Part IV

Appendices

Staff

MCSD consists of full time permanent staff located at NIST laboratories in Gaithersburg, MD and Boulder, CO. This is supplemented with a variety of faculty appointments, guest researchers, postdoctoral and appointments. The following list reflects the status at the end of FY 2004.

Division Staff

Ronald Boisvert, *Chief* , Ph.D. (Computer Science), Purdue University, 1979
Robin Bickel, *Secretary*
Joyce Conlon, B.A. (Mathematics), University of Maryland Baltimore County, 1979
Jeffrey Fong, Ph. D. (Applied Mechanics and Mathematics), Stanford University, 1966
Roldan Pozo, Ph.D. (Computer Science), University of Colorado at Boulder, 1991

Mathematical Modeling Group

Geoffrey McFadden, *Leader* , Ph.D. (Mathematics), New York University, 1979
Bradley Alpert (Boulder) , Ph.D. (Computer Science), Yale University, 1990
Timothy Burns, Ph.D. (Mathematics), University of New Mexico, 1977
Alfred Carasso, Ph.D. (Mathematics), University of Wisconsin, 1968
Andrew Dienstfrey (Boulder), Ph.D. (Mathematics), New York University, 1998
Michael Donahue, Ph.D. (Mathematics), The Ohio State University, 1991
Fern Hunt, Ph.D. (Mathematics), New York University,
Raghu Kacker, Ph.D. (Statistics), Iowa State University, 1979
Anthony Kearsley, Ph.D. (Computational and Applied Mathematics), Rice University, 1996
Peter Ketcham. M.S. (University of Minnesota), 1997
Stephen Langer, Ph.D. (Physics), Cornell University, 1989
Agnes O'Gallagher (Boulder), M.S. (Applied Math), University of Colorado at Boulder, 1991
Donald Porter, Ph.D. (Electrical Engineering), Washington University, 1996

Postdoctoral Fellows
David Cotrell, Ph.D. (Mech. Engineering), University of Illinois at Urbana-Champaign, 2003

Faculty Appointees
Richard Braun (University of Delaware)
Dianne O'Leary (University of Maryland College Park)
Florian Potra (University of Maryland Baltimore County)

Guest Researchers
Daniel Anderson (George Mason University)
Katharine Gurski (George Washington University)
Seung-Ill Haan (University of Maryland Baltimore County)

Students
Eric Baer (Carnegie Mellon University)
Christopher Copeland (Vanderbilt University)

Mathematical Software Group

Daniel Lozier, *Leader,* Ph.D. (Applied Mathematics), University of Maryland, 1979
Marjorie McClain, M.S. (Mathematics), University of Maryland College Park, 1984
Bruce Miller, Ph.D. (Physics), University of Texas at Austin, 1983
William Mitchell, Ph.D. (Computer Science), University of Illinois at Urbana-Champaign, 1988
Bert Rust, Ph.D. (Astronomy), University of Illinois at Urbana-Champaign, 1974
Bonita Saunders, PhD (Mathematics), Old Dominion University, 1985

Faculty Appointees
Bruce Fabijonas (Southern Methodist University)
G.W. Stewart (University of Maryland College Park)
Abdou Youssef (George Washington University)

Guest Researchers
Leonard Maximon (George Washington University)
Frank Olver (University of Maryland College Park)

Students
Elaine Kim (Stanford University)

Optimization and Computational Geometry Group

Ronald Boisvert, *Acting Leader*
Isabel Beichl, Ph.D. (Mathematics), Cornell University, 1981
Javier Bernal, Ph.D. (Mathematics), Catholic University, 1980
David Gilsinn, Ph.D. (Mathematics), Georgetown University, 1969
Emanuel Knill (Boulder), Ph.D., (Mathematics), University of Colorado at Boulder, 1991

Postdoctoral Fellows
Stephen Bullock, Ph.D. (Mathematics), Cornell University, 2000
Scott Glancy (Boulder), Ph.D. (Physics), University of Notre Dame, 2004

Faculty Appointees
Saul Gass (University of Maryland College Park)
James Lawrence (George Mason University)

Guest Researchers
David Song
Francis Sullivan (IDA Center for Computing Sciences)
Christoph Witzgall
Anoka Yimsiriwattana (University of Maryland Baltimore County)

Scientific Applications and Visualization Group

Judith Devaney, *Leader*, Ph.D. (Information Technology), George Mason University, 1998
Yolanda Parker, *Office Manager*
Robert Bohn, Ph.D. (Physical Chemistry), University of Virginia, 1991

William George, Ph.D. (Computer/Computational Science), Clemson University, 1995
Terence Griffin, B.S. (Mathematics), St. Mary's College of Maryland, 1987
John Hagedorn, M.S. (Mathematics), Rutgers University, 1980
Howard Hung, Ph.D. (Operations Research), University of Massachusetts, 1973
John Kelso, M.S. (Computer Science), George Washington University, 1984
Adele Peskin (Boulder), Ph.D. (Chemical Engineering), University of Colorado at Boulder, 1985
Steven Satterfield, M.S. (Computer Science), North Carolina State University, 1975
James Sims, Ph.D. (Chemical Physics), Indiana University, 1969

Staff Leaving the Division During FY 2004

Postdoctoral Fellows
Luis Melara

Guest Researchers
Alan Goldman
Bruce Murray
Eduardo Martinez-Vecino

Students
Whitney Austin
Shauntia Burley
Angel Villalain-Garcia
Michael Huber
Brandon Smith

Acronyms

ACM	Association for Computing Machinery
AMS	American Mathematical Society
ANSI	American National Standards Institute
API	application programming interface
APS	American Physical Society
ATP	NIST Advanced Technology Program
AWM	Association for Women in Mathematics
BFRL	NIST Building and Fire Research Laboratory
BLAS	Basic Linear Algebra Subprograms
CAD	computer-aided design
CARB	NIST Center for Advanced research in Biotechnology
CCCBDB	NIST Computational Chemistry Comparison and Benchmark Database
CCD	concurrence canonical decomposition
CCS	Center for Computing Sciences
CEM	computational electromagnetics
CG	conjugate gradient
CSTB	Centre Scientifique et Technique du Batiment
CSTL	NIST Chemical Science and Technology Laboratory
CTCMS	Center for Theory and Computation in Materials Science
CWI	Centrum voor Wiskunde en Informatica (National Research Institute for Mathematics and Computer Science in the Netherlands)
DARPA	Defense Advanced Research Projects Agency
DIVERSE	Device Independent Virtual Environments — Reconfigurable, Scalable, Extensible (visualization software)
DLMF	Digital Library of Mathematical Functions (MCSD project)
DOD	Department of Defense
DOE	Department of Energy
DPD	dissipative particle dynamics
DSO	distributed shared object
ECG	explicitly correlated Gaussian
EEEL	NIST Electronics and Electrical Engineering Laboratory
EM	electromagnetic
EPA	Environmental Protection Agency
ESRF	European Synchrotron Radiation Facility
FY	fiscal year
GAMS	Guide to Available Mathematical Software
GMR	giant magneto-resistance
GMRES	generalized minimal residual
HECRTF	High End Computing Revitalization Task Force
Hy-Cl	Hylleraas-Configuration Interaction
IDA	Institute for Defense Analysis
IMPI	Interoperable MPI
IT	information technology
ITL	NIST Information Technology Laboratory
IFIP	International Federation for Information Processing
ISO	International Organization for Standardization
JAMA	Java Matrix package
JVM	Java virtual machine

LADAR	Laser Distance and Ranging
LOQC	linear optics quantum computation
LP	linear programming
MatCASE	Materials Computation and Simulation Environment
MCSD	ITL Mathematical and Computational Sciences Division
MEL	NIST Manufacturing Engineering Laboratory
MKM	mathematical knowledge management
MPI	Message Passing Interface
MRAM	magnetic random access memory
MSEL	NIST Materials Science and Engineering Laboratory
Mspec	mass spectrometry
NAG	Numerical Algorithms Group
NASA	National Aeronautics and Space Administration
NBS	National Bureau of Standards (former name of NIST)
NIH	National Institutes of Health
NIJ	National Institute of Justice
NIRT	NSF Nanoscale Interdisciplinary Research Team
NIST	National Institute of Standards and Technology
NOAA	National Oceanographic and Atmospheric Administration
NRC	National Research Council
NSA	National Security Agency
NSF	National Science Foundation
ODE	ordinary differential equation
OLES	NIST Office of Law Enforcement Standards
OMB	Office of management and Budget
OOF	Object-Oriented Finite Elements (software package)
OOMMF	Object-Oriented Micromagnetic Modeling Framework (software package)
OSTP	Office of Science and Technology Policy
PDE	partial differential equation
PHAML	Parallel Hierarchical Adaptive Multi Level (software)
PL	NIST Physics Laboratory
QDPD	quarternion-based dissipative particle dynamics
QKD	quantum key distribution
QMR	quasi-minimal residual
quant/ph	quantum physics report archive at www.arXiv.org
RAVE	Reconfigurable Automatic Virtual Environment
SAVG	MCSD Scientific Applications and Visualization Group
SEM	scanning electron micrograph
SIAM	Society for Industrial and Applied Mathematics
SMS	smart machining system
SSS	Screen Saver Science
SURF	Student Undergraduate Research Fellowship
SVD	singular value decomposition
TIN	triangulated irregular network
TNT	Template Numerical Toolkit
TOMS	Transactions on Mathematical Software
VCCTL	Virtual Cement and Concrete Testing Laboratory
VRML	Virtual Reality Modeling Language
WTC	World Trade Center