Part III

Activity Data
Publications

Appeared

Refereed Journals

Conference Proceedings


Technical Reports


Accepted


**Submitted**

6. J. Bernal, “Integer Representation of Decimal Numbers for Exact Computations,” NISTIR.

**In Process**

2. I. Beichl and F. Sullivan, “Grover’s Algorithm: Lower Bounds on Quantum Complexity”.
3. I. Beichl, M. Robinson, D. Song, and F. Sullivan “A Quantum Algorithm for Determining If a Function is One to One.”


34. A. Kearsley, “Projections onto Ordered Simplexes and the Isotonic Regression Problem.”

35. R. Kessel and R. Kacker, “Uncertainty Index.”


52. Q. Wang and B. Saunders, “Web-Based 3D Visualization in a Digital Library of Mathematical Functions,” NISTIR.

**Visualizations Published**


**Presentations**

**Invited Talks**

**International**


**Domestic**


Local Area


Conference Presentations

International


4. J. Devaney (with S. Satterfield and J. Hagedorn), “Science at the Speed of Thought” at the Workshop on Ambient Intelligence for Scientific Discovery, Vienna, Austria, April 25, 2004.

Domestic


Local Area


Software Released

2. D. Porter contributed to Tcl/Tk releases 8.4.5 (November 24, 2003), 8.4.6 (March 1, 2004), 8.5a1 (March 3, 2004), and 8.4.7 (July 29, 2004).
3. J. Kelso, visualization DSOs and utilities: tim2 (Things In Motion, version 2), xwand, printSceneGraph, smallFeatureCull DSO, dtk-writeShm, lodScale DSO, sgb (Scene Graph Builder) file loader, ifi (Instancing File loader), lod (Level Of Detail) file loader, m4 pseudo loader, flatten pseudo loader, clean” pseudo loader.
4. S. Langer, OOF2 version 2.0.b2.
5. A. Peskin, ABCDswitch DSO.

Conferences, Minisymposia, Lecture Series, Shortcourses

MCSD Seminar Series


**Local Events Organized**


External Events Organization

4. J. Devaney, Program Committee, Government and Industrial Track, Knowledge Discovery in Databases Conference.
6. J. Fong, Co-Chair, Symposium on Topics in Analytical Dynamics and Applied Mechanics, Stanford University, March 5, 2004.

Other Professional Activities

Internal

1. I. Beichl, Co-coordinator, ITL Summer Undergraduate Research Fellowship (SURF) Program
2. R. Boisvert and Abbie O’Gallagher, ITL Diversity Committee.
7. Staff members regularly review manuscripts for the Washington Editorial Review Board (WERB) and the Boulder Editorial Review Board (BERB), as well as proposals for the NIST ATP and SBIR programs.

**External**

**Editorial**

1. B. Alpert, Associate Editor, *SIAM Journal on Scientific Computing*.
3. I. Beichl, Associate Editor, *Journal of Numerical Analysis and Computational Mathematics*
8. G. McFadden, Associate Editor, *Journal of Crystal Growth*.
9. G. McFadden, Associate Editor, *Interfaces and Free Boundaries*.
10. G. McFadden, Associate Editor, *SIAM Journal on Applied Mathematics*.
11. W. Mitchell, Associate Editor, *Journal of Numerical Analysis and Computational Mathematics*
14. R. Pozo, Associate Editor, *ACM Transactions on Mathematical Software*

**Boards and Committees**

1. R. Boisvert, ACM Publications Board.
2. R. Boisvert, Chair, International Federation for Information Processing Working Group 2.5 (Numerical Software)
4. J. Devaney, High End Computing Group, National Coordination Office for Information Technology Research and Development.
6. F. Hunt, Executive Committee, Association for Women in Mathematics.
7. D. Lozier, Chair, SIAM Activity Group on Orthogonal Polynomials and Special Functions.
8. D. O’Leary, SIAM/AMS/ASA/AWM/IMS/MAA/NCTM Joint Committee on Women
9. D. Porter, Tcl Core Team.
10. B. Saunders, External Advisory Council, School of Computer, Mathematical and Natural Sciences, Morgan State University.

**Reviewing**

1. Division staff members referee manuscripts for a wide variety of journals including

   *American Mathematical Monthly*
   *ASME Journal of Manufacturing Science and Engineering*
   *Computers and Mathematics with Applications*
   *Computers in Engineering*
   *IEEE Transactions on Antennas and Propagation*
   *IEEE Transactions on Computer Aided Design (TCAD)*
   *IEEE Transactions on Electromagnetic Compatibility*
   *IEEE Transactions on Instrumentation and Measurement*
   *IEEE Transactions on Magnetics*
IEEE Transactions on Parallel and Distributed Computing  
International Journal of Numerical Methods in Engineering  
International Journal of Plasticity  
Journal of Computational and Applied Mathematics  
Journal of Computational Physics  
Journal of Computational Statistics  
Journal of Magnetism and Magnetic Materials  
Journal of Physics A: Mathematical and General Physics  
Journal of Physics B: Atomic, Molecular, and Optical Physics  
Journal of Rheology  
Metrologia  
Physical Review A  
Physical Review B  
Physical Review Letters  
Precision Engineering  
Radio Science  
SIAM Journal on Applied Mathematics  
SIAM Journal on Numerical Analysis  
SIAM Journal on Optimization  
SIAM Journal of Scientific Computing  
Theoretical Computer Science  
Total Quality Management and Business Excellence

2. Staff members review proposals for the following research programs: Kentucky Science and Engineering Foundation (KSEF), Civilian Research and Development Foundation, University of California Microelectronics Innovation and Computer Research Opportunities (MICRO) Program, Dutch National Science Foundation (NWO), and the National Science Foundation (NSF).

External Contacts

MCSD staff members make contact with a wide variety of organizations in the course of their work. Examples of these follow.

Industrial Labs

Absoft Corporation  
Altera Corporation  
American Hydro Corp.  
Atrenta, Inc.  
Cisco Systems  
Computers and Structures, Inc.  
Cray, Inc.  
Delta Add-Power Systems  
Ether Media  
Fuji Electric Advanced Tech., Co., Ltd.  
General Electric Research Labs  
Institute for Electronic Design Automation  
Integral Systems, Inc.  
Integrity Applications, Inc.  
Intel Corporation  
Invensys Systems, Inc.  
Lick Observatory  
Livermore Software Technology Corp.  
Lucent Technologies  
Mallett Technology, Inc.  
Open Tech Inc.  
Optimization Partner Stockholm AB  
Raytheon  
Rockwell Collins  
SAC Capital  
SIGOS  
Superior Methods  
System Planning Corp.  
Targacept  
Well Code Software  
XYZ Scientific Applications, Inc.
Government/Non-profit Organizations

Association for Computing Machinery (ACM)  National Science Foundation (NSF)
American Mathematical Society (AMS)  Office of Naval Research
Air Force Office of Scientific Research  Office of Science and Technology Policy (OSTP)
Army Research Office  Ohio Supercomputer Center
DARPA  Research Org. for Info. Science & Tech. (Japan)
European Southern Observatory  Sandia National Laboratory
FBI  Senate Appropriations Committee
IDA Center for Computing Sciences  Society for Industrial and Applied Mathematics (SIAM)
Japan Aerospace Exploration Agency  The Canadian Space Agency
Jet Propulsion Laboratory  U.S. Army Night Vision Laboratory
Los Alamos National Laboratory  U.S. Department of Energy
Mayo Clinic  U.S. Department of Defense
National Institutes of Health  U.S. Joint Forces Command
National Coordination Office for IT R&D  U.S. Nuclear Regulatory Commission
NASA  Walter Reed Army Institute of Research
National Security Agency
NOAA

Universities

Abilene Christian University  Purdue University
American University  Rensselaer Polytechnic Institute
American University of Beruit Medical Center  Saarland University (Germany)
Boston University  San Jose State University
Bowie State University  Sienna College
Brown University  Stanford University
Cachan University (France)  Technion (Israel)
Chinese Academy of Sciences  Tel-Aviv University (Israel)
Colorado College  Union College
Coppin State University  University of Alaska
Cornell University  University of California
Delaware State University  University of Cambridge
Drexel University  University of Cincinnati
Duke University  University of Erlangen-Nuremberg (Germany)
George Mason University  University of Houston
George Washington University  University of Idaho
Georgetown University  University of Illinois
Graz University (Austria)  University of Indiana
Illinois Institute of Technology  University of Iowa
Innsbruck University (Austria)  University of Kentucky
Instituto Nazionale per las Fisica della Materia  University of Maryland
(Spain)  University of Minnesota
International University of Bremen (Germany)  University of Mons (Belgium)
Iowa State University  University of New Mexico
Jackson State University  University of North Carolina
New Mexico State University  University of Puerto Rico
Millersville University  University of San Diego
Mississippi State University  University of Southampton (United Kindom)
MIT  University of Tokyo
Morgan State University  University of Valparaiso (Chile)
Northwestern University  University of Verlangen (Germany)
Penn State University  University of Washington
Princeton University  University of Wisconsin
Utrecht University (The Netherlands)  Williams College
Virginia Tech