

Timothy J. McGuire

Associate Professor of Computer Science
Department of Computer Science
College of Science and Engineering Technology

Degrees Earned

Doctor of Philosophy in Computer Science, Texas A&M University 1991

Master of Science in Mathematics, Colorado State University, 1979

Bachelor of Science in Mathematics, summa cum laude, LeTourneau College, 1977

Professional Licensure and Certifications

Peer-Review Publications and Artistic Performances/Exhibitions

Articles

- F. Ackerman, T. McGuire, T. Scott, and J. Peterson, "Nifty Assignments," *The Journal of Computing Sciences in Colleges*, vol. 24, no. 1, 2008.
<http://portal.acm.org/citation.cfm?id=1409763.1409821>
- D. Collins and T. McGuire, "Using the DC3 Forensic Challenge as a Basis for a Special Topics Digital Forensics Upper Level Undergraduate Course," *The Journal of Computing Sciences in Colleges*, vol. 23, no. 6, 2008. <http://portal.acm.org/citation.cfm?id=1352383.1352387>
- T. McGuire and K. Murff, "Issues in the Development of a Digital Forensics Curriculum," *The Journal of Computing Sciences in Colleges*, vol. 20, no. 1, 2006.
<http://portal.acm.org/citation.cfm?id=1181901.1181947>
- T. McGuire, "A Simplified Message-Passing Library," *The Journal of Computing Sciences in Colleges*, vol. 19, no. 4, 2004. <http://portal.acm.org/citation.cfm?id=1050231.1050268>
- T. McGuire, "Use of Low-Cost Beowulf Clusters in Computer Science Education," *ACET Journal of Computer Education and Research*, vol. 2, no. 1, 2004.
- T. McGuire, "Message Passing in Lower-Level Computer Science Courses," *The Journal of Computing Sciences in Colleges*, vol. 18, no. 4, 2003.
<http://portal.acm.org/citation.cfm?id=767598.767611>
- T. McGuire, "Message Passing as an Introduction to Distributed Processing in the Undergraduate Curriculum," *ACET Journal of Computer Education and Research*, vol. 1, no. 1, 2003.
- T. McGuire and B. Childs, "An Analysis of Power Series Operators," *Applied Mathematics Letters*, vol. 4, no. 2, 1991.

Books

Chapters

Proceedings

- B. Childs and T. McGuire, "A Scientific Programming Environment for a Class of Inverse Problems," *Proceedings of the AAAI Symposium on Intelligent Scientific Computation*, pp. 19-23, 1992.
<http://www.aaai.org/Papers/Symposia/Fall/1992/FS-92-01/FS92-01-005.pdf>
- B. Childs and T. McGuire, "Symbolic Computing, Automatic Programming, and Literate Programming," *Proceedings of the 5th International Conference on Computational Techniques and Applications*, pp. 29-48, 1991.

Artistic Performances

Artistic Exhibitions

Research Monographs and Technical Reports

- T. McGuire and M. Leimohn, "Strategies for Improving the Performance of Models for Super-Thermal Electron Transport in the Earth's Magnetic Field," chapter XXX in *Research Reports – NASA/ASEE Summer Faculty Fellowship Program*, NASA/CR-2001-210796, Marshall Space Flight Center, Huntsville, Alabama, September 2001.
- T. McGuire and R. Mashburn, "An Experiment in Building Supercomputer-class Systems Using Commodity Components," Technical Report, Killgore Research Center, Canyon, Texas, February 2000.
- T. McGuire and M. Leimohn, "Performance of a Bounce-Averaged Global Model of Super-Thermal Electron Transport in the Earth's Magnetic Field," chapter XXXIII in *Research Reports – NASA/ASEE Summer Faculty Fellowship Program*, NASA/CR-1998-208803, Marshall Space Flight Center, Huntsville, Alabama, September 1998.
- J.P. Gray and T. McGuire, "Convex Hull Programs," *Stata Technical Bulletin*, no. 23, 1995.
- T. McGuire and J. Harrison, "Direct Standardization," *Stata Technical Bulletin*, no. 21, 1994.
- T. McGuire, "Solving Equations by the Method of Ridders," *Stata Technical Bulletin*, no. 16, 1993.

Funded External Grants

- LittleFe Buildout Grant, Shodor Foundation, Fall 2013, funded \$3,000.
- High Performance Computing Educator Grant, ACM/IEEE Computer Society, Fall 2013, funded \$2,000.
- "Development of a Hydrology Data Repository and Models Tutorial," U.S. Army Corps of Engineers, Engineering Research and Development Center, Champaign, Illinois, \$250,000, September 2001 – September 2002

Peer-Review Presentations/Posters

- T. McGuire, "A Gentle Introduction to GPU processing," tutorial session, CCSC:SC 2016, Austin, TX, April 17, 2016.
<http://portal.acm.org/citation.cfm?id=2904138>

- T. McGuire, "Using LittleFe to introduce parallel and distributed computing in the curriculum," tutorial session, CCSC:SC 2014, Austin, TX April 12, 2014.
<http://portal.acm.org/citation.cfm?id=2591468.2591477>
- T. McGuire, "Multi-core Programming in Java," tutorial session, CCSC:SC 2012, Canyon, TX, April 21, 2012.
<http://portal.acm.org/citation.cfm?id=2167431.2167437>
- T. McGuire, "A Gentle Way of Introducing Multi-Core Programming into the Curriculum," tutorial session, CCSCNW 2010, Newberg, OR, October 8, 2010.
<http://portal.acm.org/citation.cfm?id=1858449.1858471>
- T. McGuire, "OpenMP under Visual Studio and Linux," CCSCNW 2010, Newberg, OR, October 8, 2010.
- M. Scherger and T. McGuire, "Introducing Multi-Core Programming using OpenMP into the Undergraduate Curriculum," tutorial session, CCSC:SCC 2010, Austin, TX, April 24, 2010.
<http://portal.acm.org/citation.cfm?id=1734797.1734820>
- T. McGuire, "Introducing Multi-core Programming into the Lower-level Curriculum: An Incremental Approach," tutorial session, CCSCE 2009, Villanova, PA, October 31, 2009.
<http://portal.acm.org/citation.cfm?id=1629116.1629137>
- T. McGuire and M. Scherger, "An Introduction to OpenMP," ACET 2009, October 10, 2009.
- T. McGuire, "The Sky Really IS Falling!" ACET2008, Austin, Texas, October 3, 2008.
- K. Hartness, T. McGuire, L. Shannon, P. Tedford. "Attracting Majors," panel session, CCSC:SCC 2008, Corpus Christi, TX, April 19, 2008.
<http://portal.acm.org/citation.cfm?id=1352383.1352397>
- D. Collins and T. McGuire, "Using the DC3 Forensic Challenge as a Basis for a Special Topics Digital Forensics Upper Level Undergraduate Course", poster session, SIGCSE 2008, Portland, OR, March 13, 2008. <http://portal.acm.org/citation.cfm?id=1352322>
- T. McGuire, "Using Rubrics to Help You and Your Students Perform Better," ACET2007, San Antonio, Texas, October 13, 2007.
- T. McGuire, "Curricular Issues in High Performance Computing," poster session paper, *Oklahoma Supercomputing Symposium*, Norman, Oklahoma, October 2, 2006.
- T. McGuire and K. Murff, "Development of a Graduate Digital Forensics Curriculum," poster session paper, *ACM/SIGCSE Technical Symposium on Computer Science Education*, Houston, Texas, March 2006. <http://portal.acm.org/citation.cfm?id=1121341>
- T. McGuire, "SIMPL: A Simplified Message-Passing Library," CCSC 2004 South Central Conference, Austin, Texas, April 17, 2004.
- T. McGuire, "SIMPL: The Simplified Message-Passing Library," poster session paper, *ACM/SIGCSE Technical Symposium on Computer Science Education*, Norfolk, Virginia, March 2004. <http://portal.acm.org/citation.cfm?id=971300>
- B. Culver and T. McGuire, "OOPic-Based Mobile Robots in the Undergraduate Curriculum" poster session paper, *ACM/SIGCSE Technical Symposium on Computer Science Education*, Norfolk, Virginia, March 2004. <http://portal.acm.org/citation.cfm?id=971300>

- T. McGuire and J. Dorband, "A Simplified Interface for Message Passing," poster session paper, *Oklahoma Supercomputing Symposium*, Norman, Oklahoma, September 2003.
- T. McGuire, "A Simplified Interface for Message-Passing Based Upon MPI," Seminar, Goddard Space Flight Center, Greenbelt, Maryland, June 6, 2003.
- T. McGuire, "Message Passing in First Year Courses," CCSC 2003 South Central Conference, Jackson, Mississippi, April 11, 2003
- T. McGuire, "How to Build a Beowulf," Computer Science Secondary Education Conference, Huntsville, Texas, January 10, 2003.
- T. McGuire, "Message-Passing Computing," ACET2002, Corpus Christi, Texas, September 27, 2002.
- T. McGuire, "An Overview of Computational Geometry," Seminar, Department of Mathematics, Computer Science, and Statistics, Sam Houston State University, Huntsville, Texas, January 31, 2001.
- T. McGuire, "Building a No- or Low-Cost Supercomputer," ACET2000, Austin, Texas, September 22, 2000.
- T. McGuire, "An Overview of Cluster Computing," Seminar, Department of Mathematics, Computer Science, and Statistics, Sam Houston State University, Huntsville, Texas, February 25, 2000.
- T. McGuire, "Improving the Performance of Models for Super-thermal Electron Transport in the Earth's Magnetic Field," Huntsville Space Physics Colloquium, Marshall Space Flight Center, August 7, 1998.
- T. McGuire, "Literate Scientific Computing," Southwest Research Institute, San Antonio, Texas, May 14, 1998.
- B. Childs and T. McGuire, "Computational Differentiation in BVPs in Ordinary Differential Equations," Accepted Paper, *Second International Workshop on Computational Differentiation*, Santa Fe, New Mexico, February 1996.

Work or Professional Experiences

- 2005 – present: Associate Professor of Computer Science, Department of Computer Science, Sam Houston State University, Huntsville, Texas
- 1999 – 2005: Assistant Professor of Computer Science, Department of Mathematics, Computer Science, and Statistics, Sam Houston State University, Huntsville, Texas
- 1996 – 1999: Assistant Professor of Computer Information Systems, T. Boone Pickens College of Business, West Texas A&M University, Canyon, Texas
- 1994 – 1996: Director of Academic Computing and Associate Professor of Computer Science, Pillsbury College, Owatonna, Minnesota
- 1993 – 1994: Senior Computer Scientist, Stata Corporation, College Station, Texas
- 1991 – 1993: Senior Lecturer in Computer Science, Texas A&M University, College Station, Texas
- 1986 – 1991: Lecturer in Computer Science, Texas A&M University, College Station, Texas

1981 – 1986: Assistant Professor of Computer Science and Mathematics, LeTourneau College, Longview, Texas

1979 – 1981: Instructor in Physical and Mathematical Sciences, Miles Community College, Miles City, Montana

Honors and Awards

NASA/ASEE Faculty Fellowship, Goddard Space Flight Center, Greenbelt, Maryland, 2003

NASA/ASEE Faculty Fellowship, Marshall Space Flight Center, Huntsville, Alabama, 1998

NASA/ASEE Faculty Fellowship, Marshall Space Flight Center, Huntsville, Alabama, 1997

Postdoctoral Research Fellowship, Institute for Scientific Computation, College Station, Texas, 1993

ACM Faculty Teaching Award, Texas A&M University, College Station, Texas, 1992

McDonald Teaching Excellence Award, Texas A&M University, College Station, Texas, 1991

Other Competencies

Membership Secretary, Consortium for Computing Sciences in Colleges, 2014 – Present.

National Board Member, Consortium for Computing Sciences in Colleges, 2009 – 2012, 2014 -- Present.

Program Evaluator for the ABET Computing Accreditation Commission, 2008 – Present

Session Chair, Educational Issues, ACM/SIGCSE 2008 Technical Conference, March 12-15, 2008

Conference Chair, Conference of the Consortium for Computing Sciences in Colleges: South Central Region, 2006

Steering Committee, Consortium for Computing Sciences in Colleges: South Central Region, 2004 – Present

Reviewer, ACM/ITICSE Conference, 2006 – Present

Reviewer, ACM/SIGCSE Technical Conference, 2003 – Present

Session Chair, Operating Systems Tools, ACM/SIGCSE 2006 Technical Conference, March 1-5, 2006

Reviewer, Conference of the Consortium for Computing Sciences in Colleges: South Central Region, 2002 – Present

Board of Directors, Association for Computer Educators in Texas, 2003 – 2005.

Editorial Board, ACET Journal of Computer Education and Research, 2002 – Present; Technical Production Editor, 2003 – 2005; Editor-in-Chief, 2005 – 2008.

CSAB (formerly, the Computer Sciences Accreditation Board)

Association for Computing Machinery

IEEE Computer Society

ACM Special Interest Group in Computer Science Education

ACM Special Interest Group on Automata and Computational Theory

IEEE Task Force on Cluster Computing

IEEE Technical Committee on Security and Privacy

Consortium for Computing Sciences in Colleges

Association of Computer Educators in Texas