

Curriculum Vita

John E. Howland

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Department of Computer Science
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Personal Data

Address: 9611 Dove Shadow, San Antonio, Texas 78230

Hobbies: Marathon Racing (17 races completed, PR 3:28), Hunting, Shooting Sports, Off Road Motorcycling

Education

University of Oklahoma, Ph.D., 1971

Major: Mathematics-Computer Science

Ohio State University, M.S., 1965

Major: Mathematics-Computer Science

Anderson College, B.S., 1963

Honors in Mathematics

Major: Mathematics, Minor: Physics

Honor Groups

Alpha Chi, Kappa Mu Epsilon, Sigma Zeta, Pi Mu Epsilon

Who's Who in American Colleges and Universities

Upsilon Pi Epsilon

Professional Organizations

Association for Computing Machinery

IEEE Computer Society

ACM SIGGRAPH

ACM SIGAPL

ACM SIGPLAN

ACM SIGCSE

ACM SIGCUE (Chair, 2001-2002)

Consortium for Computing Sciences in Colleges (South Central Regional Representative 2004-2007)

Grants Received

- DEC Equipment Grant, 1982, Principle investigator, \$58,340.00
- Meadows Foundation Grant, 1994, Co-investigator, \$68,000.00
- NSF ILI Grant, DUE 9452050, 1994, Principle investigator, \$105,008.00
- NSF REU Grant, 1994, Co-investigator, \$150,000.00
- Semmes Foundation Grant, 1995 Co-investigator, \$10,000.00

Publications and Presentations

- “An Algorithm for Computing Polynomials of Best Approximation”, Master’s Thesis, Ohio State University, 1965.
- “Power Spectral Density Analysis Methods and Applications to B-52 Fatigue Analysis”, OCNEA Technical Report 213.21, AFLC-OCAMA, 1966.
- “Contributions to the Theory of Tchebycheff Approximation”, Ph.D. Dissertation, University of Oklahoma, 1970.
- From 1970 to 1975, authored more than 250 APL workspaces. Notable systems include TEXTFNS, APLEDIT, APLTEXT, LINKED, DYNAMO, LISP, MAILBOX, CENSUS, and AUTHOR.
- *APLEDIT User’s Manual*, Computing and Information Sciences Technical Report, August, 1973.
- “APLEDIT, An APL-Based Text Editor”, in Proceedings of the 41st SHARE meeting, Miami, Florida, August 1973.
- Chapters 7 and 8 in *Computer Programming: Techniques, Analysis, and Mathematics*, Richard V. Andree, Josephine P. Andree and David D. Andree, Prentice-Hall, Inc., Englewood Cliffs, N.J., 1973.
- “Mailbox Message System”, Computing and Information Sciences Technical Memo, September, 1974.
- *APLTEXT Text Editor: A User’s Manual*, Computing and Information Sciences Technical Report, January 1975.
- “AUTHOR, An APL-Based System for the Design of Computer-Assisted Teaching Programs”, in the Proceedings of the 78th Annual Meeting of the Texas Academy of Science, 1975.
- “File Manipulation on Microcomputer Systems with Floppy Disks”, with Aaron Konstam and John Sigle, Proceedings of the International Microcomputer Exposition, September 29, 1978.
- “APL/Z80, An APL Interpreter for Z80 Microcomputers”, Proceedings of the International Microcomputer Exposition, September 29, 1978.
- “Structured Development of Menu Driven Application Systems”, Presentation at the ACM International Conference on APL, Rochester, New York, May 1979.
- “APL/Z80, An APL Interpreter for Z80 Microcomputers”, Presentation at the ACM International Conference on APL, Rochester, New York, May 1979.
- *APL/V80 USER’S MANUAL, Apple Version*, (14 chapters), Published by Vanguard Systems Corporation, San Antonio, TX, 1982.

- “Typesetting APL using a Macintosh”, Presentation at the ACM International Conference on APL, Manchester, England, July 1986.
- “Wood Turning”, A Computer Animation featuring techniques of solid texture mapping to simulate wood, with Dennis Wenzel, Eric Shade, Randy Morlen and Terry Thrift, Video Presentation at SIGGRAPH 86, Dallas, Texas, August 1986.
- “A System for Compiling Fonts”, Presentation at the ACM International Conference on APL, Dallas, Texas, May 1987.
- “Design of a New User Interface for APL”, Presentation at the ACM International Conference on APL, Dallas, Texas, May 1987.
- “Scheme as an Expository Language for Liberal Arts Students”, with Aaron Konstam, ACM SIGPLAN Lisp Pointers, Volume 6, Number 3, July 1993.
- “APROL: A Hybrid Language”, Presentation at the ACM International Conference on APL, Toronto, Ontario, August, 1993.
- “Teaching Computer Science Principles to Liberal Arts Students Using Scheme”, with Aaron Konstam, ACM SIGCSE Bulletin, Volume 26, Number 4, December 1994.
- “Computer Skills: An Essential University Requirement”, Presentation at the Fifth Annual South-Central meeting of the Consortium for Computing in Small Colleges, Amarillo, Texas, April 1994.
- “A Laboratory Computer Science Course for Liberal Arts Students”, Presentation at the Sixth Annual South-Central meeting of the Consortium for Computing in Small Colleges, Shreveport, LA, May 1995.
- “The Scheme Language and Its Relationship to Array Languages APL and J”, a panel presentation, APL Quote Quad, Volume 26, Number 1, ACM International Conference on APL, San Antonio, Texas, June 3-8, 1995.
- “The Virtual Time Machine; A Simulation/Training Utopia”, Presentation at the International Simulation Conference, San Diego, California, January, 1996.
- “Scheme as Language for Introductory Computer Science Courses”, A panel presentation at the Seventh Annual South-Central meeting of the Consortium for Computing in Small Colleges, Shreveport, Louisiana, April, 1996.
- “Using J In the Teaching of a Laboratory Computer Science Course for Liberal Arts Students”, Presentation at the ACM International Conference on APL, Lancaster University, UK, July, 1996.
- “It’s All in The Language (Yet Another Look at the Choice of Programming Language for Teaching Computer Science)”, Presentation at the Eighth Annual South-Central meeting of the Consortium for Computing in Small Colleges, San Antonio, Texas, April, 1997.
- “Recursion, Iteration and Functional Languages”, Presentation at the Ninth Annual South-Central meeting of the Consortium for Computing in Small Colleges, Jackson, Mississippi, April 18, 1998.
- “Functional Languages and Introductory Computer Science”, Presentation at the Ninth Annual South-Central meeting of the Consortium for Computing in Small Colleges, Jackson, Mississippi, April 18, 1998.
- “Opportunities and Risks in CPA Assurances Computer and Networking Security Systems”, with Robert E. Jensen and Bruce Sidlinger, to be presented at the Conference Proceedings of the American Institute for Certified Public Accountants Accounting Educators Conference, Washington, D.C., November 7, 1998.

- “Focusing on Design”, Presentation at the Tenth Annual South-Central meeting of the Consortium for Computing in Small Colleges, Austin, Texas, April 16, 1999.
- “Software Freedom, Open Software and the Undergraduate Computer Science Curriculum”, Presented at the Eleventh Annual South-Central meeting of the Consortium for Computing in Small Colleges, Corpus Christi, Texas, April 14-15, 2000.
- “Managing Computer Science Laboratories Using Open Software”, Presented at the Twelfth Annual South-Central meeting of the Consortium for Computing in Small Colleges, Amarillo, Texas, April 20-21, 2001.
- “Building Models: A Direct but Neglected Approach to Teaching Computer Science”, Presented at the Thirteenth Annual South-Central meeting of the Consortium for Computing in Small Colleges, Texas Lutheran University, Seguin, Texas, April 12-13, 2002.
- “A Breadth-First Companion for the CS I Course”, Presented at the Fourteenth Annual South-Central meeting of the Consortium for Computing Sciences in Colleges, Millsaps College, Jackson Mississippi, April 11-12, 2003.
- “Array Algorithms”, Presented at the South Central Conference of the Consortium for Computing Sciences in Colleges, McNeese State University, Lake Charles, LA, April 15-16, 2005.
- “Brief and Yet Bountiful: The History of Computing, Why Do Students Need It?”, Presented at the South Central Conference of the Consortium for Computing Sciences in Colleges, McNeese State University, Lake Charles, LA, April 15-16, 2005.
- “Parallelism Across the Curriculum”, Presented at the South Central Conference of the Consortium for Computing Sciences in Colleges, Sam Houston State University, Huntsville, TX, April 21-22, 2006.

Refereed Publications

- With Aaron H. Konstam, “APL as a Lingua Franca in the Computer Science Curriculum”, SIGCSE Bulletin, Volume 6, Number 1, February 1974.
- “Structured Development of Menu Driven Application Systems”, with John Sigle, Proceedings of the International APL Conference, ACM SIGAPL, QUOTE QUAD, Volume 9, Number 4, May 1979.
- “APL/Z80, An APL Interpreter for Z80 Microcomputers”, with Philip VanCleave, Proceedings of the International APL Conference, ACM SIGAPL, QUOTE QUAD, Volume 9, number 4, May 1979.
- “Typesetting APL using a Macintosh”, Proceedings of the International APL Conference, QUOTE QUAD, Volume 16, Number 4, Manchester, England, July 1986.
- “Wood Turning”, A Computer Animation featuring techniques of solid texture mapping to simulate wood, with Dennis Wenzel, Eric Shade, Randy Morlen and Terry Thrift, SIGGRAPH 86 Video Review, Volume 24, August 1986.
- “A System for Compiling Fonts”, Proceedings of the International APL Conference, QUOTE QUAD, Volume 17, Number 4, Dallas, Texas, May 1987.
- “Design of a New User Interface for APL”, Proceedings of the International APL Conference, QUOTE QUAD, Volume 17, Number 4, Dallas, Texas, May 1987.
- “Scheme as an Expository Language for Liberal Arts Students”, with Aaron Konstam, LUV Conference Proceedings, LUV Conference, Cambridge, MA, August 1993.
- “APROL: A Hybrid Language”, with Dennis Holmes, APL Quote Quad, Volume 24, Number 1, ACM International Conference on APL, pp 112-124, August 15-19, 1993, Toronto, Ontario.

- “Computer Skills: An Essential University Requirement”, with Gerald Pitts, *The Journal of Computing in Small Colleges*, Volume 9, Number 5, April 1994.
- “A Laboratory Computer Science Course for Liberal Arts Students”, *The Journal of Computing in Small Colleges*, Volume 10, Number 5, May 1995.
- “The Virtual Time Machine; A Simulation/Training Utopia”, with Gerald Pitts, *Proceedings of the International Simulation Conference*, UCSD, January 13-17, 1996.
- “Using J In the Teaching of a Laboratory Computer Science Course for Liberal Arts Students”, *Conference Proceedings of APL 96*, July 28-August 1, 1996, Lancaster University, UK.
- “It’s All in The Language (Yet Another Look at the Choice of Programming Language for Teaching Computer Science)”, John E. Howland, *Journal of Computing in Small Colleges*, Volume 12, Number 4, Pages 58-74, April, 1997.
- “Design of an OpenGL Interface for the J Programming Language” with William Randall, *Journal of Computing in Small Colleges*, Volume 12, Number 4, Pages 184-193, April, 1997.
- “Recursion, Iteration and Functional Languages”, *Journal of Computing in Small Colleges*, Volume 13, Number 4, April, 1998.
- “Functional Languages and Introductory Computer Science”, *Journal of Computing in Small Colleges*, Volume 13, Number 4, April 1998.
- “Opportunities and Risks in CPA Assurances Computer and Networking Security Systems”, with Robert E. Jensen and Bruce Sidlinger, to appear in the *Conference Proceedings of the American Institute for Certified Public Accountants Accounting Educators Conference*, Washington, D.C., November 7, 1998.
- “Focusing on Design”, with Aaron Konstam and Gerald Pitts, *Journal of Computing in Small Colleges*, Volume 14, Number 4, March 1999.
- “Software Freedom, Open Software and the Undergraduate Computer Science Curriculum”, *Journal of Computing in Small Colleges*, Volume 15, Number 3, March, 2000.
- “Managing Computer Science Laboratories Using Open Software”, *Journal of Computing in Small Colleges*, Volume 16, Number 3, Pages 117-126, March, 2001.
- “Building Models: A Direct but Neglected Approach to Teaching Computer Science”, *Journal of Computing in Small Colleges*, Volume 17, Number 5, Pages 110–114, April, 2002.
- “A Breadth-First Companion for the CS I Course”, *Journal of Computing Sciences in Colleges*, Volume 18, Number 4, Pages 11-15, April, 2003.
- “Array Algorithms”, *Journal of Computing Sciences in Colleges*, Volume 20, Number 4, Pages 229-235, April 2005.
- “Brief and Yet Bountiful: The History of Computing, Why Do Students Need It?”, *Journal of Computing Sciences in Colleges*, Volume 20, Number 4, Pages 308-314, April 2005.
- “Parallelism Across the Curriculum”, *Journal of Computing Sciences in Colleges*, Volume 21, Number 4, Pages 134-138, April 2006.

Conferences Organized

Conference Chair and Technical Program Committee for the ACM International Conference on APL, San Antonio, Texas, June 3-8, 1995.

Conference Steering Committee, Seventh Annual Southwest Conference on Computing in Small Colleges, Midwestern State University, Wichita Falls, Texas, April 19-20, 1996.

Conference Chair, Eighth Annual Southwest Conference on Computing in Small Colleges, Trinity University, San Antonio, Texas, April 11-12, 1997.

Conference Steering Committee, Ninth Annual Southwest Conference on Computing in Small Colleges, Millsaps College, Jackson, Mississippi, April 17-18, 1998.

Conference Steering Committee, Thirteenth Annual Southwest Conference on Computing in Small Colleges, Texas Lutheran College, Seguin, Texas, April 12-13, 2002.

Conference Steering Committee, Fourteenth Annual Southwest Conference on Computing Sciences in Colleges, Millsaps College, Jackson, Mississippi, April 11-12, 2003.

Conference Steering Committee, Fifteenth Annual Southwest Conference on Computing Sciences in Colleges, Austin Community College, Austin, Texas, April 16-17, 2004.

Conference Steering Committee, Sixteenth Annual Southwest Conference on Computing Sciences in Colleges, McNeese State University, Lake Charles, Louisiana, April 15-16, 2005.

Conference Steering Committee, Seventeenth Annual Southwest Conference on Computing Sciences in Colleges, Sam Houston State University, Huntsville, Texas, April 21-22, 2006.

South Central Regional Representative to Consortium on Computing Sciences in Colleges, 2004-2007.

Computing Experience

Programming experience on numerous computers using a wide variety of programming languages and operating systems.

Employment History

1970 to present: Trinity University

Professor: (Tenure granted 1975)

Chairman, Department of Computer Science: 1970 to 1982 and 2005 to present

1973 to 1978: Founder and President

Computing Science Associates (a computer consulting firm)

1976 to 1983: Founder and Chairman

Vanguard Systems Corporation

1968 to 1970: University of Oklahoma

Instructor of Mathematics and Computer Science

1965 to 1968: University of Oklahoma

Graduate Assistant in Mathematics and Computer Science

1967: United States Army, TACFIRE Project

1966: Mathematician, United States AirForce, AFLC-OCAMA

1963 to 1965: Ohio State University
Graduate Assistant in Mathematics and Computer Science

Research Interests

Computer Graphics, Virtual Reality, Person Machine Interfaces, Array and Functional Programming languages such as J, Scheme and APL.

Business Experience

In 1976 Dr. Howland started Vanguard Systems corporation which developed a chain of retail computer stores under the name of Computer Shop. Vanguard Systems also established a division which produced and marketed the first micro computer based APL software product, APL/V80. In June, 1983, the Computer Shop Stores were merged with ComputerCraft Corporation. At that time, Dr. Howland became a paid consultant to ComputerCraft corporation and continued that consultation until May, 1985. From June, 1985, to December 1992, Dr. Howland was retained as a consultant to Imagenesis, a firm specializing in computer graphics research and software development.