

**TUESDAY
MAY 2**

9:00 AM – 10:00 AM

KEYNOTE ADDRESS

Genomics and Computation: A new paradigm for biology research in the new millennium
Jill Mesirov, Whitehead Institute for Biomedical Research

(Break 10:00 - 10:30)

10:30 AM – 12:30 PM

SESSION 1

Routing and Switching

Chair: Charles Weems

University of Massachusetts

Switch Scheduling in the Multimedia Router (MMR)

D. Love and S. Yalamanchili, Georgia Institute of Technology, J. Duato, Universidad Politécnic de Valencia, Spain, M.B. Caminero and F.J. Quiles, Universidad de Castilla – La Mancha, Spain

Micro-architectures of High Performance, Multi-user System Area Network Interface Cards

Boon Seong Ang, Hewlett-Packard Laboratories, Derek Chiou, Larry Rudolph, and Arvind, Massachusetts Institute of Technology

Broadcasting in Hypercubes Under Circuit Switched Model

J.-C. Bermond and S. Pérennes, CNRS-INRIA-UNSA, France, A. Bonnacaze, Université de Toulon-Var, France, T. Kodate, and P. Sole, CNRS-INRIA, France

Improving Routing Performance in Myrinet Networks

J. Flich, M.P. Malumbres, and P. López, J. Duato, Universidad Politécnic de Valencia, Spain, R. Felderman, University of Southern California

Efficient Virtual Interface Architecture Support for the IBM SP Switch-Connected NT Clusters

M. Banikazemi, V. Moorthy, and D.K. Panda, The Ohio State University, L. Herger and B. Abali, IBM T.J. Watson Research Center

Adaptive Routing in RS/6000 SP-like Bidirectional Multistage Interconnection Networks

M. Banikazemi and D.K. Panda, The Ohio State University, C.B. Stunkel and B. Abali, IBM T.J. Watson Research Center

10:30 AM – 12:30 PM

SESSION 2

Computational Science

Chair: Jill Mesirov

Whitehead Institute

A General Parallel Simulated Annealing Library and Its Application in Airline Industry

Georg Kliewer and Stefan Tschöke, University of Paderborn, Germany

Parallel Computation for Chromosome Reconstruction on a Cluster of Workstations

Suchendra M. Bhandarkar, Salem Machaka, Sanjay S. Shete, and Jonathan Arnold, University of Georgia

Parallel Maximum-Likelihood Inversion for Estimating Wavenumber-Ordered Spectra in Emission Spectroscopy

Hoda El-Sayed, Marc Salit, John Travis, Judith Devaney, and William George, National Institute of Standards and Technology (USA)

A Provably Optimal, Distribution-Independent Parallel Fast Multipole Method

Fatih E. Sevilgen and Natsuhiko Futamura, Syracuse University, Srinivas Aluru, Iowa State University

Efficiency of Dynamic Load Balancing Based on Permanent Cells for Parallel Molecular Dynamics Simulation

Ryoko Hayashi and Susumu Horiguchi, Japan Advanced Institute of Science and Technology

Parallel Performance Study of Monte Carlo Photon Transport Code on Shared-, Distributed, and Distributed-Shared-Memory Architectures

Amitava Majumdar, University of California San Diego

10:30 AM – 12:30 PM

SESSION 3

Scheduling I

Chair: Jennifer Schopf

Northwestern University

Optimal Remapping of Bulk Synchronous Computations on Multiprogrammed Distributed Systems

N.-T. Fong, C.-Z. Xu, and L.Y. Wang, Wayne State University

Gang Scheduling with Memory Considerations

Anat Batat and Dror G. Feitelson, The Hebrew University of Jerusalem

A Decision-Process Analysis of Implicit Coscheduling

R. Poovendran, P. Keleher, and J.S. Baras, University of Maryland

Improving Throughput and Utilization in Parallel Machines Through Concurrent Gang

Fabricio A.B. da Silva, Université Pierre et Marie Curie, France, Isaac D. Scherson, University of Southern California

Scheduling with Advanced Reservations

Warren Smith and Valerie Taylor, Northwestern University, Ian Foster, Argonne National Laboratory & University of Chicago

Improving Parallel Job Scheduling by Combining Gang Scheduling and Backfilling Techniques

Yanyong Zhang and Anand Sivasubramaniam, The Pennsylvania State University, Hubertus Franke and Jose Moreira, IBM T.J. Watson Research Center

**TUESDAY
MAY 2**

4:00 PM - 6:00 PM

PANEL 1

***Top 10 Most Influential Parallel
and Distributed Processing
Concepts in the Last Millennium***

Panelists will be asked to present their "top 10 lists" for the most influential parallel and distributed processing concepts in the last millennium. The panelists were chosen to represent a broad range of technical areas. After the panelists have given their lists, there will be an open discussion among the audience and panelists. At the end of the discussion, a ballot will be distributed for the audience to vote on the top 10 (in arbitrary order). The results of the poll will be announced the day after the panel.

PANEL ORGANIZER & CHAIR

H.J. Siegel, Purdue University

PANELISTS

Mani Chandy, Caltech

Ken Kennedy, Rice University

Tom Leighton, MIT

Jane Liu, University of Illinois

Kang Shin, University of Michigan

Marc Snir, IBM/Yorktown

Larry Snyder, University of
Washington

Thomas Sterling, JPL