

# PROGRAM-AT-A-GLANCE

## SATURDAY EVENING, JULY 12

5:00 PM-8:00 PM Registration

## SUNDAY MORNING, JULY 13

7:30 AM-8:00 PM Registration

8:30 AM-5:00 PM

### Short Course on Linear Algebra Algorithms and Software for Large Scientific Problems

*Jack Dongarra  
8:45 AM-5:30 PM*

### Short Course on Level Set Methods

*James Sethian*

10:00 AM-10:30 AM Coffee

## SUNDAY AFTERNOON, JULY 13

12:00 PM-1:30 PM Lunch (for Short Courses participants only)

4:00 PM-8:00 PM

### Annual Meeting poster set-up begins

6:00 PM-8:00 PM Welcoming Reception

## MONDAY MORNING, JULY 14

7:30 AM-8:00 AM Coffee

7:30 AM-5:00 PM Registration

8:15 AM-8:30 AM Welcoming Remarks and Announcements

*Gene H. Golub, Stanford University; and William M. Coughran, Jr., Bell Laboratories, Lucent Technologies*

8:30 AM-9:15 AM

### IP1 Structured Total Least Squares, the Riemannian SVD and Applications in Signal Processing and System Identification

*Bart De Moor, Katholieke Universiteit Leuven, Belgium*

*Chair: Gene H. Golub, Stanford University*

8:30 AM-4:00 PM Exhibits open

8:30 AM-5:30 PM

### AWM Workshop (see separate program)

9:15 AM-10:00 AM

### IP2 Algorithms for Computing Matrix Logarithms and Exponentials

*Alan J. Laub, University of California, Davis*

*Chair: Gene H. Golub, Stanford University*

10:00 AM-10:30 AM Coffee and Poster Session

**10:30 AM-12:30 PM Concurrent Sessions**

### MS1 Non-Normal Matrix Eigenvalue Problems (Part I of II)

*Organizer: Ilse C. F. Ipsen, North Carolina State University*

### MS2 Magnetohydrodynamics and Related Topics (Part I of II)

*Organizers: Richard K. Jordan, University of Michigan, Ann Arbor; and Paul G. Schmidt, Auburn University*

### MS3 Numerical Solution of Ill-Posed Problems

*Organizer: Dianne P. O'Leary, University of Maryland, College Park*

### MS4 LINPACK and Its Impact on High Performance Computing

*Organizer: Horst D. Simon, Lawrence Berkeley National Laboratory*

### MS5 Least Squares and Related Problems in Metrology (Part I of II)

*Organizer: Walter Gander, Eidgenössische Technische Hochschule-Zentrum, Switzerland*

### MS6 Multiresolution Geometry

*Organizer: Wim Sweldens, Bell Laboratories, Lucent Technologies*

### MS7 Analysis and Control of Nonlinear and Coupled Distributed Parameter Systems

*Organizers: John E. Lagnese, Georgetown University; and Vilmos Komornik, Université de Louis Pasteur, France*

### MS8 Computational Geometry Approaches to Mesh Generation

*Organizers: Steven J. Fortune, Bell Laboratories, Lucent Technologies; and Marshall W. Bern, Xerox PARC*

### MS9 A Tribute to the Memory of Garrett Birkhoff

*Organizer: David M. Young, Jr., University of Texas, Austin*

### CP1 Dynamical and Stochastic Systems

*Chair: Debra Lewis, University of California, Santa Cruz*

### CP2 Mathematical and Computational Methods in Biology I

*Chair: Kathleen A. Rogers, University of Maryland, College Park*

### CP3 Numerical Ordinary Differential Equations

*Chair: Dirk Roose, Katholieke Universiteit Leuven, Belgium*

## MONDAY AFTERNOON, JULY 14

12:30 PM-2:00 PM Lunch (attendees are on their own)

2:00 PM-2:45 PM

### IP3 Recent Advances and Open Problems in Iterative Methods for Solving Linear Systems

*Anne Greenbaum, Courant Institute of Mathematical Sciences, New York University*

*Chair: Kathryn E. Brenan, Aerospace Corporation*

2:45 PM-3:15 PM Coffee and Poster Session

### 3:15 PM-5:45 PM Concurrent Sessions

### MS10 Magnetohydrodynamics and Related Topics (Part II of II)

*Organizers: Richard K. Jordan, University of Michigan, Ann Arbor; and Paul G. Schmidt, Auburn University*

### MS11 Recursive Methods in Filtering and Estimation

*Organizers: Ming Gu and Ali H. Sayed, University of California, Los Angeles; and S. Chandrasekaran, University of California, Santa Barbara*

### MS12 Noisy Dynamics: Analysis and Applications

*Organizers: Małgorzata M. Klosek, University of Wisconsin, Milwaukee; and Rachel Kuske, Tufts University*

### MS13 Student Paper Prize: Award and Presentation

*Organizer: Robert Borrelli, Harvey Mudd College*

### MS14 Handbooks for Special Functions and the World Wide Web

*Organizers: Richard A. Askey, University of Wisconsin, Madison; and Willard Miller, Jr., University of Minnesota, Minneapolis*

### MS15 Non-Normal Matrix Eigenvalue Problems (Part II of II)

*Organizer: Ilse C. F. Ipsen, North Carolina State University*

### MS16 Statistical Methods in Inverse Problems and Tomography

*Organizer: Bernard A. Mair, University of Florida*

### MS17 Implementation Issues Concerning Control and Identification in Distributed Parameter Systems

*Organizers: Robert E. Miller, University of Arkansas, Fayetteville; and Ralph C. Smith, Iowa State University*

### MS18 Least Squares and Related Problems in Metrology (Part II of II)

*Organizer: Walter Gander, Eidgenössische Technische Hochschule-Zentrum, Switzerland*

### CP4 Software, Tools, Environments

*Chair: Anne E. Trefethen, Cornell University*

### CP5 Mathematical and Computational Methods in Biology II

*Chair: Sharon Lubkin, University of Washington*

### CP6 Numerical PDE I

*Chair: G. F. Carey, University of Texas, Austin*

## MONDAY EVENING, JULY 14

6:00 PM-7:00 PM

### Special Session: Funding Opportunities in Applied Mathematics and Computation

*Organizer: James M. Crowley, Executive Director, SIAM*

## TUESDAY MORNING, JULY 15

7:30 AM-8:00 AM Coffee

7:30 AM-5:00 PM Registration

7:30 AM-8:30 PM

### Graduate Student Focus on Diversity Workshop (see separate program)

8:00 AM-10:30 AM

**AWM Workshop (see separate program)**

8:30 AM-4:00 PM Exhibits open

8:30 AM-9:10 AM

**IP4 Mathematical Problems in Electrical Impedance Imaging***Margaret Cheney, Rensselaer Polytechnic Institute**Chair: Raymond Chan, Chinese University of Hong Kong, Hong Kong*

9:10 AM-9:20 AM

**Awarding of The SIAM Prize for Distinguished Service to the Profession***Chair: John Guckenheimer, President, SIAM, and Cornell University*

9:20 AM-10:00 AM

**IP5 Computer-Aided Design of Bioactive Molecules***J. Andrew McCammon, University of California, San Diego**Chair: Raymond Chan, Chinese University of Hong Kong, Hong Kong*

10:00 AM-10:30 AM Coffee and Poster Session

**10:30 AM-12:30 PM Concurrent Sessions****MS19 Solving Large-Scale Nonsymmetric Eigenvalue Problems***Organizer: Nicholas J. Higham, University of Manchester, United Kingdom***MS20 Modeling of Natural Science Phenomena: Comparison of Theory with Experiment***Organizer: David J. Wollkind, Washington State University***MS21 Effective Numerical Methods for Free Boundary Problems (Part I of II)***Organizers: Thomas Y. Hou, California Institute of Technology; Hongkai Zhao, Stanford University; and Xiaolin Li, Indiana University-Purdue University, Indianapolis***MS22 Structured Total Least Norm Approximation Methods and Applications***Organizers: Haesun Park, University of Minnesota, Minneapolis; and J. Ben Rosen, University of California, San Diego***MS23 A Proposed Curriculum for the Professional MS Degree***Organizer: Ben A. Fusaro, Florida State University***MS24 Nonlinear Models in Electrical Engineering, Review and Open Problems***Organizer: Michal Odyniec, Hewlett Packard Co.***MS25 A Tribute to the Memory of George Forsythe***Organizer: Cleve Moler, The MathWorks, Inc.***MS26 High Order Methods for Compressible Flow Calculations (Part I of III)***Organizers: George Karniadakis and Chi-Wang Shu, Brown University***MS27 Architectures for Scientific Computing***Organizer: Jack Dongarra, University of Tennessee, Knoxville and Oak Ridge National Laboratory***CP7 Special Functions, Approximations, and Applications***Chair: Charles Tier, University of Illinois, Chicago***CP8 Solitons, Waves, Flow***Chair: Suncica Canic, Iowa State University***CP9 Control and Applications I***Chair: I. Norman Katz, Washington University***TUESDAY AFTERNOON, JULY 15**

12:30 PM-2:00 PM Lunch

2:00 PM-2:45 PM

**The John von Neumann Lecture***William Kahan, University of California, Berkeley**Chair: John Guckenheimer, President, SIAM and Cornell University*

2:45 PM-3:15 PM Coffee and Poster Session

**3:15 PM-5:45 PM Concurrent Sessions****MS28 Preconditioning and Iterative Methods for Problems Arising in Fluid Flow***Organizer: Andy Wathen, Oxford University, United Kingdom***MS29 The Development of O(N), First Principles, LDA Based Electronic***Organizer: William A. Shelton, Oak Ridge National Laboratory***MS30 Effective Numerical Methods for Free Boundary Problems (Part II of II)***Organizers: Thomas Y. Hou, California Institute of Technology; Hongkai Zhao, Stanford University; and Xiaolin Li, Indiana University-Purdue University, Indianapolis***MS31 Challenging Optimization Problems in Computational Biology (Part I of II)***Organizer: Zhijun Wu, Argonne National Laboratory***MS32 New Methods for Least Squares Problems with Uncertainty and Structure***Organizers: Laurent El Ghaoui and Herve Lebret, Ecole Nationale Supérieure de Techniques Avancées, France***MS33 DD/MG Algorithms in Unstructured Grid Applications: Basic Algorithms (Part I of II)***Organizers: Tony F. Chan, University of California, Los Angeles; Timothy J. Barth and Wei-Pai Tang, RIACS, NASA Ames Research Center***MS34 High Order Methods for Compressible Flow Calculations (Part II of III)***Organizers: George Karniadakis and Chi-Wang Shu, Brown University***MS35 Experiences in Teaching Mathematical Modeling***Organizer: Fadil Santosa, University of Minnesota, Minneapolis***MS36 Object-Oriented Software Design and Development of Partial Differential Equations***Organizers: David L. Brown and William D. Henshaw, Los Alamos National Laboratory***CP10 Matrix Decomposition***Chair: Haesun Park, University of Minnesota, Minneapolis***CP11 Numerical PDE II***Chair: Daniel L. Marcus, Lawrence Berkeley National Laboratory***CP12 Control and Applications II***Chair: I. G. Rosen, University of Southern California***TUESDAY EVENING, JULY 15**

5:45 PM-6:15 PM

**SIAM Business Meeting***John Guckenheimer, President, SIAM and Cornell University*

6:15 PM-7:15 PM

**The I. E. Block Community Lecture****Mathematics of Games and Sports***Joseph B. Keller, Stanford University**Chair: John Guckenheimer, President, SIAM; and Cornell University*

7:15 PM-8:30 PM Reception

**WEDNESDAY MORNING, JULY 16**

7:30 AM-8:00 AM Coffee

7:30 AM-5:00 PM Registration

8:30 AM-2:00 PM Exhibits open

8:30 AM-9:15 AM

**IP6 Multiresolution Algorithms in Computer Graphics***Peter Schröder, California Institute of Technology**Chair: Rosemary E. Chang, Silicon Graphics Computer Systems*

9:15 AM-10:00 AM

**IP7 High Performance Computer Architecture***John L. Hennessy, Stanford University**Chair: Rosemary E. Chang, Silicon Graphics Computer Systems*

10:00 AM-10:30 AM Coffee and Poster Session

**10:30 AM-12:30 PM Concurrent Sessions****MS37 Recent Development and Applications of Least-Squares Finite Element Methods***Organizers: Daniel C. Chan, Boeing North American, Rocketdyne Division; and Zhiqiang Cai, Purdue University, West Lafayette***MS38 DD/MG Algorithms in Unstructured Grid Applications: CFD and Structures Algorithms (Part II of II)***Organizers: Tony F. Chan, University of California, Los Angeles; Timothy J. Barth and Wei-Pai Tang, RIACS, NASA Ames Research Center***MS39 Applications of Compiler Technology in Computational Science***Organizers: Vladimir Kotlyar, Cornell University; and Lucas Roh, Argonne National Laboratory***MS40 High Order Methods for Compressible Flow Calculations (Part III of III)***Organizers: George Karniadakis and Chi-Wang Shu, Brown University***MS41 New Time Integration Algorithms for Solving PDEs***Organizer: Jianping Zhu, Mississippi State University*

**MS42 Preconditioned Methods for Large Eigenproblems**

*Organizer: Andrew V. Knyazev, University of Colorado, Denver*

**MS43 The Mathematical Contest in Modeling (MCM)**

*Organizer: Ben A. Fusaro, Florida State University*

**MS44 Reduced-Order Modeling and Applications in Circuit Simulation (Part I of II)**

*Organizer: Roland W. Freund, Bell Laboratories, Lucent Technologies*

**MS45 Modeling in Optical Science (Part I of II)**

*Organizers: Gang Bao, University of Florida, Gainesville; and Lawrence C. Cowsar, Bell Laboratories, Lucent Technologies*

**CP13 Economics and Finance**

*Chair: Agapi Somwaru, ERS, Washington, DC*

**CP14 Numerical PDE III**

*Chair: Donna Calhoun, University of Washington*

**CP15 Least Squares and Singular Value Decomposition**

*Chair: Gilbert Strang, Massachusetts Institute of Technology*

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**WEDNESDAY AFTERNOON,  
JULY 16**

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12:30 PM-2:00 PM Lunch

2:00 PM-2:45 PM

**IP8 Title of presentation to be determined**

*Donald E. Knuth, Professor Emeritus, Stanford University*

*Chair: William M. Coughran, Jr., Bell Laboratories, Lucent Technologies*

2:45 PM-3:15 PM Coffee and Poster Session

**3:15 PM-5:45 PM Concurrent Sessions****MS46 Advances in Level Set and Fast Marching Methods**

*Organizer: David Adalsteinsson, Lawrence Berkeley National Laboratory*

**MS47 Modeling in Optical Science (Part II of II)**

*Organizers: Gang Bao, University of Florida, Gainesville; and Lawrence C. Cowsar, Bell Laboratories, Lucent Technologies*

**MS48 Large-Scale Scientific Computing in Physics and Engineering**

*Organizers: Marc Garbey, Université Claude Bernard - Lyon 1, France; and Hans G. Kaper, Argonne National Laboratory*

**MS49 Advances in Optimal Flow Control (Part I of III)**

*Organizers: S. S. Sritharan, Naval Command Control and Ocean Surveillance Center, and University of Colorado, Boulder; and S. S. Ravindran, North Carolina State University*

**MS50 Numerical Methods for Low Speed and All Speed Flows**

*Organizer: Karen Pao, Los Alamos National Laboratory*

**MS51 Reduced-Order Modeling and Applications in Circuit Simulation (Part II of II)**

*Organizer: Roland W. Freund, Bell Laboratories, Lucent Technologies*

**MS52 Moving-Grid Methods for Partial Differential Equations (Part I of III)**

*Organizers: Guojun G. Liao, University of Texas, Arlington; and Paul A. Zegeling, Utrecht University, The Netherlands*

**MS53 Preconditioning with Incomplete Factorizations**

*Organizers: Esmond G. Ng, Oak Ridge National Laboratory; and Padma Raghavan, The University of Tennessee, Knoxville*

**MS54 Deterministic and Stochastic Parabolic Problems: Analysis and Computations**

*Organizer: Martin J. Gander, Stanford University*

**CP16 Eigenvalue Computation and Applications**

*Chair: To be announced*

**CP17 Algorithms for Discrete and Stochastic Problems**

*Chair: Alan Genz, Washington State University*

**CP18 Computational Electromagnetics**

*Chair: Bradley K. Alpert, National Institute of Standards and Technology*

5:45 PM Poster Session closes.

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**THURSDAY MORNING,  
JULY 17**

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7:30 AM-8:00 AM Coffee

7:30 AM-5:00 PM Registration

8:30 AM-9:15 AM

**IP9 Clusters and Massively Parallel Computers: Are the Architectures Converging?**

*Paul C. Messina, California Institute of Technology*

*Chair: Robert G. Voigt, National Science Foundation*

9:15 AM-10:00 AM

**IP10 Impact of the Internet on Scientific Computing**

*Eric Grosse, Bell Laboratories, Lucent Technologies*

*Chair: Robert G. Voigt, National Science Foundation*

10:00 AM-10:30 AM Coffee

**10:30 AM-12:30 PM Concurrent Sessions****MS55 Fast Toeplitz Solvers (Part I of II)**

*Organizer: Xiao-Qing Jin, University of Macau, People's Republic of China*

**MS56 The Mathematical Sciences and their Applications Throughout the Undergraduate Curriculum: An NSF Initiative Whose Time is Now**

*Organizers: Lee L. Zia, University of New Hampshire; and I. Edward Block, SIAM*

**MS57 Advances in Optimal Flow Control (Part II of III)**

*Organizers: S. S. Sritharan, Naval Command Control and Ocean Surveillance Center, and University of Colorado, Boulder; and S. S. Ravindran, North Carolina State University*

**MS58 Moving-Grid Methods for Partial Differential Equations (Part II of III)**

*Organizers: Guojun G. Liao, University of Texas, Arlington; and Paul A. Zegeling, Utrecht University, The Netherlands*

**MS59 Nasty Nonsmooth Nonlinear Optimization**

*Organizers: C. T. Kelley, North Carolina State University; and Margaret H. Wright, Bell Laboratories*

**MS60 Mimetic Finite-Difference Methods for Partial Differential Equations**

*Organizers: James M. Hyman and Mikhail J. Shashkov, Los Alamos National Laboratory*

**MS61 Theory and Applications of Orthogonal Decompositions**

*Organizers: Ricardo D. Fierro, California State University, San Marcos; and Sabine Van Huffel, Katholieke Universiteit Leuven, Belgium*

**MS62 Nonlinear PDE Methods in Image Processing (Part I of II)**

*Organizer: Tony F. Chan, University of California, Los Angeles*

**MS63 Challenging Optimization Problems in Computational Biology (Part II of II)**

*Organizer: Zhijun Wu, Argonne National Laboratory*

**CP19 Electromagnetics**

*Chair: Jane Cullum, IBM T. J. Watson Research Center*

**CP20 Geophysics**

*Chairs: Nancy K. Nichols, University of Reading, United Kingdom; and Jennifer Mueller, University of Nebraska, Lincoln*

**CP21 Combustion**

*Chair: Christopher H. Raymond, Northwestern University*

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**THURSDAY AFTERNOON,  
JULY 17**

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12:30 PM-2:00 PM SIAM Networking Picnic Lunch

2:00 PM-2:45 PM

**Past-President's Address****The Pursuit of Optimality: From the Big Picture to the Gory Details**

*Margaret H. Wright, Bell Laboratories*

*Chair: John Guckenheimer, President, SIAM and Cornell University*

2:45 PM-3:15 PM Coffee

**3:15 PM-5:45 PM Concurrent Sessions****MS64 Fast Toeplitz Solvers (Part II of II)**

*Organizer: Xiao-Qing Jin, University of Macau, People's Republic of China*

**MS65 Adaptive Method of Lines (Part I of III)**

*Organizers: A. Vande Wouwer and P. Saucet, Faculte Polytechnique de Mons, Belgium; and William E. Schiesser, Lehigh University*

**MS66 Advances in Optimal Flow Control (Part III of III)**

*Organizers: S. S. Sritharan, Naval Command Control and Ocean Surveillance Center, and University of Colorado, Boulder; and S. S. Ravindran, North Carolina State University*

**MS67 Large-Scale Optimization and Automatic Differentiation**

*Organizers: Thomas F. Coleman, Cornell University; and Andreas Griewank, Technical University of Dresden, Germany*

**MS68 Nonlinear PDE Methods in Image Processing (Part II of II)**

*Organizer: Tony F. Chan, University of California, Los Angeles*

**MS69 Applications of the Least Squares Finite Element Methods**

*Organizer: Tsu-Fen Chen, National Chung Cheng University, Taiwan*

**MS70 Complementary-Dual Variational Principles and Numerical Methods (Part I of III)**

*Organizers: David Y. Gao, Virginia Polytechnic Institute and State University; and Bez Tabarrok, University of Victoria, Canada*

*Chair: Bez Tabarrok, Organizer*

**MS71 Mimetic Finite-Difference Methods for Partial Differential Equations (Part II of II)**

*Organizers: James M. Hyman and Mikhail Shashkov, Los Alamos National Laboratory*

**MS72 Industrial Projects in Undergraduate Education**

*Organizers: Arthur C. Heinricher, Jr., Worcester Polytechnic Institute; and Ben G. Fitzpatrick, Carolina State University*

**CP22 Computational Fluid Dynamics I**

*Chair: Mary Catherine Kropinski, Simon Fraser University, Canada*

**CP23 Iterative Methods in Linear Algebra**

*Chair: To be announced*

**CP24 Optimization I**

*Chair: Patricia D. Hough, Sandia National Laboratories, Livermore*

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## THURSDAY EVENING, JULY 17

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5:45 PM-6:45 PM

**Panel on Mathematics Education in the 21st Century**

*Organizer: Stefan Ehrlich, Rivier College*

6:45 PM-7:45 PM

**MAW Session (Mathematics Awareness Week)**

*Organizer: Mike Harris, JPB Public Information Office*

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## FRIDAY MORNING, JULY 18

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7:30 AM-8:00 AM Coffee

7:30 AM-12:00 PM Registration

8:30 AM-9:15 AM

**IP11 Modeling Error, Error Estimations, and Adaptivity in the Analysis of Heterogeneous Materials**

*J. Tinsley Oden, University of Texas, Austin  
Chair: Randolph E. Bank, University of California, San Diego*

9:15 AM-10:00 AM

**Award and Presentation: The James H. Wilkinson Prize in Numerical Analysis and Scientific Computing****Numerical Algorithms as Dynamical Systems**

*Andrew Stuart, Stanford University*

**Awarding of the George B. Dantzig Prize**

*Chair: John Guckenheimer, President, SIAM; and Cornell University*

10:00 AM-10:30 AM Coffee

**10:30 AM-12:30 PM Concurrent Sessions****MS73 Numerical Methods for Solving Free-Boundary Problems (Part I of II)**

*Organizers: Mark M. Sussman and Elbridge Gerry Puckett, University of California, Davis*

**MS74 Industrial Strength Mathematics: Case Studies of High Impact Mathematics and the Mathematician/Industry Interface**

*Organizer: Jeffrey R. Sachs, D. H. Wagner & Associates*

**MS75 Verified Methods with Computational Differentiation**

*Organizer: Martin Berz, Michigan State University*

**MS76 Numerical Solution of Elliptic PDEs in Unbounded Domain**

*Organizer: Weimin Xue, Hong Kong Baptist University, Hong Kong*

**MS77 Adaptive Method of Lines (Part II of III)**

*Organizers: A. Vande Wouwer and P. Saucet, Faculte Polytechnique de Mons, Belgium; and William E. Schiesser, Lehigh University*

**MS78 Modeling and Simulation of Superconductivity**

*Organizer: Mo Mu, Hong Kong University of Science and Technology, Hong Kong; and Purdue University, West Lafayette*

**MS79 Cartesian Grid Methods for PDEs in Complex Geometry (Part I of II)**

*Organizers: Randall J. LeVeque, Washington University; and Marsha J. Berger, Courant Institute of Mathematical Sciences, New York University*

**MS80 Influence and Treatment of Multiple Scales in Modeling Heterogeneous Media**

*Organizer: J. David Moulton, Los Alamos National Laboratory*

**MS81 Complementary-Dual Variational Principles and Numerical Methods (Part II of III)**

*Organizers: David Y. Gao, Virginia Polytechnic Institute and State University; and Bez Tabarrok, University of Victoria, Canada*

*Chair: David Y. Gao, Organizer*

**CP25 Computational Fluid Dynamics II**

*Chair: L. Pamela Cook, University of Delaware*

**CP26 Fluids, Suspensions, Turbulence**

*Chair: Anne C. Morlet, Cleveland State University and Northern Illinois University*

**CP27 Optimization II**

*Chair: John M. Conroy, Institute for Defense Analysis*

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## FRIDAY AFTERNOON, JULY 18

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12:30 PM-2:00 PM Lunch

2:00 PM-2:45 PM

**IP12 New Perspectives in Turbulence: Scaling, Asymptotics, and the Role of Intermittency**

*Alexandre Chorin, University of California, Berkeley*

*Chair: James Sethian, University of California, Berkeley and Lawrence Berkeley National Laboratory*

2:45 PM-3:15 PM Coffee

**3:15 PM-5:45 PM Concurrent Sessions****MS82 Numerical Methods for Solving Free-Boundary Problems (Part II of II)**

*Organizers: Mark M. Sussman and Elbridge Gerry Puckett, University of California, Davis*

**MS83 Moving-Grid Methods for Partial Differential Equations (Part III of III)**

*Organizers: Guojun G. Liao, University of Texas, Arlington; and Paul A. Zegeling, Utrecht University, The Netherlands*

**MS84 Adaptive Method of Lines (Part III of III)**

*Organizers: A. Vande Wouwer and P. Saucet, Faculte Polytechnique de Mons, Belgium; and William E. Schiesser, Lehigh University*

**MS85 Complementary-Dual Variational Principles and Numerical Methods (Part III of III)**

*Organizers: David Y. Gao, Virginia Polytechnic Institute and State University; and Bez Tabarrok, University of Victoria, Canada*

**MS86 Quasi-Monte Carlo Methods**

*Organizers: Fred J. Hickernell, Hong Kong Baptist University, Hong Kong; and Art Owen, Stanford University*

**MS87 Cartesian Grid Methods for PDEs in Complex Geometry (Part II of II)**

*Organizers: Randall J. LeVeque, University of Washington; and Marsha J. Berger, Courant Institute of Mathematical Sciences, New York University*

**MS88 Industrial Strength Mathematics: Case Studies of High Impact Mathematics and the Mathematician/Industry Interface**

*Jeffrey R. Sachs, D. H. Wagner & Associates*

**MS89 Scaling Laws in Turbulence (tentative)**

*Organizer: K. R. Sreenivasan, Yale University*

**MS90 Fuzzy Logic and Its Applications**

*Organizers: Luisa Maria N. McAllister, Moravian College; and Enrique Rusconi, SRI International*

**CP28 Computational Fluid Dynamics III**

*Chair: Yi-Ling F. Chiang, ACCUTEK*

**CP29 Optimization and Applications**

*Richard H. Burkhardt, The Boeing Company*

**CP30 Mechanics, Elasticity, and Materials**

*Chair: Tanya Leise, Texas A&M University, College Station*

**CP31 Differential Equations, Transfer Functions, and Applications**

*Chair: Ellis Cumberbatch, The Claremont Graduate School*

5:45 PM Meeting adjourns