

PRESENTATIONS

2002

1. Baker, E., D. Hyatt, B. L. Jackson, G. L. Chen, D. D. Schmoyer, Y. A. Son, D. McWilliams, F. Baes, S. Kirov, M. Galloway, M. Leuze, L. Pouchard, B. Jones, E. Michaud, B. Culiati, G. Rinchik, D. Johnson, E. Uberbacher, D. Miller, F. Larimer, and J. Snoddy, "Comparative and Collaborative Bioinformatics Systems to Promote Mammalian Phenotype Analysis and the Elucidation of Regulatory Networks," *9th Genome Contractor and Grantee Workshop*, January 27-31, 2002.
2. Banaszek, K., A. U'Ren, I. A. Walmsley, and W.P. Grice, "Engineering Correlated Photons in Nonlinear Waveguides," *Quantum Electronics and Laser Science Conference*, May 2002.
3. Braiman, Y., Y. Liu, H. K. Liu, J. Barhen, R. E. Meyers, and K. S. Deacon, "Use of a Synchronized Laser Array as a Source for Quantum Communication," *SPIE Meeting on Free-Space Laser Communication and Laser Imaging*, July 2002.
4. Carter, R. J., "Ectopia! A High Power Microwave Field Test in Huntsville," *Weapons and Space Systems Intelligence Committee Radio Frequency Weapon Panel Meeting*, 2002.
5. Engelmann, C., S. L. Scott, and G. A. Geist, "Distributed Peer-to-Peer Control in Harness," *International Conference on Computational Science*, 2002.
6. Grice, W. P., "Ultrafast Quantum Optics," *Fifth Annual Southeast Ultrafast Conference*, January 2002.
7. Kohl, J. A., "MxN Overview," MxN Working Group Meeting, Common Component Architecture (CCA) Forum, January 2002.
8. Pouchard, L. C., "The Role of Ontologies in Agent-Oriented Systems," *6th Joint Conference on Information's Sciences*, March 2002.
9. Samatova, N. F., G. Ostrouchov, and G. A. Geist, "Scientific Data Mining Research at CSM," Presented to Life Sciences Division, January 11, 2002.
10. Wilde, T., "Integrating CUMULVS into AVS/Express," ICCS 2002.

11. Wing, W. R., "Pushing the Network Simulation Network," *DOE SciDAC Workshop*, January 17, 2002.

PUBLICATIONS

2001

1. Alexander, R. A., "Lessons Learned from Proprietary Clusters," SOS Meeting, MA, May 2001.
2. Allgood, G. O., "Assessing The Risk Of Innovation And Technology Adoption (FR-ATA)," *Sensors Expo Spring 2001*, Chicago, IL, June 5–7, 2001.
3. Allgood, G. O., "Event Horizons: A Time Scale for Anticipatory Systems Behavior, ANNIE 2001 – Smart Engineering System Design: Neural Networks, Fuzzy Logic, Evolutionary Programming," *Complex Systems and Data Mining*, November 2001.
4. Allgood, G. O., "Virtual Human Project," *SPIE 15th Annual International Symposium on Aerospace/Defense Sensing, Simulation, and Controls*, Orlando, FL, April 16–20, 2001.
5. Allgood, G. O., et al., "Development of an Acoustic Method for Field Detection of Pneumothorax," *SPIE 15th Annual International Symposium on Aerospace /Defense Sensing, Simulation, and Controls*, Orlando, FL, April 16–20, 2001.
6. Allgood, G. O., et al., "Flow Simulation in 3D Model of Pig Airways and Connection to Lung Sounds," *SPIE 15th Annual International Symposium on Aerospace/Defense Sensing, Simulation, and Controls*, Orlando, FL, April 16–20, 2001.
7. Allgood, G. O. and W. W. Manges, "Assessing Risk of Innovation and Technology Adoption Using the Value-Derivative Model," *5th World Multiconference on Systemics, Cybernetics and Informatics*, Orlando, FL, July 22–25, 2001.
8. Allgood, G. O. and W. W. Manges, "Sensors as Agents: The Continuum Between Smart Sensors and Intelligent Agents," *5th World Multiconference on Systemics, Cybernetics and Informatics*, Orlando, FL, July 22–25, 2001.
9. Baker, E., B. L. Jackson, G. L. Chen, D. D. Schmoyer, J. Snoddy, "TMGC Bioinformatics: Present and Future," Poster, Presented at the *2nd Annual TMGC Retreat*, December 5-6, 2001.
10. Barhen, J., "Discrimination of Complex Signals with Bio-Assembled Nanoelectronic Arrays," *DARPA Bio Computing Symposium*, March 1, 2001.

11. Barhen, J., "Neuromorphic Information Processing," *DOE/SC - NSF Workshop on Biological Information Processing and Systems*, Clemson University, January 19-20, 2001.
12. Barhen, J., "Tracking Shape-Evolving Targets with Petascale Optical Computers," *Director's Innovation Initiative Seminar*, National Reconnaissance Office, August 23, 2001.
13. Barhen, J. and N. Gat, "Uncertainty Analysis for Large Scale Code Systems," *Battlefield Environment Signatures Seminar*, Ballistic Missile Defense Organization, August 15, 2001
14. Barron, T. O., "CVS Tutorial," *Linux Users Group at UTK*, October 4, 2001.
15. Bass, B. R., et al., "Development of a Weibull Model of Cleavage Fracture Toughness for Shallow Flaws in Reactor Pressure Vessel Material," *Ninth International Conference on Nuclear Engineering (ICONE9)*, Nice, France, April 2001.
16. Bass, B. R. and P. T. Williams, "Assessment of Fracture Mechanics Analyses Applied to Cracking in RPV Control Rod Drive Mechanism Nozzles," *USNRC/RES Expert Panel on CRDM Issues*, Oak Ridge National Laboratory, Oak Ridge, TN, July 2001.
17. Bayne C. K., A. B. Dindal, R. A. Jenkins, D. N. Crumbling, and E. N. Koglin, "Meeting Data Quality Objectives with Interval Information," Presented at the *Ninth International Conference On-Site Analysis*, Amelia Island, FL, January 2001.
18. Bayne C. K., A. B. Dindal, R. A. Jenkins, E. N. Koglin, and W. Einfeld, "Evaluation of Field Technologies: Case Study of an Experimental Design," Presented at the *Ninth International Conference On-Site Analysis*, Amelia Island, FL, January 2001.
19. Bernholc, J., M. Buongiorno Nardelli, J.-L. Fattebert, D. Orlikowski, C. Roland and Q. Zhao, "Nanotube Electronic and Transport Properties," *IUVSTA 15th International Vacuum Congress*, October 2001.
20. Bernholdt, D. E., "Component-Based Software Development for High Performance Computing," *Developing a Toolset for First Principles Electronic Structure Methods Workshop*, 2001.
21. Bernholdt, D. E., "Component-Based Software for High-Performance Computing: An Introduction to the Common Component Architecture," Seminar, Pacific Northwest National Laboratory.

22. Bernholdt, D. E., "Earth System Grid II: Turning Climate Datasets into Community Resources," Briefing for Stephen Eckstrand, Department of Energy, 2001.
23. Bernholdt, D. E., "Progress on 'Standard' Interfaces for Regular Data," *Common Component Architecture Forum*, 2001.
24. Bernholdt, D. E., "The Common Component Architecture: Status and Plans," *Accelerated Climate Prediction Initiative Workshop*, 2001.
25. Bernholdt, D. E., "The Global Array Programming Model," *Common Component Architecture Forum*, 2001.
26. Bhaduri, B. L., P. R. Coleman, and W. W. Hargrove, "Indexing of Point Features to the NHD for Hydrologic Modeling," *21st Annual ESRI International User Conference*, San Diego, CA, July 9–13, 2001.
27. Bland, A. S., "CAST Administration," Compaq Advanced Scientific and Technical Users Group, Paris, France, May 2001.
28. Bland, A. S., "Requirements for Scientific and Technical Computing," Compaq Advanced Scientific and Technical Users Group, Marlboro, MA, October 2001.
29. Bland, A. S., "Updates on ORNL Experiences with the Compaq AlphaServer," Compaq Advanced Scientific and Technical Users Group, Marlboro, MA, October, 2001.
30. Branstetter, M. L., J. S. Famiglietti, and W. M. Washington, "Using a Parallel Climate Model to Investigate Hydrological Feedbacks in the Climate System," Presented at the *6th SIAM Conference on Mathematical and Computational Issues in the Geosciences*, Society for Industrial and Applied Mathematics, 2001.
31. Branstetter, M. L., J. S. Famiglietti, W. M. Washington, and A. P. Craig, "Using a 200-Year Simulation of a Fully-Coupled Climate System Model to Investigate the Role of the Continental Runoff Flux on the Global Climate System," *Climate Variability, the Oceans, and Societal Impacts Conference*, American Meteorological Society, 2001.
32. Braiman Y., "Control and Steering Motion at the Nanoscale," Exxon Mobile, July 23, 2001.
33. Braiman Y., "Control and Steering Motion at the Nanoscale," *University of Tennessee Knoxville*, February 5, 2001.
34. Braiman, Y., J. Barhen, and R. Garrett, "Directed Energy Weapons Concepts Based Upon Synchronization of Arrays of Lasers," *DOD/BMDO Office of Space Based Lasers*, January 25, 2001.

35. Braiman, Y., R. Garrett, and J. Barhen, "Super-High Coherent Power Generation Using Laser Arrays," *DARPA/TTO*, March 29, 2001.
36. Braiman, Y., R. Garrett, and J. Barhen, "Super-High Coherent Power Generation Using Laser Array," *NSWC High Energy Lasers*, Dalgren Navy Base, MD, May 4, 2001.
37. Braiman Y. and J. Barhen, "Super-High Coherent Power Generation Using Laser Arrays," *BMDO*, Washington DC, October 3, 2001.
38. Brown, G., "Models of Thermally Activated Magnetization Reversal at the Nanoscale," Physics Department Colloquium, University of Alabama, April 8, 2001.
39. Brown, B., H. K. Lee, T. C. Schulthess, B. Ujfalussy, G. M. Stocks, W. H. Butler, D. P. Landau, J. P. Pierce, J. Shen, and J. Kirschner, "Model of Fe Nanowires on Cu(111)," *46th Annual Conference on Magnetism and Magnetic Materials*, 2001.
40. Brown, G., M. A. Novotny, and P. A. Rikvold, "Magnetization Reversal in Arrays of Nanoparticles at Nonzero Temperatures," *8th Joint MMM-Intermag Conference*, 2001.
41. Brown, G., M. A. Novotny, and P. A. Rikvold, "Thermal and Dynamic Effects in Langevin Simulation of Hysteresis in Nanoscale Pillars," *Hysteresis and Micromagnetic Modeling Symposium*, 2001.
42. Brown, G., M. A. Novotny, and P.A. Rikvold, "Thermally-Activated Magnetization Reversal in Nanomagnet Arrays," March Meeting of the APS, 2001.
43. Brown, G. and P. A. Rikvold, "Numerical Study of Allen-Cahn Growth in Three-Dimensional Phase Ordering," March Meeting of the APS, 2001.
44. Burris, R. D., "ORNL HPSS Status," HPSS User's Forum, June 2001.
45. Burris, R. D., "ORNL's Mass Storage System," Materials Workshop, May 22, 2001.
46. Burris, R. D., "ORNL/Probe Performance Tests," HPSS User's Forum, June 2001.
47. Burris, R. D., "Probe Plans and Status, SciDAC Kickoff," SciDAC SDM ISIC, July 2001.

48. Burris, R. D., "Probe Data Storage, Transfer and Research Facility," Thomas Ndousse, December 2001.
49. Carter, R. J., "Live Fire RFW Test Results," *Department of Defense High Power Microwave Steering Group Workshop on the Radio Frequency Weapon Threat to Critical Infrastructure*, 2001
50. Carter, R. J., "Live Fire Test and Evaluation Office Perspective on Directed Energy Weapon Test and Evaluation," *National Directed Energy Weapon Operational Test and Evaluation Infrastructure Workshop*, 2001.
51. Carter, R. J., "Non-Ballistic Threats," *Joint Live Fire - Aircraft Systems FY01 Year-End Review and Planning Meeting*, 2001.
52. Carter, R. J., "RF Weapon 1 May 01 Demo," *Joint Technical Coordinating Group on Aircraft Survivability Summer 2001 Principal Member Steering Group Meeting*, 2001.
53. Chen, M., "Distributed Computing systems in Physics Experiments," Oak Ridge National Laboratory, April 2, 2001.
54. D'Azevedo, E., S. Pannala, M. Syamlal, M. Prinkey, and T. O'Brien *Parallel Processing for Scientific Computing, Tenth SIAM Conference*, March 2001.
55. D'Azevedo, E. and J. Dongarra, "Packed Storage Extension for ScaLAPACK," *Tenth SIAM Conference on Parallel Processing for Scientific Computing*, March 2001.
56. Dickson, T.L., P. T. Williams, and B. R. Bass, "An Improved Probabilistic Fracture Mechanics Model for Pressurized Thermal Shock," *16th International Structural Mechanics in Reactor Technology (SmiRT) Conference*, Washington, D.C., August 2001.
57. Dickson, T. L. and S. Malik, "Re-evaluation of Technical Basis for the Regulation of Pressurized Thermal Shock in U.S. Pressurized Water Reactor Vessels" *9th International Conference on Nuclear Engineering (ICONE)*, Lyon, France, April 2001.
58. Diener, R. B., G. A. Georgakis, J. X. Zhong, M. Raizen, and Q. Niu, "Wavepacket Diffusion in a One-Dimensional Incommensurate Optical Lattice," APS March Meeting, March 2001.
59. Dobson, J. E., E. A. Bright, and P. R. Coleman, "LandScan USA—High Resolution Population Location Project," Environmental Protection Agency – National Center for Health Statistics, Hyattsville, MD, July 23, 2001.

60. Dobson, J. E., et al., "LandScan USA," Environmental Protection Agency – National Center for Environmental Assessment, Washington, D.C., July 24, 2001.
61. Doll, W. E., G. Ostrouchov, T. J. Gamey, D. K. Butler, and M. D. Morris, "Spatial Point Pattern Statistical Models and Optimal Survey Design for Rapid UXO Site Characterization," *2001 Partners in Environmental Technology Technical Symposium & Workshop*, November 26-29, 2001.
62. Drake, J. B., "Overview of the Avant Garde Project on a Performance Portable Community Climate System Model," DOE/OBER Climate Change Prediction Program Science Team Meeting, July 15, 2001.
63. Drake, J. B., "Software Engineering of a High Performance Atmospheric Model," CCSM Software Engineering Workgroup Meeting, June 26, 2001.
64. Elwasif, W. R., "Data Staging Effects in Wide-Area Task Farming Applications," *IEEE/ACM First International Symposium on Cluster Computing and the Grid (CCGRID 2001)*, May 2001.
65. Erickson, D. J. III, "Computational Climate Research at ORNL," DOE On-Site Review, August 8, 2001.
66. Erickson, D. J. III, "Global C, S, N and Fe Biogeochemistry Inside General Circulation Models: Linkages and Satellite Constraints," Invitational Seminar Series, College of Marine Studies, University of Delaware, February 20, 2001.
67. Erickson, D. J. III, "High Performance Computing at Oak Ridge National Laboratory," Sigma Xi Initiation and Awards Banquet, University of Alabama in Huntsville Chapter, April 27, 2001.
68. Fahey, M. R., and D. Duffy, "Multi-Level Parallelism: Case Studies and Lessons Learned," Tutorial, Super Computing 2001.
69. Famiglietti, J., M. Branstetter, S. Doney, S. Graham, N. Rosenbloom, D. Schimel, and W. M. Washington, "Continental Runoff Feedbacks Using Fully-Coupled Climate System Models," *XVI General Assembly*, European Geophysical Society, 2001.
70. Geist, G. A., "2001 A Software Odyssey," *Panel Presentation at Cluster 2001 Conference*, October 10, 2001.
71. Geist, G. A., "Cellular Algorithms for Next Generation Cellular Architectures," Presentation to the ORNL LDRD Committee, August 21, 2001.

72. Geist, G. A., "Developing Tools for Managing PC Clusters," Invited talk at John Hopkins University, April 9, 2001.
73. Geist, G. A., "DOE Requirements for Notebooks," Invited talk at *Lab Notebooks Conference*, May 11, 2001.
74. Geist, G. A., "Electronic Notebook - Next Steps," Presentation to LabBook Inc., June 7, 2001.
75. Geist, G. A., "Electronic Notebook Version 2.0," Presentation to Glaxo Smith Klein, June 7, 2001.
76. Geist, G. A., "Enote Architecture," Invited talk at *Lab Notebooks Conference*, May 11, 2001.
77. Geist, G. A., "ORNL Computer Science Research - Clusters and Grids," CLRC Daresbury Laboratory UK, February 2, 2001.
78. Geist, G. A., "Scalable Systems Software Center," Invited talk at *Scalable Cluster Software Conference*, May 22-24, 2001.
79. Geist, G. A., "Scalable Systems Software Center," Presentation to Blue Light Team at IBM Research, May 2, 2001.
80. Geist, G. A., "Scalable Systems Software Center," Scalable Systems Software Center Kickoff Meeting, August 14-15, 2001.
81. Geist, G. A., "Scalable Systems Software Enabling Technology Center," SciDAC Team, January 31, 2001.
82. Glover, C. W., "Model Fidelity required by JDEP for Make Time-Critical Measurements", *Office of the Secretary of Defense*, April 2001.
83. Gray, L. J., "Boundary Integral Equations and Materials Science," Georgia Tech, November 2001.
84. Gray, L. J., J. D. Richardson, T. Kaplan, J. Berger, and G. H. Paulino, "Green's Functions for Exponentially Graded Elastic Materials," *Sixth US National Congress on Computational Mechanics*, July 31-August 4, 2001.
85. Gray, L. J. and T. Kaplan, "Evaluation of Galerkin Integrals without Stokes' Theorem," *Boundary Element Techniques II*, Rutgers University, July 2001.

86. Grice, W. P., A. B. U'Ren, and I. A. Walmsley, "Eliminating Frequency and Space-Time Correlations in Multi-Photon Entangled States," *Eighth Rochester Conference on Coherence and Quantum Optics*, June, 2001.
87. Guo, Y., "Global Hybrid Control and Cooperative Mobile Robotics," *NSF Workshop for Underrepresented and Minority Engineering Educators*, Oct. 22, 2001.
88. Haack, R. A., et al., "Acoustic Detection of Anoplophora Glabripennis Larvae and Other Wood-borers," *2001 USDA Interagency Research Forum on Gypsy Moth and Other Invasive Species*, Annapolis, MD January 16–19, 2001.
89. Hair, J., J. Schryver, R. Counts, S. Nelson, R. Goldfinger, "Comprehensive Understanding of Independent Design and Experimental Activities (IDEAS) Support Future Combat Systems," Presented to *Army Test and Evaluation Command Visitors*, November 14, 2001.
90. Hernandez, J. L., "CO₂ and Biogeochemical Simulations Inside GCMs," *ORNL-NASA Workshop*, Oak Ridge National Laboratory, June 4, 2001.
91. Jung, E., Contributed talk, *SIAM Annual Meeting at San Diego*, July 2001.
92. Jung, E., Invited talk, *Workshops on Issues in Cardiovascular-Respiratory Control Modeling*, June 14, 2001.
93. Khamayseh, A., "Conformal Grid Generation for Computational Simulation," *Oak Ridge National Laboratory*, February 2001.
94. Kim, Y.-H., S. P. Kulik, M. V. Chekhova, W. P. Grice, and Y. Shih, "Preparing Bright Polarization-Entangled Photon Pairs Via Temporal and Spectral Engineering," *32nd Winter Colloquium on the Physics of Quantum Electronics*, January 5-11, 2001.
95. Kohl, J. A., "A Grand Unified Theory of MxN Parallel Data Redistribution," *Common Component Architecture (CCA) Meeting*, June 2001.
96. Kohl, J. A., "An MxN Socket Multiplexer," *Common Component Architecture (CCA) Meeting*, March 2001.
97. Kohl, J. A., "CUMULVS Hands-On Notes," *ACTS Toolkit Workshop 2001*, Lawrence Berkeley National Laboratory, October 2001.
98. Kohl, J. A., "CUMULVS Tutorial," Invited Speaker at the *ACTS Toolkit Workshop 2001*, Lawrence Berkeley National Laboratory, October 2001.

99. Kohl, J. A., "Development of Compatible Component Software," Invited Speaker at the *Workshop on Object-Oriented and Component Technology for Scientific Computing*, Wente Vineyards, July 23-25, 2001.
100. Kohl, J. A., "Turning MxN Inside-Out," Common Component Architecture (CCA) Forum, October 2001.
101. Kohl, J. A., G. A. Geist, and D. E. Bernholdt, SC2001 Common Component Architecture (CCA) Poster, 2001.
102. Kohl, J. A., G. A. Geist, and D. E. Bernholdt, SC2001 CUMULVS Poster, 2001.
103. Kohl, J. A., W. R. Elwasif, G. A. Geist, and D. E. Bernholdt, SC2001 Harness Poster, 2001.
104. Liu, Y., P. Davis, and T. Aida, "Multi-Channel Data Transmission Using Chaotic Wavelength Hopping," *Symposium of Japan Society of Applied Physics*, March 30, 2001.
105. Mioduszewski, P. K. and L. W. Owen, "Local Recycling Coefficients and Wall Equilibration in Tokamaks," *14th International Conference on Plasma Surface*.
106. Ng, E., "Performance of Incomplete Factorizations as Preconditioners," (invited), *Minisymposium on Krylov Space Methods and Preconditioners*, 2001 SIAM Annual Meeting, July 9-13, 2001.
107. Ng, E., "Scalable Incomplete Factorization," (keynote speaker), *Workshop on Scalable Solver Software—Multiscale Coupling and Computational Earth Science*, The University of Tokyo, December 3-5, 2001.
108. Owen, L. W., et al., "Modeling of Recycling Coefficients and Wall Equilibration in Tore Supra," *28th EPS Conference on Plasma Physics and Controlled Fusion*, June 2001.
109. Owen, L. W., et al., "Origins and Spatial Distributions of Core Fueling in the DIII-D Tokamak," *14th International Conference on Plasma Surface Interactions in Controlled Fusion Devices*, Rosenheim, Germany, May 22–26, 2001.
110. Ostrouchov G., N. F. Samatova, D. J. Erickson, III, and R. J. Ross, "Scalable Tools for Petascale Distributed Data Analysis," LDRD FY02, August 21, 2001.
111. Palsson, B. and N. F. Samatova, "Predictive Models of Biochemical Pathways and Microbial Behavior," *GTL/DOE Workshop*, August 7, 2001.

112. Phan, A.-V., L. J. Gray, T. Kaplan, and G. H. Paulino, "Highly Accurate Crack Tip Analysis," *BeTeq/IABEM 2001 Joint Meeting of the International Association of Boundary Element Techniques and the International Association of Boundary Elements*, July 16-18, 2001.

113. Phan, A.-V. and Y. J. Liu, "Boundary Contour Analysis of Thin Films and Layered Coatings," *Sixth U.S. National Congress on Computational Mechanics*, 2001.

114. Protopopescu, V. and J. Barhen, "Quantum Algorithms for Global Optimization," *INFORMS International*, June 18, 2001.

115. Pouchard, L. C., "Manufacturing Process Exchange with ISO 18629," *The Process Specification Language ISO TC 184/SC4 Meeting*, June 2001.

116. Powell, G. L., et al., "A Chemist's View of an FTIR Hyperspectral Image Cube," *PITTCON 2001, The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy*, New Orleans, LA, March 4-9, 2001.

117. Powell, G. L. and R. L. Cox, "The Use of FTIR Gas Analysis as a Partial Pressure Gauge," *Gas Technology IMOG Meeting*, Y-12 National Security Complex, Oak Ridge, TN, May 1-3, 2001.

118. Plummer E.W., A. V. Melechko, M. Simkin, N. F. Samatova, and J. Braun, "Medard W. Welch Award Lecture: Intertwined Charge Density Wave and Defect-Ordering Phase Transitions in a 2-D System," *IUVSTA 15th International Vacuum Congress (IVC-15), AVS 48th International Symposium (AVS-48), 11th International Conference on Solid Surfaces (ICSS-11)*, October 2001.

119. Rasch, K. A., "Objective Supply Capability Adaptive Redesign (OSCAR) Web Interface," *Army National Guard Excess Management Conference*, Little Rock, AK, January 17-19, 2001.

120. Rasch, K. A., "OSCAR System," FORSCOM, January 16, 2001.

121. Rasch, K. A., "OSCAR System," Marine Corps Logistics Base, Albany, GA, May 21, 2001.

122. Rasch, K. A., "Objective Supply Capability Adaptive Redesign (OSCAR)--Increasing Readiness and Asset Visibility Through Automation," MG Lee, BG Kramlich, and Mr. Ken Trammell, Marine Corps, Oak Ridge National Laboratory, April 15, 2001.

123. Rasch, K. A., "OSCAR Demonstration," Army Forces Command (FORSCOM), National Guard Bureau Readiness Center, April 4, 2001.

124. Richardson, J. D., "Computational Strategies for Large BEM Systems: p-Version Refinement and the Spectral Multipole Method," North Carolina State University, Dept. of Mathematics Seminar, April 2001.
125. Rome, J. A., "Collaboratory Needs Versus the Security Infrastructure," *Open Environment Security Workshop*, January 2001.
126. Saevik, S., L. J. Gray and A.-V. Phan, "A Method for Calculating Residual and Transverse Stress Effects in Flexible Pipe Pressure Spirals," *20th International Conference on Offshore Mechanics and Arctic Engineering*, June 2001.
127. Samatova, N. F., "Cracking Computational Complexity for Genome Scale Modeling of Metabolic Pathways," Poster, SC2001, 2001
128. Samatova, N. F., "Cracking Computational Complexity for Genome Scale Modeling of Metabolic Pathways," SC2001, 2001.
129. Samatova, N. F., "Rachet: Petascale Distributed Data Analysis Suite," Poster, SC2001, 2001.
130. Samatova, N. F., G. Ostrouchov, and Y. Qu, "Solution Space Characterization," Presented at *UCSD to the Genetic Circuits Group of the Department of Bioengineering*, July 12, 2001.
131. Samatova, N. F., G. Ostrouchov, G. A. Geist, and A. Melechko, "RACHET: A New Algorithm for Mining Multi-dimensional Distributed Datasets," *SIAM Third Workshop on Mining Scientific Datasets*, April 5-7, 2001.
132. Samatova N. F., G. Ostrouchov, G. A. Geist, B. Palsson, N. Price, J. Papin, S. Smith, "Cracking Computational Complexity for Genome Scale Modeling of Metabolic Pathways," Network and Cluster Computing Group at CSM/ORNL, October 30, 2001.
133. Samatova N. F., T. E. Potok, and G. Ostrouchov, "Scalable Clustering and Feature Extraction from Massive High Dimensional Distributed Scientific Data: the SCALE Project," Presented for Internal Review to Thomas Zacharia, Al Geist, and Brian Worley, November 3, 2001.
134. Samatova, N. F. and G. Ostrouchov, "Multi-Agent Based High-Dimensional Cluster Analysis," Presented to Steve Eckstrand, OS/DOE, August 9, 2001.

135. Samatova, N. F. and G. Ostrouchov, "Multi-Agent Based High-Dimensional Cluster Analysis," *SDM-ISIC Kick-off Meeting* (DOE Program Manager and other Laboratories in Attendance), July 10, 2001.

136. Samatova, N. F. and G. Ostrouchov, "Scientific Data Mining Research under Probe," Presented to Distributed Computing Group at CSMD/ORNL, September 18, 2001.

137. Schwidder, J. S., "M3C – Managing and Monitoring Multiple Clusters," *CCGrid2001*, May 2001.

138. Scott, S. L., Current Design and Status OSCAR 2: Where Do We Go From Here? M3C: Managing and Monitoring Multiple Clusters ORNL Distributed Computing Research, East Tennessee State University - Graduate Research Seminar, February 20, 2001.

139. Scott, S. L., "Invited Tutorial: Cluster Computing," *The 2001 International Conference on Computational Science – ICCS 2001*, May 28-30, 2001.

140. Scott, S. L., "OSCAR – Cluster Computing Resources – Ericsson Research," July 24, 2001.

141. Scott, S. L., "State of the Labs Session: Review of Large Systems and Future Plans," *5th Workshop on Distributed Supercomputing: Scalable Cluster Software*, May 22-24, 2001.

142. Shelton, W. A., A. Canning, B. Ujfalussy, T. C. Schulthess, X. G. Zhang, D. M. C. Nicholson, G. M. Stocks, Y. Wang and T. Dirks, "Multi-teraflops Spin Dynamics Studies of the Magnetic Structure of FeMn/Co Interfaces," *Supercomputing 2001*, November 10-16, 2001.

143. Shelton, W. A., G. M. Stocks, B. Ujfalussy, D. D. Johnson and A. V. Smirnov, "The Effects of Alloying on $(\text{Ca}_{1-x}\text{Sr}_x)_2\text{RuO}_4$," 2001 American Physical Society March Meeting, March 12-16, 2001.

144. Shih, Y. and Y.-H. Kim, "Quantum Entanglement and Lithography," *31st Winter Colloquium on the Physics of Quantum Electronics*, January 7-11, 2001.

145. Smyrl, N. R., et al., "The Use of FTIR Gas Analysis as a Partial Pressure Gauge," *PITTCON 2001, The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy*, New Orleans, LA, March 4–9, 2001.

146. Snoddy, J., F. Baes, S. Martin, B. L. Jackson, E. Baker, "The TMGC Web Site and Member Database," *2nd Annual TMGC Retreat*, December 5-6, 2001.

147. Snoddy, J., M. Land, D. D. Schmoyer, D. Hyatt, P. LoCascio, M. Shah, G. L. Chen, B. L. Jackson, E. Baker, F. Larimer, et al., "ORNL Genome Analysis and System Modeling Group," *2nd Annual TMGC Retreat*, December 5-6, 2001.
148. Steinert, D. A., "HPSS Administrative Interface," HPSS User Forum, June 2001.
149. Stocks, G. M., B. Ujfalussy, W. A. Shelton, T. C. Schulthess, W. H. Butler, and A. Canning, "On the Magnetic Structure Of γ -FeMn Alloys," *46th Annual Conference on Magnetism & Magnetic Materials*, November 12-16, 2001.
150. Tolliver, J. S., "HPAC 4.0 Architecture Overview," *SPAWAR*, San Diego, CA, November 8-9, 2001.
151. Tolliver, J. S., "ScipuffServer Status," *DTRA's HPAC Developers Meeting*, Washington, D.C., February 21, 2001.
152. Tolliver, J. S. and R. W. Lee, "HPAC 4.0+ Architecture," *DTRA's HPAC 4.1 Requirements Review Meeting*, August 27-28, 2001.
153. Tufano, D. R., L. Pierre, and C.W. Glover, "Human Operator Effects in Theater Ballistic Missile Defense," *Year 2001 Multinational BMD Conference and Exhibition*, June 2001.
154. Tufano, D. R., L. Pierre, and C.W. Glover, "Turning Wargames into Experiments: Challenges and Approaches," *69th Military Operations Research Society Symposium*, US Naval Academy, June 2001.
155. Ujfalussy, B., W. A. Shelton, G. M. Stocks and T. C. Schulthess, "Magnetic Ground States of FeMn: Application of First Principles Spin Dynamics," *The 8th Joint MMM-Intermag Conference*, January 7-11, 2001.
156. Upmanyu, M., D. J. Srolovitz and B. Radhakrishnan, "3-D Grain Boundary Mobilities For Anisotropic Grain Growth," TMS Fall, 2001.
157. Upmanyu, M., D. J. Srolovitz, W. C. Carter and J. A. Warren, "Simultaneous Grain Rotation And Grain Boundary Migration," iib2001, 2001.
158. Ward, R. C., "Integrating Human Physiological Models: The Virtual Human," *Annual Society of Toxicology Meeting*, San Francisco, CA, March 2001.

159. Ward, R. C., "Virtual Human – Developing Virtual Environments for Human Modeling," *21st ASME Computers and Information in Engineering Conference*, Pittsburgh, PA, 2001.
160. Ward, R. C., et al., "Physiological-Biokinetic Modeling Using the WWW," *Tennessee Biomedical Engineering Meeting*, Memphis, TN, April 2001.
161. Ward, R. C., et al., "Virtual Human Project," *Aero Sense 2001 Meeting*, Orlando, FL, April 16–20, 2001.
162. Ward, R. C., et al., "Virtual Human Project," *Visualization of Temporal and Spatial Data for Civilian and Defense Applications*, Proc. SPIE 4368, 2001.
163. Welch, D. E., L. M. Hively, and R. F. Holdaway, "Nonlinear Crack Growth Monitoring," *33rd National Symposium On Fatigue and Fracture*, Moran, WY, June 2001.
164. Wells, J., K. Stevenson, G. Muralidharan, T. Thundat, L. Maya, and J. Barhen, "Programmed Assembly of Quantum Dot Arrays on DNA Templates: Hardware for Quantum Computing?" *Eight International Conference on Quantum Information*, June 2001.
165. White III, J. B., "ORNL Experience with the Compaq AlphaServer SC," Cluster Focus Group Meeting, Ohio Supercomputer Center, March 2001.
166. White III, J. B., "ORNL Site Report," CAST Workshop, Paris, May 2001.
167. White III, J. B. and P. H. Worley, "ORNL Performance Evaluation," CAST Workshop, Paris, France, May 2001.
168. White III, J. B. and R. Alexander, "Lessons Learned from Proprietary HPC Cluster Software," *Linux Clusters: The HPC Revolution*, NCSA, May 2001.
169. Wilde, T., "CUMULVS Viewers for the ImmersaDesk," ICCS 2001.
170. Wing, W. R., "High Fidelity Network Simulation and Monitoring", *DOE Networking Workshop*, November 30, 2001.
171. Wing, W. R., "Network Tomography - Monitoring Uncooperative Networks," DOE ESNET Program Review, September 12, 2001.
172. Wing, W. R., "ORNL Atlanta Gigabyte Network - A Work in Progress," *SURA Optical Networking Workshop*, December 13, 2001.

173. Wing, W. R., "ORNL Center for End to End Performance," *SC2001*, November 2001.
174. Worley, P. H., "Allreduce Performance and Performance Characterization on Compaq and IBM Cluster Architectures," *SC2001*, November 13, 2001.
175. Worley, P. H., "Designing Code and Data Structures for Portable Performance," *SIAM Conference on Parallel Processing for Scientific Computing*, March 12, 2001.
176. Worley, P. H., "Performance Evaluation of Allreduce," *ScicomP*, October 9, 2001.
177. Worley, P. H., "Promise and Problems in the Performance Characterization of Algorithms," *Workshop on the Performance Characterization of Algorithms*, July 16-17, 2001.
178. Worley, P. H., "Two Performance Studies in Support of the NSF/DOE Coupled Climate Model," *Workshop on the Performance Characterization of Algorithms*, Lawrence Livermore National Laboratory, July 19, 2001.
179. Jung, J. X., "Morphological Control of Nanostructures at Surfaces," Center for Engineering Science Advanced Research, Oak Ridge National Laboratory, June 2001.
180. Zhong, J. X., Morphological Evolution and Control in Submonolayer Epitaxy, APS
181. Zhong, J. X., R. B. Diener, D. A. Steck, W. H. Oskay, M. G. Raizen, Z. Y. Zhang, E. Ward Plummer, and Q. Niu, Universal Front Shape in Anomalous Quantum Diffusion, APS March Meeting, March 2001.

PRESENTATIONS

2000

1. Allgood, G. O., D. A. Treece, and D. K. Mee, "Textile Laser-Optical System for Inspecting Fabric Structure and Yarn," *IS&T/SPIE's Symposium on Electronic Imaging: Science & Technology, Machine Vision Applications in Industrial Inspection, VIII*, San Jose, CA, January 24–28, 2000.
2. Allgood, G. O., et al., "Incipient Arc Detection of Large DC Motors Based on an Arcing Model Matched Filter Response," *54th Meeting Of The Society For Machinery Failure Prevention Technology*, Virginia Beach, VA, May 1–4, 2000.
3. Allgood, G. O., F. J. Pearce, and T. Bentley, "Pulmonary (Cardio) Diagnostic System for Combat Casualty Care Capable of Extracting Embedded Characteristics of Obstructive or Restrictive Flow," *SPIE's 14th Annual International Symposium on Aerospace/Defense Sensing, Simulation, and Controls, Battlefield Biomedical Technologies II*, Orlando, FL, April 24–28, 2000.
4. Allgood, G. O. and B. R. Upahyaya, "A Model-based High-frequency Matched Filter Arcing Diagnostic System Based on Principal Component Analysis (PCA) Clustering," *SPIE's 14th Annual International Symposium on Aerospace/Defense Sensing, Simulation, and Controls, Applications and Science of Computational Intelligence III*, Orlando, FL, April 24–28, 2000.
5. Alexander, R. A., "Use of DCE/DFS at ORNL," University of Karlsruhe, May 2000.
6. Aziz, M. J., W. Barvosa-Carter, L. J. Gray, and T. Kaplan, "Kinetically-Driven Growth Instability in Stressed Solids," *Materials Research Society Spring Meeting*, April 24 - 28, 2000.
7. Barhen, J., "Nanoscale Engineering Research Directions," *DOE NSET Initiative Workshop*, University of California, August 3-5, 2000.
8. Barhen, J. and G. Bitton, "New Ultrabright EPR Source," *DARPA Workshop on Quantum Information Processing Systems*, October 23, 2000.
9. Barhen, J. and Y. Braiman, "Complex Information Processing Systems Capabilities at CESAR," *DARPA/TTO*, February 2, 2000.

10. Bernholc, J., E. L. Briggs, M. Buongiorno Nardelli, J.-L. Fattebert, D. Orlikowski, C. Roland, W. G. Schmidt, Q. Zhao, and F. Bechstedt, "Ab Initio Simulations of Semiconductors and Fullerenes," *Fifteen years of the Car-Parrinello method in Physics and Chemistry*, March 2000.
11. Bernholc, J., E. L. Briggs, M. Buongiorno Nardelli, J.-L. Fattebert, D. Orlikowski, C. Roland, W. G. Schmidt, Q. Zhao, and F. Bechstedt, "Massively Parallel Ab Initio Simulations for Surfaces and Nanotubes," *Mardi Gras Conference on Materials Design: Experimental and Computational Challenges*, March 2000.
12. Bernholc, J., E. L. Briggs, M. Buongiorno Nardelli, J.-L. Fattebert, W. G. Schmidt, Q. Zhao, and F. Bechstedt, "Multigrid Methods in Ab Initio Simulations of Materials," *3rd SIAM Conference on Mathematical Aspects of Materials Science*, May 2000.
13. Bernholc, J., M. Buongiorno Nardelli, D. Orlikowski, C. Roland and Q. Zhao, "Atomic Transformations, Strength, Plasticity and Electron Transport in Strained Carbon Nanotubes," Workshop on Fiber Fracture, October 2000.
14. Bernholdt, D. E., "An Introduction to NWChem," *Computational Nanoscience at the Terascale*, Oak Ridge National Laboratory, 2000.
15. Bernholdt, D. E., "High Performance Computational Chemistry: Present and Future," Computer Science and Mathematics Division, 2000.
16. Bernholdt, D. E., "High Performance Computational Chemistry: Present and Future," Department of Electrical Engineering and Computer Science, Syracuse University, 2000.
17. Bernholdt, D. E., "High Performance Computational Chemistry: Present and Future," Innovative Computing Laboratory, Department of Computer Science, University of Tennessee, 2000.
18. Bernholdt, D. E., "Parallel Computing in Quantum Chemistry," Course CPS 615 Computational Science for Simulation Applications, Syracuse University, 2000.
19. Bernholdt, D. E., "The Global Array Parallel Programming Model," Department of Electrical Engineering and Computer Science, Syracuse University, 2000.
20. Bhaduri, B. L., "Criticality of Point Features in NHD-Based Hydrologic Modeling," *National Hydrography Dataset Application Symposium*, The University of Texas at Austin, Center for Research in Water Resources, December 11–14, 2000.

21. Bland, A. S., "Issues with RMS and Alpha Hardware," Compaq Advanced Scientific and Technical Users Group, Dallas, TX, November 2000.
22. Bland, A. S., "ORNL Experiences with the Compaq AlphaServer SC," Compaq Advanced Scientific and Technical Users Group, Oak Ridge, TN, July, 2000.
23. Bland, A. S., "Reasons For A Compaq Users Group," Compaq Advanced Scientific and Technical Users Group, Oak Ridge, TN, July, 2000.
24. Braiman Y., "Friction and Phase Synchronization," *March Meeting of the American Physical Society*, March 2000.
25. Braiman Y., "Friction and Phase Synchronization: Tuning Friction with Noise and Disorder," *Dynamics Days 2000*, January 2000.
26. Braiman Y., "Friction at the Atomic Scale: Dynamics and Control," University of Maryland at College Park, May 17, 2000.
27. Braiman Y., G. Bitton, H. K. Liu, V. Protopopescu, L. Zhang, and J. Barhen, "Coherence and Synchronization in Arrays of Class B Lasers," *Eighteenth Symposium on Energy Engineering Science*, Argonne, May 15-16, 2000.
28. Branning, D., W. P. Grice, R. Erdmann, and I. A. Walmsley, "Engineering Chronocyclic Indistinguishability and Entanglement of Two Photons," *Annual Meeting of the Optical Society of America*, October, 2000.
29. Branstetter, M. L., J. S. Famiglietti, A. P. Craig, and W. M. Washington, "Investigation of the Sensitivity of Global Oceans to Continental Runoff Using the PCM Parallel Climate Model," *11th Symposium on Global Change Studies*, American Meteorological Society, 2000.
30. Branstetter, M. L., J. S. Famiglietti, W. M. Washington, and A. P. Craig, "Implications of the Inclusion of Continental Runoff in Climate Models," *Conference on Ocean Sciences*, American Geophysical Union, 2000.
31. Brown, G., "Micromagnetic Simulations, Fast-Multipole Calculations, and Thermal-activated Processes," *Seminar on Scientific Computation*, Techno Israel Institute of Technology, June 25, 2000.
32. Brown, G., M. A. Novotny, and P. A. Rikvold, "Fine-Grid Simulations of Thermally Activated Switching in Nanoscale Magnets," *NATO-ASI: Magnetic Storage Systems Beyond 2000*, June 12-23, 2000.

33. Brown, G., M. A. Novotny, and P. A. Rikvold, "Micromagnetic Simulations of Thermally-Activated Magnetization Reversal in Nanoscale Magnets," *APS March Meeting*, March 2000.
34. Brown, G., P. A. Rikvold, and M. A. Novotny, "New Results for Cu and Sulfate UPD on Au(111)," *Symposium on Computer Simulation in Electrochemistry at the 220th American Chemical Society National Meeting*, 2000.
35. Buongiorno Nardelli, M., "Electronic and Transport Properties of Carbon Nanotubes," *Psi-k Conference*, August 22-26, 2000.
36. Buongiorno Nardelli, M., "Mechanical Deformations and Electronic Transport in Carbon Nanotubes," *MRS Spring Meeting*, April 24-28, 2000.
37. Buongiorno Nardelli, M., "Theory of Electronic and Transport Properties of Carbon Nanotubes," *APS March Meeting*, March 2000.
38. Burris, R. D., "Application Drivers," *ESCC Network Research Workshop*, September 2000.
39. Burris, R. D., "High Performance Storage Activities," Fred Johnson at ORNL, June 20, 2000.
40. Burris, R. D., "HPSS and Probe Status," Presentation to Dan Hitchcock, April 2000.
41. Burris, R. D., "ORNL Site Report," HPSS User's Forum, July 26, 2000
42. Burris, R. D., "Probe," *ESnet Steering Committee*, September 13, 2000.
43. Burris, R. D., "Probe - High-End Distributed Storage Testbed," *Eighth Goddard Conference on Mass Storage Systems and Technologies*, March 29, 2000.
44. Burris, R. D. and H. H. Holmes, "Probe Project Experience," *ESCC Meeting*, April 25-27, 2000.
45. Carter, R. J., "Directed Energy Weapons/Electronic Warfare: Overview/Results of High Power Microwave Susceptibility Testing," *Range Commanders Council 105th Electronic Trajectory Measurement Group Meeting*, 2000.
46. Chakravarthy, V. K., J. C. Conklin, S. Daw, and E. F. D'Azevedo, "Towards a Device-Scale Model for Catalytic Converters," *2000 National Laboratory Catalysis Research Conference*, October 12-13, 2000.

47. Chanchio, K. and X. H. Sun, "Efficient User-Level Process Migration for Heterogeneous Distributed Environments," *Supercomputing 2000* (Research Gem), 2000.
48. Chen, M., A. Kisiel, J. Porter, and C. Pruneau, STAR Online System, American Physics Society Annual Meeting, April 29 - May 2, 2000.
49. Dobson, J. E., E. A. Bright, and P. R. Coleman, "LandScan: A Global Population Database for Estimating Populations at Risk," *Workshop on Gridding Population Data, an International Conference sponsored by Socioeconomic Data and Applications Center (SEDAC)*, Center for International Earth Science Information Network (CIESIN), Columbia University, New York, NY, May 2-3, 2000.
50. Doktycz, M., B. Jones, C. Culiati, P. Hoyt, B. Harker, R. Barry, D. D. Schmoyer, S. Petrov, E. Rinchik, K. Beattie, J. Snoddy, and E. Michaud, "Defining Complex Genetic Pathways with Gene-Expression Microarrays," *DOE Human Genome Program Contractor-Grantee Workshop VIII*, February 27, 2000-March 2, 2000.
51. Doktycz, M. J., B. H. Jones, C. T. Culiati, P. R. Hoyt, B. W. Harker, R. E. Barry, D. D. Schmoyer, S. Petrov, E. M. Rinchick, K. L. Beattie, J. R. Snoddy, and E. J. Michaud, "Defining Complex Genetic Pathways With Gene-Expression Microarrays," *TN Biomedical Engineering Conference*, UT/ORNL, March 3-4, 2000.
52. Drake, J. B., "A Tutorial in Atmospheric Climate Modeling," *DOE Computational Science Graduate Fellowship 2000 Conference*, NERSC, July 28, 2000.
53. Drake, J. B., "ACPI Computer Science and Enabling Technology Needs," Climate Change Prediction Program Advisory Board, January 2000.
54. Drake, J. B., "Development of a Modular, Performance Portable Climate System Model," DOE/OBER Climate Change Prediction Program Advisory Board, August 1, 2000.
55. Drake, J. B., "Progress Report of DOE/NCAR High Performance Atmospheric Model Project," CCSM Workshop, Software Engineering Working Group, June 28, 2000.
56. Drake, J. B., "Scientific Computing at Oak Ridge National Laboratory," *DOE Computational Science Graduate Fellowship 2000 Conference*, July 29, 2000.
57. Drake, J. B., "The Accelerated Climate Prediction Initiative Avant Garde Model Development Project," CCPP Science Team Meeting, March 27, 2000.
58. Drake, J. B., "The Development of a Modular, Performance Portable Climate System Model," Scientific Computing Seminar Series, LBNL, July 27, 2000.

59. Erickson, D. J. III, "A Global Numerical Model of Halogen Generation in the Marine Boundary Layer," Department of Meteorology, University of Maryland, October 6, 2000.
60. Erickson, D. J. III, "Global Biogeochemical Simulation and Air-Sea Gas Flux," Goddard Laboratory for Hydrospheric Processes, NASA/Wallops, March 17, 2000.
61. Erickson, D. J. III, "Global Biogeochemical Simulation Including an Explicit Treatment of Air-Ocean Gas Flux," Goddard Laboratory for Hydrospheric Processes, NASA/GSFC, January 19, 2000.
62. Erickson, D. J. III, "Global Biogeochemical Simulation Within a GCM Dynamical Framework," Goddard Institute for Space Studies (GISS), NASA/Columbia University, October 20, 2000.
63. Erickson, D. J. III, "Global Biogeochemical Simulation Within a General Circulation Model (GCM) Framework," Department of Earth Sciences, University of California, May 15, 2000.
64. Erickson, D. J. III, "Global Biogeochemical Simulation: The Impact of Air-Sea Gas Exchange, Air-Sea Flux Workshop," University of New Hampshire, July 26, 2000.
65. Erickson, D. J. III, "Global Simulation of Climate and Atmospheric Chemistry," Computer Science and Mathematics Division, Oak Ridge National Laboratory, July 17, 2000.
66. Erickson, D. J. III, "The Global Atmospheric Carbon Cycle," USRA/NASA Summer Student Lecture Series, NASA/GSFC, June 28, 2000.
67. Erickson, D. J. III, and J. L. Hernandez, "A Global, High Resolution, Satellite-Based Global Model of Air-Sea Trace Gas Flux," *Symposium on Gas Transfer at Water Surfaces*, June 5, 2000.
68. Erickson, D. E. III, J. L. Hernandez, P. Ginoux, W. Gregg, R. Kawa, M. Behrenfeld, W. Essaias, C. McCain, and J. Christian, "The Correlation Between Atmospheric Dust Deposition to the Surface Ocean and SeaWiFS Ocean Color: A Global Satellite Based Analysis," American Geophysical Union, Fall Meeting, 2000.
69. Fahey, M. R., "Large-Scale Collective Communication and Load-Balancing on Parallel HPC Systems," DoD Users Group Conference, June 2000.
70. Fahey, R. A., "Steady-State Spectral Wave Model (STWAVE): A Case Study in Dual-Level Parallelism," GEMs Research Poster, Super Computing, 2000.

71. Geist, G. A., "Computer Science at ORNL," ORNL Student Seminar Series, June 21, 2000.
72. Geist, G. A., "Computer Science at ORNL," ORNL Student Seminar Series, October 4, 2000.
73. Geist, G. A., "Distributed Supercomputing at ORNL," Fourth Workshop on Distributed Supercomputers, March 9-10, 2000.
74. Geist, G. A., "Electronic Notebook Research at ORNL," *Harvard Medical School, Video Conference* between Boston and ORNL, April 6, 2000.
75. Geist, G. A., "Electronic Notebooks and Other Remote Collaboration Tools," Invited Talk to ExxonMobil Research, June 29, 2000.
76. Geist, G. A., "Future CCA Research at ORNL," CCA Workshop, March 2-3, 2000.
77. Geist, G. A., "GRIDS at ORNL," Invited talk at IBM Research, December 6, 2000.
78. Geist, G. A., "How to Encourage Electronic Notebooks," Mitsubishi Chemical, May 12, 2000.
79. Geist, G. A., "ORNL Collaboratory Research," DOE 2000 Review Meeting, May 8-9, 2000.
80. Geist, G. A., "ORNL Computer Science Research - Enabling Simulation Science," CCS External Review Panel, December 7, 2000.
81. Geist, G. A., "Plugging Into Change," Invited talk at *CGGS Conference*, September 25, 2000.
82. Geist, G. A., "PVM and Cluster Computing," Invited Talk to ExxonMobil Research, June 29, 2000.
83. Geist, G. A., "PVM and MPI: What Else is Needed for Cluster Computing?" Keynote Talk at *EuroPVM 2000*, September 11, 2000.
84. Geist, G. A., "PVM to Grid Computing," Invited panel at *EuroPVM 2000*, September 13, 2000.

85. Geist, G. A., "Regional Network Roadmap, Workshop for Southeast Regional Network Research," May 15-17, 2000.
86. Geist, G. A., "Web Hits and Gigaflops," Extreme Linux Developers Forum, February 22-25, 2000.
87. Gray, L. J., "A Kinetically Driven Interfacial Instability," Colorado School of Mines, February 2000.
88. Gray, L. J., T. Kaplan, J. D. Richardson, and G. H. Paulino, "Boundary Integral Analysis for Functionally Graded Materials," *6th International Symposium on Functionally Graded Materials*, September 10-14, 2000.
89. Gray, L. J., T. Kaplan, J. D. Richardson, and G. H. Paulino, "Thermal Analysis of Functionally Graded Materials," *IABEM Symposium*, July 4-8, 2000.
90. Grice, W. P. and I. A. Walmsley, "Anonymous Photons: Eliminating Frequency and Space-Time Correlations in Multi-Photon Entangled States," *Annual Meeting of the Optical Society of America*, October 2000.
91. Grice, W. P. and I. A. Walmsley, "The Joint Chronocyclic Wigner Function for the Two-Photon State," *Annual Meeting of the Optical Society of America*, October 2000.
92. Haack, R. A., et al., "Acoustic Detection of Anoplophora Glabripennis Larvae and other Wood-borers," *2000 Joint Annual Meeting of the Entomological Society of America, Entomological Society of Canada and Société d'Entomologie du Québec*, Montreal, Quebec, December 3-6, 2000.
93. Jager, H., T. Ashwood, A. King, B. L. Jackson, "Spatial Uncertainty Analysis of Population Models for Land-Use and Threatened and Endangered Species Management," Poster Presented at *Partners in Environmental Technology Symposium & Workshop*, November 28-30, 2000.
94. Jung, E., Contributed talk: SIAM Annual Meeting, July 10, 2000.
95. Jung, E., Invited Talk: Association for Women in Mathematics at SIAM Meeting, *Minisymposium on Biological and Physical Modeling Applications*, July 12, 2000.
96. Jung, E., Invited Talk: *International Conference on Mechanics in Medicine and Biology*, April 3, 2000.
97. Jung, E., Invited Talk: *Seminar in Biomathematics*, Courant Institute in NYU, March 22, 2000.

98. Jung, E., Invited Talk: Seminar in PDE, University of Tennessee, April 26, 2000.
99. Jung, E., Invited talk: Seminar in the Department of Mathematics at Tulane University, November 13, 2000.
100. Jung, E., Poster, SC2000, *High Performance Networking and Computing Conference*, November 2000.
101. Khamayseh, A., "Jacobian-Weighted Surface Grid Smoothing," SIAM Annual Meeting, July 2000.
102. Kim, Y.-H., S. P. Kulik, and Y. H. Shih, "Quantum Teleportation with Complete Bell State Measurement," *Workshops on Quantum Optics*, July 31–August 4, 2000.
103. Kirkpatrick, J. R., "B61 Aging Modeling (U)," *23rd Aging, Compatibility, and Stockpile Stewardship Conference*, Sandia National Laboratory, CA, November 14, 2000.
104. Kohl, J. A., "CCA & GIST: Genomic Integrated Supercomputing Toolkit," Invited Speaker at the *ACTS Toolkit Workshop 2000*, Lawrence Berkeley National Laboratory, September 2000.
105. Kohl, J. A., "High-Performance Scientific Simulation and Distributed Computing at ORNL: Harness, CUMULVS, and the Common Component Architecture (CCA)," Virginia Tech, September 2000.
106. Kohl, J. A., "MxN or MxUse: An MxN Proposal," Common Component Architecture (CCA) Meeting, May 2000.
107. Kohl, J. A., "SC2000 CUMULVS One-Pager Flyer Handout," 2000.
108. Kohl, J. A., "The Latest and Greatest on MxN," Common Component Architecture (CCA) Meeting, August 2000.
109. Kohl, J. A., G. A. Geist, and D. E. Bernholdt, "SC2000 CUMULVS Poster," 2000.
110. Kohl, J. A., G. A. Geist, and D. E. Bernholdt, "SC2000 Common Component Architecture (CCA) Poster," 2000.

111. Kohl, J. A. and D. E. Bernholdt, "MUX and MxN: A Revelation," Common Component Architecture (CCA) Meeting, December 2000.
112. Land, M., D. D. Schmoyer, M. Parang, J. Snoddy, S. Petrov, R. Mural, and E. Uberbacher, "Genome Information Warehouse: Information and Databases to Support Comprehensive Genome Analysis and Annotation," *DOE Human Genome Program Contractor-Grantee Workshop VIII*, February 27-March 2, 2000.
113. Liu, Y., "Research on Optical Chaos Synchronization," *216th Meeting of Committee on Opto-Electronics, JSPS*, January 31, 2000.
114. Lynch, V. E., B. A. Carreras, and N. D. Sizemore, "Two Levels of Parallelism for Models of Tracer Particle Transport," *SC2000: High Performance Networking and Computing*, Dallas, TX, November 6–10, 2000.
115. Ng, E., "The Ordering Problem for Sparse Matrix Factorizations," University of California at Davis, April 13, 2000.
116. Olsen, A., P. Predki, K. Frankel, L. Gordon, A. Terry, M. Nolan, M. Wagner, A. Brower, A. Aerts, M. Bondoc, K. Kadner, M. Shaw, R. Mural, M. Land, D. D. Schmoyer, S. Petrov, D. Hyatt, M. Parang, J. Snoddy, E. Uberbacher, and the JGI Production Sequencing Team, "Sequence Analysis of Human Chromosome 19," *DOE Human Genome Program Contractor-Grantee Workshop VIII*, February 27, 2000–March 2, 2000.
117. Owen, L. W., et al., "Midplane Neutral Density Measurements in the DIII-D Tokamak," *European Physical Society Meeting*, Budapest, Hungary, June 12–16, 2000.
118. Parang, M., M. Land, D. D. Schmoyer, J. Snoddy, D. Hyatt, R. Mural and E. Uberbacher, "Navigation, Visualization, and Query of Genomes: The Genome Channel and Beyond," *DOE Human Genome Program Contractor-Grantee Workshop VIII*, February 27, 2000-March 2, 2000.
119. Pouchard, L. C., "A Community of Agents for User Support in a Problem-Solving Environment," *4th International Conference on Autonomous Agents*, May 2000.
120. Pouchard, L. C., "An Agent-Based Resource Allocation System for User Support of Remote Instrumentation Life Cycle Support," *Collaborative Science Workshop, CSCW Conference*, December 2000.
121. Powell, G. L., et al., "Surface Inspection by FTIR Spectral Imaging," *PITTCON 2000, The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy*, New Orleans, LA, March 12–17, 2000.

122. Protopopescu, V., L. M. Hively, and P. C. Gailey, "Robust Forewarning of Dynamical Change from Single-Channel Scalp EEG Data," *18th Symposium Energy Engineering Sci.*, Argonne National Laboratory, May 15–16, 2000.
123. Pruneau, C., M. Chen, A. Kisiel, and J. Porter, "Computing in High Energy Physics," February 7-11, 2000.
124. Rasch, K. A., "Defense Transportation and Logistics Activities at ORNL," Frank Akers, et al., Oak Ridge National Laboratory, March 10, 2000.
125. Rasch, K. A., "OSCAR Project Update and Opportunities," Col. Layne Walker and Harry Johnson, National Guard Bureau, Arlington, VA, October 12, 2000.
126. Rasch, K. A., "State/Territory Asset Redistribution (STAR)," *Army National Guard Logistics Management Seminar*, Little Rock, AK, March 28–30, 2000.
127. Rasch, K. A., "State/Territory Asset Redistribution (STAR)," Col. Layne Walker, National Guard Bureau, Arlington, VA, June 27, 2000.
128. Richardson, J. D., L. J. Gray, T. Kaplan and G. H. Paulino, "Thermal Analysis of Functionally Graded Materials via Boundary Integral Equations," *Third SIAM Conference on Mathematical Aspects of Materials Science*, May 2000.
129. Roland, C., J. Bernholc, M. Buongiorno Nardelli, D. Orlikowski, and Q. Zhao, "Theoretical Investigations of Carbon Nanotubes: Mechanical and Electronic Properties," *Nasa Microgravity Conference*, June 2000.
130. Roland, C., J. Bernholc, M. Buongiorno Nardelli, H. Guo, H. Mehrez, D. Orlikowski, J. Taylor, J. Wang and Y. Wei, "Theory of Carbon Nanotube Devices," *Joint US-JAPAN Meeting on Surfaces and Mesoscopic Phenomena*, April 2000.
131. Rome, J. A., "MMC Experiences With PKI -- Problems and Opportunities," SNS, December 2000.
132. Rome, J. A., "PKI Deployment and Application Issues," *A Public Key Infrastructure for Advanced Network Technologies Workshop*, NIST, April 27-28, 2000.
133. Rome, J. A., "PKI in the Small," *A Public Key Infrastructure for Advanced Network Technologies Workshop*, NIST, April 27-28, 2000.
134. Rome, J. A., "Securing Web Applications Via PKI," *IAEA International Workshop on Information Security*, October 2000.

135. Samatova, N. F., "Vector Space Model for Lean Cell Formation," CSMD Seminar, December 1, 2000.
136. Samatova, N. F., T. E. Potok, and M. R. Leuze, "Vector Space Model for Lean Cell Design and Analysis," Presented to Brian Worley, October 4, 2000.
137. Schwidder, J. C., "M3C – Cluster Management Tool Poster," *Cluster 2000*, November 2000.
138. Scott, S. L., "Cluster Tools," *Cluster Administration & Management BOF - Supercomputing 2000*, November 9, 2000.
139. Scott, S. L., "High Performance Cluster Computing," Tennessee Technological University, February 28, 2000.
140. Scott, S. L., "OSCAR: Open Source Cluster Application Resources," *IEEE Cluster Task Force BOF – Supercomputing 2000*, November 8, 2000.
141. Scott, S. L., "Panel: Cluster Administration Has Been Solved, or Has It?" *4th Annual Linux Showcase & Conference*, October 10-14, 2000.
142. Scott, S. L., "Tutorial: Cluster Tools," *Summer 2000 Workshop in High Performance Supercomputing*, Joint Institute for Computational Science (JICS) - University of Tennessee, August 21 -23, 2000.
143. Scott, S. L., "Tutorial: Design and Analysis of High Performance Clusters," *CLUSTER 2000 – IEEE International Conference on Cluster Computing*, November 28–December 1, 2000, Technische Universitat, Chemnitz.
144. Scott, S., et al., "The Scalable System Administrator: via C3 & M3C Tools," *The Second Workshop on Cluster-Based Computing at the 2000 International Conference on Supercomputing*, Santa Fe, NM, May 6, 2000.
145. Seymour, E. R. and R. J. Carter, "Live Fire Test and Training Overview," *Range Commanders Council 105th Electronic Trajectory Measurement Group Meeting*, 2000.
146. Snoddy, J., D. D. Schmoyer, K. Fischer, G. Chen, M. Land, S. Petrov, S. Martin, E. Michaud, B. Barry, G. Rinchik, P. Hoyt, M. Doktycz and E. Uberbacher, "Information Systems to Support Experimental and Computational Research into Complex Biological Systems and Functional Genomics: Several Pilot Projects," *DOE Human Genome Program Contractor-Grantee Workshop VIII*, February 27, 2000–March 2, 2000.

147. Snoddy, J., et al., "Status of a Comprehensive, Genome Wide Analysis and Annotation Project: Summaries of the Available Data and Current User Interfaces," *13th Annual Cold Spring Harbor Meeting on Genome Sequencing & Biology*, Cold Spring Harbor, NY, May 10–14, 2000.
148. Snoddy, J., et al., "Status of a Comprehensive, Genome Wide Computational Analysis and Annotation Project," *13th Annual Cold Spring Harbor Meeting on Genome Sequencing & Biology*, Cold Spring Harbor, NY, May 10-14, 2000.
149. Snoddy, J., et al., "System Infrastructure and the Processing of Whole Genomes for Computational Annotation and Analysis," *13th Annual Cold Spring Harbor Meeting on Genome Sequencing & Biology*, Cold Spring Harbor, NY, May 10-14, 2000.
150. Snoddy, J., G. Chen, K. Fischer, D. Hyatt, M. Galloway, S. Petrov, P. LoCascio, S. Martin, R. Mural, M. Land, V. Olman, M. Parang, F. Larimer, D. D. Schmoyer, M. Shah, I. Vokler, G. Zhang, and E. Uberbacher, "User Interfaces Analysis Tools, and System Infrastructure for Genome-Wide Computational Analysis," *G2K: Back to Science: Advances in Genome Biology & Technology*, February 5-8, 2000.
151. Tan, E. S., L.J. Gray and A.-V. Phan., "Parallel Solution of the Boundary Integral Equations for Elasticity," *European Congress on Computational Methods in Applied Sciences and Engineering*, September 2000.
152. Toedt, R. J., R. Ward, M. Yambert, et al., "Creating a Human Phantom for the Virtual Human Program," *Medicine Meets Virtual Reality*, 2000.
153. Tolliver, J. S., "ScipuffServer Status Report," *DTRA's HPAC Review Meeting*, Washington, D.C., April 14, 2000.
154. Tolliver, J. S., D. J. Strickler, and R. C. Ward, "Science Portals Using Java RMI for Access to Legacy Scientific Simulation Codes," *ACM Java Grande 2000 Conference*, San Francisco, CA, June 3–5, 2000.
155. Tufano, D. R., "Single Integrated Air Picture Operator Issues and Methods," *SIAP Assessment Measures Workshop*, Single Integrated Air Picture System Engineer Task Force, COMNAVSEASYSKOM, December 14, 2000.
156. Ujfalussy, B., G. M. Stocks, N. Moghadam, D. M. C. Nicholson, W. A. Shelton, Y. Yang, D. D. Johnson, and B. L. Gyorffy, "Constrained Magnetic States and Exchange Interactions in Metals," *2000 American Physical Society March Meeting*, March 20-24, 2000.
157. Upmanyu, M., D. J. Srolovitz, and S. Srinivasan, "3-D Grain Boundary Mobilities for Grain Growth," Poster: *Gordon Conference Physical Metallurgy*, 2000.

158. Upmanyu, M., D. J. Srolovitz, W. C Carter and J. A. Warren, "Grain Rotation," Poster: *Gordon Conference Ceramics: Solid State Studies*, 2000.
159. Upmanyu, M. and D. J. Srolovitz, "Nano-Scale Grain Boundary Microstructural Evolution," Fall MRS, 2000.
160. Ward, R. C., "Integrating Physiology Models into Client/Server Environments," *Tennessee 2000 Biomedical Engineering Meeting*, Knoxville, TN, March 2000.
161. Ward, R. C., et al., "Object-Oriented Integration and Control of Physiological Models," *Computational Modeling of Biological Systems: From Gene to Organ*, Hilton Head, SC, February 2000.
162. Walker, D. W., "High Performance Computing: Past Highlights and Future Trends," *Algorithm 2000*, September 13, 2000.
163. Welch, D. E., L. M. Hively, and R. F. Holdaway, "Nonlinear Crack Growth Monitoring," *2000 ASM Materials Solutions Conference and Exposition*, St. Louis, MO, October 11, 2000.
164. Welch, D. E., L. M. Hively, and R. F. Holdaway, "Nonlinear Crack Growth Monitoring," *International Mechanical Engineering Congress and Exposition*, Orlando, FL, November 5–10, 2000.
165. White, D. W., B. N. Alemdar, and P. K. Nukala, "Mixed Finite Elements for Three-Dimensional Nonlinear Analysis of Steel Frames," *The First International Conference on Structural Stability and Dynamics*, December 7-9, 2000.
166. White III, J. B., "Software-Modeling Tools and HPC," Parallel Tools Consortium Annual Meeting, 2000.
167. Williams, P. T., et al., "Weibull Statistical Models of K_{Ic}/K_{Ia} Fracture Toughness Databases for Pressure Vessel Steels with an Application to PTS Assessments of Nuclear Reactor Pressure Vessels," *Specialists Meeting on Methodology and Supporting Research for the Pressurized Thermal Shock Evaluation, International Atomic Energy Agency, International Working Group On Life Management of Nuclear Power Plants*, Rockville, MD, July 18–20, 2000.
168. Wing, W. R., "Working With Neighbors," *Regional Research Network Workshop*, May 16, 2000.
169. Worley, P. H., "Evaluation of Early Systems," *SC'2000*, November 6-9, 2000.

170. Worley, P. H., "Kernel and Application Code Performance for a Spectral Atmospheric Global Circulation Model on the Cray T3E and IBM SP," NERSC Users Group Meeting, June 6, 2000.
171. Worley, P. H., "Performance Comparison of Winterhawk I and Winterhawk II Systems," *ScicomP 2000*, August 14, 2000.
172. Worley, P. H., "Performance Evaluation of the IBM SP and the Compaq AlphaServer SC," *ACM International Conference of Supercomputing 2000*, May 10, 2000.
173. Yang, C., "Large-scale Normal Coordinate Analysis for Molecular Vibration," *Copper Mountain Conference on Iterative Methods*, April 2000.
174. Yang, C., "Puerto Rico Large-Scale Normal Coordinate Analysis for Molecular Structures," SIAM Annual Meeting, July 2000.
175. Yang, C., "San Diego Parallelizing Sparse Linear Equation Solvers Using OpenMP," *Workshop on OpenMP Applications and Tools*, July 2000.
176. Zhong, J. X., "Morphological Control of Nanostructures at Surfaces," Department of Physics, University of Texas at Austin, April 2000.
177. Zhong, J. X., "Morphological Control of Nanostructures at Surfaces," Solid State Division, Oak Ridge National Laboratory, Tennessee, March 2000.
178. Zhong, J. X., E. G. Wang, Q. Niu, and Z. Y. Zhang, "Morphological Symmetry Breaking During Epitaxial Growth at Grazing Incidence," APS March Meeting, March 2000.
179. Zhong, J. X., T. J. Zhang, Z. Y. Zhang, and M. G. Lagally, "Island-Corner Barrier Effect in Two-Dimensional Pattern Formation at Surfaces," APS March Meeting, March 2000

PRESENTATIONS

1999

1. Alexander, R. A., "Supercomputing at ORNL," SCICOMP, Yorktown Heights, NY, October 1999.
2. Allgood, G. O., "Building a Conceptual Foundation for an Anticipatory System," *ANNIE 1999, Smart Engineering System Design: Neural Networks, Fuzzy Logic, Evolutionary Programming, Complex Systems and Data Mining*, St. Louis, MO, November 7–10, 1999.
3. Allgood, G. O., et al., "Incipient Fault Detection of Large DC Motors," *MARCON 99*, Gatlinburg, TN, May 10–12, 1999.
4. Allgood, G. O., S. W. Kerchel, and W. B. Dress, "Developing an Anticipatory Approach for Cavitation – Defining a Model-Based Descriptor Consistent Across Processes," *MARCON 99*, Gatlinburg, TN, May 10–12, 1999.
5. Allgood, G. O. and S. W. Kerchel, "Context-Dependent Prognostics and Health Assessment – A Condition-Based Maintenance Approach That Supports Mission Compliance," *53rd Meeting of the Society for Machinery Failure Prevention Technology*, Virginia Beach, VA, April 22, 1999.
6. Allgood, G. O. and W. W. Manges, "Modeling Manufacturing Processes to Mitigate Technological Risk," *1999 Mechanical Working and Steel Processing Conference*, Baltimore, MD, October 24–27, 1999.
7. Allgood, G. O. and W. W. Manges, "An Integrated Value Chain Analysis (VCA) and Economic Model – A Methodology for Developing an R&D Maintenance and Reliability Investment Strategy for Process, Plant, and Management," *53rd Meeting of the Society for Machinery Failure Prevention Technology*, Virginia Beach, VA, April 22, 1999.
8. Anderson, M., C. Iaconis, R. Siew, I. A. Walmsley, S. O'Connor, and W. P. Grice, "Effects of Noise and Phase-Matching Bandwidth on Ultrashort Pulse Measurement using SPIDER," *Annual Meeting of the Optical Society of America*, October 1999.
9. Barhen, J., "Solution of Inverse Problems in Geophysics using Novel Global Optimization Methods," *DOE Geosciences Symposium*, February 4–5, 1999.

10. Barhen, J., and R. Price, "Computational Engineering Science Research Topics in Nanotechnology," *DOE Workshop on Nanotechnology Science and Engineering*, March 26, 1999.
11. Bernholc, J., E. L. Briggs, M. Buongiorno Nardelli, J.-L. Fattebert, D. Orlikowski, and C. Roland, "Large-Scale Simulations and Design of Nanoscale Materials and Devices: Structural, Mechanical and Electrical Properties of Nanotubes," *Engineering Foundation Conference on Nanocomposite Materials: Design and Applications*, March 1999.
12. Bernholc, J., M. Buongiorno Nardelli, C. Roland and B. Yakobson, "Theory of Growth and Mechanical Properties Of Nanotubes," *APS March Meeting*, 1999.
13. Bernholc, J., M. Buongiorno Nardelli, J.-L. Fattebert, D. Orlikowski, R. Roland, and Q. Zhao, "Atomic Transformations And Quantum Transport In Carbon Nanotubes," *MRS Fall Meeting*, December 1999.
14. Bernholc, J., M. Buongiorno Nardelli, J.-L. Fattebert, D. Orlikowski, C. Roland, and Q. Zhao, "Atomic Transformations And Quantum Transport In Carbon Nanotubes," *Workshop on Nanotechnology in Carbon and Related Materials*, Brighton, September 1999.
15. Bernholc, J., M. Buongiorno Nardelli, J.-L. Fattebert, D. Orlikowski, C Roland, and Q. Zhao, "Mechanical Properties and Electronic Transport in Carbon Nanotubes," *Nanotubes 99. International Workshop On The Science And Applications Of Nanotubes*, July 1999.
16. Bernholdt, D. E., "Fast Methods for Correlated Electronic Structure Calculations: The RI-MP2 Approach," *Environmental Molecular Sciences Laboratory, Pacific Northwest National Laboratory*, 1999.
17. Bernholdt, D. E., "Parallel RI-MP2 Energies and Gradients: Implementation and Applications," *39 Sanibel Symposium*, 1999.
18. Bernholdt, D. E., "Parallel RI-MP2 Energies and Gradients: Implementation and Applications," *52 International Symposiums on Molecular Spectroscopy*, 1999.
19. Bernholdt, D. E., "Towards Scalable Quantum Chemistry," *Scalable Computing Laboratory, Ames Lab*, 1999.
20. Bhaduri, B. L., J. Harbor, and B. Engel, "Assessing Long-Term Impact of Land Use Change on Runoff and Non-Point Source Pollution Using a GIS-NPS Model," *Environmental Problem Solving with GIS*, Cincinnati, OH, September 22–24, 1999.

20. Branstetter, M. L., and J. S. Famiglietti, "Testing the Sensitivity of GCM-Simulated Runoff to Climate Model Resolution Using a Parallel River Transport Algorithm," *14th Conference on Hydrology*, American Meteorological Society, 1999.
21. Branstetter, M. L., and J. S. Famiglietti, "Using a Parallel Algorithm to Model River Transport in Climate System Models," *5th SIAM Conference on Mathematical and Computational Issues in the Geosciences*, Society for Industrial and Applied Mathematics, 1999.
22. Branstetter, M. L., K. I. Mohr, and J. S. Famiglietti, "A Coupled Biosphere-Atmosphere Climate Model Study of Global Land Cover Change and its Impact on Regional and Global Hydrologic Cycles," *Conference on Hydrology*, American Geophysical Union, 1999.
23. Braiman Y., "Non-monotonic Behavior in Coupled Solid State Lasers," *March Meeting of the American Physical Society*, March 1999.
24. Bright, E. A., et al., "Using Advanced Remote Sensing Technologies for NEPA Environmental Assessment in Early Planning of Transportation Projects," DOT Research Announcement DTRS56-00-BAA-005, November 1999.
25. Brown, G., M. A. Novotny, and P. A. Rikvold, "Finite Temperature Micromagnetic Modeling of Dynamic Switching in Nanoscale Pillars," *Centennial Meeting of the APS*, 1999.
26. Brown, G., M. A. Novotny, and P. A. Rikvold, "Micromagnetic Simulations of Thermally-Activated Magnetization Reversal of Nanoscale Magnets," *44th Annual Conference on Magnetism and Magnetic Materials*, 1999.
27. Brown, G., M. A. Novotny, and P. A. Rikvold, "Simulation of Nonequilibrium Evolution in Heterogeneous Engineered Materials: New Analysis and Algorithms," *Fifth U.S. National Congress on Computational Mechanics*, 1999.
28. Buongiorno Nardelli, M., "Bending Nanotubes: Device Design Via Mechanical Relaxation," *APS March Meeting*, March 1999.
29. Buongiorno Nardelli, M., "Brittle And Ductile Behavior In Carbon Nanotubes," *9th International Workshop on Computational Materials Science: Electronic Structure Theory and Simulations*, January 14-16, 1999.
30. Buongiorno Nardelli, M., "Carbon Nanotubes: A Theoretical Laboratory," Fall Colloquium, University of Louisville, November 5, 1999.

31. Buongiorno Nardelli, M., "Electronic Transport In Nanostructures: Application To Carbon Nanotubes," *Workshop On New Methods In Electronic Structure*, May 21-24, 1999.
32. Buongiorno Nardelli, M., "Growth and Mechanical Properties of Carbon Nanotubes," *MRS fall Meeting*, December 1999.
33. Buongiorno Nardelli, M., "Mechanical and Transport Properties of Carbon Nanotubes," *Fullerenes 99 Workshop*, August 29-September 2, 1999.
34. Buongiorno Nardelli, M., "Mechanical and Transport Properties of Carbon Nanotubes," September 4, 1999, *Univ. Paris VI*.
35. Burris, R. D., "ORNL and HPSS Production and Test," Presentation to the HPSS User's Forum, September 1999.
36. Burris, R. D., "Probe - Testbed for High Performance Storage," HEPiX, October 1999.
37. Chakravarthy, V. K. and S. Menon, "Large Eddy Simulation Of Stationary Premixed Flames Using A Subgrid Fl Flamelet Approach," *2nd AFOSR International Conference on DNS and LES*, June 7-9, 1999.
38. Chakravarthy, V. K. and S. Menon, "Large Eddy Simulations of Bluff Body Stabilized Flames," *Joint Fluids Engineering Conference*, July 18-23, 1999.
39. Chakravarthy, V. K. and S. Menon, "Modeling Of Turbulent Premixed Flames In The Flamelet Regime," *International Symposium on Turbulence and Shear Flow Phenomena*, September 11-13, 1999.
40. Cushman, R. M., et al., "Retrospective on CDIAC's Activities in United States-China Research on the Greenhouse Effect," Proceedings of the *PRC/CAS-U.S./DOE Science Team Meeting, Joint Research on the Greenhouse Effect*, Beijing, China, DOE/CDIAC, Chinese Academy of Sciences, USA, June 10-12, 1999.
41. Downing, D., V. Fedorov, and G. Ostrouchov, "Detection of Changes in Large Data Sets," Invited Presentation at the *RSS99 International Conference of the Royal Statistical Society: Change Point and Related Methods Workshop*, University of Warwick, U.K., July 12-15.
42. Drake, J. B., "The Mathematics and Computational of Climate Change," *SIAM/SEAS Conference*, March 19, 1999.

43. Drake, J. B., "The Parallel Climate Modeling Program," IBM feature presentation/*SuperComputing99 Conference*, November 17, 1999.
44. Ehle, M., et al., "WWW System to Evaluate the Effects of Land Use Change on Hydrology and Water Quality," *ESRI International User Conference*, San Diego, CA, July 26–30, 1999.
45. Engel, B., et al., "A Web-based GIS Model for Assessing the Long-Term Impact of Land Use Change (L-THIA GIS WWW): Motivation and Development *Environmental Problem Solving with GIS*, Cincinnati, OH, September 22–24, 1999.
46. Erickson, D. J. III, "Global Biogeochemical Simulation Within a General Circulation Model Dynamical Framework," Goddard Laboratory for Atmospheres, NASA/GSFC, December 2, 1999.
47. Erickson, D. J. III, "Interdisciplinary Studies of Global Biogeochemistry Within a General Circulation Model Dynamical Framework," Department of Environmental Sciences, University of Virginia, March 5, 1999.
48. Erickson, D. J. III, "Interdisciplinary Studies of Global Biogeochemistry Within a General Circulation Model Dynamical Framework," Department of Meteorology, Texas A&M University, April 22, 1999.
49. Erickson, D. J. III, "Interdisciplinary Studies of Global Biogeochemistry Within a General Circulation Model Framework," Nicholas School of the Environment, Duke University, February 23, 1999.
50. Erickson, D. J. III, "Numerical Modeling in Climate and Atmospheric Science Research," Division of Environmental Sciences, Oak Ridge National Laboratory, August 31, 1999.
51. Erdmann, R., W. P. Grice, A. U'ren, and I. A. Walmsley, "High-Order Dispersive Effects on Quantum Interference in a Fiber Interferometer," *Annual Meeting of the Optical Society of America*, October, 1999.
52. Gailey, P. C., L. M. Hively, and V. A. Protopopescu, "Detection of Condition Change in Nonlinear Time Series Using a Connected-Phase-Space PDF," *American Physical Society Conference*, Atlanta, GA, March 22–26, 1999.
53. Gailey, P. C., L. M. Hively, and V. A. Protopopescu, "Robust Detection of Dynamical Change in EEG," *5th Experimental Chaos Conference*, Orlando, FL, June 28–July 1, 1999.

54. Gailey, P. C., L. M. Hively, and V. A. Protopopescu, "Sensitive Measures of Condition Change in EEG Data," *Interdisciplinary Workshop, Chaos in Brain*, Bonn, Germany, March 10–12, 1999.
55. Gat, N., and J. Barhen, "Sensitivity and Uncertainty Analysis Methods for Hyperspectral Sensors," *Defense Intelligence Agency SITAC Symposium*, April 20, 1999.
56. Gat, N., J. Barhen, and A. Carle, "Enhancement of MODTRAN 4.0 via Automatic Differentiation: Sensitivity Analysis with Supercodes," *BMDO Battlefield Environment Signatures Experts Meeting*, June 17, 1999.
57. Geist, G. A., "Building Your Own Personal Supercomputer With PVM," Invited Talk at Northwestern University, May 21, 1999.
58. Geist, G. A., "CCA Fun and Games in the DOE 2000 Booth," SC'99, November 14-19, 1999.
59. Geist, G. A., "Common Component Architecture at SC'99," CCA Workshop, December 2-3, 1999.
60. Geist, G. A., "Cumulvs, CCA, and Mre Plans and Possibilities," DOE ACTS Toolkit Review, January 6, 1999.
61. Geist, G. A., "Development of Software Enabling Technology for Terascale Computing," LDRD Presentation, August 25, 1999.
62. Geist, G. A., "Future Visions," Panel at *EuroPVM-MPI'99 Conference*, September 29, 1999.
63. Geist, G. A., "Harnessing MPI and PVM," Invited Keynote Talk at *EuroPVM-MPI'99 Conference*, September 27, 1999.
64. Geist, G. A., "HPC Open Systems Roadmap," High-End Cluster Roadmap Meeting, December 13-14, 1999.
65. Geist, G. A., "ORNL Heterogeneous Distributed Computing Research," MICS Distributed Computing Review Meeting, August 3, 1999.
66. Geist, G. A., "Performance Critical Software," Invited Talk at *Petaflops2 Conference*, February 18, 1999.
67. Geist, G. A., "The Future of Cluster Computing," Panel at *JPDC4-5 Conference at Energy Museum*, October 6-8, 1999.

68. Grady, N. W., J. C. Schryver, and M. R. Leuze, "Mining for Personal Profiles," *3rd Federal Data Mining Symposium*, March 9-10, 1999.
69. Grice, W. P., "Quantum Teleportation," Illinois State University, October 1999.
70. Grimm, U., J. X. Zhong, R. A. Romer, and M. Schreiber, "Universal Level-Spacing Statistics in Quasiperiodic Tight Binding Models," *7th International Conference on Quasicrystals*, September 1999.
71. Hart, K. J., S. H. Harmon, D. A. Wolf, A. A. Vass, "Detection of Chemical/Biological Agents and Simulants Using Quadrupole Ion Trap Mass Spectrometry," Presented at the *47th ASMS Conference on Mass Spectrometry and Allied Topics*, June 13-17, 1999.
72. Hernandez, J. L., "Atmosphere-Ocean Energy and Gases Exchange at the Caribbean Sea and Neighboring Atlantic Ocean," NASA-Goddard Space Flight Center - Mesoscale Atmospheric Process Branch, July 1999.
73. Hernandez, J. L., "Ocean Mixed Layer Depth and Thermal Inertia in the Eastern Caribbean Sea: A Simple Model," American Geophysical Union, Spring Meeting, 1999.
74. Hutchinson, D. P., R. K. Richard, and G. O. Allgood, "A Coherent FMCW LIDAR Mapping System for Automated Tissue Debridement," *10 Biennial Coherent Laser Radar Technology and Applications*, Mt. Hood, OR, June 28-July 2, 1999.
75. Iino, Y., Y. Liu, P. Davis, and T. Aida, "Multiplexing Using Synchronized Chaos," *Annual Meeting of IEICE*, September 7, 1999.
76. Jenkins, R. A., A. B. Dindal, C. K. Bayne, D. Crumbling, S. Billets, and E. Koglin, "PCB Field Technology Verification in EPA's Environmental Technology Verification (ETV) Program," *4th International On-Site Conference*, January 24-27, 1999.
77. Johnson, P. E., "HIGHWAY and INTERLINE Training Course," DOE/RW, Las Vegas, NV, May 5, 1999.
78. Johnson, P. E., "Train Routing," Dahlgren Joint Program Office Special Technology Countermeasures, December 15, 1999.
79. Kerchel, S. W., et al., "An Anticipatory Model of Cavitation," *Applications and Science of Computational Intelligence II Conference (SPIE)*, Orlando, FL, April 6, 1999.

80. Kercel, S. W., et al., "Can Cavitation Be Anticipated?" *Robotics and Remote Systems 8th International Topical Meeting & Exposition (ANS)*, Pittsburgh, PA, April 28, 1999.
81. Khamayseh, A., "Adaptive Finite Element Method for Conservation Laws," *University of South Carolina*, April 1999.
82. Khamayseh, A., "Grid Generation on Boundary Representation Models," *CFD Research Corporation*, December 1999.
83. Khamayseh, A., "Orthogonal Grid Generation with Impedance Matching," *Argonne National Laboratory*, June 1999.
84. King, A. L., "Mission Plan: Airborne Magnetic Survey of Selected Sites at the Cuny Table, Former Badlands Bombing Range," U. S. Army Engineering and Support Center, Huntsville, AL, June 3, 1999.
85. King, A. W., J. Henriette, T. Ashwood, B. L. Jackson, "Spatial Sensitivity Analysis of Ecological Models for Land-Use Management," *SERDP Symposium Poster*, November, 1999.
86. King, A. W., T. L. Ashwood, B. L. Jackson, Y. I. Jager, and C. Hunsaker, "Ecological Modeling and Simulation Using Error and Uncertainty Analysis Methods," Progress Review Presented to *SERDP* by T. King, April 26, 1999.
87. Kirkpatrick, J. R., "W-87 Cake Assembly Aging Calculations (U)," *22nd Aging, Compatibility, and Stockpile Stewardship Conference*, Y-12, April 27, 1999.
88. Kohl, J. A., "CCA Collective Component Specification," Common Component Architecture (CCA) Meeting, Argonne National Laboratory, December 1999.
89. Kohl, J. A., "CCA Collective Ports Specification," Common Component Architecture (CCA) Meeting, August 1999.
90. Kohl, J. A., "CCA Demo Status," Common Component Architecture (CCA) Forum Meeting, June 1999.
91. Kohl, J. A., "CUMULVS," DOE 2000 ACTS Toolkit Review, January 1999.
92. Kohl, J. A., "CUMULVS and Globus: Opening New Doors for Visualization, Computational Steering, and Fault Tolerance," Argonne National Laboratory, September 1999.

93. Kohl, J. A., "Interacting with High-Performance Scientific Simulations using CUMULVS: Visualization, Computational Steering, and Fault Tolerance," Northern Illinois University, September 1999.
94. Kohl, J. A., "Interacting with High-Performance Scientific Simulations Using CUMULVS: Visualization, Computational Steering, and Fault Tolerance," University of Louisville, October 1999.
95. Lynch, V. E. and B. A. Carreras, "Parallel Models of Self-organized Criticality for Plasma Confinement," *SC99: High Performance Networking and Computing*, 145, Portland, OR, November 13–19, 1999.
96. Mahinthakumar, G., "Locating Biological Activity Zones in the Subsurface Using Genetic Search Algorithms," Chemical Technology Division Scientist Seminar, February 25, 1999.
97. Menon, S., S. Pannala, W.-W. Kim, V. K. Chakravarthy, and W. J. Henry, "Large Eddy Simulation Of Turbulent Fuel Sprays," *DoD High Performance Computing Modernization Program Conference*, June 7-10, 1999.
98. Menon, S., S. Pannala, W.-W. Kim, V. K. Chakravarthy, and W. J. Henry, "Parallel Simulations Of Turbulent Reacting Sprays," *30th AIAA Plasmadynamics and Lasers Conference*, June 28-July 1, 1999.
99. Mural, R., M. Parang, M. Shah, D. Hyatt, M. Land, F. Larimer, S. Petrov, D. D. Schmoyer, J. Snoddy, and E. Uberbacher, "Navigation, Visualization, and Query of Genomes: The Genome Channel and Beyond," *Life Sciences Division Information Meeting*, Oak Ridge, TN, September 28, 1999.
100. Ng, E., "High Performance Sparse Cholesky Factorization," *Sun Microsystems*, July 19, 1999.
101. Ng, E., "Incomplete Cholesky Parallel Preconditioners With Selective Inversion," *6th International Symposium on Solving Irregularly Structured Problems in Parallel*, April 16, 1999.
102. Ng, E., "Ordering Sparse Matrices," *Stanford University*, November 29, 1999.
103. Ng, E., "Re-Revisit ICCG," *International Conference on Preconditioning*, June 3-5, 1999.
104. Ng, E., Structural results for sparse orthogonal factorization, "Minisymposium on Recent Advances in Sparse Matrix Techniques," *1999 SIAM Annual Meeting*, May 12-15, 1999.

105. Ng, E., "Symbolic Aspects of Sparse Orthogonal Factorization," *Conference on Linear Algebra: Theory, Applications, and Computations*, Wake Forest University, January 8-9, 1999.
106. Nukala, P., "A Return Mapping Algorithm for Cyclic Viscoplastic Constitutive Models," *Fifth U.S. National Congress on Computational Mechanics*, University of Colorado at Boulder, August 4-6, 1999.
107. Nukala, P. K., J. Y. Shu, and E. Zywicz, "A Three-Dimensional Finite Deformation Couple Stress Model for Fiber-Reinforced Composites," *Symposium on Mechanics of Composite Materials and Composite Structures*, October 25-27, 1999.
108. Nukala, P. K., J. Y. Shu, and E. Zywicz, "A Three-Dimensional Finite Deformation Couple Stress Plasticity Model," *Trilab Conference*, November 1999.
109. Olivera, F., J. S. Famiglietti, and M. L. Branstetter, "Resolution Dependence of Cell-to-Cell Runoff Routing Models," *Conference on Hydrology*, American Geophysical Union, 1999.
110. Oparin, A. P., D. M. C. Nicholson, X.-G. Zhang, W. H. Butler, W. A. Shelton, G. M. Stocks and Y. Wang, "Local Environment Effects on Magnetic Structure at Interfaces," *American Physical Society Centennial Meeting*, March 20-26, 1999.
111. Owen, L. W., et al., "Modeling of 2-D Neutral Density Measurements in the DIII-D Tokamak," *26th EPS Conference on Controlled Fusion and Plasma Physics*, Maastricht, The Netherlands, June 14-18, 1999.
112. Owen, L. W., et al., "Study of the Effects of Neutrals in Alcator C-Mod Plasmas," *26th EPS Conference on Controlled Fusion and Plasma Physics*, Maastricht, The Netherlands, June 14-18, 1999.
113. Powell, G. L., et al., "DRIFT Imaging of Salt," *The 22nd Aging, Compatibility, and Stockpile Stewardship Conference*, Oak Ridge, TN, April 27-29, 1999.
114. Powell, G. L., et al., "Recent Advances in Surface Inspection by Spectral Imaging of Macroscopic Objects Using FTIR Spectroscopy," *PITTCON 1999, The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy*, Orlando, FL, March 7-12, 1999.
115. Powell, G. L. et al., "Spectral Imaging of Macroscopic Objects using Diffuse Reflectance Mid-Infrared Fourier Transform (DRIFT) Spectroscopy," *The 22nd Aging, Compatibility, and Stockpile Stewardship Conference*, Oak Ridge, TN, April 27-29, 1999.

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