harvey Prize, Technion, 1995. (\$35,000)
 Doctor Scientiæ Mathematicæ, honoris causa, Masaryk University, Brno, 1996.
 Memorial Medal, Mathematics and Physics Faculty, Charles University, Prague, 1996.
 Cum Deo Award (charter recipient), Milwaukee Lutheran High School, 1996.
 Kyoto Prize for Advanced Technology, Inamori Foundation, 1996. (¥50,000,000)
 Doctor of Science, honoris causa, Duke University, 1998.
 Doctor of Science, honoris causa, St. Andrews University, Scotland, 1998.
 Korrespondierendes Mitglied der Mathematisch-naturwissenschaftlichen Klasse, Bayerische Akademie der Wissenschaften, 1998–.
 Fellow of The Computer Museum, 1998–.
 Doctor of Letters, honoris causa, University of Waterloo, Canada, 2000.
 Minor planet “(21656) Knuth” [<http://sunk1.asu.cas.cz/~asteroid/planetky/21656/eng.htm>] named in 2001.
 Doctor of Science, honoris causa, Athens University of Economics and Business, 2001.
 Doctor of Science, honoris causa, Eberhard Karls Universität Tübingen, 2001.

10. Ph.D. Students, thesis titles, and year of graduation

Wayne Theodore Wilner, “Declarative Semantic Definition,” 1971.
 Clark Allan Crane, “Linear Lists and Priority Queues as Balanced Binary Trees,” 1972.
 Isu Fang, “FOLDS, A Declarative Formal Language Definition System,” 1972.
 Michael Lawrence Fredman, “Growth Properties of a Class of Recursively Defined Functions,” 1972.
 Vaughan Ronald Pratt, “Shellsort and Sorting Networks,” 1972.
 Richard Lee Sites, “Proving that Computer Programs Terminate Cleanly,” 1974.
 Gary Don Knott, “Deletion in Binary Storage Trees,” 1975.
 Edwin Hallowell Satterthwaite, Jr., “Source Language Debugging Tools,” 1975.
 Robert Sedgewick, “Quicksort,” 1975.
 Leonidas Ioannis Guibas, “The Analysis of Hashing Algorithms,” 1976.
 Mark Robbin Brown, “The Analysis of a Practical and Nearly Optimal Priority Queue,” 1977.
 Richard Eric Sweet (joint supervision with Cordell Green), “Empirical Estimates of Program Entropy,” 1977.
 John Fredrick Reiser, “Analysis of Additive Random Number Generators,” 1977.
 Bernard Marcel Mont-Reynaud, “Hierarchical Properties of Flows, and the Determination of Inner Loops,” 1977.
 Luis Isidoro Trabb Pardo, “Set Representation and Set Intersection,” 1978.
 Lyle Harold Ramshaw, “Formalizing the Analysis of Algorithms,” 1979.
 Christopher John Van Wyk, “A Language for Typesetting Graphics,” 1980.
 Jeffrey Scott Vitter, “Analysis of Coalesced Hashing,” 1980.
 Michael Frederick Plass, “Optimal Pagination Techniques for Automatic Typesetting Systems,” 1981.
 Ignacio Andres Zabala Salelles, “Interacting with Graphic Objects,” 1982.
 Daniel Hill Greene, “Labelled Formal Languages and Their Uses,” 1983.
 Franklin Mark Liang, “Word Hy-phen-a-tion by Com-put-er,” 1983.
 Andrei Zary Broder, “Weighted Random Mappings,” 1985.
 John Douglas Hobby, “Digitized Brush Trajectories,” 1985.
 Scott Edward Kim, “Viewpoint: Toward a Computer for Visual Thinkers,” 1987.
 Pang-Chieh Chen, “Heuristic Sampling in Backtrack Trees,” 1989.
 Ramsey Wadi Haddad, “Triangularization: A Two-Processor Scheduling Problem,” 1990.
 Tomás Feder, “Stable networks and product graphs,” 1991.

11. Published biographical data (* means photograph included)

- “What’s that about a score card? A computer’s the thing,” *Newsweek* **53**, 1 (January 5, 1959), 63.
- **IEEE Transactions on Electronic Computers* **EC-13** (1964), 478.
- Who’s Who in Computers and Data Processing*, 1971.
- American Men and Women of Science*, beginning with 12th edition (1972).
- **Datamation*, vol. 21, no. 1 (January 1975), 11–12.
- **IEEE Transactions on Software Engineering* **SE-1** (1975), 3.
- Who’s Who in Computer Education and Research*, 1975.
- bit* **7** (1975), 430–433, 444–447; written by Makoto Arisawa.
- **Stanford Daily*, Thursday, May 27, 1976.
- Who’s Who in America*, 40th edition (1978).
- Dictionary of International Biography* **15**, 1979.
- Leaders in Electronics*, McGraw Hill.
- **Men of Achievement*, 1979.
- International Who’s Who in Education*, 1980.
- Who’s Who in Technology Today*, 2nd edition (1980).
- China Computerworld*, no. 14 (July 20, 1981), p. 15; no. 15 (August 5, 1981), p. 15; no. 16 (August 20, 1981), p. 15.
- **Campus Report*, vol. 16, no. 17 (Stanford University, January 25, 1984), 5–6; vol. 16, no. 18 (February 1, 1984), 5, 8; written by Donald Stokes.
- **West* (San Jose Mercury News, February 19, 1984), 18–23; written by Jan C. Shaw.
- **Discover*, vol. 9, no. 5 (Time Inc., September 1984), 74–76, 78; written by Bruce Schechter.
- **Computer Language*, vol. 1, no. 2 (October 1984), 17–19; written by Jan C. Shaw.
- **Cleveland*, vol. 15, no. 1 (January 1986), 106–109, 140–144; written by William Marling.
- **Portraits of Success*, by Carolyn Caddes (Portola Valley: Tioga Press, 1986), 78–79.
- **Notices of the American Math. Society*, vol. 34, no. 2 (February 1987), 228.
- **Portraits in Silicon*, by Robert Slater (Cambridge, Mass.: MIT Press, 1987), 341–351.
- D. É. Knut i ego “fabrika knig”, by B. B. Pokhodzeĭ, in the Russian translation of *Mathematics for the Analysis of Algorithms* (see under Books), 114–115.
- **Communications of the ACM* **30** (1987), 816–819; written by Karen A. Frenkel.
- **Peninsula*, vol. 3, no. 9 (December 1988), 72–74; written by Sherry Posnick-Goodwin. Japanese translation in *Kunusu Sensei no Program-Ron* (see under Books), 168–174.
- **dialog Wissenschaft* (Nixdorf Computer AG, January 1989), 6–15; interview by Norbert Ryska and Stuart E. Savory.
- Eulogy: Donald E. Knuth, by G. W. Bond, in Latin with an English paraphrase, *Bulletin of the London Mathematical Society* **21** (1989), 110–112.
- Japan Society for Software Science and Technology* **7**, 2 (April 1990), 73–77; written by Makoto Arisawa.
- **Case Alumnus*, vol. 67, no. 8 (Spring/Summer 1990), cover and 2–7; written by William Marling.
- **Byte*, vol. 15, no. 9 (September 1990), 282.
- **Macworld*, vol. 8, no. 7 (July 1991), 207.
- **The Rattle of Theta Chi*, vol. 73, no. 1 (Winter 1993), 10–11.
- Information Science Dictionary* (Iwanami, Tokyo, 1990), 181.
- **Computers in Physics* **9** (1995), 248–249; interview by David I. Lewin.
- **IEEE Spectrum* **32**, 6 (June 1995), 40.
- **Out Of Their Minds* by Dennis Shasha and Cathy Lazere (New York: Copernicus, 1995), 89–101.
- CyberTimes* (10 August 1996), <http://www.nytimes.com/web/docsroot/library/cyber/week/0810knuth> written by Steve Ditlea.
- **Lingua Franca* **6**, 6 (September 1996), 11–13; by Rick Perlstein.
- **Automatisering Gids* (15 Maart 1996), 9.
- **NRC Handelsblad* (28 Maart 1996); written by Dirk van Delft.
- **De Ingenieur* (3 Juli 1996), 27–29; written by H. M. Nieland.
- **Application Development Trends* **3**, 10 (October 1996), 17–18; written by Elizabeth U. Harding.
- **Computer Abstracts* **41**, 3/4 (1997), 4–6.

- Computer Software* **14**, 1 (January 1997), 83–86, by Makoto Arisawa [in Japanese].
- Shi Jie Zhu Ming Ke Xue Jia Zhuan Ji (Biographies of World Famous Scientists)*, Technology Scientists I (Beijing: Science Press, 1997), 117–125, by Dong Yunmei.
- **Wizards and Their Wonders*, by Christopher Morgan with photographs by Louis Fabian Bachrach (New York: ACM Press, 1997), 118–119.
- Contemporary Authors* **163** (1998), 244–247.
- **Technology Review* **102**, 5 (September/October 1999), 66–70, by Steve Ditlea.
- **Salon.com > Technology* (16 September 1999), by Mark Wallace, <http://www.salon.com/tech/feature/1999/09/16/knuth>.
- The International Who's Who*, 64th edition, 2000.
- NZZ Folio* (February 2002), 35–40, written by Peter Haffner.
- *see also papers Q62 and Q154 listed below.

Publications of Donald E. Knuth

1. Books

- The Art of Computer Programming*, Vol. 1: *Fundamental Algorithms* (Reading, Mass.: Addison-Wesley, 1968), xxii + 634 pp. Second printing, revised, July 1969.
Second edition, completely revised, December 1973. Second printing, revised, February 1975.
Third edition, completely revised, May 1997, xx + 650 pp.
Romanian translation, by Adrian Davidoviciu, Adrian Petrescu, Smaranda Dimitriu, and Paul Zamfirescu, *Tratat de programarea calculatoarelor*, V. 1: *Algoritmi fundamentali* (Bucharest: Editura tehnică, 1974), 676 pp.
Romanian translation of the third edition (Bucharest: Editura Teora), in preparation.
Russian translation, by Galina P. Babenko and Ī. M. Baĭkovskiiĭ, edited by K. I. Babenko, and V. S. Štarkman, *Iskusstvo programmirovaniĭ dlĭĭ ĒVM*, T. 1: *Osnovnye algoritmy* (Moscow: Mir, 1976), 735 pp.
Russian translation of the third edition under direction of Ī. V. Kozachenko, by S. G. Trigub, Ī. G. Gordienko, and I. V. Krasikov, edited by S. N. Trigub, *Iskusstvo programmirovaniĭĭ*, T. 1: *Osnovnye algoritmy* (Moscow: Vil'iams, 2000), 720 pp.
Japanese translation, under direction of Takakazu Simauti, in two volumes: Chapter 1, by Ken Hirose, *Kihon Sampō / Kiso Gainen* (Tokyo: Saiensu-Sha, 1978), 22 + 331 pp.; Chapter 2, by Nobuo Yoneda and Katsuhiko Kakehi, *Kihon Sampō / Jōhō Kōzō* (Tokyo: Saiensu-Sha, 1978), 8 + 373 pp.
Japanese translation of the third edition (Tokyo: ASCII Corp.), in preparation.
Chinese translation, by Guan JiWen and Su YunLin, *Ji Suan Ji Cheng Xu She Ji Ji Qiao*, 1. Juan: *Ji Ben Suan Fa* (Beijing: Defense Industry Publishing Co., 1980), 14 + 573 pp.
Chinese translation of the third edition (Beijing: Guofang (Defense) Industry Press), in preparation.
Spanish translation, by Michel Antscherl Harlange and Joan Lluís i Biset, under direction of Ramón Puigjaner i Trepāt, *El Arte de Programar Ordenadores*, V. 1: *Algoritmos Fundamentales* (Barcelona: Reverté, 1980), xxiii + 672 pp.
Indian Student Edition, with an introduction by P. C. P. Bhatt (New Delhi: Narosa Publishing House, 1985).
Hungarian translation, under direction of Miklós Simonovits, *A Számítógép-Programozás Művészete*, V. 1: *Alapvető Algoritmusok* (Budapest: Műszaki Könyvkiadó, 1987), 654 pp.
Polish translation of the third edition (Warsaw: Wydawnictwa Naukowo-Techniczne), in preparation.
- The Art of Computer Programming*, Vol. 2: *Seminumerical Algorithms* (Reading, Mass.: Addison-Wesley, 1969), xii + 624 pp. Second printing, revised, November 1971.
Second edition, completely revised, January 1981, xiv + 689 pp.
Third edition, completely revised, September 1997, xiv + 762 pp.
Russian translation, by Galina P. Babenko, Ē. G. Belaga, and L. V. Maĭorov, edited by K. I. Babenko, *Iskusstvo programmirovaniĭĭ dlĭĭ ĒVM*, T. 2: *Poluchislennye algoritmy* (Moscow: Mir, 1977), 724 pp.
Russian translation of the third edition under direction of Ī. V. Kozachenko, by L. F. Kozachenko, V. T. Ter-tyshnyiĭ, and I. V. Krasikov, edited by S. N. Trigub, *Iskusstvo programmirovaniĭĭ*, T. 2: *Poluchislennye algoritmy* (Moscow: Vil'iams, 2000), 832 pp.
Japanese translation, under direction of Takakazu Simauti, in two volumes: Chapter 3, by Masaaki Sibuya, *Jun Suchi Sampō / Ransū* (Tokyo: Saiensu-Sha, 1982), ii + 259 pp.; Chapter 4, by Keisuke Nakagawa, *Jun Suchi Sampō / Sanjutsu Enzan* (Tokyo: Saiensu-Sha, 1986), xii + 536 pp.
Japanese translation of the third edition (Tokyo: ASCII Corp.), in preparation.
Romanian translation, by Florian Petrescu, Ioan Georgescu, Rolanda Predescu, and Paul Zamfirescu, *Tratat de programarea calculatoarelor*, V. 2: *Algoritmi seminumerici* (Bucharest: Editura tehnică, 1983), 722 pp.
Spanish translation, in preparation (Barcelona: Reverté).
Chinese translation, by Guan JiWen and Su YunLin, *Ji Suan Ji Cheng Xu She Ji Ji Qiao*, 2. Juan: *Ban Shu Zhi Suan Fa* (Beijing: Defense Industry Publishing Co., 1992), 10 + 622 pp.
Chinese translation of the third edition (Beijing: Guofang (Defense) Industry Press), in preparation.

- Hungarian translation, under direction of Miklós Simonovits, *A Számítógép-Programozás Művészete*, V. 2: *Szeminumerikus Algoritmusok* (Budapest: Műszaki Könyvkiadó, 1987), 690 pp.
- Polish translation of the third edition (Warsaw: Wydawnictwa Naukowo-Techniczne), in preparation.
- German translation of Chapter 4, by Rüdiger Loos (Heidelberg: Springer), in preparation.
- The Art of Computer Programming*, Vol. 3: *Sorting and Searching* (Reading, Mass.: Addison-Wesley, 1973), xii + 722 pp. + foldout illustration. Second printing, revised, March 1975, xii + 725 pp.
- Second edition, completely revised, February 1998, xiv + 780 pp.
- Romanian translation, by Rodica Boconcios, A. Davidoviciu, P. Dimo, Fl. Moraru, A. Petrescu, I. Sipoş, and Smaranda Dimitriu, *Tratat de programarea calculatoarelor*, V. 3: *Sortare și căutare* (Bucharest: Editura tehnică, 1976), xii + 736 pp.
- Russian translation, by Nadezhda I. V'îukova, V. A. Galatenko, and A. B. Khodulev, edited by Îu. M. Bařakovskiř and V. S. Štarkman, *Iskusstvo programmirovaniã dlã ÉVM*, T. 3: *Sortirovka i poisk* (Moscow: Mir, 1978), 844 pp.
- Russian translation of the second edition under direction of Îu. V. Kozachenko, by V. T. Tertyshnyř and I. V. Krasikov, edited by S. N. Trigub, *Iskusstvo programmirovaniã*, T. 3: *Sortirovka i poisk* (Moscow: Vil'iams, 2000), 824 pp.
- Japanese translation of the second edition (Tokyo: ASCII Corp.), in preparation.
- Chinese translation, by Guan JiWen and Su YunLin, *Ji Suan Ji Cheng Xu She Ji Ji Qiao*, 3. Juan: *Pai Xu He Cha Zhao* (Beijing: Defense Industry Publishing Co., 1985), viii + 645 pp.
- Chinese translation of the second edition (Beijing: Guofang (Defense) Industry Press), in preparation.
- Spanish translation, by Jaime de Argila y de Chopitea and Ramón Puigjaner Trepát, under direction of Ramón Puigjaner Trepát, *El Arte de Programar Ordenadores*, V. 3: *Clasificación y Búsqueda* (Barcelona: Reverté, 1980), xxiii + 672 pp.
- Hungarian translation, under direction of Miklós Simonovits, *A Számítógép-Programozás Művészete*, V. 3: *Keresés és Rendezés* (Budapest: Műszaki Könyvkiadó, 1988), 761 pp.
- Polish translation of the second edition (Warsaw: Wydawnictwa Naukowo-Techniczne), in preparation.
- The Art of Computer Programming*, Vol. 4: *Combinatorial Algorithms* (Reading, Mass.: Addison-Wesley), in preparation.
- MIX* (Addison-Wesley, 1971), 48 pp.
- Surreal Numbers* (Reading, Mass.: Addison-Wesley, 1974), vi + 119 pp.
- Czech translation, by Helena Neřetřilová, *Nadreálnã čísla*, in *Pokroky Matematiky, Fyziky a Astronomie* **23** (1978), 66–76, 130–139, 187–196, 246–261.
- German translation, by Brigitte and Karl Kunisch, *Insel der Zahlen* (Braunschweig: Friedr. Vieweg & Sohn, 1979), 124 pp.
- Japanese translation, by Junji Koda, *Chogen Jis Su* (Tokyo: Kaimei Sha Ltd., 1978), 179 pp. (This translation was also published in eight monthly installments, in *Basic Sūgaku*, August 1978 through March 1979.)
- Spanish translation, by Lluç Garriga, *Números Surreales* (Barcelona: Reverté, 1979), 101 pp.
- Hungarian translation, by János Virágh and Zoltán Ésik, *Számok valóson innen és túl* (Budapest: Gondolat, 1987), 136 + ii pp.
- Portuguese translation, in preparation (Lisbon: Gradiva).
- Mariages Stables et leurs relations avec d'autres problèmes combinatoires* (Montréal: Les Presses de l'Université de Montréal, 1976), 106 pp. Édition revue et corrigée, 1981. Currently available from Les Publications CRM / Centre de Recherches Mathématiques, Université de Montréal, Montréal, Quebec.
- English translation, by Martin Goldstein, *Stable Marriage and its Relation to Other Combinatorial Problems* (Providence, R. I.: American Mathematical Society, 1997), xiii + 74 pp. (CRM Proceedings & Lecture Notes, Volume 10.)
- T_EX and METAFONT: New Directions in Typesetting* (Providence, R.I.: American Mathematical Society, and Bedford, Mass.: Digital Press, 1979), xi + 45 + 201 + 105 pp.

- (with Daniel H. Greene) *Mathematics for the Analysis of Algorithms* (Cambridge, Mass.: Birkhäuser Boston, 1981), 107 pp. Second edition, 1982, 123 pp. Third edition, 1990, viii + 132 pp.
 Russian translation of the second edition by B. B. Pokhodzeĭ, edited by Yuri V. Matiĭasevich, *Matematicheskie metody analiza algoritmov* (Moscow: Mir, 1987), 120 pp.
 Japanese translation, in preparation (Kindai Kagaku Sha).
- The T_EXbook* (Reading, Mass.: Addison-Wesley, 1984), x + 483 pp. Second printing, revised, October 1984. Sixth printing, revised, January 1986; also published as *Computers & Typesetting*, Vol. A. Twenty-sixth printing, 1996, contains final revisions.
 Japanese translation, by Yoshiteru Sagiya and Nobuo Saito, *T_EXbukku, konpyuuta ni yoru sohan sisutemu* (Tokyo: ASCII Corporation, 1989), xix + 657 pp.
 Russian translation, by M. V. Lisina, edited by S. V. Klimenko and S. N. Sokolov, *Vse pro T_EX* (Protvino, Moscow: AO RDT_EX, 1993), xvi + 575 pp.
- Computers & Typesetting*, Vol. B: *T_EX: The Program* (Reading, Mass.: Addison-Wesley, 1986), xvi + 594 pp. Fifth printing, xviii + 600 pp., 1994.
- The METAFONTbook* (Reading, Mass.: Addison-Wesley, 1986), xii + 361 pp.; also published as *Computers & Typesetting*, Vol. C.
 Japanese translation, by Yoshiteru Sagiya, *METAFONT bukku* (Tokyo: ASCII Corporation, 1994), xvi + 451 pp.
 Russian translation by (Moscow: CenterCom Enterprises), in preparation.
- Computers & Typesetting*, Vol. D: *METAFONT: The Program* (Reading, Mass.: Addison-Wesley, 1986), xvi + 560 pp. Third printing, xviii + 566 pp., 1991.
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