Curriculum Vitae

Jeffrey J. McConnell, Ph.D.

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Education

1988	Ph.D., Computer Science, WPI, Worcester, MA Title: "Botanical Image Generation Using Attributed Graph Grammars for Modeling Growth"
1986	M.S., Computer Science, SUNY at Buffalo, NY
1981	B.A., Mathematics, Canisius College, Buffalo, NY

Experience

9/96–present	Professor of Computer Science, Canisius College, Buffalo, NY
7/90–6/08	Department Chair, Computer Science, Canisius College, Buffalo, NY
9/91–8/96	Associate Professor of Computer Science, Canisius College, Buffalo, NY
8/83–8/91	Assistant Professor of Computer Science, Canisius College, Buffalo, NY
11/81–7/83	Software Engineer, SCIPAR Inc., Williamsville, NY
5/81–9/81	Academic Programmer, Canisius College, Buffalo, NY

Books

Analysis of Algorithms: An Active Learning Approach (second edition), Jones and Bartlett Publishers, 2008.

Analysis of Algorithms: An Active Learning Approach Instructor's Manual (second edition), Jones and Bartlett Publishers, December 2007.

Computer Graphics: Theory into Practice, Jones and Bartlett Publishers, 2006.

Computer Graphics Companion, Nature Publishing Group, Grove Press (currently published by Wiley), editor (first author with assistance from Anthony Ralston, Edwin Reilly, and David Hemmindinger), June 2002.

Analysis of Algorithms: An Active Learning Approach, Jones and Bartlett Publishers, April 2001.

Analysis of Algorithms: An Active Learning Approach Instructor's Manual, Jones and Bartlett Publishers, April 2001.

Articles

Graphics section (13 pages) in *Computer Science Illuminated* (third edition), Nell Dale and John Lewis, Jones and Bartlett Publishers, 2007.

"Active and Cooperative Learning: Final Tips and Tricks," *SIGCSE Bulletin* (December 2006), Vol. 38, No. 4, pp. 25–28.

"Active and Cooperative Learning: Further Tips and Tricks," *SIGCSE Bulletin* (June 2006), Vol. 38, No. 2, pp. 24–28.

"Active and Cooperative Learning: More Tips and Tricks," *SIGCSE Bulletin* (December 2005), Vol. 37, No. 4, pp. 34–38.

"Active and Cooperative Learning: Tips and Tricks," *SIGCSE Bulletin* (June 2005), Vol. 37, No. 2, pp. 27–30.

"The Evolution of CS1 Textbooks" (first author with Debra T. Burhans), *Proceedings of Frontiers in Education 2002* (Boston, MA, November 6–9, 2002), pp. T4G-1 to T4G-6.

"Computer Graphics" and "Interactive Input Devices" entries in *The Encyclopedia of Computer Science* (fourth edition), Anthony Ralston, Edwin Reilly, and David Hemmindinger (Eds.), Grove Press, 2000.

"Computer Graphics Education in the United States," *Computer Graphics* (August 1996), Vol. 30, No. 3, pp. 31–32.

"Active Learning and Its Use in Computer Science," *Proceedings of the SIGCSE/SIGCUE Conference on Integrating Technology into Computer Science Education* (Barcelona, Spain, June 2–5, 1996), ACM, New York, NY, 1996. (Also published as *SIGCSE Bulletin*, Vol. 28, Special Issue, pp. 52–54.)

"Active and Group Learning and Their Use in Graphics Education," *Computers and Graphics* (January/February 1996), Vol. 20, No. 1, pp. 177–180.

"Active Learning Techniques in Graphics Education," *The Third Eurographics Workshop on Graphics and Visualization Education* (Maastricht, The Netherlands, August 28–29, 1995).

"Computer Graphics Education: Issues from Multiple Perspectives," *Computers and Graphics* (March/April 1995), Vol. 19, No. 2, pp. 331–334.

"Computer Graphics Concepts across Application Areas," and "Computer Graphics Education: Present and Future" (invited papers), *The Second Eurographics Workshop on Graphics and Visualization Education* (Oslo, Norway, September 10–11, 1994).

"Computer Graphics" and "Interactive Input Devices" entries in *The Encyclopedia of Computer Science* (third edition), Anthony Ralston and Edwin Reilly (Eds.), Von Nostrand Reinhold, 1993.

"*Lindenmeyer Systems, Fractals, and Plants* and *The Algorithmic Beauty of Plants*" (book reviews), *Computer Graphics* (October 1991), Vol. 25, No. 5, p. 259.

"Implementing Semantics of Object-Oriented Languages Using Attribute Grammars" (second author with Karen A. Lemone, Mary Ann O'Connor, and Joseph Wisnewski), *Proceedings of the 1991 ACM 18th Annual Computer Science Conference* (San Antonio, TX, March 5–8, 1991), ACM, New York, NY, 1991, pp. 190–202.

Implementing Semantics of Object-Oriented Languages Using Attribute Grammars (second author with Karen A. Lemone, Mary Ann O'Connor, and Joseph Wisnewski), WPI Technical Report, WPI-CS-TR-90-1, May 1990.

"Botanical Models Based on Three-Dimensional Attributed Graph Grammars," *Proceedings of the 20th Annual Pittsburgh Conference on Modeling and Simulation* (Pittsburgh, PA, May 4–5, 1989), ISA, Research Triangle Park, NC, 1989. (Also published as *Modeling and Simulation,* Vol. 20, No. 4, pp. 1487–1494.)

"Three-Dimensional Tree Grammars for the Modeling of Plants," *Proceedings of the 1988 ACM 16th Annual Computer Science Conference* (Atlanta, GA, February 23–25, 1988), ACM, New York, NY,1988, pp. 494–499.

"Abstracts in Computer Graphics" (a collection of computer graphics abstracts from theses/dissertations completed in the previous year), *Computer Graphics* (April 1988), Vol. 22, No. 2; (April 1989), Vol. 23, No. 2; and (April 1991), Vol. 25, No. 2.

Other Presentations

"Active and Cooperative Learning Techniques in Computer Science Education," workshop presented at SIGCSE '07, Covington, KY, March 9, 2007.

"Active and Cooperative Learning Techniques in Computer Science Education," workshop presented at SIGCSE '06, Houston, TX, March 1, 2006.

"A Model of Plant Growth for Computer Graphics Images," presentation to the Research Experiences for Undergraduates group (Graph Theory) at Canisius College, July 14, 2005.

"Active and Cooperative Learning Techniques in Computer Science Education," workshop presented at SIGCSE '05, St. Louis, MO, February 25, 2005.

"Active and Cooperative Learning Techniques in Computer Science Education," workshop presented at SIGCSE '04, Norfolk, VA, March 3, 2004.

"Active and Cooperative Learning Techniques in Computer Science Education," workshop presented at SIGCSE '03, Reno, NV, February 22, 2003.

"Fundamental Topics in CS1: A Comparison among Textbooks over Time," poster presentation (second author with Debra T. Burhans) at SIGCSE '03, Reno, NV, February 21, 2003.

"Creating a Student-Centered Classroom," workshop presented at Frontiers in Education (FIE) 2002, Boston, MA, November 6, 2002.

"Active Learning" and "Curriculum Development," presentations at the 2002 Project Kaleidoscope workshop, Williamsburg, VA, June 2–5, 2002.

"Active and Cooperative Learning Techniques in Computer Science Education," workshop presented at SIGCSE '02, Covington, KY, March 1, 2002.

"Active Learning," "Teamwork," and "Curriculum Development," presentations at the 2001 Project Kaleidoscope workshop (Session D), Snowbird, UT, July 25–28, 2001.

"Developing and Troubleshooting Active and Cooperative Learning Exercises," workshop presented at SIGCSE '01, Charlotte, NC, February 24, 2001.

"Active and Group Learning Techniques in Computer Science Education," workshop presented at SIGCSE '00, Austin, TX, March 11, 2000.

"Making the Classroom More Student Centered," workshop presented at the Fifteenth Annual Eastern Small College Computing Conference, Olean, NY, October 16, 1999.

"Active and Group Learning Techniques in Computer Science Education," workshop presented at SIGCSE '99, New Orleans, LA, March 24, 1999.

"Using Cooperative Learning Techniques in the Classroom," luncheon speech at Insight 1998, RIT, Rochester, NY, March 27, 1998.

"Active and Group Learning Techniques in Computer Science Education," workshop presented at SIGCSE '98, Atlanta, GA, February 28, 1998.

"Active and Group Learning Techniques in the Classroom," workshop presented at Eastern Small College Computing Conference (ESCCC '97), The Richard Stockton College of New Jersey, Pomona, NJ, October 24–25, 1997.

"The Great Collaboration: Teaching and Learning," featured fall colloquium speech, The George Washington University Teaching Center, October 17, 1997.

"Active and Group Learning Techniques in the Classroom," workshop presented at Consortium for Computing in Small Colleges (CCSC) Midwest '97 Conference, Dominican University, River Forest, IL, September 26–27, 1997.

"Active and Group Learning Techniques in Computer Science Education," workshop presented at SIGCSE '97, San Jose, CA, March 1, 1997.

"Computer Graphics as a Discipline," panel chair, SIGCSE '90, Washington, DC, February 22, 1990.

"Visions of Unseen Worlds," St. Michael's College, Burlington, VT, March 24, 1986.

Professional Activities–Conference Activities

Program Committee member, The Fourth Eurographics Workshop on Visualization and Graphics in Education, Poitiers, France (August 24–25, 1996)

SIGGRAPH '97 and SIGGRAPH '95 Courses Committee member

SIGGRAPH '95 Educators' Program College/University Track Organizer

SIGGRAPH '93 Courses Jury member

Program Committee member, The First Eurographics Workshop on Graphics and Visualization Education, Barcelona, Spain (September 4–5, 1993)

"Computer Graphics as a Discipline" workshop organizer (SIGCSE '90)

Organizing Committee, 1988 Symposium on Computer Graphics Education

Professional Activities–Reviewing Activities

Middle States Commission on Higher Education Evaluator (2007 – present)

NAACP Afro-Academic Cultural Technological Scientific Olympics judge for Buffalo, NY, competition (2006)

External program reviewer, State University of New York at Geneseo, Computer Science Department (2005)

National Science Foundation Review Panels:
Course and Curriculum Development (July 1995); Course, Curriculum, and Laboratory Improvement (July 1999)

SIGCSE '00, SIGCSE '01, SIGCSE '02, SIGCSE '03, SIGCSE '06, SIGCSE '07 paper reviewer

IEEE Transactions on Education (2002–present) reviewer

Journal on Educational Resources in Computing (JERIC) (2003) reviewer

Computer graphics reviewer for *The Encyclopedia of Computer Science* (fourth edition)

ACM Computer Science Conference paper reviewer (1991–1995)

Computer Science Accreditation Commission program evaluator (1992–1999)

Reviewer for the ACM/IEEE Computer Science Curriculum 1991 Task Force

SIGGRAPH '90, '91, '92, '93, and '95 course proposals reviewer

SIGGRAPH '95 Educator's Program College/University Track reviewer

SIGGRAPH Educator's Grant Proposal Reviewer (1991–1997)

IEEE Computer Graphics and Applications paper reviewer (1996)

Book reviewer for *Computer Graphics Quarterly* (1993)

Professional Activities–Committee Activities

Erie County Community College Computer Science Advisory Council Member (1996–2006) and Council Chair (1997–2000)

Erie County Community College Liberal Arts Advisory Council Member (1997–present) and Council Chair (1999–present)

SIGGRAPH Curriculum Projects Chair (1989–1997)

SIGGRAPH Computer Science Curriculum Representative (1988–1993)

Chair, ACM SIGGRAPH Universal Graphics Curriculum Project (1993–1997)

Coordinator, ACM Self-Assessment Procedure in Computer Graphics (1992–1997)

Founding Chair, Western New York Digital Equipment Corporation Local Users Group (1982–1983)

Professional Activities–Professional Memberships

ACM (Association for Computing Machinery)

ACM SIGGRAPH (Special Interest Group in Graphics)

ACM SIGCSE (Special Interest Group in Computer Science Education)

IEEE Computer Society

College Service

Faculty Senate (2005–2007), Budget Committee Chair (2005–2007), and consultant to the Board of Trustees Finance and Facilities Committee (2005–2007)

Speaker at the *Always Our Children* retreat run by Campus Ministry (February 25, 2006)

Comprehensive Science Building Planning Committee (2003–present)

Long-Range Strategic Planning Committee (2003–2005)

Interdisciplinary Science Planning Committee (2002–present)

Really Useful Web Workshop presenter (1998)

Co-chair, *The Fabric of Remembrance: The Canisius College Display of the NAMES Project AIDS Memorial Quilt* (Buffalo, NY, March 31–April 2, 1995)

Middle States Review, Program Subcommittee Co-chair (1993)

Women's Studies Committee, Educational Program Subcommittee Chair (1993–1999)

Information Services Advisory Committee (1990–1994)

Awards

2002	Erie County Community College Advisory Council Leadership Award (for contributions to Erie County Community College)
1993	I. Joan Lorch Women's Studies Award (for contributions to women at Canisius College)
1987–1988	Robert H. Goddard Fellowship (WPI)

Bibliographic Listings (Partial List)

1994–2000	Who's Who in American Education
1995–1996	Who's Who in the World
1995–1996	American Men and Women of Science

Grants Funded While at Canisius College

2004	NASA Grant (a team effort among many science faculty—about $250,000 for the Computer Science Department)
1998	SGI Hardware/Software Grant ($84,000)
1995	ACM SIGGRAPH Universal Curriculum Grant ($6,000)
1991	Sun Microsystems Hardware/Software Grant ($86,000)
1987	National Science Foundation Computer Science Instrumentation Program Equipment Grant ($76,000)
1986	AutoDESK AutoCAD Grant Program ($2,500)
1985	AT&T Videotex Equipment Grant ($46,500)

Areas of Interest

Computer Graphics	Computer Science Education
Theory of Computation	Web Development
Analysis of Algorithms	Social Impact of Computers
Modeling and Simulation	Compiler Theory

Course Development

I have been responsible for the following curriculum additions at Canisius College:

CSC 111: Introduction to Programming (conversion to C++ only)

CSC 127: Introduction to Game Design

CSC 212: Data Structures (conversion to C++ only)

CSC 220/320: Computing Technology and Society (with Patricia Christian)

CSC 280: Theory of Computation

CSC 281: Automata and Algorithms

CSC 325: Computer Graphics

CSC 326: Advanced Graphics

CSC/MAT 342: Graph Theory (with Efstratios Prassidis)

CSC 351: Comparative Programming Languages

CSC 365: Computational Vision

CSC 380: Web Development (design and graphics components)

CSC 400: Seminar in Theory of Computation

Courses Taught

CSC 100: Computers (a literacy course)

CSC 110: Introduction to Computer Science

CSC 111: Introduction to Programming (in the Pascal, Modula-2, C++, and Java programming languages)

CSC 112: Data Structures (in the Pascal and Modula-2 programming languages)

CSC 212: Data Structures (in the C++ and Java programming languages)

CSC 250: Foundations of Computer Science

CSC 251: Programming Languages

CSC 280: Theory of Computation

CSC 281: Automata and Algorithms

CSC 220/320: Computer Technology and Society

CSC 300: File and Database Systems Design

CSC 311: Computer Organization (Architecture)

CSC 315: Analysis of Algorithms

CSC 325: Computer Graphics

CSC 326: Advanced Graphics

CSC 331: Operating Systems

CSC 333: Modeling and Simulation

CSC 351: Comparative Programming Languages

CSC 365: Computational Vision

CSC 371: Compiler Construction

CSC 380: Web Development (team taught)

CSC 400: Seminar in Theory of Computation

Community Service

Board Member, Parents, Families, and Friends of Lesbians and Gays (PFLAG), Buffalo/Niagara Chapter (1990–present)

Treasurer, PFLAG Buffalo/Niagara (1996–present)

Webmaster, PFLAG Buffalo/Niagara (2000–present)

Erie County Democratic Committee Member (2004–present)

Chair, NAMES Project Buffalo (a chapter of The NAMES Project AIDS Memorial Quilt) (1996–1998)