Curriculum Vitae of Manish Parashar, Ph.D.

Computer Scientist and Electrical Engineer, AAAS Fellow, ACM Fellow, IEEE Fellow
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Present Positions

Chief Artificial Intelligence (AI) Officer, University of Utah
Director & Chair in Computational Science and Engineering, Scientific Computing and Imaging (SCI) Institute, University of Utah
Presidential Professor, School of Computing, University of Utah
Lead, One-Utah Responsible Artificial Intelligence Initiative
Faculty Co-Director, Data Science & Ethics of Technology Initiative (DATASET), One-Utah Data Science Hub, University of Utah
Visiting Professor, Department of Computer Science, Rutgers University

Chair, IEEE Community on High-Performance Computing (TCHPC)
Member, Computing Research Association's Computing Community Consortium (CCC) Council

Research Interests

Computational and Data-Enabled Science and Engineering, Parallel & Distributed Computing (HPC, Cloud and Grid Computing), Extreme-scale Computing and Data Management, Autonomic Computing

Academic Degrees

Ph.D., Computer Engineering, Syracuse University (August `94)

Thesis Title: "Interpretive Performance Prediction for High Performance Parallel Computing" **Advisors:** Dr. Salim Hariri
Thesis Abstract: The key factor contributing to the complexity of parallel application development and the poor utilization of current high-performance computing (HPC) systems is the increased degrees of freedom such as the appropriate algorithm and architecture choice for an application, the best mapping of the application onto the selected architecture, and the appropriate communication, synchronization and load balancing strategies, that have to be resolved in such an environment. The thesis develops a novel "interpretive" methodology for performance prediction that can be effectively used to make design decisions at various stages of HPC application development. The essence of this approach is the application of interpretation techniques to performance prediction through an appropriate characterization of the HPC system and the application. Models and heuristics are defined to handle accesses to the memory hierarchy, overlap between computation and communication, and user experimentation with system and run-time parameters. The interpretive approach provides an accurate and cost-effective (in terms of time and resources required) evaluation methodology that can be used by any tool supporting HPC (e.g. intelligent compilers, mapping and load-balancing tools, and system design evaluation tools), which has to optimize available design options.

M.S., Computer Engineering, Syracuse University (May `94)

GPA: 4.0/4.0
Project Title: "Design and Evaluation of a Memory Hierarchy for Stable Storage" **Advisor:** Dr. Salim Hariri

B.E. Electronics & Telecommunication Engineering, Bombay University, India (October `88)

Rank: First in University

Selected Awards and Honors

Competitive Awards:

- 2024 Computing Research Association (CRA) Distinguished Service Award "*in recognition of his multi-faceted and highly impactful service to the computing research community*," March 2024.
- 2023 IEEE Computer Society Sidney Fernbach Award *"for contributions to distributed high-performance computing systems and applications, data-driven workflows, and translational impact,"* November 2023.
- 2023 Achievement Award in High Performance Distributed Computing *for groundbreaking work in high performance parallel and distributed computational methods, data management, in-situ computing, and global leadership in cyberinfrastructure and translational computer science*, ACM International Symposium on High-Performance Parallel and Distributed Computing, June 2023.
- Outstanding Paper Award: AI for Social Impact, 34th AAAI Conference on Artificial Intelligence (AAAI-20), New York, NY, USA, February 2020.
- Winner, 2015 Cloud Challenge Award (Category 2), 8th IEEE/ACM International Conference on Utility and Cloud Computing, St. Raphael Resort, Limassol, Cyprus, December 2015
- 2013 R&D 100 Award for "ADIOS: Adaptable I/O System for Big Data (Information Technologies)" (with Oak Ridge National Laboratory and Georgia Institute of Technology).
- Google App Engine Education Award for Cloud Computing for Scientific Applications (2013) – (1 of 11 recipients).
- IBM Faculty Award (2008 and 2010) – IBM awards approximately 150 faculty awards every year worldwide and across all disciplines.
- Tewkesbury Fellowship, University of Melbourne, Australia, (2006).
- CAREER Award, National Science Foundation of the United States, 2000 – 2004.
- Enrico Fermi Award, Argonne National Laboratory (1996).
- Distinguished Fellowships from the Texas Institute for Computational and Applied Mathematics, University of Texas at Austin in 1999, 2000 and 2001.
- Winner of the 4th IEEE International Scalable Computing Challenge (SCALE 2011, May 2011).
- Best paper award at leading IEEE/ACM conferences (Supercomputing '92, '01, Grid '09, CAC'13, SOSE'16, ESPM2@SC'16).
- Best published paper in 2006 by the Australian Computer Society (ACS).
- Top sited article in the Advanced Engineering Informatics Journal, Elsevier Publishers during the 2005 – 2010 period.
- Best Graduating Student Award, Bombay University, 1988.
- Highest Merit in Electronics & Telecommunications Scholarship, Bombay University, 1988.

Honors from Professional Societies:

- IEEE T&C Distinguished Leadership Award, 2021.
- Elevated to ACM Fellow by the Association of Computing Machinery for ***contributions to high-performance parallel and distributed computing and computational science*** in 2020.
- Chair, IEEE Computer Society Committee on Open Science and Reproducibility, February 2020 – 2021.
- Elected Editor-in-Chief, IEEE Transactions on Parallel and Distributed Systems (TPDS), Jan. 2018 – Dec. 2022.
- Elected to IEEE Computer Society's Golden Core, 2016.
- Founding Chair, IEEE Technical Community on High-Performance Computing (TCHPC), 2016 -- Present.
- IEEE Meritorious Service Certificate, 2016.
- Elevated to ACM Distinguished Scientist, Association of Computing Machinery, 2014.
- Elected AAAS Fellow for ***distinguished contributions to high-performance parallel and distributed computing and its application to the advancement of computational science and engineering*** in 2012
- Elected Co-Editor-in-Chief, ACM Transactions on Autonomous and Adaptive Systems (TAAS), April 2011 – September 2017.
- Chair of Steering Committee, IEEE Cloud Computing Magazine, IEEE Computer Society and Communications Society, 03/13.
- Elevated to IEEE Fellow by the IEEE Computer Society for ***contributions to parallel and distributed computing*** in 2011.
- IEEE Technical Committee on Parallel Processing (TCPP) Outstanding Service and Contributions Award, 2017.
- Outstanding Leadership and Contributions Awards form the IEEE Technical Committee on Scalable Computing (TCSC) in 2008, 2009, 2010, 2011, 2012, and 2013.
- Outstanding Service Awards from the IEEE Technical Committee on Parallel Processing (TCPP) in 2009, 2010, 2011, and 2019.

- Member of Executive Committee (2003 – Present) and Awards Chair (2003 – 2016), IEEE Computer Society Technical Committee on Parallel Processing (TCPP).
- Vice Chair, IEEE Computer Society Technical Committee on Scalable Computing (TCSC), 2007 – 2011
- Member of Advisory Board and Awards Chair, IEEE Computer Society Technical Committee on Scalable Computing (TCSC), 2007 – 2016.
- Member of the IEEE Distinguished Visitors Program (DVP) during 2004 – 2006

Awards and Recognition within Rutgers:

- Peter D. Cherasia Faculty Scholar Award, School of Engineering (2014 – 2017)
- Rutgers University Board of Trustees Award for Excellence in Research (2004 – 2005)
- Research Outreach and Recognition Award from the Department of Electrical and Computer Engineering (2011)
- Award for Excellence in PhD Mentorship from the Department of Electrical and Computer Engineering (2012)

Selected Activities and Achievements

National and International Visiting Appointments:

- Visiting Professor, Faculty of Business, Computing and Law, University of Derby, UK (2012 -- 2021)
- Visiting Professor, Institute of High-Performance Computing, Agency for Science, Technology and Research (A*STAR), Singapore (2012)
- Visiting Researcher, e-Science Institute, University of Edinburgh, UK (2008 – 2010)
- Visiting Faculty, Laboratoire d'InfoRmatique en Images et Systemes d'information (LIRIS), Lyon France, 2008 – 2009 (remote).
- Visiting scholarships from the Max Planck Institute, Potsdam, Germany (1996, 1997, 1999)
- Visiting Associate, California Institute of Technology, USA (2000 – 2001)
- Visiting Professor, University of Chicago, USA (1998)

Miscellaneous Activities/Achievements:

- Member, Computing & Information Science Research Foundation (CIS RF) External Review Board External Review, Sandia National Laboratories, 2024 – Present.
- HPCwire 2024 Editors' Choice Award for Best Use of High-Performance Data Analytics & Artificial Intelligence for the National Data Platform (NDP) project.
- Member, Computing Community Consortium (CCC) Council, Computing Research Association (CRA), 2024 – Present.
- Member, BioData Catalyst External Expert Panel (BDC EEP), National Heart, Lung, and Blood Institute (NHLBI), National Institutes of Health (NIH), 2024 – Present.
- Member, National Academies of Sciences, Engineering, and Medicine (NASEM) Committee on Transdisciplinary Biotechnology, 2024 – Present.
- Member, Scientific Advisory Board Member, Institute for Research and Innovation, ARUP Laboratories, Salt Lake City, UT, 2024 – Present.
- Member, Internal Advisory Board, Huntsman Cancer Institute (HCI), University of Utah, Salt Lake City, UT, 2021 – Present.
- Member, Advisory board of the Norwegian Artificial Intelligence Cloud (NAIC), 2023 – Present.
- Member, 2023 IEEE PSPB Strategic Planning Committee (SPC), 2023 – Present.
- Member, Department of Energy Exascale Computing Project (ECP) Industry and Agency Council (IAC), 2022 – Present
- Member, Reproducibility Badging Standing Committee, National Information Standards Organization (NISO), 2022 – Present.
- Member, ECP Industry and Agency Council (IAC), 2022-2023.
- Member, Taxonomy, Definitions, and Recognition Badging Scheme Working Group, National Information Standards Organization (NISO), 2021.
- Deployed Caliburn, the largest Supercomputer in NJ, at Rutgers, ranked #2 among Big Ten Universities and #8 among US Academic Institutions (June 2016 Top500 List), June 2016.
- Lead PI for Cyberinfrastructure, NSF Ocean Observatories Initiative, 2014 – 2018.
- Co-Chair of the Discovery Sciences Spoke, NSF Northeast Big Data Hub, 2015 – 2017.
- Member, International Scientific Committee, Grid'5000, France, 2013 – 2020.
- Member, Rutgers Strategic Planning Committee (2013 – Present); Co-Lead, Advanced Research Cyberinfrastructure Strategic Planning Committee (2012 – Present); Co-Chair, Big Data Working Group, Rutgers Biomedical and Health Science Strategic Planning Committee (2014 – 2020).

- Member of Internal Advisory Board, Rutgers Cancer Institute of New Jersey (RCINJ), 2013 – 2020.
- Co-Founder, New Jersey Big Data Alliance, 2012 – 2020.
- Member of Resource Advisory Committee, NIH-NCRR National Biomedical Computation Resource (NBCR), 2011-2016.
- Organized Indo-US Workshop on Virtual Institutes for Computational and Data-enabled Science and Engineering, Bangaluru, India, December 2011, 2012, 2014.
- Expert panelist at the Congressional briefing on The Cloud of Things: The Next Phase of Computing at the Congressional Research & Development Caucus co-chaired by Judy Biggert (R-Ill.) and Rush Holt (D-N.J.), September 2011.
- Invited Participant, DOE/DOD Workshop on Emerging High-Performance Architectures and Applications, Washington DC, November 2007.
- Invited speaker, Science on Saturdays, Princeton University PPPL Lecture Series, Princeton, NJ, February 2004.
- Invited speaker, Workshop on Emerging and Future Computing Paradigms and their Impact on the Research, Training and Design Environments of the Aerospace Workforce, NASA Langley Research Center, Hampton, VA, March 2003.
- Established (in collaboration with W. Chaovalitwongse et al.) the Rutgers Center for Information Assurance, an NSA Center for Academic Excellence.
- Established NSF funded *National Research Center for Autonomic Computing (CAC)* in collaboration with The University of Florida, the University of Arizona and Rutgers (the State University of New Jersey).
- Invited Participant, DOE/DOD Workshop on Emerging High-Performance Architectures and Applications, Washington DC, November 2007.
- Co-Chair, System Software Working Group, NSF Workshop on Dynamic Data Driven Application Systems (DDDAS), Arlington, VA, January 2006.
- Selected as 1999 Summer Faculty Researcher at the AFRL/IF, Rome, NY (declined).
- Phi Beta Delta Honor Society, Syracuse University, 1994.
- Graduate Scholarship, Syracuse University, 1990-94.

Research Grants

Federal Grants

1. "CC* Storage-Region: Introducing Archiving and Disaster Recovery into Utah's Regional Data Lifecycle Cyberinfrastructure," NSF, $1,089,887, 12/24 – 11/26.
2. "EAGER: Exploring Intelligent Services for Managing Uncertainty under Constraints across the Computing Continuum: A Case Study using the SAGE Platform," NSF, $300,000, 10/22 – 09/25
3. "A Flexible Encoding Framework and Autonomic Runtime System for Progressive Streaming of Scientific Data," NASA, $200,000, 10/22 – 09/25.
4. "Open Climate Workbench to Support Efficient and Innovative Analysis of NASA's High-Resolution Observations and Modeling Datasets," NASA, $200,000, 09/21 – 11/24.
5. "Exploration of GPUDirect, direct accelerator memory access for performance improvement of resilient Kokkos checkpoint performance," PI, Sandia National Laboratory, $60,000, 10/21 – 09/22.
6. "RAPIDS2: A SciDAC Institute for Computer Science, Data, and Artificial Intelligence." Rutgers PI (with R. Ross, ANL Project PI), DOE, $478,405, 09/20 – 08/25.
7. "RAPIDS: A SciDAC Institute for Resource and Application Productivity through computation, Information, and Data Sciences." Rutgers PI (with R. Ross, ANL Project PI), DOE, $297,000, 09/17 – 08/20.
8. "EAGER: Online Processing of Data in Large Facilities using National Advanced Cyberinfrastructure (ACI)." PI (with I. Rodero Co-PI), NSF, $292,445, 09/17 – 08/19.
9. "SPX: Collaborative Research: Cross-layer Application-Aware Resilience at Extreme Scale (CAARES)." Rutgers PI (G. Bosilca, UTK, PI), NSF SPX, $267,247, 08/17 – 07/20.
10. "Collaborative Research: Enhancing the Parasol Experimental Testbed for Sustainable Computing." Co-PI (with T. Nguyen, Rutgers, PI), NSF CRI, $691,713, 07/17 – 06/20.
11. REU Supplement, "Fractured Subsurface Characterization using High Performance Computing and Guided by Big Data." PI, NSF BIGDATA, $8,000, 05/17 – 08/18.
12. "NSF Large Facilities Cyberinfrastructure Workshop," NSF, PI, $65,118, 05/17 – 04/18.
13. "Student Support: 17th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2017)," NSF, PI, $20,000, 05/17 – 04/19.
14. "Resilience DataSpaces." DoE Sandia National Laboratory, PI, $50,000, 01/17 – 09/17.
15. "The ADIOS framework for Scientific Data on Exascale Systems," DOE, Rutgers PI (S. Klasky, ORNL, PI), $581,057, 12/01/16 – 11/30/21.

16. “CODAR: Co-Design Center for Online Data Analysis and Reduction at the Exascale,” Rutgers PI (I. Foster, ANL, PI), DOE, $300,000, 12/01/16 – 11/30/19.
17. “High-Fidelity Whole Device Model of Magnetically Confined Fusion Plasma,” DOE, Rutgers PI (A. Bhattacharjee, PPPL, PI), $826,701, 11/01/16 – 10/31/23.
18. “CIF21 DIBBs: EI: Virtual Data Collaboratory: A Regional Cyberinfrastructure for Collaborative Data Intensive Science,” NSF, PI, $4,000,000, 09/16 – 08/20.
19. “SIRIUS: Science-driven Data Management for Multi-Tiered Storage.” DOE, Rutgers PI (S. Klasky, ORNL, PI), $472,462, 10/15 – 09/18.
20. “BD Hubs: Collaborative Proposal: NORTHEAST: The Northeast Big Data Innovation Hub.” NSF, (K. McKeown, Columbia, PI), $1,250,000, 10/15 – 09/18.
21. “Ocean Observatories Initiative.” Lead PI for O&M, PI for Cyberinfrastructure, Consortium for Ocean Leadership/NSF, $15,862,962, 01/15 – 12/17.
22. Innovation Park@Rutgers. Co-PI (M. Brennan-Tonetta, Rutgers, PI), Science & Research Park Development Grants Program, US Department of Commerce, $498,577, 2014-2016.
23. “Fractured Subsurface Characterization using High Performance Computing and Guided by Big Data.” PI (with M. Wheeler, UT Austin, Lead PI), NSF BIGDATA, $314,571, 09/15 – 09/18.
24. “Ocean Observatories Initiative.” PI for Cyberinfrastructure, Consortium for Ocean Leadership/NSF, Transition: $3,474,752, 08/14 – 06/15.
25. “EAGER: Exploring Federations of Campus and National Cyberinfrastructure as Scalable Platforms for Science: A Case Study using Open Science Grid.” PI (J. Diaz-Montez, Co-PI), NSF EAGER, $285,790, 09/14 – 8/16.
26. “Development and Dissemination of MuscleMiner: An Imaging Informatics Tool for Muscle.” Co-PI (with L. Yang, UFL, PI), NIH, $100,000, 09/14 – 08/18.
27. “Comparative Analytics for Power and Performance.” PI, DOE (Subcontract from SNL), $50,000, 08/14 – 09/14.
28. “The 2nd Workshop on Sustainable Software: Best Practices and Experiences (WSSSPE 2), Co-PI (with G. Allen, UIUC, PI), NSF, $24,758, 04/14 – 03/15.
29. “SciDAC-3 EPSI Project.” PI, DOE (Subcontract from PPPL), $60,000, 05/14 – 7/16.
30. “REU Supplement -- Scalable Data Coupling Abstraction for Data-Intensive Simulation Workflows.” PI (with I. Rodero, Rutgers, co-PI), NSF CDSE, $12,000, 01/14 – 04/16.
31. “Advanced Compute and Data Cloud.” PI, NJ ELF, $10,000,000, 05/13 – 05/16.
32. “Using Big Data to Support Supply Chain Analytics and Optimization.” Co-PI, NSF STTR Phase I, $112,500, 2014.
33. “Runtime System for I/O staging in support of Voluminous in-situ Processing of extreme scale data (RSVP).” Co-PI (with S. Klasky, ORNL, PI), DOE (Subcontract from ORNL), $300,000, 10/13 – 09/16.
34. “An Experimental Platform for Investigating Energy-Performance Tradeoffs for Systems with Deep Memory Hierarchies.” PI (with I. Rodero and D. Pompili, Rutgers, co-PI), NSF CRI, $300,000, 10/13 – 09/16.
35. “Scalable Data Management, Analysis, and Visualization (SDAV) Institute.” Supplemental Funding, DOE (Subcontract from ORNL), $50,000, 07/13 – 07/14.
36. “Exploring Cloud Paradigm and Practices for Science and Engineering.” PI (with I. Rodero and J. Diaz, Rutgers, co-PI), NSF EAGER, $299,984, 06/13 – 05/15.
37. “Scalable Data Coupling Abstraction for Data-Intensive Simulation Workflows.” PI (with I. Rodero, Rutgers, co-PI), NSF CDSE, $547,283, 05/13 – 04/16.
38. “Error Estimation, Data Assimilation and Uncertainty Quantification for Multiphysics and Multiscale Processes in Geological Media.” Co-PI (with M. Wheeler, UT Austin, PI), NSF CDSE, $150,000, 09/12 – 08/15.
39. “Enhancing the Capacity for Information Assurance Education through Interdisciplinary Collaborations.” Co-PI, Dr. Hui Xiong PI, NSF SFS, $292,670.00, 09/12 – 08/15.
40. “Software Infrastructure for Accelerating Grand Challenge Science with Future Computing Platforms.” CoPI, (with V. Prasanna, USC, PI) NSF SI2 S2I2 Conceptualization, $50,000, 09/12 – 08/13.
41. “Center for Remote Data Analysis and Visualization (RDAV).” National Science Foundation (Subcontract by UTK), $250,000, 04/12 – 09/13.
42. “Partnership for Edge Physics Simulation (EPSI).” Co-PI (with C.S. Chang, PPPL, PI), DOE SciDAC FSP, $325,000, 05/12 – 05/17.
43. “US/India Workshop on Virtual Institutes for Computational and Data-Enabled Science and Engineering.” PI, National Science Foundation, $74,851.00, 03/12 – 03/13.
44. “Scalable Data Management, Analysis, and Visualization (SDAV) Institute.” Rutgers PI (A. Shoshani, Lawrence Berkeley National Laboratory, Project PI), Department of Energy (DoE), $625,000, 02/12 – 02/17.
45. “Combustion Exascale Co-Design Center.” Rutgers PI (J. Chen, Sandia National Laboratory, Project PI), Department of Energy (DoE), $300,000, 12/11 – 11/16.
46. “Trusted Content and Context Aware Management and Processing of Managed Information Objects.” PI, USAF, AFMC, Air Force Research Laboratory, $200,000, 09/11 – 08/13.

47. “Indo-US Bilateral Workshops/ Conferences/ Symposia.” US PI (with R. Govindarajan, India PI), Indo-US Science and Technology Forum, $10,000, 10/11 – 09/12.
48. “A Secure, Robust and Flexible Network Computing Platform.” PI, USAF, AFMC, Air Force Research Laboratory, $70,000, 07/10 – 07/11.
49. “Center for Plasma Edge Simulation.” Co-PI (with C.S. Chang, PPPL, PI), DOE SciDAC FSP (Renewal), $150,000, 01/11 – 12/12.
50. “An Instrumented Data Center Infrastructure for Research on Cross-Layer Autonomics.” PI, NSF CRI, $185,500, 07/09 – 06/12.
51. “Center for Autonomic Computing.” Co-PI (J. Fortes, Univ. of Florida, PI), NSF I/UCRC Supplement, $50,000, 07/09 – 12/10.
52. “High Performance Computing Research Program.” PI, DoE/UT-Battelle, $127,574, 03/09 – 09/09.
53. “REU Supplement: Center for Autonomic Computing.” Principal Investigator, NSF I/UCRC, $16,000, 04/09.
54. “Computational Models for Evaluating Long Term CO2 Storage in Saline Aquifers.” Co-PI (with M. Wheeler, University of Texas at Austin, PI), NSF CDI, $318,000, 09/01/08 – 08/31/12.
55. “Actively Managing Data Movement with Models – Taming High Performance Data Communications in Exascale Machines.” Co-PI (with K. Schwan, Georgia Tech, PI), NSF HECURA, $165,000, 08/08 – 07/11.
56. “Center for Autonomic Computing.” Co-PI (J. Fortes, Univ. of Florida, PI), NSF I/UCRC Supplement, $50,000, 08/08 – 12/09.
57. “Development of Next Generation Collaborative Underwater Robotic Instrument.” Co-PI (with D. Metaxes, Rutgers University, PI), NSF MRI, $1,997,164, 07/08 – 06/11.
58. “Center for Plasma Edge Simulation.” Co-PI (with C.S. Chang, NYU, PI), DOE SciDAC FSP (Renewal), $300,000, 01/09 – 12/10.
59. “REU Supplement: Center for Autonomic Computing.” Principal Investigator, NSF I/UCRC, $6,000, 05/08.
60. “Center for Autonomic Computing.” Co-PI (J. Fortes, Univ. of Florida, PI), NSF I/UCRC, $256,580, 01/08 – 01/13.
61. “Planning of a Center for Autonomic Computing.” Co-PI (J. Fortes, Univ. of Florida, PI), NSF I/UCRC, $10,000, 09/07 – 08/08.
62. “Sensor System Technologies for Dynamic Data-Driven Scientific Applications.” PI, NSF CSR, $85,000, 07/07 – 06/08.
63. “Center for Plasma Edge Simulation.” Co-PI (with C.S. Chang, NYU, PI), DOE SciDAC FSP, $463,635, (Part of a collaborative research proposal with a total funding of $5,500,000), 01/06 – 12/08.
64. “Support for International Conference on Autonomic Computing (ICAC 2005).” Co-PI (S. Hariri, PI), NSF, $10,000, 09/04 – 08/05.
65. “Data Driven Simulation of the Subsurface: Optimization and Uncertainty Estimation.” Principal Investigator, NSF ITR, $248,000, (Part of a collaborative research proposal with a total funding of $1,100,000) 09/04 – 08/07.
66. “Adaptive Fusion of Stochastic Information for Imaging Fractured Vadose Zones.” Principal Investigator, NSF SEIII, $278,146, (Part of a collaborative research proposal with a total funding of $1,548,177) 09/04 – 08/07.
67. “Development of Systems for Distributed Scientific Data Management Using Automated Workflows Applied to Plasma Physics Simulations.” Principal Investigator, DoE Princeton Plasma Physics Laboratory, $121,958, 09/04 – 05/07.
68. “An Autonomic Component Framework for Grid Applications.” Principal Investigator, NSF NGS, $500,000, 02/04 – 01/08.
69. “ORBIT: Open-Access Research Testbed for Next-Generation Wireless Networks.” Co-PI (with D. Raychaudhuri, PI) NSF ANI-NRT, $5,453,115, 09/03 – 08/06.
70. “Support for International Conference on Autonomic Computing (ICAC 2004) and International Workshop on Challenges of Large Applications in Distributed Environments (CLADE 2004).” Co-PI (S. Hariri, PI), NSF, $10,000, 09/03 – 08/04.
71. “Autonomic Computing Workshop (The Fifth Annual International Workshop on Active Middleware Services - AMS 2003).” Co-PI (with S. Hariri, PI) NSF, $10,000, 04/03.
72. “Computational Support for Adaptive and Interactive ASCI Simulations.” Principal Investigator, DOE ASCI/ASAP (Caltech Center), $580,000, 12/02 – 09/07.
73. “REU Supplement: ITR/AP&IM Data Intense Challenge: The Instrumented Oilfield of the Future.” Principal Investigator, NSF ITR, $12,000, 05/02.
74. “A Data Intense Challenge: The Instrumented Oilfield of the Future”, Principal Investigator, NSF ITR, $337,500, (Part of a collaborative research proposal with a total funding of $2,150,000) 10/01 – 09/04.
75. “PRAGMA: A Proactive & Reactive Grid Application Management Infrastructure for the Next Generation Simulations.” Principal Investigator, NSF NGS, $300,000, 09/01 – 08/04.
76. “Associative Mining of Large Datasets.” Co-PI (with D. Silver, Rutgers University, PI), NSF ITR, $474,000, 08/00 – 07/03.
77. “CAREER: Development of a Unified Data-Management and Interaction Substrate: An Integrated Research and Education Program for Enabling Distributed Computational Collaboratories.” Principal Investigator, NSF CAREER,

$379,404, 03/00 – 02/04.

78. "An Astrophysics Simulation Collaboratory: Enabling Large Scale Simulations in Relativistic Astrophysics." Rutgers PI, (with Wai-Mo Suen, Washington University, PI), NSF KDI, $2,200,000, 09/99 - 08/02.
79. "Multimodal Collaboration over Wired and Wireless Networks." Co-Investigator, (with J. Flanagan, PI), NSF, $2,723,633, 10/98 - 09/02.
80. "Distributed Adaptive Computational Engine for AMR ASCI Applications." Principal Investigator, DOE ASCI/ASAP (Caltech Center), $357,465, 04/99-09/02.
81. "Distributed Dynamic Data-Management for Parallel Adaptive Mesh-Refinement." Principal Investigator, NASA/Argonne National Laboratory, $24,999, 02/98 - 05/99.

Industrial/Foundation Grants

1. "DataSpaces Over DAOS." Intel, $50,000, 02/17.
2. "Research Award, Rutgers Discovery Informatics Institute." Ericsson, $50,000, 08/16.
3. "Research Award, Rutgers Discovery Informatics Institute." Ericsson, $45,000, 09/15.
4. "Research Award, Rutgers Discovery Informatics Institute." Anonymous, $117,288, 11/14.
5. "Charitable Contribution from the Gordon and Betty Moore Foundation for Working towards Sustainable Software for Science: Practice and Experiences (WSSSPE)", $50,000, 02/14.
6. "IBM Open Collaborative Faculty Award." $75,000, 06/13.
7. "IBM Fellowship." IBM Corporation, $15,000, 05/13.
8. "Membership, Rutgers Discovery Informatics Institute." JPMC, $50,000, 04/13.
9. "Google App Engine Education Award for Cloud Computing for Scientific Applications." 03/13.
10. "BlueGene/P Donation (2 Racks)." IBM, valued at $3,300,000, 03/12.
11. "FusionIO Card Donation (2)." ORNL, valued at $28,000, 03/12.
12. "Memberships, Center for Autonomic Computing." Avirtek, Cognizant, FifthGen, Xerox, $140,000, 09/12.
13. "IBM Fellowship." IBM Corporation, $30,000, 09/11.
14. "IBM Faculty Award." IBM Corporation, $23,000, 10/10.
15. "Matching Grant." Xerox, $52,500, 01/08, 01/09, 01/10.
16. "IBM Faculty Award." IBM Corporation, $38,000, 07/08.
17. "Memberships, Center for Autonomic Computing." NEC, Microsoft, Xerox, $280,000, 01/08, 01/09, 01/10, 09/11.
18. "Center for High Performance Data Analysis in Cancer Research." Co- Investigator (with D. Foran PI), IBM SUR Grant, $300,000, 09/07.
19. "Reactive Services on Active Networks." Principal Investigator, Telecordia Technologies, $10,000, 01/99 - 08/99.
20. "Protocol Software and QoS Control for Mobile Networks." Principal Investigator, NEC USA, $12,000, 01/99 - 08/99.
21. Together with Dr. Ierapetritou lead the Unisys initiative to establish one of the three Nationwide Excellence Centers equipped with initial computing network worth $278,000.

Internal Grants

1. "Comprehensive Model-driven Provisioning of Services in Composite Systems." R. Ranjan (CI) and M. Parashar (PI), University of New South Wales Gold Star Grant, $30000 AUD, 2010-2011.
2. "Inter-glider Coordination for Underwater Image and Video Acquisition." (with D. Pompili, Rutgers University, PI), CCC Seed Funding, Rutgers University, $50,000, 02/08 – 01/09.
3. "Center of Excellence for Cyber-Security and Information Assurance." (with W. Chaovalitwongse, Rutgers University, PI), Academic Excellence Fund (AEF), Rutgers University, $75,000, 02/08 – 01/09.
4. "The Pervasive Dynamic Cyber-Physical Ecosystem." Co-Investigator (with D. Metaxas, Rutgers University, PI), Academic Excellence Fund (AEF), Rutgers University, $140,000, 07/07 – 06/08.
5. "Fault-Tolerant Wireless Networks for Patient Care in the Intensive Care Unit." Co-Investigator (with M. Bushnell, Rutgers University, PI), Academic Excellence Fund (AEF), Rutgers University, $50,000, 02/06 – 01/07.
6. "Computational Materials Design: Unique Solution to the Problem of Describing Long-Time Behavior of Materials with Atomistic Resolution." Co-Investigator (with S. Garofalini, Rutgers University, PI), Academic Excellence Fund (AEF), Rutgers University, $50,000, 02/06 – 01/07.
7. "A Decentralized Collaboratory for Investigative Research in Cancer Biology and Drug Discovery." PI, Academic Excellence Fund (AEF), Rutgers University, $50,000, 02/05 – 01/06.
8. "Cluster for Research and Instruction in Parallel/Distributed Computing." PI, Rutgers University Equipment Leasing Fund, $60,812.40, 12/01.
9. "Laboratory of Hydroinformatics." Co-Investigator (with Q. Guo, Rutgers University, PI), Rutgers University SROA, $150,000, 07/00 – 06/01.
10. "Scientific Visualization and Reduced Modeling Framework for High Performance Simulations." CoInvestigator, (with N. Zabusky, PI), Rutgers University COE-SROA, $30,000, 07/00 – 06/01.

11. "Scientific Visualization and Modeling." Co-Investigator, (with N. Zabusky, PI), Rutgers University COE- SROA, $60,000, 07/99 - 06/00.
12. "Communication Mechanisms for Real-Time Interactions and Collaboration." Principal Investigator, CAIP Center, $20,000, 05/99 - 06/00.
13. "Communication Mechanisms for Real-Time Interactions and Collaboration." Principal Investigator, CAIP Center, $20,000, 05/98 - 06/99.
14. "Scientific Visualization and Modeling." Co-Investigator, (with N. Zabusky, PI), Rutgers University COESROA, $100,000, 07/98 - 06/99.

Educational Grants

1. Rational Software Corporation, "Rational Suite Development Studio" OO CASE software to support Software Engineering courses (10 licenses for Unix), September 2002.
2. Rational Software Corporation, "Rational Suite Development Studio" OO CASE software to support Software Engineering courses (10 licenses for Windows 95/98/NT and Solaris), October 1999.

Professional Experience

The University of Utah (Jan. '21 – Present)

Scientific Computing and Imaging Institute
Position: Director & Chair in Computational Science and Engineering

School of Computing
Position: Presidential Professor

White House Office of Science and Technology Policy (June '23 – Jan. '24)

Position: Consultant

- Coordinated the multi-agency implementation and deployment of the *National Artificial Intelligence Research Resource* (NAIRR) Pilot.

The US National Science Foundation (Feb. '18 – May'23)

Office of Advanced Cyberinfrastructure
Position: Office Director

- Providing strategic and tactical leadership to realize the NSF Office of Advanced Cyberinfrastructure (OAC)'s overarching mission to conceptualize, design and implement the advanced research cyberinfrastructure that is critical to the advancement of all areas of science and engineering research and education. Oversee OAC's role in funding and coordinating explorations, development and provisioning of advanced cyberinfrastructure resources, facilities, services, and expertise. OAC's investments span advanced computing, networking and cybersecurity, software, and data-focused cyberinfrastructure, as well as cross-cutting research and education programs Responsible for an approximately $225 Million budget.
- Developing NSF's strategic vision for a National Cyberinfrastructure Ecosystem for 21st Century Science and Engineering the responds to rapidly changing application and technology landscapes, as well as blueprints for NSF's key cyberinfrastructure investments over the next decade.
- Leading (or co-leading) key NSF initiatives including *Harnessing the Data Revolution (HDR)* and *Public Access*; member of the *Quantum Leap* and *Convergence Accelerator* Steering Groups.
- Co-chair, in coordination with the White House Office of Science and Technology Policy (OSTP), of the *National Artificial Intelligence Research Resource* (NAIRR) Task Force; Co-chair of the National Science and Technology Council (NSTC) Subcommittee on the *Future Advanced Computing Ecosystem (FACE)* and NSF representative for the US National Strategic Computing activities; serving as served as co-chair of the Fast-Track Action Committee (FTAC) that developed the report titled "*National Strategic Computing Update: Pioneering the Future of Computing*"; part of the leadership of the COVID 19 High-Performance Computing Consortium, a unique public-private partnership that brings together government, industry, and academic leaders to provide computing resources in support of COVID-19 research; Co-led led the development of the Blueprint for a National Strategic Computing Reserve (NSCR).

White House Office of Science and Technology Policy (May '20 – Dec. '20)

Position: Assistant Director for Strategic Computing

- Led all-of-government strategic planning for the Nation's Future Advanced Computing Ecosystem, and the development of the report "*Pioneering the Future Advanced Computing Ecosystem: A Strategic Plan*."
- Led the creation of and co-chaired the NSTC Subcommittee on Future Advanced Computing Ecosystem (FACE).
- Led the formulation of the National Strategic Computing Reserve (NSCR) concept and its development and the resulting request for information.
- Served as member of the Executive Board and Executive Committee of the COVID 19 HPC Consortium, a unique public-private partnership that brings together government, industry, and academic leaders to provide computing resources in support of COVID-19 research.

Rutgers, The State University of New Jersey (Jul. '97 – Dec. '20)

School of Arts & Sciences, Department of & Computer Science (Jul. '14 – Dec. '20)
Position: Distinguished Professor (Jul. '15 – Present)
Professor I (Jul. '14 – Jun. '15)

1. Courses Created/Updated:
   16:198:617 Parallel Programming and Extreme-Scale Computing (grad.)
   16:198:545 Distributed Systems (grad.)

Rutgers Discovery Informatics Institute (RDI^2) (Mar. '12 - Dec. '20)
Position: Director

- Founded the Rutgers Discovery Informatics Institute (RDI^2), a university-wide comprehensive and internationally competitive institute focused on Computational and Data-Enabled Science and Engineering sciences that provides academic and industry researchers with the multidisciplinary expertise and resources necessary to address the grand challenges in science, engineering and society. RDI^2 aims to leverage a fundamental integration of research, education, and infrastructure to bridge more traditional research boundaries and catalyze socio-technical changes in research across all fields of science and engineering, stimulating new thinking and new practices essential to address grand challenges in science, engineering, and industry.
- Within New Jersey, I was instrumental in the founding of the New Jersey Big Data Alliance, which brings together academic institutions, government organizations and industry across the state to address Big Data challenges and seize Big Data opportunities. I also led legislations aimed at statewide strategic planning in Big Data and Advanced Cyberinfrastructure, which were passed by the Senate and Assembly and signed by the Governor in August 2014.
- Obtained funding, and led the design and deployment of Caliburn, the largest Supercomputer in New Jersey, ranked #2 among Big Ten Universities and #8 among US Academic Institutions (June 2016 Top500 List).

Rutgers Office of Advanced Research Computing (Jan. '15 – Dec. '16)
Interim Associate Vice President for Research Computing
Co-Chair, Faculty Advisory Committee

- Established the Rutgers Office of Advanced Research Computing (OARC) to provide strategic leadership in advancing Rutgers University's research and scholarly achievements through next generation computing, data science, networking, and creative learning in partnership with the Office of Research and Economic Development, the Office of Information Technology, and the academic and research communities across all campuses. Co-led university-wide strategic planning for advanced cyberinfrastructure at Rutgers.

Cloud and Autonomic Computing Center (CAC) (Jan. '08 – Jun. '17)
(Established as an NSF IUCRC with University of Florida & University of Arizona)
Position: Co-Director

- Established a *National Research Cloud and Autonomic Computing (CAC) Center* (formerly Center for Autonomic Computing) in collaboration with The University of Florida, the University of Arizona and Rutgers (the State University of New Jersey). This center was funded by the Industry/University Cooperative Research Centers program of the National Science Foundation between 2008 and 2015. CAC members from industry and government, and university matching funds. Goals of the CAC center include:
  - To function as a multidisciplinary center of excellence in autonomic computing research fostering long term collaborative partnerships amongst industry, academe, and government;
  - To discover, share and leverage synergies of concepts, technologies and resources needed by industry relevant autonomic computing research in collaboration with CAC partners;

- To educate a diverse body of students on the interdisciplinary field of autonomic computing;
- To facilitate the creation of knowledge and technology for autonomic computing, and to accelerate their transfer into industry and commercial products.

The Applied Software Systems Laboratory (TASSL) **(Jan. '98 - Present)**
Department of Computer Science / Department Electrical and Computer Engineering
Position: Director

- Established the Applied Software Systems Research and Education Laboratory with the aim of designing, developing and deploying advanced software systems for problem solving on very large parallel and distributed systems. TASSL fosters collaborations with scientists and engineers from applied disciplines and provided students with the opportunity to interact with the researchers from varied disciplines and to collaborate with then to solve real-world problems. Research activities are focused in the broad area of parallel and distributed computing and include pervasive computational systems, autonomic computing, Grid peer-to-peer computing, scientific computing and software engineering.

Rutgers Center for Information Assurance (RCIA) **(Sept. '08 – Jun.'17)**
Position: Associate Director

- The Rutgers Center for Information Assurance (RCIA) is chartered to advance education, foster applied research, and serve as a liaison between Rutgers University and industry and government in the Information Assurance practice and related disciplines. RCIA aims to establish a national reputation and leadership role in the areas of information assurance, information systems, computer security, systems reliability, datamining and national security.

School of Engineering, Department of Electrical & Computer Engineering **(Aug. '97 – Jun.'14)**
Position: Professor I (Jul. '05 – Jun'14)
Member of Graduate Faculty, Department of Computer Science (Apr. '09 – Jun.'14)
Co-Director, Center for Applied Information Processing (CAIP) (Nov. '06 – Jan.'08)
Associate Professor (Jul. '02 – Jun. '05)
Assistant Professor (Aug. '97 – Jun. '02)

- New Courses Created:
  16:332:572 Parallel and Distributed Computing (grad.)
  16:332:566 Introduction to Parallel and Distributed Programming (grad.)
  14:332:451 Introduction to Parallel and Distributed Programming (undergrad.)
- Courses Revised:
  14:332:452 Introduction to Software Engineering
  16:332:567 Software Engineering I 16:332:568 Software
  Engineering II
- Advanced Topics/Seminar Courses:
  16:332:579 Advanced Topics in Parallel and Distributed Computing: Cloud Computing (grad.)
  16:332:579 Advanced Topics in Parallel and Distributed Computing: Data-Intensive Computing (grad.)
  16:332:579 Advanced Topics in Parallel and Distributed Computing: Multicore Systems (grad.)
  16:332:579 Advanced Topics in Parallel and Distributed Computing: Autonomic Computing (grad.)
  16:332:579 Advanced Topics in Parallel and Distributed Computing: Grid & Pervasive Computing (grad.)
  16:332:579 Advanced Topics in Parallel and Distributed Computing: Peer-to-Peer Computing (grad.)
  16:332:579 Advanced Topics in Parallel and Distributed Computing: Network Computing (grad.)
  16:332:678 Parallel & Distributed Computing Seminar (Cross-listed as 198:671 – Computer Science) (grad.)

The US National Science Foundation (Aug. '09 – Aug. '11)

Office of Cyberinfrastructure
Position: Program Director

- Focused on the *"Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF21)"* vision and specifically on issues of computational science research and education, software sustainability, cloud and data intensive computing and multidisciplinary research programs. Managed an approximately $150 Million research portfolio.
- Programs Established
  - Software Infrastructure for Sustained Innovation (SI^2)
  - NSF Fellowships for Transformative Computational Science using CyberInfrastructure (CI TraCS)
  - Computing in the Cloud (CiC)
- Programs Managed

- Cyber-Enabled Discovery and Innovation (CDI)
- Faculty Early Career Development Program (CAREER)
- Software Development for Cyberinfrastructure (SDCI)
- Strategic Technologies for Cyberinfrastructure (STCI)
- Integrative Graduate Education and Research Traineeship (IGERT)
- Partnerships for International Research and Education (PIRE)

University of Texas at Austin (Sept. '94 – Sept.'06)

Texas Institute for Computational & Applied Mathematics, Center for Subsurface Modeling
(Sept. '96 – Sept.'06)

Position: Research Associate

- Designed, developed and deployed the "next generation" simulation environments that integrate very largescale distributed environments, visualization, and experimentation.
- Formulated a common computational substrate for parallel dynamically adaptive applications spanning multiple disciplines (numerical relativity, reservoir simulation, astrophysics, geophysics, multi-resolution databases).
- Integrated of visualization and interaction capabilities with computational data-structures to support interactive visualization and computation steering.

Department of Computer Sciences **(Sept. '96 – Aug. '97)**
Position: Adjunct Assistant Professor

- Taught object-oriented programming and C++ to graduates and undergraduates.

Department of Computer Sciences **(Oct. `95 – Aug. `96)**
Position: Research Associate

- Designed and developed a problem-solving environment for parallel adaptive computations in numerical relativity and reservoir simulation.
- Developed of visualization and I/O support for large scale distributed adaptive applications.
- Designed a visual programming system for numerical relativity applications.

Department of Computer Sciences **(Sept. `94 – Sept. `95)**
Position: Post-Doctoral Fellow

- Designed and developed a data-management infrastructure for parallel adaptive applications incorporating:
  - Object-oriented programming abstractions for parallel adaptive computations.
  - Distributed dynamic data-structures and run-time support for parallel adaptive mesh-refinement.
- Designed a computational toolkit for numerical relativity applications.

California Institute of Technology (Sept. '00 – April 01)

Department of Computer Science
Position: Visiting Associate

Adaptive, distributed and dynamic data-management and runtime systems for very large-scale (1000+ processors) simulations.

University of Chicago (June '98 – July '98)

Department of Astronomy and Astrophysics and DoE ASCI/ASAP Flash Center
Position: Visiting Professor

Computational support for parallel and distributed AMR simulations.

Argonne National Laboratory (Sept. '96 – Aug. '98)

Division of Mathematics and Computer Science
Position: Enrico Fermi Fellow (96 – 97)/Research Associate

- Designed problem-solving environments to support very large-scale dynamically adaptive applications.

Syracuse University (Aug. `90 – Aug. `94)

Northeast Parallel Architectures Center **(Aug. `91 – Aug. `94)**
Position: Research Assistant

- Designed and developed a compile-time performance estimator for HPF/Fortran 90D.
- Developed a functional interpreter for HPF/Fortran 90D.
- Designed and developed an interpretive application development environment for HPF/Fortran 90D.
- Part of HPF/Fortran 90D source-to-source compiler development team.
- Developed parallel/distributed applications for the HPF benchmark suite.

Department of Electrical and Computer Engineering **(Aug. `90 - Apr. `91)**
Position: Research Assistant

- Designed and implemented an Expert System for information retrieval and verification of data consistency for Niagara Mohawk Power Corporation.
- Assisted in the development and instruction of courses including VLSI Design and Distributed Computing.

Booz Allen & Hamilton, Mountain View, CA (May. `93 – June. `93)

Position: Special Consultant

- Technical consultant in the area of distributed system design and modeling, and distributed application development tools.

Agway Feed Corporation, Syracuse, NY (Apr. `91 - Aug. `91)

Position: Intern

- Designed and developed an Expert System to automate product pricing.
- Developed a menu driven user interface for the system.

Mentor Graphics, Silicon Design Division, Warren, NJ (May `90 - Aug. `90)

Position: Intern

- Designed, implemented and automated regression test suite for the Lsim 5.0 VLSI simulator.
- Tested portability GDT/Lsim products on various computing platforms.

National Institute of Oceanography, Government of India, Goa, India (Aug. `88 - Aug. `89)

Marine Instrumentation and Computer Division
Position: Junior Researcher

- Part of a design group for a microprocessor based, high precision “Tide Gauge”. (Accepted by Government of India for commercial production.)
- Designed an underwater sensor interface board for remote data acquisition.

Publications & Presentations

Journal Publications

1. M. Parashar. (2023). Enabling Responsible Artificial Intelligence Research and Development through the Democratization of Advanced Cyberinfrastructure. Harvard Data Science Review. https://doi.org/10.1162/99608f92.9469c089.
2. T. Hoefler, M. Copik, P. Beckman, A. Jones, I. Foster, M. Parashar, D. Reed, M. Troyer, T. Schulthess, D. Ernst, J. Dongarra, "XaaS: Acceleration as a Service to Enable Productive High-Performance Cloud Computing," in Computing in Science & Engineering, vol. 26, no. 03, pp. 40-51, July-Sept. 2024, doi: 10.1109/MCSE.2024.3382154.
3. M. Parashar, T. DeBlanc-Knowles, E. Gianchandani and L. E. Parker, "Strengthening and Democratizing Artificial Intelligence Research and Development," in Computer, vol. 56, no. 11, pp. 85-90, Nov. 2023, doi: 10.1109/MC.2023.3284568.
4. Matthieu Dorier, Zhe Wang, Srinivasan Ramesh, Utkarsh Ayachit, Shane Snyder, Rob Ross, Manish Parashar, “Towards elastic in situ analysis for high-performance computing simulations,” Journal of Parallel and Distributed Computing, Volume 177, Pages 106-116, ISSN 0743-7315, 2023, https://doi.org/10.1016/j.jpdc.2023.02.014.
5. Zhe Wang, Matthieu Dorier, Pradeep Subedi, Philip E. Davis, Manish Parashar, “Adaptive Elasticity Policies For Staging-Based In Situ Visualization,” Future Generation Computer Systems, Elsevier, 2022, Volume 142, pp. 75-89, 2023, doi: https://doi.org/10.1016/j.future.2022.12.010.
6. Manish Parashar, "Democratizing Science Through Advanced Cyberinfrastructure" in Computer, vol. 55, no. 09, pp. 79-84, 2022, doi: 10.1109/MC.2022.3174928.
7. Manish Parashar, Amy Friedlander, Erwin Gianchandani, and Margaret Martonosi. 2022. Transforming science through

cyberinfrastructure. Commun. ACM 65, 8 (August 2022), 30–32. https://doi.org/10.1145/3507694.
8. M. Parashar and D. Abramson, “Accidental Translationists: A Perspective From the Trenches,” in Computing in Science & Engineering, vol. 24, no. 4, pp. 70-75, 1 July-Aug. 2022, doi: 10.1109/MCSE.2022.3212621.
9. Y. Qin, I. Rodero and M. Parashar, "Toward Democratizing Access to Facilities Data: A Framework for Intelligent Data Discovery and Delivery" in Computing in Science & Engineering, vol. 24, no. 03, pp. 52-60, 2022. doi: 10.1109/MCSE.2022.3179408
10. Manish Parashar, "Advancing Reproducibility in Parallel and Distributed Systems Research," in Computer, vol. 55, no. 5, pp. 4-5, May 2022, doi: 10.1109/MC.2022.3158156.
11. Jim Brase, Nancy Campbell, Barbara Helland, Thuc Hoang, Manish Parashar, Michael Rosenfield, James Sexton, John Towns, “The COVID-19 High-Performance Computing Consortium,” in IEEE Computing in Science & Engineering, vol. 24, no. 1, pp. 78-85, 1 Jan.-Feb. 2022, doi: 10.1109/MCSE.2022.3145608.
12. Junmin Gu, Philip Davis, Greg Eisenhauer, William Godoy, Axel Huebl, Scott Klasky, Manish Parashar, Norbert Podhorszki, Franz Poeschel, JeanLuc Vay, Lipeng Wan, Ruonan Wang, and Kesheng Wu, “Organizing Large Data Sets for Efficient Analyses on HPC Systems,” 2022 J. Phys.: Conf. Ser. 2224 012042.
13. Moustafa Abdelbaky and Manish Parashar. “A General Performance and QoS Model for Distributed Software-Defined Environments,” IEEE Transactions on Services Computing, vol. 15, no. 1, pp. 228-240, 1 Jan.-Feb. 2022, doi: 10.1109/TSC.2019.2928300.
14. Ian Foster, Mark Ainsworth, Julie Bessac, Franck Cappello, Jong Choi, Sheng Di, Zichao Di, Ali M Gok, Hanqi Guo, Kevin A Huck, Christopher Kelly, Scott Klasky, Kerstin Kleese van Dam, Xin Liang, Kshitij Mehta, Manish Parashar, Tom Peterka, Line Pouchard, Tong Shu, Ozan Tugluk, Hubertus van Dam, Lipeng Wan, Matthew Wolf, Justin M Wozniak, Wei Xu, Igor Yakushin, Shinjae Yoo, Todd Munson. Online data analysis and reduction: An important Co-design motif for extreme-scale computers. *The International Journal of High Performance Computing Applications, Volume: 35 issue: 6, page(s): 617-635*, November 2021. doi:10.1177/10943420211023549.
15. Manish Parashar and David Abramson, “Translational Computer Science for Science and Engineering,” Computing in Science & Engineering, vol. 23, no. 5, pp. 5-6, 1 Sept.-Oct. 2021, doi: 10.1109/MCSE.2021.3109962.
16. Manish Parashar, "Enabling Reproducible Research in Parallel and Distributed Systems" in *Computer*, vol. 54, no. 07, pp. 4-5, 2021. doi: 10.1109/MC.2021.3055709.
17. Yubo Qin, Ivan Rodero, Anthony Simonet, Charles Meertens, Daniel Reiner, James Riley, Manish Parashar. Leveraging user access patterns and advanced cyberinfrastructure to accelerate data delivery from shared-use scientific observatories, Future Generation Computer Systems, Volume 122, 2021, Pages 14-27, ISSN 0167-739X, https://doi.org/10.1016/j.future.2021.03.004.
18. Eric Suchyta, Scott Klasky, Norbert Podhorszki, Matthew Wolf, Abolaji Adesoji, CS Chang, Jong Choi, Philip E Davis, Julien Dominski, Stéphane Ethier, Ian Foster, Kai Germaschewski, Berk Geveci, Chris Harris, Kevin A Huck, Qing Liu, Jeremy Logan, Kshitij Mehta, Gabriele Merlo, Shirley V Moore, Todd Munson, Manish Parashar, David Pugmire, Mark S Shephard, Cameron W Smith, Pradeep Subedi, Lipeng Wan, Ruonan Wang, Shuangxi Zhang. The Exascale Framework for High Fidelity coupled Simulations (EFFIS): Enabling whole device modeling in fusion science. The International Journal of High Performance Computing Applications, 36(1), pp. 106–128, May 2021. doi:10.1177/10943420211019119.
19. I. Petri, O. Rana, L. F. Bittencourt, D. Balouek-Thomert and M. Parashar, “Autonomics at the Edge: Resource Orchestration for Edge Native Applications,” IEEE Internet Computing, vol. 25, no. 4, pp. 21-29, 1 July-Aug. 2021, doi: 10.1109/MIC.2020.3039551.
20. H. Childs, S. D. Ahern, J. Ahrens, A. C. Bauer, J. Bennett, E. W. Bethel, P.-T. Bremer, E. Brugger, J. Cottam, M. Dorier, S. Dutta, J. M. Favre, T. Fogal, S. Frey, C. Garth, B. Geveci, W. F. Godoy, C. D. Hansen, C. Harrison, B. Hentschel, J. Insley, C. R. Johnson, S. Klasky, A. Knoll, J. Kress, M. Larsen, J. Lofstead, K.-L. Ma, P. Malakar, J. Meredith, K. Moreland, P. Navr´atil, P. O’Leary, M. Parashar, V. Pascucci, J. Patchett, T. Peterka, S. Petruzza, N. Podhorszki, D. Pugmire, M. Rasquin, S. Rizzi, D. H. Rogers, S. Sane, F. Sauer, R. Sisneros, H.-W. Shen, W. Usher, R. Vickery, V. Vishwanath, I. Wald, R. Wang, G. H. Weber, B. Whitlock, M. Wolf, H. Yu, and S. B. Ziegeler. A Terminology for In Situ Visualization and Analysis Systems. International Journal of High-Performance Computing Applications, 34(6):676–691, Nov. 2020, doi:10.1177/1094342020935991.
21. Ali Reza Zamani, D. Balouek-Thomert, J. J. Villalobos, I. Rodero M. Parashar, “An Edge-aware Autonomic Runtime for Data Streaming and In-transit Processing,” Future Generation Computer Systems, The International Journal. Volume 110, Pages 107-118, 2020, ISSN 0167-739X, https://doi.org/10.1016/j.future.2020.03.037.
22. Tong Jin, Fan Zhang, Qian Sun, Melissa Romanus, Hoang Bui, and Manish Parashar, “Towards Autonomic Data Management for Staging-based Coupled Scientific Workflows,” Journal of Parallel and Distributed Computing, Vol. 146, pp. 35-51, 2020, DOI:https://doi.org/10.1016/j.jpdc.2020.07.002.
23. I. Rodero and M. Parashar. “Data Cyber-Infrastructure for End-to-end Science - Experiences from the NSF Ocean Observatories Initiative.” IEEE Computing in Science & Engineering (CiSE), vol. 22, no. 5, pp. 60-71, 1 Sept.-Oct. 2020, doi: 10.1109/MCSE.2019.2892769.

24. Daniel Balouek-Thomert, Ivan Rodero, and Manish Parashar. 2020. Harnessing the Computing Continuum for Urgent Science. SIGMETRICS Perform. Eval. Rev. 48, 2 (September 2020), 41–46. DOI:https://doi.org/10.1145/3439602.3439618.
25. William F. Godoy, Norbert Podhorszki, Ruonan Wang, Chuck Atkins, Greg Eisenhauer, Junmin Gu, Philip Davis, Jong Choi, Kai Germaschewski, Kevin Huck, Axel Huebl, Mark Kim, James Kress, Tahsin Kurc, Qing Liu, Jeremy Logan, Kshitij Mehta, George Ostrouchov, Manish Parashar, Franz Poeschel, David Pugmire, Eric Suchyta, Keichi Takahashi, Nick Thompson, Seiji Tsutsumi, Lipeng Wan, Matthew Wolf, Kesheng Wu, Scott Klasky, "ADIOS 2: The Adaptable Input Output System. A framework for high-performance data management," SoftwareX, Volume 12, 2020, 100561, ISSN 2352-7110, DOI: https://doi.org/10.1016/j.softx.2020.100561.
26. Shaohua Duan, Pradeep Subedi, Philip Davis, Keita Teranishi, Hemanth Kolla, Marc Gamell, and Manish Parashar, "CoREC: Scalable and Resilient In-memory Data Staging for In-situ Workflows," ACM Transactions on Parallel Computing, Vol. 7, Issue 2, Article 12 (May 2020), 29 pages, DOI: https://doi.org/10.1145/3391448.
27. M. Ali, A. Anjum, O. Rana, A.R. Zamani, D. Balouek-Thomert, M. Parashar, "RES: Real-time Video Stream Analytics using Edge Enhanced Clouds," IEEE Transactions on Cloud Computing, IEEE Computer Society Press, vol. 10, no. 2, pp. 792-804, 1 April-June 2022, doi: 10.1109/TCC.2020.2991748.
28. A. Reza Zamani, Mengsong Zou, Javier Diaz-Montes, Ioan Petri, Omer Rana, Ashiq Anjum, and Manish Parashar. "Deadline Constrained Video Analysis via In-Transit Computational Environments," IEEE Transactions on Services Computing, IEEE Computer Society Press, Vol. 13, Issue 1, pp. 59-72, Jan.-Feb. 2020, ISSN: 1939-1374, Digital Object Identifier: 10.1109/TSC.2017.2653116.
29. M. Parashar, "The Reproducibility Initiative," IEEE Computer, Vol. 52, No. 11, pp. 7-8, Nov. 2019. DOI: 10.1109/MC.2019.2935265.
30. D. Balouek-Thomert, E. Gibert Renard, A. Reza Zamani, A. Simonet, M. Parashar "Towards a Computing Continuum: Enabling Edge-to-Cloud Integration for Data-Driven Workflows." International Journal of High-Performance Computing Applications, SAGE Publishing Vol 33, Issue 6, pp. 1159—1174, 2019. Digital Object Identifier: https://doi.org/10.1177/1094342019877383.
31. D. Abramson and M. Parashar. "Translational Research in Computer Science." IEEE Computer Magazine (Cover Article), IEEE Computer Society Press, Vol. 52, Issue 9, pp. 16-23, 2019. Digital Object Identifier: 10.1109/MC.2019.2925650.
32. E. Chuah, A. Jhumka, S. Alt, D. Balouek-Thomert, J. C. Browne and M. Parashar. "Towards Comprehensive Dependability-Driven Resource Use and Message Log-Analysis for HPC Systems Diagnosis," Journal of Parallel and Distributed Computing, Elsevier/Academic Press, 2019. https://doi.org/10.1016/j.jpdc.2019.05.013
33. M. Parashar, V. Honavar, A. Simonet, I. Rodero, F. Ghahramani, G. Agnew, R. Jantz. "The Virtual Data Collaboratory - A Regional Cyberinfrastructure for Collaborative Data-Driven Research." IEEE Computing in Science and Engineering (CiSE) Magazine, 2019, DOI: 10.1109/MCSE.2019.2908850.
34. Ali Reza Zamani, M. AbdelBaky D. Balouek-Thomert, J. J. Villalobos, I. Rodero M. Parashar, Submarine: A Subscription-based Data Streaming Framework for Integrating Large Facilities and Advanced Cyberinfrastructure, Concurrency Computation Practice and Experience, John Wiley & Sons, 2019.
35. Li, Yunbo, Anne-Cécile Orgerie, Ivan Rodero, Betsegaw Lemma Amersho, Manish Parashar, Jean-Marc Menaud, End-to-end energy models for Edge Cloud-based IoT platforms: Application to data stream analysis in IoT, Future Generation Computer Systems, The International Journal of eScience, North-Holland, Volume 87, pp. 667 – 678, 2018, DOI: https://doi.org/10.1016/j.future.2017.12.048.
36. Gamell, Marc, Keita Teranishi, Jackson Mayo, Hemanth Kolla, Michael A. Heroux, Jacqueline Chen, Manish Parashar, Modeling and Simulating Multiple Failure Masking enabled by Local Recovery for Stencil-based Applications at Extreme Scales, IEEE Transactions on Parallel and Distributed Systems, IEEE Computer Society Press, Volume 28, Issue 10, pp. 2881 – 2895, 2018.
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Patents / Inventions

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Book Chapters

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2. Bo Zhang, Philip E Davis, Zhao Zhang, Keita Teranishi and Manish Parashar, "Dual Channel Dual Staging: Hierarchical

and Portable Staging for GPU-Based In-Situ Workflow," Proceedings of the 31st IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC 2024), Bengaluru, India, 188-198, December 2024.

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27. Xuan Hu, Jie Gong, Eduard Renard and Manish Parashar, "A Two-stage Framework for Big Spatial Data Processing to Support Disaster Response," Workshop paper in the Proceedings of the 2019 IEEE International Conference on Big Data (BigData 2019), Los Angeles, CA, USA, December 2019.
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37. Pradeep Subedi, Philip Davis, Shaohua Duan, Scott Klasky, Hemanth Kolla, and Manish Parashar. " Stacker: An Autonomic Data Movement Engine for Extreme-Scale Data Staging-Based In-Situ Workflows." Proceedings of the 31st IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 18), Denver, CO, USA, November 2018.
38. Justin M. Wozniak, Philip E. Davis, Tong Shu, Jonathan Ozik, Nicholson Collier, Manish Parashar, Ian Foster, Thomas Brettin, and Rick Stevens. "Scaling Deep Learning for Cancer with Advanced Workflow Storage Integration." Proceedings of the Workshop on Machine Learning in HPC Environments (MLHPC18). In conjunction 31st IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 18), Denver, CO, USA, November 2018.
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40. Yubo Qin, Ivan Rodero, Pradeep Subedi, Manish Parashar and Sandro Rigo. "Exploring Power Budget Scheduling Opportunities and Trade-offs for AMR-based Applications." Proceedings for the 30th International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2018), Lyon, France, September 2018.
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44. Juanjo J. Villalobos, Ivan Rodero and Manish Parashar. "An Unsupervised Approach for Online Detection and Mitigation of High-Rate DDoS Attacks Based on an In-Memory Distributed Graph Using Streaming Data and Analytics." Proceedings for the 4th International Conference on Big Data Computing, Applications and Technologies (BDCAT 2017), ACM, Austin, TX, USA, December 2017.
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Conference/Workshop Posters and Presentations

1. lkay Altintas, Melissa Floca, Amarnath Gupta, Charles Meertens, Manish Parashar, Ivan Rodero, "National Data Platform: Bridging the Data Gaps for Science and AI," AGU24, Washington DC, USA, December 2024.
2. Hugo Lee, Valerio Pascucci, Manish Parashar, Philip Davis, Colin Raymond, Alex Goodman, "Evaluating High-Resolution Downscaled Climate Products with the Open Climate Workbench," AGU24, Washington DC, USA, December 2024.
3. Huikyo Lee, Valerio Pascucci, Manish Parashar, Philip Davis, Alexander Goodman, and Colin Raymond, "Open Climate Workbench to support efficient and innovative analysis of NASA's high-resolution observations and modeling datasets," The 2024 Earth Science Technology Forum (ESTF2024), Crystal City, Virginia, USA, June 2024.
4. Zhe Wang, Anthony Simonet, Pradeep Subedi, Philip E. Davis and Manish Parashar. "Leveraging Scalable Event Distribution to Enable Data-Driven In Situ Scientific Workflows." Workshop on "In Situ Infrastructures for Enabling Extreme-Scale Analysis and Visualization (ISAV 2018)", in conjunction with ACM/IEEE SC 18, The IEEE/ACM International Conference for High Performance Computing, State of the Practice Track, Dallas, TX, USA, November 2018.
5. Francesc-Xavier Puig, Juanjo J. Villalobos, Ivan Rodero and Manish Parashar. "Exploring the Potential of FreeBSD Virtualization in Containerized Environments." 10th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2017) / 4th International Conference on Big Data Computing, Applications and Technologies (BDCAT 2017), ACM, Austin, TX, December 2017.
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8. Potluru, Vamsi K., P. Miller, Javier Diaz- Montes, Vijay Hanagandi, J. Zola and Manish Parashar. "A Preliminary Study of Longitudinal EMR data for Diabetes Forecasting" Second Neural Information Processing Systems (NIPS) Workshop on Machine Learning for Clinical Data Analysis. Montreal, Canada (2014).
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10. Pelaez, Alejandro, Andres Quiroz, Manish Parashar, James C. Browne and Edward Chuah, "Online monitoring of HPC resources using decentralized clustering." Proceedings of XSEDE 2014, Atlanta, GA, (2014).
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12. Petri, Ioan, Tom Beach, Mengsong Zou, Javier Diaz- Montes, Omer Rana, and Manish Parashar. "Outsourcing policies in CometCloud-based federated systems." Sixth IEEE/ACM International Conference on Utility and Cloud Computing. Dresden, Germany (2013).
13. Diaz-Montes, Javier, Baskar Ganapathysubramanian, Manish Parashar, Ivan Rodero, Yu Xie, and Jaroslaw Zola. "Federated Computing for the Masses-Aggregating Resources to Tackle Large-Scale Engineering Problems." SC'13, The ACM/IEEE International Conference for High Performance Computing, Networking Storage and Analysis. Denver, CO (2013). (Acceptance ~40%).
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15. AbdelBaky, Moustafa, Manish Parashar and Kirk Jordan, "Cloud Computing Practices for Scientific Computing Applications." Computational Science in the Exascale Era - Challenges and Opportunities, 2013 SIAM Conference on Computational Science and Engineering, Boston, MA, USA, February – March 2013.
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(SciDAC'11) (2011).

19. Klasky, Scott et al, "Adaptable Opportunities and Challenges in Exascale I/O and Programming Interfaces to Support I/O Pipelines." Poster, ORNL Fall Creek Falls Meeting, Fall Creek Falls State Park, TN, USA, October 2010.
20. Klasky, Scott et al, "Adaptable IO System (ADIOS)." Poster, ORNL Fall Creek Falls Meeting, Fall Creek Falls State Park, TN, USA, October 2009.
21. Docan, Ciprian, Manish Parashar, and Scott Klasky. "Enabling High Speed Asynchronous Data Extraction and Transfer Using DART." In Proceedings of the 17th International Symposium on High-Performance Distributed Computing (HPDC). IEEE Computer Society Press, Boston, MA (2008).
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23. Li, Zhen and Manish Parashar. "An Infrastructure for Dynamic Composition of Grid Service" In Proceedings of the Seventh IEEE International Conference on Grid Computing (Grid 2006). IEEE Computer Society Press, Barcelona, Spain, pp. 315 – 316, (2006).
24. Versteeg, Roelof, Alan Richardson, S. Thomas, B. Lu, J. Neto, Mary Wheeler, Tony Rowe, Manish Parashar and M. Ankeny, "A web accessible scientific workflow system for transparent and reproducible generation of information on subsurface processes from autonomously sensed data." Eos Trans. AGU, 86(52), Fall Meet. Suppl., Poster IN21B-1183, December 2005.
25. Liu, Hua, and Manish Parasha. "A Framework for Rule-Based Autonomic Management of Parallel Scientific Applications." In Proceedings of the Second IEEE International Conference on Autonomic Computing (ICAC 2005), IEEE Computer Society, Seattle, WA, (2005). (Acceptance ~30%).
26. Qu, Guangzhim, Salim Hariri, Santosh Jangiti, Jayprakash Rudraraju, Seungchan Oh, Samer Fayssal, Guangsen Zhang, and Manish Parashar. "Online Monitoring and Analysis for Self-Protection against Network Attacks." In First IEEE International Conference on Autonomic Computing (ICAC-04), pp. 324 – 325 IEEE, New York, NY, (2004).
27. Li, Zhen, and Manish Parashar. "Rudder: A Rule-Based Multi-Agent Infrastructure for Supporting Autonomic Grid Applications." First IEEE International Conference on Autonomic Computing (ICAC-04). pp. 278 – 279. IEEE, New York, NY, (2004). (Acceptance ~30%).
28. Raja, Tezaswi, and Manish Parashar. "Using a Jini Based Desktop Grid for Test Vector Compaction and a Refined Economic Model." Fourth IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid 2004), Chicago, IL (2004).
29. Hariri, Salim and Manish Parashar "vGrid: An Autonomic Runtime System for Grid Applications." 12th International Symposium on High Performance Distributed Computing, Seattle, WA, USA, June 2003.
30. Schmidt, Cristina and Manish Parashar, "A Dimension Reducing Indexing Scheme for Guaranteed Keyword Searches in Peer-to-Peer Storage System." 23Prd International Conference on Distributed Computing Systems, Providence, RI, USA, May 2003.
31. Chandra, Sumir, J. Steensland, and Manish Parashar. "Adaptive Application Sensitive Partitioning Strategies for SAMR Applications." IEEE/ACM Supercomputing 2001. Denver, CO (2001). (**Judged as Best Poster)**. (Acceptance 30%).
32. Zhang, Shuang, Manish Parashar and Norman J. Zabusky. "GrACE-PPM: A Distributed Dynamic Adaptive Mesh CFD Environment for Accelerated Inhomogeneous Compressible Flows." 54th Annual Meeting of Division of Fluid Dynamics, The American Physical Society, San Diego, CA (2001).
33. "System Sensitive Runtime Management of Adaptive Applications." S. Sinha and M. Parashar, 10th SIAM Conference on Parallel Processing for Scientific Computing, Portsmouth, VA, March 2001.
34. Kaur, Samian, Rajeev Muralidhar, and Manish Parashar. "An Environment for Web-Based Interaction and Steering of High-Performance Scientific Applications." ACM Java Grande Conference, San Francisco, CA, ACM Press, June 2000.

Invited Journal/Conference/Workshop Papers, Posters and Presentations

1. M. Parashar and I. Altintas, "Toward Democratizing Access to Science Data: Introducing the National Data Platform," 2023 IEEE 19th International Conference on e-Science (e-Science), Limassol, Cyprus, 2023, pp. 1-4, doi: 10.1109/e-Science58273.2023.10254930.
2. Manish Parashar. 2023. Computing Everywhere, All at Once: Harnessing the Computing Continuum for Science. In Proceedings of the 32nd International Symposium on High-Performance Parallel and Distributed Computing (HPDC '23). Association for Computing Machinery, New York, NY, USA, 1. https://doi.org/10.1145/3588195.3595925.
3. D. Balouek-Thomert, I. Perez, S. D. Faulstich, H. A. Holmes, I. Altintas and M. Parashar, "Keynote Talk: Leveraging the Edge-Cloud Continuum to Manage the Impact of Wildfires on Air Quality," 2023 IEEE International Conference on Pervasive Computing and Communications Workshops and other Affiliated Events (PerCom Workshops), Atlanta, GA, USA, 2023, pp. 27-31, doi: 10.1109/PerComWorkshops56833.2023.10150251.
4. Manish Parashar. 2022. Data-Management for Extreme Science: Experiences in Translational Computer Science Research. In Proceedings of the 31st International Symposium on High-Performance Parallel and Distributed Computing

(HPDC '22). Association for Computing Machinery, New York, NY, USA, https://doi.org/10.1145/3502181.3537771.

5. Manish Parashar and Amy Friedlander, "The U.S. Needs a National Strategic Computing Reserve," Opinion, Scientific American, June 2021.
6. Manish Parashar, "Leveraging the National Academies' Reproducibility and Replication in Science Report to Advance Reproducibility in Publishing," Harvard Data Science Review, 2(4), 2020. https://doi.org/10.1162/99608f92.b69d3134.
7. Daniel Balouek-Thomert, Ivan Rodero, Manish Parashar, "Harnessing the Computing Continuum for Urgent Science," Proceedings of the International Workshop on Distributed Cloud Computing (DCC 2020), in conjunction with ACM SIGMETRICS 2020, May 2020.
8. Pradeep Subedi and Manish Parashar, "Data Management for Extreme-Scale In-Situ Workflows." Presentation at the Intel Booth, ACM/IEEE SC 18, The IEEE/ACM International Conference for High Performance Computing, State of the Practice Track, Dallas, TX, USA, November 2018.
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Editorial Comments (Partial List)

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Recent Research Projects & Software Deployed

SciDX: The Science Data Exchange (sciDX) is composable and customizable services platform underlying the National Data Platform (NDP), a federated and extensible data ecosystem to promote collaboration, innovation and equitable use of data using existing and future cyberinfrastructure capabilities. sciDX provides scalable data discovery, data staging, data streaming and in-situ data processing capabilities. URL: nationaldataplatform.org.

DataSpaces/DART: DataSpaces is an advanced coordination and interaction framework that provides the abstractions and mechanisms to support flexible and dynamic inter-application couplings and collaborations at runtime. DataSpaces provides the abstraction of a semantically specialized, virtual distributed shared space and can be associatively accessed by application components, an online indexing mechanism for "live" data as well as meaningful querying operators that can be used to query these data in a flexible manner. It builds on the DART asynchronous data transport substrate, which builds on RDMA and provides optimized, asynchronous data extraction and data transfer services with low latency and small overheads. DART enables direct memory-to-memory communication between the nodes of distinct applications. DataSpaces and DART have also been packaged and deployed with the ADIOS IO library from Oak Ridge National Lab and are being used by a large number of DOE and other applications. URL: dataspaces.org.

R-Pulsar: R-Pulsar is an IoT Edge Framework that extends cloud capabilities to local devices and provides a programming model for deciding what, when, and where data get collected and processed. It has been deployed and tested on embedded devices (Raspberry Pi and Android phone) and presents an experimental evaluation that demonstrates that R-Pulsar can enable timely stream analytics by effectively leveraging edge and core resources. URL: rpulsar.org

CometCloud: CometCloud is an autonomic computing engine for clouds (and Grids) and enables a virtual cloud that dynamically integrates public and private clouds, as well as local computational datacenters, on-demand. It is based on a scalable abstraction of virtual shared spaces that is used to coordinate computations and workflows across the integrated cloud infrastructure. CometCloud supports autonomic cloudburst, which enables policy-based scale-up and scale-down allowing tasks to be scheduled onto sets of nodes that are dynamically provisioned on available private and/or public cloud resources. URL: cometcloud.org.

Fenix: Fenix is a software library compatible with the Message Passing Interface (MPI) to support fault recovery without application shutdown. Fenix is used (1) to repair communicators whose ranks suffered failure detected by the MPI runtime, and (2) to restore state to application variables and arrays from redundant data storage. Fenix has been deployed on lead systems and is also being proposed as a specification for the resilience for MPI-based message passing applications.

Project AutoMate: Project AutoMate investigates conceptual models and implementation architectures that can enable the development and execution of such self-managing *autonomic* applications. Key components of AutoMate include the ***Accord*** programming system, the ***Rudder*** decentralized coordination framework and agent-based deductive engine including the ***Comet*** decentralized coordination space, the ***Meteor*** contentbased middleware providing support for content-based routing and discovery and associative messaging, the ***Sesame*** context-based access control infrastructure, the ***DAIS*** cooperative-protection services and the ***Discover*** collaboratory services for collaborative monitoring, interaction and control. URL: automate.rutgers.edu/.

Meteor: Meteor is a scalable content-based middleware infrastructure for pervasive sensor-based applications providing services for content routing, content discovery and associative interactions. The Meteor stack consists of 3 key components: (1) a self-organizing content overlay, (2) a content-based routing engine and discovery service, and (3) the Associative Rendezvous messaging substrate.

Squid: Squid is a decentralized (peer-to-peer) infrastructure for information discovery and sharing. It support flexible content-based routing and complex queries containing partial keywords, wildcards, and ranges, and guarantees that all existing data elements that match a query will be found with bounded costs in terms of number of messages and number of nodes involved. Squid is being used for information discovery and sharing for TMA-based oncology research.

Grid Adaptive Computational Engine (GrACE): GrACE is an object-oriented data-management infrastructure for distributed adaptive applications based on adaptive mesh-refinement and multigrid techniques and executing on very large (1000+ processors) systems. GrACE supports a wide range of application spanning multiple disciplines including numerical relativity, astrophysics, seismic modeling, and computational fluid dynamics. GrACE (and it predecessor,

DAGH) was originally developed as part of the NSF Binary Black Hole grand challenge, and is currently used by a number of application groups including the DOE ASCI/ASAP center at California Institute of Technology and the SciDAC center at Sandia National Laboratory. GrACE users span at least 25 universities/research laboratories around the world. GrACE is supported by the PRAGMA and ARMaDA adaptive runtime management engines.

Multiblock Computation Engine (MACE): MACE is an object-oriented toolkit to support adaptive multi-block, multi-physics simulations on very large distributed systems. It supports adaptive applications in oil-reservoir simulation, subsurface modeling and ground water modeling. MACE is currently used by research groups in academia and industry.

Discover: Discover is a virtual, interactive and collaborative PSE that enables geographically distributed scientists and engineers to collaboratively monitor, and control high performance parallel/distributed applications using web-based portals. Its primary objective is to transform high-performance simulation into true research and instructional modalities. Discover is deployed at www.discoverportal.org with multiple satellite sites including installations at the University of Texas at Austin and at California Institute of Technology. Discovery is supported by the DIOS programming system of interactive applications.

CorbaCoG Kit: CorbaCoG provides access to Globus Grid services CORBA application using the JacORB open source ORB. Its goal is to enable interoperability between Grid services and commodity distributed technologies and services. The CorbaCoG Kit was developed in collaboration with Argonne National Laboratory.

Active Differentiated Services/Bandwidth Broker Modules for NS: These modules implement active bandwidth brokers for the NS simulator. The active bandwidth brokers enable adaptive network resource management and content-aware quality-of-service management for streaming media applications. The software is currently being used by a number of researchers in industry and academia.

Journal Special Issues

1. Guest Editor (with M. Heroux and V. Stodden), IEEE Computer, Special Theme on Research Reproducibility, Computer 55 (8), 16-18, 2022.
2. Guest Editor (with S. Hu, X. Li, H. He, and S. Cui), IEEE Transactions on Big Data, Special Issue on Big Data for Cyber-Physical Systems, IEEE Computer Society Press, Vol. 6, No. 04, pp. 606-608, 2020. doi: 10.1109/TBDATA.2020.3033101.
3. Guest Editor (with J. Carretero, A. Zomaya), Sensors Journal, Special Issue on Challenges on Managing and Analyzing Big Data from Internet of Things Sensors, MDPI (Basel, Switzerland), estimated publication 2019.
4. Guest Editor (with J. Carretero, J. Garcia-Blas, F. Capello, G. Fox), Journal of Grid Computing, Special Issue on Programming Models and Runtime Systems for Cluster and Cloud Computing, Springer, estimated publication in 2018.
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57. "High Performance Scalable Matrix Algebra Algorithms for Distributed Memory Architectures." G. von Laszewski, M. Parashar, A. G. Mohamed and G. C. Fox, NPAC Technical Report SCCS-271, Syracuse University, 29 pages, March 1992. (Archived at www.npac.syr.edu).
58. "MHiSS: A Memory Hierarchy for Stable Storage." M. Parashar and S. Hariri, NPAC Technical Report SCCS-355, Syracuse University, August 1992. (Archived at www.npac.syr.edu).

Panel Activities

1. "Achieving Fair and Responsible AI," Panel on Fair and Responsible AI, SIAM Conference on Computational Science and Engineering (CSE25), Fort Worth, TX, USA, March 2025.
2. "Democratizing Data and Responsible Artificial Intelligence," "Data, Data Everywhere" Panel at the 9th International Parallel Data Systems Workshop (PDSW 2024), in conjunction with SC24: The International Conference for High-Performance Computing, Networking, Storage and Analysis, Atlanta, GA, USA, November 2024.
3. "AI in Policy Virtual Panel," Wagner Policy Alliance, NYU Wagner, New York, NY, USA, November 2024.
4. "Cyberinfrastructure for Democratizing Data & Responsible AI," Panel on "AI and Cyberinfrastructure for Modeling and Forecasting Future Climate Scenarios," 2024 WIRED Grid Resilience Symposium, University of Utah, Salt Lake City, Utah, USA, September 2024.
5. "CyberTraining/SCIPE Panel – Community Experiences & Evolving Needs," 2024 NSF CSSI/CyberTraining/SCIPE PI Meeting, North Carolina, USA, August 2024.
6. "Future of AI@Edge," Panel at PAISE 2024: 6th Workshop on Parallel AI and Systems for the Edge, Co-located with IPDPS 2024, San Francisco, USA, May 2024.
7. "Interagency Panel: Realizing the National Advanced Ecosystem," 2023 Exascale Computing Project Annual Meeting, Houston, TX, USA, January 2023.
8. "Future of Indo-US Research Collaborations," Panel at the 29th IEEE International Conference on High Performance Computing, Data, and Analytics, Bangalore, India, December 2022.
9. "Democratizing Science through Cyberinfrastructure," Looking Ahead – Federal Landscape in Geosciences, Cyberinfrastructure & Data, Panel at the EarthCube Retrospective Meeting, Washington, DC, November 2022.
10. "Collaborative Innovations for Societal Transformations: Insights from the COVID-19 Crisis," Panel at the EuroScience Open Forum (ESOF), Leiden, Netherlands (and virtual), July 2022.
11. SPE Virtual Workshop: Open Subsurface, Panel on Reproducible Research, Virtual, 18 - 21 May 2021.
12. "Open Science in a Changing HPC Landscape," Panel at the ACM/IEEE SC 2019, the 32nd IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 19), Denver, CO, USA, November 2019.
13. "AI, IoT and Urban Computing - A Tale of Smart Cities," Plenary Panel at the 24th International Conference on Parallel and Distributed Systems (ICPADS 2018), Sentosa, Singapore, December 2018.
14. "Machine Learning and Mathematical Modeling – Towards Robust, Reliable and Certifiable Machine Learning," Plenary Panel at the 24th IEEE International Conference on High Performance Computing, Data, and Analytics," Jaipur, Rajasthan, India, December 18-21, 2017.
15. "What's next in the Internet of Things and Cyber Physical Systems?" Panel at the 37th IEEE Sarnoff Symposium –

Newark, New Jersey Sept 19-21, 2016.

16. "What is Capable Exascale Computing," Panel at the International Advanced Research Workshop on High Performance Computing – From Clouds and Big Data to Exascale and Beyond (HPC 2016), Cetraro, Italy, June 27 – July 01, 2016.
17. "In-Situ Workflows and the Integration of In-Situ and Distributed Area Workflows." Brids of a Feather (BoF) session on Characterizing Extreme-Scale Computational and Data-Intensive Workflows, 28th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 15), Austin, TX, USA, November 2015.
18. "The Arc of Research Activity in Key Areas of Services Computing." 8th IEEE International Conference on Cloud Computing (CLOUD 2015), New York, NY, USA, June-July 2015.
19. "Mobile and IoT Services." 8th IEEE International Conference on Cloud Computing (CLOUD 2015), New York, NY, USA, June-July 2015.
20. "Beyond the Hype – Big Data Unmasked." Moderator, CIO Executive Summit, Whippany, NJ, December 2014.
21. "Student Travel Grant Awardees Round-Table." 14th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Chicago, IL, USA, May 2014.
22. "NSF/IEEE-TCPP Curriculum Initiative on Parallel and Distributed Computing – Core Topics for Undergraduates." SC'12, The ACM/IEEE International Conference for High Performance Computing, Networking Storage and Analysis, Salt Lake City, Utah, USA, November 2012.
23. "Exascale Data Management Panel." Exascale Research Conference, Arlington, VA, USA, October 2012.
24. "Is Big Data the New HPC?" Panel at the 41st International Conference on Parallel Processing, Pittsburgh, PA, USA, September 2012.
25. "Energy Efficiency in High Performance Parallel and Distributed Computing." Panel at the 21st International ACM Symposium on High-Performance Parallel and Distributed Computing (HPDC'12), Delft, the Netherlands, June 2012.
26. "The Cloud of Things -- The Next Phase of Computing." A Congressional Luncheon Briefing in conjunction with the Congressional Research & Development Caucus Co-Chairs Judy Biggert (R-IL) and Rush Holt (DNJ), House R&D Caucus, Washington DC, September 2011.
27. "Panel on Scientific Cloud Computing." 1st Workshop on Scientific Cloud Computing (ScienceCloud 2010), co-located with the 19th ACM International Symposium on High Performance Distributed Computing (HPDC 2010), Chicago, Illinois, USA June 2010.
28. "Towards grid/clouds benchmarks for Autonomic Computing." 2nd Grid Meets Autonomic Computing (GMAC) Workshop, In conjunction with the 7th IEEE International Conference on Autonomic Computing (ICAC 2010), Reston, VA, June 2010.
29. "Panel on Cloud Deployment Trajectories for National Goals." 10th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2010), Melbourne, Australia, May 2010.
30. "Panel on The Present and Future of HPC in the Cloud." IEEE/ACM International Conference on Grid Computing (Grid 2009), Summit 2009 and Open Grid Forum (OGF) 27, Banff, Canada, October 2009.
31. "Panel on Conducting Live Experiments in Production Systems." 4th Workshop on Hot Topics in Autonomic Computing (HotAC IV), 6th IEEE International Conference on Autonomic Computing (ICAC 2009), Barcelona, Spain, June 2009.
32. "Cloud Computing: Technical Challenges and Business Implications." 9th IEEE/ACM International Conference on Cluster Computing and the Grid (CCGrid 2009), Shanghai, China, May 2009.
33. "Platform Management – Coordination or Not?" Workshop on Managed Many-Core Systems (MMCS), in conjunction with the 17th International Symposium on High-Performance Distributed Computing (HPDC), Boston, MA, USA, IEEE Computer Society Press, June 2008.
34. "Pervasive Grid Computing." Grid and Pervasive Computing (GPC 2007), Paris, France, May 2007.
35. "Grid and Utility Computing: Do they really mean Pervasive Services?" International Conference on Pervasive Services (ICPS 2006), Lyon, France, June 26, 2006.
36. "Dynamic Data Driven Application Simulation." 17th Annual ACM International Conference on Supercomputing, San Francisco, CA, USA, June 23, 2003.
37. "Problem Solving Environments." ARPA-NSF Workshop on Scalable Scientific Software Libraries and Problem-Solving Environments, Purdue University, Lafayette, IN, September 1995.

Keynote Presentations/Distinguished Seminars

1. "Artificial Intelligence Innovation to address Scientific and Societal Grand Challenges," Distinguished Alumni Talk, Goa College of Engineering, Farmagudi, Goa, Januiary 2025.
2. "Democratizing Data and Responsible Artificial Intelligence," Keynote, Annual Chapter Summit, ACM India Council Bangalore, India, December 2024.
3. "Democratizing Science across the Digital Continuum," Keynote at the 17th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2024), Sharjah, United Arab Emirates, December 2025.
4. "From the Edge to HPC – Harnessing the Computing Continuum for Science," Keynote at the Workshop on Near Real-

time Data Processing for Interconnected Scientific Instruments (NRDPISI-1), In conjunction with IEEE eScience 2024, Osaka, Japan, September 2024.

5. "From the Edge to HPC – Harnessing the Computing Continuum for Science," Keynote at the 15th International Conference on Parallel Processing and Applied Mathematics (PPAM 2024), Ostrava, Czech Republic, September 2024.
6. "Responsible and Ethical Use of AI in the Human Services," Retreat, Institute for Disability Research, Policy & Practice, Utah State University, Logan, UT, USA, August 2024.
7. "Harnessing the Computing Continuum for Science: Challenges and Opportunities," Discover-US Vision Workshop on Distributed Computing and Swarm Intelligence, Sabaudia, Italy, June 2024.
8. "Harnessing the Edge of Science, PAISE 2024: 6th Workshop on Parallel AI and Systems for the Edge, Co-located with IPDPS 2024, San Francisco, USA, May 2024.
9. "Democratizing Access to Science Data (and Responsible AI)," Keynote, AIRES 5 – Artificial Intelligence for Robust Engineering & Science, Pacific Northwest National Laboratory (PNNL), Richland, Washington, Chicago, WA, USA, May 2024.
10. "Democratizing Responsible AI," Keynote, Mind Bytes 2024 – Research Computing Expo and Symposium, University of Chicago, Chicago, IL, USA, April 2024.
11. "Democratizing Responsible AI," Keynote, IAD Day – The AI and Data Science Symposium, Data Science Symposium, University at Buffalo, Buffalo, NY, USA, April 2024.
12. "Everywhere & Nowhere: Envisioning a Computing Continuum for Science," Distinguished Seminar, Department of Computer Science, Virginia Tech, Blacksburg, VA, United States, April 2024.
13. "Democratizing Responsible AI," Keynote, Oncological Data Science Symposium, Huntsman Cancer Institute, University of Utah, Salt Lake City, UT, USA, March 2024.
14. "Democratizing Access to Science Data," Keynote, 11th Multicore World Conference, Christchurch, New Zealand, February 2024.
15. "Computing Everywhere, All at Once: Harnessing the Computing Continuum for Science," Keynote at the 30th IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC 2023), Goa, India, December 2023.
16. "Envisioning a Computing Continuum for Science," Invited Plenary at the 16th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2023) and 10th IEEE/ACM International Conference on Big Data Computing, Applications and Technologies (BDCAT2023), Taormina, Italy, December 2023.
17. "Computing Everywhere, All at Once: Harnessing the Computing Continuum for Science," Keynote at Inria Centre at Rennes University, Rennes, France, November 2023.
18. "Democratizing Science Through Equitable Access to Computing and Data," Invited Plenary at D-HPC 2023: The First International Workshop on Democratizing High-Performance Computing, Workshop at SC23, The International Conference for High Performance Computing, Networking, Storage, and Analysis, Denver, CO, United States, November 2023.
19. "Everywhere & Nowhere: Envisioning a Computing Continuum for Science," Award Plenary at SC23, The International Conference for High Performance Computing, Networking, Storage, and Analysis, Denver, CO, United States, November 2023.
20. "Computing Everywhere, All at Once: Harnessing the Computing Continuum for Science," Invited Plenary at the 15th IEEE International Conference on Contemporary Computing (IC3 2016), Noida, UP, India, August 2023.
21. "Computing Everywhere, All at Once: Harnessing the Computing Continuum for Science," Keynote at the 32nd ACM International Symposium on High-Performance Parallel and Distributed Computing, Orlando, FL, United States, June 20 - 23, 2023.
22. "Harnessing the Computing Continuum for Urgent Science," Keynote at the 3rd Workshop on From Cloud to Things: harnessing pervasive data in the Computing Continuum (Cloud2Things), in conjunction with the 21st International Conference on Pervasive Computing and Communications (PerCom 2023), Atlanta, GA, USA, March 2023.
23. "Data-Management for Extreme Science: Experiences in Translational Computer Science Research," Keynote at the 2022 IEEE/ACS 19th International Conference on Computer Systems and Applications (AICCSA), Abu Dhabi · United Arab Emirates, December 5-8, 2022.
24. "Data-Management for Extreme Science: Experiences in Translational Computer Science Research," Keynote at the 14th International Conference on Parallel Processing and Applied Mathematics (PPAM 2022), Gdansk, Poland, September 11-14, 2022.
25. "Data-Management for Extreme Science: Experiences in Translational Computer Science Research," Keynote at the 31st ACM International Symposium on High-Performance Parallel and Distributed Computing (ACM HPDC 2022), Minneapolis, MN, USA, June 2022.
26. "Harnessing the Computing Continuum for Urgent Science," Keynote at the 22nd IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing (CCGrid 2022), Taormina, Italy, May 2022.
27. "Big Data and Extreme-Scales: Computational Science in the 21st Century," Keynote at the 27th European International

Conference on Parallel and Distributed Computing (Euro-Par 2021), August-September 2021.

28. "Exploring the Future of Facilities-based, Driven-Driven Science," Keynote at the 15th eScience Conference, San Diego, CA, USA, September 2019.
29. "Data-drive Science across the Cyberinfrastructure Continuum," Keynote at the 13th International Conference on Parallel Processing Applied Mathematics, Bialystok, Poland, September 2019.
30. "Extreme Scales, Big Data, and the Transformation of Science," Keynote at the 24th International Conference on Parallel and Distributed Systems (ICPADS 2018), Sentosa, Singapore, December 2018.
31. "Big Data at Extreme-Scales: Addressing Computational Challenges in the 21st Century," Keynote at the 30th International Symposium on Computer Architecture and High-Performance Computing (SBAC-PAD 2018), Lyon, France, September 2018.
32. "Data Management, In-Situ Workflows and Extreme Scales," Keynote at the 8th International Workshop on Runtime and Operating Systems for Supercomputers (ROSS 2018), in conjunction with the in conjunction with the 32nd IEEE International Parallel and Distributed Processing Symposium (HPDC 2018), Tempe, AZ, USA, June 2018.
33. "Managing Heterogeneity at Extreme Scales: A Data Perspective," Keynote at the 2018 Heterogeneity in Computing Workshop (HCW 2018), in conjunction with the 32nd IEEE International Parallel and Distributed Processing Symposium (IPDPS 2018), Vancouver, BC, Canada, May 2018.
34. "Extreme Scale Data Management for In-Situ Scientific Workflows," Keynote at the 12th Workflows in Support of Large-Scale Science (WORKS), in conjunction with SC17: The International Conference for High Performance Computing, Networking, Storage and Analysis, Denver, CO, November 2017.
35. "Computing in the Continuum: Harnessing a Pervasive Data Ecosystem." Keynote at the 14th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2017), Hammamet, Tunisia, October-November 2017.
36. "Data Cyberinfrastructure for End-to-end Science: Experiences from the Ocean Observatories Initiative." Keynote at the 12th International Conference on Parallel Processing and Applied Mathematics (PPAM 2017), Lublin, Poland, September 2017.
37. "Computing in the Continuum: Harnessing a Pervasive Data Ecosystem." Keynote at the 2017 IEEE Services Conference Federation (SCF 2017), Honolulu, Hawaii, USA, June 2017.
38. "Big Data Challenges in Extreme Scale Science." Keynote at the International Conference on Computing Systems (CompSys-2017), Vught, the Netherlands, June 2017.
39. "Computing in the Continuum: Harnessing the Pervasive Data Ecosystem." Keynote at the 1st IEEE International Conference on Fog and Edge Computing (ICFEC'2017), Madrid, Spain, May 2017.
40. "Big Data Challenges in Science and Engineering." Keynote at the 50th Anniversary Celebration, Goa Engineering College, Farmagudi, Goa, India, August 2016.
41. "Big Data Challenges in Simulation-based Science." Keynote at the 9th IEEE International Conference on Contemporary Computing (IC3 2016), Noida, UP, India, August 2016.
42. "Software Defined Environments for Science." Keynote at the Grid'5000 Winter School, Grenoble, France, February 2016.
43. "Big Data Challenges in Simulation-based Science." Inaugural Lecture, University of Derby, Derby, UK, October 2015.
44. "Autonomics, Cyberinfrastructure Federations, and Software-Defined Environments for Science." Joint Keynote at FAS* - Foundation and Applications of Self* Computing Conferences including The 2nd IEEE International Conference on Cloud and Autonomic Computing (CAC 2014), The 8th IEEE Self-Adaptive and Self-Organizing System (SASO) Conference and The 14th IEEE Peer-to-Peer Computing Conference, Imperial College, London, UK, September 2014.
45. "Towards Pervasive Computational and Data Ecosystems" Ericsson ESV Thought Leadership Speaker Series, Silicon Valley, CA, July 2014.
46. "Software Defined Federated Infrastructures for Science." Keynote at the 5th Workshop on Scientific Cloud Computing (ScienceCloud 2014), in conjunction with the 23rd ACM International Symposium on HighPerformance Parallel and Distributed Computing (HPDC'14), Vancouver, Canada, June 2014.
47. "Big Data Challenges in Simulation-based Science." Keynote at the 6th International Workshop on Data Intensive Distributed Computing (DIDC'14), in conjunction with the 23rd ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC'14), Vancouver, Canada, June 2014.
48. "Moving from Extreme Data to Extreme Insights - Addressing Emerging Data Challenges in Simulationbased Science." ISTeC Distinguished Lecture, Information Science and Technology Center (ISTeC), Colorado State University, Fort Collins, CO, November 2013.
49. "Big Data Challenges in Simulation-based Science." Keynote at HPC China 2013, Guilin, China, October 2013.
50. "Exploring Autonomics for Clouds." Keynote at the 6th International Conference on Internet and Distributed Computing Systems (IDCS 2013), Hangzhou, China, October 2013.
51. "Exploring Clouds as Enablers of Science – Case Studies in Medical Informatics." Keynote at the High Performance Computing Workshops at the 16th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2013), Nagoya, Japan, September 2013.

52. "Moving From Extreme Data to Extreme Insights – Addressing Emerging Data Challenges in Simulation based Science." Supercomputing Professional Interest Community Seminar, IBM T. J. Watson Research Laboratory, Yorktown Heights, NY, August 2013.
53. "Staying Green at the Extreme: Exploring Energy Challenges and Tradeoffs for Science Workflows at Extreme Scales." Keynote at ExtremeGreen: Extreme Green & Energy Efficiency in Large Scale Distributed Systems, in conjunction with CCGrid2013, the 13th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing, Delft, The Netherlands, May 2013.
54. "Moving Beyond IT Outsourcing – Can Clouds Transform Science?" Invited plenary talk at the International Supercomputing Conference (ISC) – Cloud'12, Manheim, Germany, September 2012.
55. "From Data to Insights - Addressing Data Challenges in Simulation-based Science." Keynote, High Performance Computing Symposium, Lehigh University, Bethlehem, Pennsylvania, USA, March 2012.
56. "From Data to Insights - Addressing Data Challenges in Simulation-based Science." Keynote at the Australasian Computer Science Week 2012 (ACSW2012), Melbourne, Australia, January-February, 2012.
57. "Moving Beyond IT Outsourcing – Can Clouds Transform Science?" Keynote at the 4th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2011), Melbourne, Australia, December 2011.
58. "Cyberinfrastructure and Large Projects – The CIF21 Vision." Presentation at the NSF Project Science Workshop, Fort Lauderdale, FL, USA, November 2010.
59. "Managing Interactions and Couplings in Data-Intensive Scientific Workflows." Supercomputing Professional Interest Community Seminar, IBM T. J. Watson Research Laboratory, Yorktown Heights, NY, September 2010.
60. "Addressing Complexity in Emerging Cyber-Ecosystems - Exploring the Role of Autonomic in Emerging Computational Applications." Colloquium, Department of Electrical and Computer Engineering, The University of Florida, Gainesville, FL, May 2010.
61. "Addressing Complexity in Emerging Cyber-Ecosystems - Exploring the Role of Autonomic in Emerging Computational Applications." Distinguished SCI Seminar, The Scientific Computing and Imaging Institute, The University of Utah, Salt Lake City, Utah, April 2010.
62. "Computational Science and Engineering & Clouds." 7th High Performance Grid Computing Workshop (HPGC 2010), In conjunction with 24th International Parallel and Distributed Computing Symposium (IPDPS 2010), Atlanta, GA, USA, April 2010.
63. "Addressing Complexity in Emerging Cyber-Ecosystems - Exploring the Role of Autonomic in E-Science." 5th EGEE User Forum, Uppsala, Sweden, April 2010.
64. "Addressing Complexity in Emerging Cyber-Ecosystems – Experiments with Autonomic Computational Science." eSI Visitor Seminar, e-Science Institute, Edinburgh, UK, January 2010.
65. "An Autonomic Cloud Engine for Pervasive Cloud Services." Workshop on Service Oriented Computing, 15th IEEE/ACM Conference on High Performance Computing (HiPC), Kochi, India, December 2009.
66. "Transformation of Science through Cyberinfrastructure." IEEE/ACM International Conference on Grid Computing (Grid 2009), Summit 2009 and Open Grid Forum (OGF) 27, Banff, Canada, October, 2009.
67. "Computational Science and Engineering in Emerging Cyber-Ecosystems." 12th IEEE International Conference on Computational Science and Engineering (CSE-09), Vancouver, Canada, August 2009.
68. "On the Role of Autonomic Computing in Emerging Grid Ecosystems." Grid Meets Autonomic Computing Workshop (GMAC'09), 6th IEEE International Conference on Autonomic Computing (ICAC 2009), Barcelona, Spain, June 2009.
69. "Autonomics for Grid/Cloud Systems and Applications: Addressing Complexity through Self-Management." The Sixteenth International Conference on Advanced Computing and Communication (ADCOM 2008), Chennai, India, December 2008.
70. "Autonomics for Grid Systems and Applications: Addressing Grid Complexity through Self-Management." CoreGRID Symposium, in conjunction with Euro-Par 2008, Las Palmas de Gran Canaria, Canary Island, Spain, August 2008.
71. "Computational Support for Dynamic Parallel/Distributed Applications." Distinguished Seminar, CASL, UCD Dublin, Ireland, August 2008.
72. "Autonomics for Grid Systems and Applications." 3rd Workshop on the Use of P2P, GRID and Agents for the Development of Content Networks (UPGRADE-CN'08), in conjunction with the ACM/IEEE International Symposium on High Performance Distributed Computing (HPDC), Boston, MA, USA, June 2008.
73. "Scalable Computing Research: Trends, Challenges and Opportunities." 2nd IEEE Doctoral Symposium, 8th IEEE International Symposium on Cluster Computing and the Grid (CCGrid 2008), Lyon, France, May 2008.
74. "Data-Management in Pervasive Grid Environments – An Applications Perspective." 2nd VLDB Workshop on Data Management in Grids, The 32nd International Conference on Very Large Data Bases (VLDB 2006), Seoul, Korea, September 2006.
75. "Information-driven Science in Pervasive Grid Environments." The IEEE International Conference on Pervasive Services (ICPS 2006), Lyon, France, June 2006.

NFS/OSTP Presentations (2018 – 2023)

1. "Advanced Cyberinfrastructure for the 21st Century,' Presentation at the Minority Serving – Cyberinfrastructure Consortium Community Meeting, Atlanta, GA, May 2023.
2. "Democratizing Science through Cyberinfrastructure: Realizing a Cyberinfrastructure Ecosystem for All,' Electrical Engineering and Computer Science Technical Seminar Series, Speaker Series, University of California, Merced, CA, April 2023.
3. "Advanced Cyberinfrastructure for the 21st Century,' Presentation at the Fall 2022 Meeting of the Coalition for Academic Scientific Computation (CASC), Crystal City, VA, March 2023.
4. "Democratizing Science through Cyberinfrastructure: Realizing a Cyberinfrastructure Ecosystem for All,' Distinguished Speaker Series, University of North Texas, Denton, TX, March 2023.
5. "Democratizing Science through Cyberinfrastructure: Realizing a Cyberinfrastructure Ecosystem for All,' IT Engagement Seminar Series, Center for Biomedical Informatics and Information Technology (CBIIT), National Cancer Institute, National Institutes of Health (NIH), Bethesda, MD, March 2023.
6. "Advancing Technology, Innovation and Partnerships / Democratizing Science through Cyberinfrastructure," Presentation at the Hyperion Research one-day event - "U.S. Competitiveness in the Global High-Performance Computing (HPC) and AI Markets: Recent Changes, Growing Concerns, and Potential Impacts from The CHIPS and Science Act," Washington DC, December 2022.
7. "Democratizing Science through Cyberinfrastructure: Realizing a Cyberinfrastructure Ecosystem for All,' Presentation at the Fall 2022 Meeting of the Coalition for Academic Scientific Computation (CASC), Crystal City, VA, October 2022.
8. "National AI Research Resource Task Force," Workshop on the Computational Foundations of Prosperity, FutureTech, MIT Computer Science and Artificial Intelligence Laboratory, Boston, MA, September 2022.
9. "Democratizing Science through Advanced Cyberinfrastructure," Presentation at the Cyberinfrastructure for Sustained Scientific Innovation (CSSI) PI Meeting, Alexandria, VA, USA, July 2022.
10. "Democratizing Science through Advanced Cyberinfrastructure," Presentation at the Council on Competitiveness – Advanced Computing, June 2022.
11. "Democratizing Science through Advanced Cyberinfrastructure," Keynote at the Texas A&M Research Computing Symposium (RCS), Texas A&M University, College Station, TX, May 2022.
12. "Democratizing Science through Advanced Cyberinfrastructure," Panel Keynote at the Data Intensive Studies Center (DISC) and the Tufts Institution for Artificial Intelligence (TIAI), Tufts University, Boston, MA, April 2022.
13. "Democratizing Science through Advanced Cyberinfrastructure," Keynote at the NSF Cyberinfrastructure for Major Facilities Workshop, Redondo Beach, CA, March 2022.
14. "Advancing Science at Speed and Scale: Innovation, Translation & Advanced Cyberinfrastructure," Keynote at the AI for Cyberinfrastructure Workshop, Institute for Computational and Data Sciences, Penn State University, January 2022.
15. "Transforming Science through Cyberinfrastructure: OAC Vision, Updates, and Strategic Priorities," Presentation at the Fall 2021 Meeting of the Coalition for Academic Scientific Computation (CASC), Virtual, October 2021.
16. "Advancing Science at Speed and Scale: Innovation, Translation & Advanced Cyberinfrastructure," 2nd IEEE International Conference on Autonomic Computing and Self-Organizing Systems - ACSOS 2021, September 2021.
17. "Harnessing Advanced Cyberinfrastructure for Urgent Science," Keynote, The 50th International Conference on Parallel Processing (ICPP), Virtual, August 2021.
18. "Advanced Cyberinfrastructure and the COVID-19 Response," Presentation at the ISC High Performance 2021, Virtual, June 2021.
19. "Advanced Cyberinfrastructure and the COVID-19 Response," Presentation at the HPC User Forum Meeting, Virtual, May 2021.
20. "The Future of NSF Supported Advanced Cyberinfrastructure," Presentation at the Spring 2021 Meeting of the Coalition for Academic Scientific Computation (CASC), Virtual, April 2021.
21. "Pioneering the Future Advanced Computing Ecosystem," Keynote at the 2020 IEEE International Conference on Rebooting Computing (ICRC 2020), December 2020.
22. "Perspectives on Open Science and Open Data from the US National Science Foundation," Panel on *Realizing the Vision of Global Open Science Cloud, Global Open Science Cloud* Workshop, November 2020.
23. "Transforming Science in the 21st Century: NSF's Vision for a National Cyberinfrastructure Ecosystem," NJIT Data Science Seminar, Newark, NJ, USA, October 2020.
24. "The Future of NSF Supported Advanced Cyberinfrastructure: The Software and Data Ecosystem," Presentation at the Panel on Technical Advances in the Era of Big Data Analysis and Visualization, The 10th IEEE Symposium on Large Data Analysis and Visualization in conjunction with IEEE VIS 2020, Salt Lake City, Utah, USA, October 25, 2020.
25. "The Future of NSF Supported Advanced Cyberinfrastructure," Presentation at the Fall 2020 Meeting of the Coalition for Academic Scientific Computation (CASC), Virtual, October 2020.
26. "Transforming Science in the 21st Century: The US HPC Landscape," Keynote at the 10th German HPC Status Conference, Virtual, October 2020.

27. "The Future of NSF Supported Advanced Cyberinfrastructure," Presentation at the Spring 2020 Meeting of the Coalition for Academic Scientific Computation (CASC), Virtual, April 2020.
28. "Addressing the needs for Astronomy and Astrophysics in the 21st Century: NSF's Vision for a National Cyberinfrastructure Ecosystem," Invited Talk at the Panel of an Enabling Foundation for Research Decadal Survey on Astronomy and Astrophysics 2020 (Astro2020), Washington DC, USA, February 2020.
29. "Transforming Science in the 21st Century: NSF's Vision for a National Cyberinfrastructure Ecosystem," Distinguished Lecture, Scientific Computing and Imaging Institute, University of Utah, Salt Lake City, Utah, USA, January 2020.
30. "Transforming Science in the 21st Century: NSF Big Ideas, Advanced Cyberinfrastructure, and the CISE Research Agenda," Invited talk at the 13th Science Council of Japan 13th Symposium on Informatics, Tokyo Japan, January 2020.
31. "Transforming Science in the 21st Century: NSF's Vision for a National Cyberinfrastructure Ecosystem," Keynote, Oklahoma Supercomputing Symposium, University of Oklahoma, Norman OK, USA, September 2019.
32. "Transforming Science in the 21st Century: NSF's Vision for a National Cyberinfrastructure Ecosystem," Invited Talk, 37th Meeting of the Pacific Rim Applications and Grid Middleware Assembly (PRAGMA 37), San Diego, CA, USA, September 2019.
33. "Transforming Science in the 21st Century: NSF's Vision for a National Cyberinfrastructure Ecosystem," Advanced Cyberinfrastructure Town Hall, PEARC 19, Practice Experience in Advanced Research Computing (PEARC) Conference Series, Chicago, IL, USA, July-August 2019.
34. "Transforming Science in the 21st Century: NSF Big Ideas and A Vision for a National Cyberinfrastructure Ecosystem," CUAHSI Conference on Hydroinformatics: Hydroinformatics for Scientific Knowledge, Informed Policy, and Effective Response, Brigham Young University Provo, Utah, July 2019.
35. "Transforming Science in the 21st Century: A Vision for a National Cyberinfrastructure Ecosystem," Conceptualizing a Geospatial Software Institute (GSI) Workshop 3: Strategic Plan and Governance of GSI, Annapolis, MD, July 2019.
36. "National Cyberinfrastructure Coordination Service Conference: Rethinking the Computational Ecosystem for 21st Century Science and Engineering," National Cyberinfrastructure Coordination Service Conference, Alexandria, VA, June 2019.
37. "NSF's Vision for a National Cyberinfrastructure Ecosystem & Cloud Services," AWS Public Sector Summit 2019, Washington DC, June 2019.
38. "Transforming Science through Cyberinfrastructure: NSCI and NSF's Vision for a National Cyberinfrastructure Ecosystem," NSCI Seminar, National Institute for Standards and Technology (NIST), Gaithersburg, MD, USA, May 2019.
39. "Harnessing the Data Revolution: A Convergence of AI/ML, Data Science, and Advanced Cyberinfrastructure Keynote at the New Jersey Big Data Alliance 6th Annual Symposium – The Future of Big Data: Artificial Intelligence and Machine Learning, New Jersey City University, Jersey City, NJ, USA, April 05, 2019.
40. "Cyberinfrastructure & Major Facilities," NSF Large Facilities Workshop, Texas Advanced Computing Center (TACC), Austin, TX, USA, April 2019.
41. "Transforming Science Through Cyberinfrastructure – An OAC Town Hall," Spring 2019 Meeting of the Coalition for Academic Scientific Computation (CASC), Alexandria, VA, March 2019.
42. "National Strategic Computing Initiative – An Update," Council on Competitiveness (CoC) Build of Innovation Dialogue 2, San Diego Supercomputing Center (SDSC), San Diego, CA, USA, March 2019.
43. "Transforming Science through Cyberinfrastructure: Envisioning a Cyberinfrastructure Continuum," Presentation at the Big Data and Extreme-Scale Computing 2 (BDEC2), Bloomington, IN, USA, November 2018.
44. "Transforming Science Through Cyberinfrastructure: Addressing Disruptive Pulls and Pushes," Panel on Technological Advances at the NASEM Workshop on the Future of Advanced/High Performance Computing for Atmospheric, Weather, and Climate Research, National Academies', Washington, DC, November 2018.
45. "Big Data, Cloud Services and the Evolution of the Cyberinfrastructure Ecosystem," Presentation at the AWS Theatre, SC18: The International Conference for High Performance Computing, Networking, Storage, and Analysis, Dallas, TX, USA, November 2018.
46. "Harnessing the Data Revolution: NSF Data Programs and Activities," Workshop on Maximizing the Scientific Return of NASA Data, Washington DC, October 2018.
47. "Transforming Science Through Cyberinfrastructure," ECE Department Distinguished Lecture Series, School of Engineering and Applied Science, George Washington University, Washington DC, October 2018.
48. "Transforming Science Through Cyberinfrastructure," With A. Friedlander, Fall 2018 Meeting of the Coalition for Academic Scientific Computation (CASC), Alexandria, VA, October 2018.
49. "Fostering a Cyberinfrastructure Ecosystem that Transforms Scientific Discovery," Plenary at the NSF Campus Cyberinfrastructure and Cybersecurity Innovation for Cyberinfrastructure PI Workshop, College Park, Maryland, September 2018.
50. "Transforming Science through Cyberinfrastructure," Keynote at 47th International Conference on Parallel Processing (ICPP 2018), Eugene, OR, August 2018.

51. "Rethinking NSF's Computational Ecosystem for 21st Century Science & Engineering," Keynote at the 2nd NRP Workshop: Toward a National Big Data Superhighway, Bozeman, MO, August 2018.
52. "NSF Cyberinfrastructure Town Hall," PEARC18, Pittsburgh, PA, USA July 2018.
53. "NSF Big Ideas, HDR, and the Cyberinfrastructure Ecosystem," Keynote at the 2nd NSF Data Infrastructure Building Blocks (DIBBs) PI Workshop, Arlington, VA, USA, July 2018.
54. "Realizing a Cyberinfrastructure Ecosystem that Transforms Science," Keynote at the Second SAC-PA (Towards Security Assured Cyberinfrastructure in Pennsylvania) Workshop, Pittsburgh, PA, USA, June 2018.
55. "Realizing a Cyberinfrastructure Ecosystem that Transforms Science," Keynote at the 2nd Annual Texas A&M Research Computing Symposium, College Station, TX, USA, June 2018.
56. "Transforming Science Through Cyberinfrastructure," Presentation at the EarthCube 2018 All Hands Meeting, Alexandria, VA, USA, June 2018.
57. "Realizing a Cyberinfrastructure Ecosystem that Transforms Science," Presentation at the 32nd IEEE International Parallel and Distributed Processing Symposium (IPDPS 2018), Vancouver, BC, Canada, May 2018.
58. "Realizing a Cyberinfrastructure Ecosystem that Transforms Science," Keynote at the 2018 HPC Day, Northeastern University, Boston, MA, May 2018.
59. "Envisioning a Cyberinfrastructure Ecosystem for an Era of Extreme Compute and Big Data," NASEM Workshop on Converging Simulation and Data-Driven Science, Washington DC, May 2018.
60. "Realizing a Cyberinfrastructure Ecosystem that Transforms Science," Keynote at the 2018 Internet2 Global Summit, San Diego, CA, May 2018.
61. "Cyberinfrastructure for Facilities," 2018 Large Facilities Workshop, Alexandria, VA, May 2018.
62. "Transforming Science through an Advanced Cyberinfrastructure Ecosystem." Committee on Science Policy Meeting, Society for Industrial and Applied Mathematics (SIAM), Washington DC, April 2018
63. "Evolving Cyberinfrastructure for an Era Extreme Compute and Big Data." Big Data and Extreme Computing (BDEC) – Next Generation Workshop, Chicago, IL, March 2018.
64. "Advancing the Research Cyberinfrastructure Ecosystem." With A. Friedlander, Spring 2018 Meeting of the Coalition for Academic Scientific Computation (CASC), Alexandria, VA, March 2018.

IEEE Distinguished Visitor Presentations

1. "Autonomic Grid Computing: Concepts, Infrastructure and Applications." IEEE Distinguished Speaker, IEEE Richmond Section, Richmond, VA, October 2006.
2. "Autonomic Grid Computing and Computational Science." IEEE Distinguished Speaker, IEEE R Society – Western Puerto Rico Section & CIAPR – Capitulo de Aguadilla, Aguadilla, PR, August 2006.
3. "Computational Support for Dynamic Parallel/Distributed Applications." IEEE Distinguished Speaker, IEEE Computer Society – Western Puerto Rico Section & CIAPR – Capitulo de Aguadilla, Aguadilla, PR, August 2006.
4. "Computational Support for Dynamic Parallel/Distributed Applications." IEEE Distinguished Speaker, IEEE Computer Society – North Jersey Chapter, Morristown, NJ, January 2005.

Selected Invited Presentations

1. "Urgent Computing for Urgent (Decision) Science," DECIDE: Computational Decision Support for High-Consequence, Complex Problems, NITRD/NSF/DoE Workshop, McLean, VA, USA, March 2025.
2. "Utah's Regional Approach to Cyberinfrastructure," NSF CC* PI Meeting, Phoenix, AZ, USA, February 2025.
3. "The National Data Platform (NDP): Democratizing Data and Responsible Artificial Intelligence" Sixth National Research Platform (6NRP) Workshop, University of California, San Diego, January 2025.
4. "From the edge to HPC – Harnessing the Digital Continuum for Science," DISCOVER-US Webinar Series, December 2024.
5. "Democratizing Responsible AI for Innovation and Impact," Professors Emeriti Club, University of Utah, Salt Lake City, UT, USA, November 2024.
6. "Democratizing Data and Responsible Artificial Intelligence," INES TEC, Porto, Portugal, October 2024.
7. "Democratizing Responsible AI for Innovation and Impact," 2nd Silicon Slopes AI Summit, Utah Valley University, Orem, UT, USA, September 2024.
8. "Beyond HPC-Envisioning a Cyberinfrastructure Continuum for Science," Smoky Mountains Computational Sciences & Engineering Conference, Knoxville, TN, USA, September 2024.
9. "Democratizing Responsible AI," Invited talk, Workshop on Clusters, Clouds, and Data for Scientific Computing (CCDSC 2022), Chemin de Chanzé, France, September 2024.
10. "Harnessing the Edge for Science," Presentation at the 32nd International Advanced Workshop on High Performance Computing – State of the Art, Emerging Disruptive Innovations, and Future Scenarios, Cetraro, Italy, USA, June 2024.
11. "Exploring Cloud Control for Urgent Science," 17th Cloud Control Workshop, Skåvsjöholm, Sweden, June 2024.
12. "Democratizing Responsible AI," Workshop on New Approaches to Characterize Industries: AI as a Framework and a

Use Case," Stanford University, Palo Alto, CA, March 18, 2024.

13. "Computing Everywhere, All at Once: Harnessing the Computing Continuum for Science," 15th International Conference on Contemporary Computing (IC3 2023), Nodia, India, August 03 - 05, 2023.
14. "Harnessing the Edge-HPC Continuum for Science," Salishan Conference on High-Speed Computing, Gleneden Beach, Oregon, April 2023.
15. "Harnessing the Computing Continuum for Urgent Science," Invited talk, 10th Multicore World Conference, Wellington, New Zealand, February, 2023.
16. "A Translational Perspective on End-to-End Workflows," Workflows Community Summit, November 2023.
17. "Returning to the Scene of the Crime: Perspective on Translational Computer Science Research," Invited talk, Workshop on Clusters, Clouds, and Data for Scientific Computing (CCDSC 2022), Chemin de Chanzé, France, September 2022.
18. "Data-Management for Extreme Science: Experiences in Translational Computer Science Research," Seminar, Department of Computer Science and Engineering, Indian Institute of Technology (IIT) Bombay, Mumbai, India, July 2022.
19. "Towards the Intelligent Discovery and Delivery of Major Facility Data," Presentation at the 30th International Advanced Workshop on High Performance Computing – State of the Art, Emerging Disruptive Innovations, and Future Scenarios, Cetraro, Italy, USA, July 2022.
20. "Advancing Reproducibility in Parallel and Distributed Systems Research," Research Data Alliance (RDS), Plenary Session on Digital Badging for Research Data & Software, International Data Week (IDW) 2022, Seoul, South Korea, June 2022.
21. "Big Data and Extreme-Scales: Computational Science in the 21st Century," Seminar, FONDA - Foundations of Workflows for Large-Scale Scientific Data Analysis, DFG Collaborative Research Center 1404 at Humboldt-Universität zu Berlin, Germany, March 2022.
22. "Highlights from the IEEE CS Ad Hoc Committee on Open Science & Reproducibility," SC 2021 BoF: Software Engineering and Reuse in Modeling, Simulation, and Data Analytics for Science and Engineering, November 2021.
23. "Intelligent Data Management for Extreme-Scales In-Situ Workflows," Invited Talk at the 6th International Workshop on Data Analysis and Reduction for Big Scientific Data (DRBSD-6), in conjunction with SC 2020, November 2020.
24. "Harnessing the Computing Continuum for Urgent Science," Vision Talk, International Workshop on Distributed Cloud Computing (DCC 2020), in conjunction with ACM SIGMETRICS 2020, May 2020.
25. "Computing in the Continuum: Harnessing a Pervasive Data Ecosystem," Vision Talk at 15th eScience Conference, San Diego, CA, USA, September 2019.
26. "Computing in the Continuum: Harnessing a Pervasive Data Ecosystem," Short Course on Data Science, Sao Paulo School of Advanced Science on Learning from Data, Institute of Mathematics and Statistics of the University of Sao Paulo (USP), Sao Paulo, Brazil, July-August, 2019.
27. "New Jersey: Driving Innovation via Advanced Cyberinfrastructure," NASSCOM Business Collaboration Workshop, Rutgers University, New Brunswick, NJ, USA, July 2019.
28. "Computational and Data-Enabled Science and Engineering," Invited Presentation at the "Workshop on From data to models and decisions in engineering systems," ASME Dynamic Systems and Control Conference (DSCC), Atlanta, GA, USA, September 2018.
29. "Enabling Data-Driven Edge/Cloud Application Workflows," Invited Presentation at the Workshop on Clusters, Clouds, and Data for Scientific Computing (CCDSC 2018), Lyon, France, September 2018.
30. "Data Management, In-Situ Workflows and Extreme Scales," Presentation at the 25th International Advanced Workshop on High Performance Computing – From Clouds and Big Data to Exascale and Beyond, Cetraro, Italy, USA, July 2018.
31. "Data Management, In-Situ Workflows and Extreme Scales," Presentation at the Computing@PNNL Seminar Series, Richland, WA, USA, June 2018.
32. "Transforming Agriculture Science Through Advanced Cyberinfrastructure," Seminar on Technology and Innovation in Agriculture, Department of Agriculture, Food and Resource Economics and NJAES Office of Economic Development, Rutgers University, North Brunswick, NJ, March 2018.
33. "Data Cyberinfrastructure for End-to-end Science: Experiences from the Ocean Observatories Initiative," Invited Talk at the NJEdge Annual Conference (NJEdgeCon2018), Whippany, NJ, USA, January 2018.
34. "Scalable Data Resilience for In-Memory Data Staging in DataSpaces," Birds of a Feather Session on Resilient Programming Environments, SC'17, The ACM/IEEE International Conference for High Performance Computing, Networking Storage and Analysis, Denver, CO, USA, November 2017.
35. "Parallel Programming Models," Experiencing HPC for Undergraduates: Introduction to HPC Research, SC'17, The ACM/IEEE International Conference for High Performance Computing, Networking Storage and Analysis, Denver, CO, USA, November 2017.
36. "Supporting Data-driven Workflows Enabled by Large Scale Observatories," Invited talk at the First International Workshop on Workflow Science (WoWS 2017), in conjunction with the Thirteenth IEEE eScience Conference, Auckland, New Zealand, October 2017.

37. "Data Cyberinfrastructure for End-to-end Science: Experiences from the Ocean Observatories Initiative," Closing Talk at the Birds of a Feather Session on Trends in use of scientific workflows in different science disciplines, 2017 eResearch Australasia Conference, Brisbane, Australia, October 2017.
38. "Computing in the Continuum – Harnessing a Pervasive Data Ecosystem," Seminar, École des Mines de Nantes, Nantes, France, September 2017.
39. "Computing in the Continuum – Harnessing a Pervasive Data Ecosystem," International Workshop on Urban Data Science, Rochester, NY, USA, July 2017.
40. "DataSpaces: An Extreme Scale Data Staging Service," Intel HPDD Presentation, Online, July 2017.
41. "Data-driven (Online) Computing in the Continuum," 3rd Nordic e-Infrastructure Conference, Umea, Sweden, June 2017.
42. "Scheduling and Data Placement for In-Situ Workflows at Extreme Scale." 12th Scheduling for Large Scale Systems Workshop, University of Tennessee at Knoxville, Knoxville, TN, USA, May 2017.
43. "Software-Defined Environments for Science," Invited Presentation at the Workshop on Software Composable Infrastructure (SCI), 23rd Annual IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC 2016), Hyderabad, India, December 2016.
44. "Exploring Software-Defined Environments for Science," Invited Presentation at the Workshop on Clusters, Clouds, and Data for Scientific Computing (CCDSC 2016), Lyon, France, October 2016.
45. "Transforming Cancer Informatics through Extreme Compute and Data," Chalk Talk at Rutgers Cancer Institute of New Jersey Clinal Investigation and Precision Therapeutics Research Program, New Brunswick, NJ, USA, July 26, 2016.
46. "Big Data Challenges in Simulation-based Science." Invited Talk, International Advanced Research Workshop on High Performance Computing – From Clouds and Big Data to Exascale and Beyond (HPC 2016), Cetraro, Italy, June 27 – July 01, 2016.
47. "Scheduling and Data Placement for In-Situ Workflows at Extreme Scale." 11th Scheduling for Large Scale Systems Workshop, Vanderbilt University, Nashville, TN, USA, May 2016.
48. "Big Data Challenges in Simulation-based Science." Invited Seminar, B. Thomas Golisano College of Computing and Information Science, Rochester Institute of Technology, Rochester, NY, USA, April 2016.
49. "Big Data Challenges in Simulation-based Science." Invited Plenary Talk, EPSRC Symposium: Discrete Mathematics & Big Data, University of St Andrews, St. Andrews, UK, February 2016.
50. "Big Data Challenges in Simulation-based Science." Invited talk at Cardiff University, Cardiff, UK, October 2015.
51. "Data-Management for Staging-based In-situ Workflows." Sandia National Laboratory, Livermore, CA, USA, September 2015.
52. "Adaptive Data-Management for Staging-based In-situ Workflows." Argonne National Laboratory, Argonne, IL, USA, July 2015.
53. "Big Data Challenges in Simulation-based Science." Invited talk at the Innovative Computing Laboratory, University of Tennessee, Knoxville, TN, USA, April 2015.
54. "Exploiting Emerging Computational Platforms for Computational Chemistry." Novel Tools in Computational Chemistry Coding workshop (NTC3), Rutgers Institute for Data Science, Learning, and Applications, Rutgers University – Newark, Newark, NJ, USA, April 2015.
55. "Big Data Challenges in Simulation-based Science." Invited talk at Supercomputing Frontiers 2015, Singapore, March 2015.
56. "Management and Processing of Massive Data Sets: From Extreme Data to Extreme Insights." Workshop on Big Data for Transportation Infrastructure Management, Center for Advanced Infrastructure and Transportation (CAIT), Rutgers University, Piscataway, NJ, USA, December 2014.
57. "Parallel Programming Models." Experiencing HPC for Undergraduates, Broader Engagement Program, SC'14, The ACM/IEEE International Conference for High Performance Computing, Networking Storage and Analysis, New Orleans, LA, USA, November 2014
58. "Exploring Cloud as Enablers of Science." Seminar, The Laboratory for Education and Research on Security Assured Information Systems (LERSAIS), University of Pittsburgh, Pittsburgh, PA, USA, September 2014.
59. "Exploring Cloud as Enablers of Science." Monash Undergraduate Research Projects Abroad (MURPA), Monash University, Melbourne, Australia, August 2014.
60. "Exploring Autonomics for Cloud Federations." Workshop on Cloud Control, Lund Center for Control of Complex Engineering Systems (LCCC), Lund University, Lund, Sweden, May 2014.
61. "Big Data Challenges in Simulation-based Science." Invited Seminar, University of Florida, Gainesville, FL, USA, April 2014.
62. "Big Data Challenges in Simulation-based Science." Invited Seminar, Leibniz-Rechenzentrum, Garching, Germany, April 2014.
63. "Exploring Clouds as Enablers of Science." The IEEE North Jersey Section Computer Society Chapter and the Gildart Haase School of Computer Sciences and Engineering at Fairleigh Dickinson University, Teaneck, NJ, April 2014.
64. "Big Data Challenges in Simulation-based Science." ECpE Colloquium, Iowa State University, Ames, IA, March 2014.

65. "Big Data Challenges in Simulation-based Science." PPPL Colloquium, Princeton Plasma Physics Laboratory (PPPL), Princeton, NJ, January 2014.
66. "Using Elastic Resource Federations to Enable Large-scale Scientific Workflows." Texas Advanced Computing Center (TACC) Booth at SC'2013, Denver, CO, November 2013.
67. "Exploring Energy Challenges and Tradeoffs for Science Workflows at Extreme Scales." Electrical and Computer Engineering Department and Computer Science Department Seminar Series, Colorado State University, Fort Collins, CO, November 2013.
68. "Moving From Extreme Data to Extreme Insights – Addressing Emerging Data Challenges in Simulation based Science." Lockheed Martin / IEEE Computer Society Webinar Series, June 2013.
69. "Moving From Extreme Data to Extreme Insights – Addressing Emerging Data Challenges in Simulation based Science." Department of Electrical and Computer Engineering, Iowa State University, Ames, IA, April 2013.
70. "From Data to Insights - Addressing Data Challenges in Simulation-based Science." Invited Seminar, Princeton ACM/IEEE-CS Chapter, Princeton, NJ, April 2013.
71. "Exploring Autonomics for Clouds using CometCloud." Seminar, IBM T. J. Watson Research Laboratory, Yorktown Heights, NY, March 2013.
72. "Data Management Challenges Extreme Scales." Exascale Research Conference, Arlington, VA, USA, October 2012.
73. "From Data to Insights - Addressing Data Challenges in Simulation-based Science." Computational Science and Engineering Seminar, Institute of High Performance Computing, Agency for Science, Technology and Research (A*STAR), Singapore, July, 2012.
74. "Cloud Paradigms and Practices for Computational and Data-enabled Science and Engineering, Invited Talk, Workshop on System Management Techniques, Processes, and Services (SMTPS), 26th IEEE International Parallel & Distributed Processing Symposium (IPDPS 2012), Shanghai, China, May 2012.
75. "From Data to Insights - Addressing Data Challenges in Simulation-based Science." Invited Seminar at Digital Science Center at Indiana University, Bloomington, Indiana, USA, February 2012.
76. "Addressing the Petascale Data Challenge using In-Situ Analytics." Invited Presentation, The 2nd International Workshop on Petascale Data Analytics: Challenges, and Opportunities (PDAC-11), in conjunction with ACM/IEEE SC11, Seattle, WA, USA, November 2011.
77. "Introducing Cloud Computing." Invited Presentation, Broader Engagement Program at ACM/IEEE SC11, Seattle, WA, USA, November 2011.
78. "Sustaining a Global Shared Software Infrastructure." Invited Presentation, US-China Collaborations in Computer Science and Sustainability: A Workshop, DIMACS Center, Rutgers University, Piscataway, NJ, USA, September, 2011.
79. "Transforming Science Through Cyberinfrastructure." Invited Presentation, Rutgers University, Piscataway, NJ, USA, November 2010.
80. "Autonomic Provision of Virtualized Data Centers and Clouds using Online Clustering." Invited Talk, 6th Workshop on System Management Techniques, Processes, and Services (SMTPS), 24th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2010), Atlanta, GA, USA, April 2010.
81. "On the Role of Clouds in Computational Science and Engineering, Colloquium, Department of Computational and Data Sciences, George Mason University, Fairfax, VA, USA, February 2010.
82. "Investigating Application-Centric Aggressive Power Management for HPC Workloads." ORNL Quarterly Review, Annapolis Junction, MD, USA, October 2009.
83. "Research Themes in Autonomics and Computational Science." AF Rome Laboratories, Rome, NY, USA, July 2009.
84. "On the Role of Autonomics in Emerging Computational Ecosystems." Seminar, College of Computer Science, Zhejiang University, Hangzhou, China, May 2009.
85. "On the Role of Autonomics in Emerging Computational Ecosystems." Seminar, Division of Scientific Computing, Department of Information Technology, Uppsala University, Uppsala, Sweden, April 2009.
86. "Computing Engines for the Clouds (and Grids)." Seminar, Department of Electrical Engineering and Computer Science, Northwestern University, Chicago, Illinois, USA, April 20
87. "Computing Engines for the Clouds." Seminar, Xerox Research Laboratories, Webster, New York, USA, February 2009.
88. "Enabling Science on Emerging Computational Ecosystems." Seminar, Office of Cyberinfrastructure, National Science Foundation, Arlington, VA, USA, January 2009.
89. "Computing Engines for the Clouds." Seminar, IBM India Research Laboratories, New Delhi, India, December 2008.
90. "Addressing Challenges of Adaptivity and Scale in Parallel Scientific Applications." Seminar Series, Department of Computer Science, Drexel University, Philadelphia, PA, May 2008.
91. "Autonomic for Data/Information-Driven Science and Engineering." Invited Seminar, Department of Computer Science, Florida International University, Miami, FL, April, 2008.
92. "Addressing Challenges of Adaptivity and Scale in Parallel Scientific Applications." Seminar Series, Department of Computer Science, Watson School of Engineering and Applied Sciences, Binghamton University (State University of New York), Binghamton, NY, USA, March 2008.

93. "Autonomics for Computational Science & Engineering." Invited Presentation, Distributed Programming Abstractions Workshop, Mardi Gras Conference 2008, Baton Rouge, LA, USA, January, 2008.
94. "Autonomic Grid Computing: Concepts, Infrastructure and Applications." Seminar, National Institute of Oceanography, Goa, India, December 2007.
95. "Autonomic Grid Computing: Concepts, Infrastructure and Applications." Technical Seminar, ACM Bangalore Chapter, Bangalore, India, December 2007.
96. "Enabling CyberPhysical Science & Engineering." Invited Presentation, Distributed Programming Abstractions Workshop, UK e-Science Center, Edinburgh, UK, October-November, 2007.
97. "Autonomic Grid Computing: Concepts, Infrastructure and Applications." Telcordia Technologies, Piscataway, NJ, July 2007.
98. "Autonomic Grid Computing: Concepts, Infrastructure and Applications." Seminar, Department of Computer and Science, Indiana University, Purdue University, Indianapolis (IUPUI), Indianapolis, IN, USA, March 2007.
99. "Addressing Challenges of Adaptivity and Scale in Parallel Scientific Applications." HPC Seminar Series, Computational Science & Engineering, College of Computing, Georgia Institute of Technology, Atlanta, GA, USA, January 2007.
100. "Autonomic Grid Computing: Concepts, Infrastructure and Applications." CSSE Seminar, Department of Computer Science and Software Engineering, University of Melbourne, Melbourne, Victoria, Australia, November, 2006.
101. "Middleware Service for Sensor Systems in Dynamic Data-Driven Oil Applications." Industry Affiliates Meeting, Center for Subsurface Modeling, University of Texas at Austin, Austin, TX, October 2006.
102. "Computational Support for Dynamic Parallel/Distributed Applications." Seminar, IEEE Student Branch and Department of Electrical and Computer Engineering, Virginia Commonwealth University, Richmond, VA, October 2006.
103. "Autonomic Grid Computing: Concepts, Infrastructure and Applications." Seminar, Department of Computer Science, Sogang University, Seoul, Korea, September 2006.
104. "Information-driven Science and the Cyberinfrastructure: Opportunities for Collaboration at Rutgers." Symposium on Information Technology for Research: The Impact of the National Cyberinfrastructure, Rutgers University, Piscataway, NJ, April 2006.
105. "Enabling Self-Management of Component-based High-Performance Scientific Applications." Technical Presentation, CCA Meeting, Saratoga Springs, NY, October 2005.
106. "Enabling Next Generation Knowledge-based Data-driven Scientific Investigation." Seminar, Department of Computer Science and Center for Computation and Technology, Louisiana State University, Baton Rouge, LA, February 2005.
107. "Decentralized Information Sharing in Grid Environments." Invited Seminar, Siemens Corporate Research, Princeton, NJ, January 2005.
108. "Enabling Next Generation Adaptive and Interactive Computational Science." CERCS Colloquium, Georgia Institute of Technology, Atlanta, GA, December 2005.
109. "Autonomic Computing: Foundations for a New Era in Computing." European Commission – US National Science Foundation Strategic Research Workshop on Unconventional Programming Paradigms: Challenges, Visions and Research Issues for New Programming Paradigms, Mont Saint-Michel, France, September 2004.
110. "Autonomic Grid Computing and Subsurface Modeling and Simulations." DoE INEEL, Idaho Falls, ID, June 2004.
111. "Grid Computing: An Evolving Vision." Avaya Labs Research, Basking Ridge, NJ, March 25, 2004.
112. "Grid Computing: An Evolving Vision." Science on Saturdays, Princeton University Plasma Physics Laboratory Lecture Series, Princeton, NJ, February 14, 2004. (Lecture series for high-school seniors, attendance ~325.)
113. "Autonomic Oil Reservoir Optimization using Decentralized Services." SUN High Performance Computing Consortium, Phoenix, AZ, November 14-16, 2003.
114. "Autonomic Grid Computing." Technical Presentation, CAIP Annual Research Review, Rutgers University Piscataway, NJ, November 2003.
115. "Computational Support for Adaptive Parallel/Distributed Applications." Invited talk, Workshop on Parallel Adaptive Computing, Hohenwart, Germany, November 2003.
116. "Autonomic Computing and Subsurface Modeling and Simulation." Industrial Affiliates Workshop, Center for Subsurface Modeling, ICES, University of Texas at Austin, Austin, TX, October 2003.
117. "Grid Computing – An Overview." Technical Presentation, Informatics Track, The Laboratory Robotics Interest Group, Mid Atlantic Chapter Meeting, Somerset, NJ, September 2003.
118. "Autonomic Applications for Pervasive Environments." Technical Presentation, WINLAB Research Review, Rutgers University Piscataway, NJ, May 2003.
119. "Autonomic Grid Computing." Technical Presentation, CAIP Industrial Advisory Board Meeting, Rutgers University Piscataway, NJ, May 2003.
120. "Autonomic Computational Science and Engineering (Autonomic Computing – An Applications Perspective)." Workshop on Emerging and Future Computing Paradigms and their Impact on the Research, Training and Design

Environments of the Aerospace Workforce, NASA Langley Research Center, Hampton, VA, March 2003.

121. "Towards Autonomic Simulations on the Grid." Seminar, Computing Sciences Research, Bell Labs, Lucent Technologies, Murray Hill, NJ, March 2003.
122. "Enabling Interactive SAMR Simulations on the Grid." Minisymposium on PDE Solvers Based on Adaptive Mesh Refinement, Department of Scientific Computing, Uppsala University, Uppsala, Sweden, December 2002.
123. "Engineering the DISCOVER Computational Collaboratory." Computer Science Colloquium, Princeton Plasma Physics Laboratory, Princeton University, NJ, December 2002.
124. "Enabling Adaptive and Interactive Multiphysics/Multimodel Reservoir Simulations on the Grid." Industrial Affiliates Workshop, Center for Subsurface Modeling, Texas Institute for Computational and Applied Mathematics, University of Texas at Austin, Austin, TX, October 2002.
125. "Enabling Adaptive and Interactive Simulations on the Grid." Computer Science Colloquium, California Institute of Technology, CA, April 2002.
126. "Engineering the DISCOVER Computational Collaboratory." Computer Science Colloquium, University of Texas at Austin, Austin, TX, January 2002.
127. "Engineering the DISCOVER Computational Collaboratory." Computer Science Colloquium, Ohio State University, Columbus, OH, December 2001.
128. "The DISCOVER Computational Collaboratory for Computational Epidemiology." CAIP Symposium on Homeland Security, Center for Advanced Information Processing, Rutgers, The State University of New Jersey, Piscataway, NJ, November 2001.
129. "A Computational Collaboratory for Interactive Reservoir Simulation." Industrial Affiliates Workshop, Center for Subsurface Modeling, Texas Institute for Computational and Applied Mathematics, University of Texas at Austin, Austin, TX, October 2001.
130. "Enabling ASCI-Scale Distributed Adaptive Mesh Refinement." ASCI/ASAP Research Review, DOE ASCI/ASAP Center of Excellence, California Institute of Technology, Pasadena, CA, October 2001.
131. "Engineering a Computational Collaboratory on the Grid: An Overview of the DISCOVER Project." Seminar, IBM T. J. Watson Research Center, IBM, Hawthorne, NY, September 2001.
132. "Engineering a Computational Collaboratory on the Grid: An Overview of the DISCOVER Project." Colloquium, Information Technology Center, King Faisal University of Petroleum and Minerals, Dhahran, Saudi Arabia, August 2001.
133. "Enabling Distributed Adaptive and Interactive Simulations." ASCI/ASAP Research Review, DOE ASCI/ASAP Center of Excellence, California Institute of Technology, Pasadena, CA, June 2001.
134. "Adaptive Runtime Management of AMR Applications." Computational Science Seminar, Combustion Research Facility, Sandia National Laboratories, Livermore, CA, April 2001.
135. "Enabling the Next Generation Collaborative and Interactive Reservoir Simulations." Industrial Affiliates Workshop, Center for Subsurface Modeling, Texas Institute for Computational and Applied Mathematics, University of Texas at Austin, Austin, TX, October 2000.
136. "IPARS Web Interface: Remote Launching, Visualization, Steering, and Collaborative Environment." NSF CRPC Research Presentations, ACCESS Center, Washington DC, September 2000.
137. "Scalability of Irregular Adaptive Mesh Refinement." Scalability Workshop, ACM International Conference on Supercomputing, Santa Fe, NM, May 11-12, 2000.
138. "Parallel, Distributed and Interactive Adaptive Mesh Refinement." ASCI/ASAP Research Review, DOE ASCI/ASAP Center of Excellence, California Institute of Technology, Pasadena, CA, March 2000.
139. "Engineering a Computational Collaboratory for the Next-Generation Distributed Reservoir Simulators." Industrial Affiliates Workshop, Center for Subsurface Modeling, Texas Institute for Computational and Applied Mathematics, University of Texas at Austin, Austin, TX, October 1999.
140. "Performance and Scalability of Adaptive Mesh-Refinement Applications on Very Large Parallel/Distributed Systems." ASCI/ASAP Research Review, DOE ASCI/ASAP Center of Excellence, California Institute of Technology, Pasadena, CA, October 1999.
141. "Computational Support for Parallel/Distributed Adaptive Applications in Numerical Relativity." High Performance Computing Workshop, NCSA, University of Illinois, Urbana-Champaign, IL, September 1999.
142. "DICE: A Distributed Interactive Computational Engine." Max-Planck Institute, Potsdam, Germany, February 1999.
143. "Computational Engines for Distributed AMR Applications." ASCI/ASAP Research Review, DOE ASCI/ASAP Center of Excellence, California Institute of Technology, Pasadena, CA, December 1998.
144. "MACE: An Adaptive Computational Engine for Distributed Interactive Multi-Block Simulations." Industrial Affiliates Workshop, Center for Subsurface Modeling, Texas Institute for Computational and Applied Mathematics, University of Texas at Austin, Austin, TX, October 1998.
145. "Towards Distributed Computational Collaboratories." Seminar, Mathematics Computer Science Division, Argonne National Laboratories, Argonne, IL, June 1998.

146. "Parallel Adaptive Mesh-Refinement." NASA AMR Workshop, NASA/Goddard Space Flight Center, Greenbelt, MD, April 1998.
147. "Data-Management for Parallel Adaptive Applications in Relativity." Computer Science Colloquium, Drexel University, Philadelphia, PA, December 1997.
148. "Engineering a Problem-Solving Environment for Parallel Adaptive Oil-Reservoir Simulation." Industrial Affiliates Workshop, Center for Subsurface Modeling, Austin, TX, November 1997.
149. "Engineering a Computational Infrastructure for Parallel Adaptive Applications." Colloquium, Mathematics and Computer Science Division, Argonne National Laboratory, Argonne, IL, April 1997.
150. "Distributed Dynamic Data-Management for Parallel Adaptive Applications."
151. Computer Science Colloquium, University of Chicago, Chicago, IL, April 1997.
152. Computer Science Colloquium, Rensselaer Polytechnic Institute, Troy, NY, April 1997.
153. Computer Science Colloquium, Rutgers University, New Brunswick, NJ, March 1997.
154. "Engineering a Computational Infrastructure for Distributed Dynamic Applications." Computer Science Colloquium, Southern Methodist University, Dallas, TX, February 1997.
155. "Constructing a Problem-Solving Environment for Porous Media Flow Computations." Invited theater presentation, IEEE/ACM Supercomputing '96, Pittsburgh, PA, November 1996.
156. "Computational Infrastructure for Parallel Adaptive Porous Media Computations." Invited presentation, ACTI Industrial Affiliates Meeting, Center for Subsurface Modeling, Texas Institute for Computational and Applied Mathematics, University of Texas at Austin, Austin, TX, November 1996.
157. "Common Computational Infrastructure for Parallel Adaptive Algorithms." Invited presentation, Los Alamos National Laboratory, Los Alamos, NM, October 1996.
158. "Data-Management Support for Distributed Dynamic Computations." Colloquium, Mathematics and Computer Science Division, Argonne National Laboratory, Argonne, IL, May 1996.
159. "Data-Management Support for Distributed Dynamic Computations." Computer Science Colloquium, Syracuse University, Syracuse NY, May 1996.
160. "An Infrastructure for Parallel Adaptive Applications." Workshop on Parallel Infrastructures for Applications, University of Texas at Austin, Austin, TX, April 1996.
161. "Data-Management Support for Distributed Dynamic Computations." Computer Science Colloquium, Indiana University, Bloomington, IN, March 1996.
162. "Data-Management Support for Distributed Dynamic Computations." Computer Science Colloquium, University of Illinois, Urbana, IL, February 1996.
163. "Data-Management Support for Laser-Plasma Interaction Fluid Codes." Poster presentation at APS `95, Plasma Physics Division, Louisville, KY, November 1995.
164. "Data-Management Support for Parallel Adaptive Applications." Invited poster presentation, Fifth Annual Industrial Affiliates Meeting, Center for Subsurface Modeling, Texas Institute for Computational and Applied Mathematics, University of Texas at Austin, TX, October 1995.
165. "Problem Solving Environments for Parallel Adaptive Computations." Invited presentation, ARPA-NSF Workshop on Scalable Scientific Software Libraries and Problem Solving Environments, Purdue University, Lafayette, IN, September 1995.
166. "Programming Abstractions and Distributed Data-Structures Support for Parallel Adaptive MeshRefinement." Special Session on AMR, Parallel Objects Oriented Methods and Applications Conference (POOMA), Santa Fe, NM, December 1994.
167. "Data-Management Infrastructure and Computational Toolkit Design." Presentations at NSF GrandChallenge workshops: University of Illinois, Urbana-Champaign (November 1994), University of Texas at Austin (January 1995), Cornell University (May 1995), University of Illinois, Urbana-Champaign (June 1995), University of Texas at Austin (October 1995).

Selected Recent Demonstrations

1. "InfiniCortex: Concurrent Supercomputing across the Globe Utilizing Trans-Continental Infiniband and Galaxy of Supercomputers." Emerging Technologies Showcase, SC'14, The ACM/IEEE International Conference for High Performance Computing, Networking Storage and Analysis, New Orleans, LA, USA, November 2014.
2. "Accelerating Asynchronous Replica Exchange on Large-Scale Distributed Heterogeneous HPC Resources." 5th IEEE International Scalable Computing Challenge (SCALE 2012), in conjunction with the 12th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing, Ottawa, Canada, May 2012.
3. "A Scalable Ensemble-based Oil-Reservoir Simulations using Blue Gene/P-as-a-Service", 4th IEEE International Scalable Computing Challenge (SCALE 2011), in conjunction with the 11th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing at Newport Beach CA, USA, May 2011. **(Winner)**
4. "Coupling Scientific Fusion Simulations at Extreme Scales", 4th IEEE International Scalable Computing Challenge

(SCALE 2011), in conjunction with the 11th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing at Newport Beach CA, USA, May 2011.
5. "CO_2 Sequestration on HPC Clouds." Supercomputing 2010, New Orleans, LA, November 2010.
6. "Autonomic Workflow Management on Hybrid Clouds using CometCloud." ACS ITO Client Symposium, Orlando, FA, USA, October 2010.
7. "System Level Acceleration and Interactive Supercomputing." Supercomputing 2009, Portland, OR, November 2009.
8. "Clustering Analysis for the Management of Self-Monitoring Device Networks." ACM/IEEE International Symposium on High Performance Distributed Computing (HPDC), Boston, MA, USA, June 2008.
9. "Clustering Analysis for the Management of Self-Monitoring Device Networks." 5th IEEE International Conference on Autonomic Computing (ICAC 2008), Chicago, IL, USA, June 2008.
10. "System Level Acceleration for Oil Reservoir Modeling." Supercomputing 2006, Tampa, FL, November 2006.
11. "Where is oil, dude? Supporting Dynamic Data-driven Oil Reservoir Studies on the Grid." Supercomputing 2004, Pittsburgh, PA, November 2004.
12. "Autonomic Reservoir Optimization using Decentralized Services." SUN, Supercomputing 2003, Phoenix, AZ, November 2003.
13. "vGrid: Autonomic Runtime Management of Grid Applications." 12th International Symposium on High Performance Distributed Computing, Seattle, WA, USA, June 2003.
14. "Collaborative Exploration of Oil Reservoir Simulation Data in the Grid." Supercomputing 2002, Baltimore, MD, November 2002.
15. "Autonomic Reservoir Optimization using DISCOVER." Industrial Affiliates Workshop, Center for Subsurface Modeling, Texas Institute for Computational and Applied Mathematics, University of Texas at Austin, Austin, TX, October 2002.
16. "Collaborative Exploration of Oil Reservoir Simulation Data in the Grid." Industrial Affiliates Workshop, Center for Subsurface Modeling, Texas Institute for Computational and Applied Mathematics, University of Texas at Austin, Austin, TX, October 2002.
17. "Economics-Based Interactive Steering of Oil Reservoir Simulation." NSF NPACI, Supercomputing 2001, Denver, CO, November 2001.
18. "Interactive and Collaborative Reservoir Simulations with DISCOVER and IPARS." IBM and NSF NPACI, Supercomputing 2000, Dallas, TX, November 2000.
19. "An Interactive Computational Collaboratory of Research and Instruction." CAIP Annual Review, Center for Advanced Information Processing, Rutgers University, Piscataway, NJ, November 2000.
20. "A Web-Based Computational Collaboratory for Remote Access to Distributed Simulations" NSF CRPC Access Center, Washington, DC, September 2000.
21. "Interactive and Collaborative Simulations in the Virtual Test Facility" Annual Research Review, DOE ASCI/ASAP Center of Excellence, California Institute of Technology, Pasadena, CA, October 2000.

Professional Contributions

Journal/Book Editorial/Advisory Boards

1. Editor in Chief, IEEE Transactions on Parallel and Distributed Computing (TPDS), IEEE Computer Society Press, 01/18 – Present. (Founder and lead, IEEE TPDS Reproducibility Initiative).
2. Co-Editor in Chief, ACM Transactions on Autonomous and Adaptive Systems (TAAS), ACM Press, 04/11 – 07/17.
3. Associate Editor in Chief, IEEE Transactions on Parallel and Distributed Computing (TPDS), IEEE Computer Society Press, 02/14 – 12/17.
4. Department Editor, Case Studies in Translational Computer Science, IEEE Computing in Science & Engineering Magazine, 2021 – Present.
5. Member of the Editorial Board, Proceedings of the IEEE, IEEE Press, 12/20 – Present.
6. Associate Editor, ACM Computing Surveys (CSUR), ACM Press, 09/13 – Present.
7. Associate Editor, IEEE Transactions on Cloud Computing (TCC), IEEE Computer Society Press (in partnership with IEEE Communications Society, IEEE Systems Council, IEEE Power & Energy Society, and IEEE Consumer Electronics Society), 01/13 – Present.
8. Associate Editor, IEEE Transactions on Service Computing (TSC), IEEE Computer Society Press, 01/13 – 04/22.
9. Associate Editor, IEEE Transactions on Computers (TC), IEEE Computer Society Press, 09/11 – 06/15.
10. Associate Editor, IEEE Transactions on Big Data (TBD), IEEE Computer Society Press, 12/14 – 08/18.
11. Data* Track Co-Editor & Member of Editorial Board, IEEE Computing in Science & Engineering (CiSE), IEEE Computer Society Press, 11/12 – 12/20.

12. Member of Editorial Board, IEEE Internet of Things Journal (IoT-J), IEEE Sensor Council, IEEE Communications Society, IEEE Computer Society, and IEEE Signal Processing Society, IEEE Press, 07/13 – 12/20.
13. Chair of Steering Committee, IEEE Cloud Computing Magazine, IEEE Computer Society and Communications Society, 03/13.
14. Member of Editorial Board, Journal of Cloud Computing Advances, Systems and Applications (JoCCASA), Springer, 11/12.
15. Member of Editorial Board, Journal of Parallel and Distributed Computing (JPDC), Elsevier, 03/10 – 04/17.
16. Member of Editorial Board, Sustainable Computing: Informatics and Systems (SUSCOM), Elsevier, 06/10 – 12/15.
17. Member of Editorial Board, "Concurrency and Computation: Practice and Experience (CCPE)." John Wiley & Sons, 05/01 – Present.
18. Member of Editorial Board, "Cluster Computing: The Journal of Networks, Software Tools, and Applications (Cluster)." Kluwer Academic Publishers, 02/02 – Present.
19. Member of Editorial Board, Services Transactions on Internet of Things (STIOT), Services Society, 07/16.
20. Associate Editor, IEEE Transactions on Parallel and Distributed Computing (TPDS), IEEE Computer Society Press, 08/06 – 12/10.
21. Member of Editorial Board, "International Journal of Autonomic Computing (IJAC)", Inderscience Publishers, 02/08.
22. Member of Editorial Board, "Multiagent and Grid Systems – An International Journal." IOS Press, 01/06.
23. Member of Editorial Board, "International Journal of Grid and Utility Computing." Inderscience Publishers, 08/03.
24. Member of Editorial Board, "International Journal of Autonomous and Adaptive Communications Systems." Inderscience Publishers, 05/07.
25. Member of Advisory Board, "International Transactions on Systems Science and Applications." ISSN 17511461, 05/06.
26. Member of Editorial Board, "Autonomic Systems." Birkhauser Publishers, 06/08.
27. Member of Editorial Board, Computing, Springer, 02/11 – 12/14.

Conference/Workshop Steering Committees

1. ACM/IEEE International Conference for High Performance Computing, Networking Storage and Analysis (SC'XY), 2014 – Present.
2. ACM International Symposium on High Performance Parallel and Distributed Computing (HPDC), 2005 – Present.
3. IEEE International Conference on High Performance Computing (HiPC), 2009 – Present.
4. IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid), 2008 – Present.
5. IEEE/ACM International Conference on Utility and Cloud Computing (UCC), 2011 – Present.
6. ISC Cloud & Conference Series, 2014 – 2015.
7. Co-Founder, ACM International Conference on Autonomic Computing (ICAC), 2004 – Present.
8. IEEE International Conference on Contemporary Computing (IC3), Present.
9. International Conference on Self-Organization and Autonomic Systems in Computing and Communications (SOAS), 2006 – Present.
10. IEEE/ACM International Conference on Green Computing and Communications, 2010.
11. IEEE International Conference on Big Data and Distributed Systems (BDDS), 2012.

Conference/Workshop General Chair

1. General Co-Chair, 12th IEEE/ACM International Conference on Big Data Computing, Applications, and Technologies (BDCAT 2025), Nantes, France, December 2025.
2. General Co-Chair, 52nd International Conference on Parallel Processing (ICPP 2023), Salt Lake City, Utah, USA, August 2023.
3. General Co-Chair, IEEE Cloud 2023, IEEE World Congress on Services (IEEE Services 2023), Chicago, Illinois, USA, July 2023.
4. General Co-Chair, 18th IEEE International eScience Conference (eScience 2022), Salt Lake City, Utah, USA, September 2022.
5. General Co-Chair, 40th IEEE International Conference on Distributed Computing Systems (ICDCS 2020), Singapore, July 2020.
6. General Co-Chair, The IEEE International Conference on Autonomic Computing and Self-Organizing Systems (ACSOS 2020), The 1st joint conference of the International Conference on Autonomic Computing (ICAC) and the International Conference on Self-Adaptive and Self-Organizing Systems (SASO), Washington DC, USA, August 2020.
7. General Co-Chair, The 29th ACM International Symposium on High-Performance Parallel and Distributed Computing, (HPDC 2020), Stockholm, Sweden, June 2020.
8. General Co-Chair, IEEE International Conference on Internet of Things (ICIOT 2019), part of the 2019 IEEE Services, Milan, Italy, July 2019.
9. General Co-Chair, 3rd IEEE International Conference on Internet of Things (ICIOT 2018), part of the 2018 IEEE

Services, San Francisco, CA, USA, July 2018.

10. General Co-Chair, 17th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Madrid, Spain, May 2017.
11. General Co-Chair, The IEEE 4th International Conference on Future Internet of Things and Cloud (FiCloud 2016), Vienna, Austria, August 2016.
12. General Co-Chair, 2015 International Conference on Data Science and Data Intensive Systems (DSDIS 2015), Sydney, Australia, December 2015.
13. General Co-Chair, 4th IEEE International Conference on Big Data and Cloud Computing (BDCloud 2014), Sydney, Australia, December 2014.
14. General Chair, 3rd International Workshop on Collaborative Cloud (CollabCloud 2014), in conjunction with the 10th IEEE International Conference on Collaborative Computing: Networking, Applications and Worksharing, Miami, FL, USA, October 2014.
15. General Co-Chair, 1st International Workshop on Software-Defined Ecosystems (BigSystem 2014), Co-located with the 23rd ACM International Symposium on High-Performance Distributed Computing (HPDC 2013), Vancouver, Canada, June 23-27, 2014.
16. General Chair, 28th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2014), Phoenix, AZ USA, May 2014.
17. General Chair, 3rd IEEE International Conference on Cloud and Green Computing (CGC 2013), Karlsruhe, Germany, September-October 2013.
18. General Co-Chair, International Workshop on Advanced Technologies of Cloud Computing, in conjunction with the 42nd International Conference on Parallel Processing (ICPP), Lyon, France, October 2013
19. General Co-Chair, 22nd ACM International Symposium on High-Performance Distributed Computing (HPDC 2013), New York, NY, USA, June 2013.
20. General Co-Vice Chair, 19th IEEE International Conference on High Performance Computing (HiPC 2012), Pune, India, December 2012.
21. General Co-Chair, 9th International Conference on Autonomic and Trusted Computing (ATC 2012), Fukuoka, Japan, September 2012.
22. General Co-Chair, 18th IEEE International Conference on High Performance Computing (HiPC 2011), Bangaluru, India, December 2011.
23. Vice General Co-Chair, IEEE International Conference on Utility and Cloud Computing (UCC 2011), Melbourne, Australia, December 2011.
24. General Co-Chair, 17th IEEE International Conference on High Performance Computing (HiPC 2010), Goa, India, December 2010.
25. General Co-Chair, IEEE International Conference on Utility and Cloud Computing (UCC 2010), Chennai, India, December 2010.
26. General Chair, 7th IEEE International Conference on Autonomic Computing (ICAC 2010), Washington DC, USA, June 2010.
27. General Chair, Ph.D. Forum, 24th IEEE International Parallel and Distributed Processing Symposium, Atlanta, GA, USA, April 2010.
28. General Co-Chair, 16th IEEE International Conference on High Performance Computing (HiPC 2009), Kochi, India, December 2009.
29. General Co-Chair, 15th IEEE International Conference on High Performance Computing (HiPC 2008), Bangalore, India, December 2008.
30. General Co-Chair, 17th IEEE International Symposium on High Performance Distributed Computing (HPDC), Boston, MA, USA, June 2008.
31. General Co-Chair, IEEE International Conference on Pervasive Services (ICPS 2008), Sorrento, Italy, July 2008.
32. General Co-Chair, 14th IEEE International Conference on High Performance Computing (HiPC 2007), Goa, India, December 2007.
33. General Co-Chair, 13th IEEE International Conference on High Performance Computing (HiPC 2006), Bangalore, India, December 2006.
34. General Co-Chair, 3rd IEEE International Conference on Autonomic Computing (ICAC 2006), Dublin, Ireland, June 2006.
35. General Co-Chair, 12th IEEE International Conference on High Performance Computing (HiPC 2005), Goa, India, December 2005.
36. General Co-Chair, 1st IFIP Workshop on Trusted and Autonomic Ubiquitous and Embedded Systems (TAUES-05), in conjunction with the 2005 IFIP International Conference on Embedded and Ubiquitous Computing (EUC'2005), Nagasaki, Japan, December 2005.
37. General Co-Chair, 2nd IEEE International Conference on Autonomic Computing (ICAC 2005), Seattle, WA, June 2005.

38. General Co-Chair, 1st International Workshop on Reliability and Autonomic Management in Parallel and Distributed Systems (RAMPDS 2005), in conjunction with the 11th International Conference on Parallel and Distributed Systems (ICPADS 2005), Fukuoka City, Japan, July 2005.
39. General Chair, High Performance Computing Symposium (HPC 2005), Advanced Simulation Technologies Conference 2005 (ASTC 2005), Society of Modeling and Simulation International, San Diego, CA, April 2005.
40. General Co-Chair, IEEE International Conference on Pervasive Services, Beirut, Lebanon, July 2004.
41. General Co-Chair and **Co-founder**, 1st IEEE International Conference on Autonomic Computing, in conjunction with the 13th IEEE International World Wide Web Conference, New York, NY, May 2004.

Conference/Workshop Program Chair/Vice Chair

1. Topic Area Chair "Applications & Use Cases," ISC High Performance 2025, Hamburg, Germany, June 2025.
2. Program Co-Chair, The 25th IEEE/ACM international Symposium on Cluster, Cloud and Internet Computing (CCGrid 2025), Tromso, Norway, May, 2024.
3. Topic Area Chair "Applications & Use Cases," ISC High Performance 2024, Hamburg, Germany, May 2024.
4. Program Vice Chair, The 22nd IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing (CCGrid 2022), Taormina (Messina), Italy, May 2022.
5. Program Area Chair, Multidisciplinary Track, 34th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2020), New Orleans, LA, USA, May 2020.
6. Program Co-Chair, 30th International Symposium on Computer Architecture and High-Performance Computing (SBAC-PAD 2018), Lyon, France, October 2018.
7. Program Co-Chair, 2nd IEEE International Conference on Internet of Things (ICIOT 2017), part of the 2017 IEEE Services and BigData Congress, Honolulu, Hawaii, USA, June 2017.
8. Program Co-Chair, 5th IEEE International Conference on Mobile Services (MS 2016), part of the 2016 IEEE Services and BigData Congress, San Francisco, CA, USA, June – July 2016.
9. Program Co-Chair, 8th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2015), Cyprus, December 2015.
10. Program Co-Chair, 2nd IEEE/ACM International Symposium on Big Data Computing (BDC 2015), Cyprus, December 2015.
11. Program Co-Chair, IEEE International Conference on Cloud Computing in Emerging Markets (CCEM 2015), Bangalore, India, November 2015.
12. Program Vice-Chair, Big Data and Massive Storage Systems Track, 21st IEEE International Conference on Parallel and Distributed Systems (ICPADS 2015), Melbourne, Australia, December 2015.
13. Program Co-Chair, 8th International Conference on Contemporary Computing, Noida, India, August 2015.
14. Vice Program Chair, Autonomic Computing and Cyberinfrastructure Track, 15th IEEE International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2015), Shenzhen, China, May 2015.
15. Program Co-Chair, 2015 IEEE International Conference on Cloud Engineering (IC2E 2015), Phoenix, AZ, USA, April 2015.
16. Program Co-Chair, International Symposium on Big Data Computing (BDC 2014), in conjunction with the 7th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2014), London, UK, December 2014.
17. Program Co-Chair, 7th International Conference on Contemporary Computing, Noida, India, August 2014.
18. Program Co-Chair, 6th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2013), Dresden, Germany, December 2013.
19. Program Vice-Chair, Applications Track, 25th International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD), Porto de Galinhas, Brazil, October 2013.
20. Program Chair, 6th International Conference on Contemporary Computing, Noida, India, August 2013.
21. Application & Industry Track Chair, IEEE International Conference on Cloud Computing (CLOUD 2013), Santa Clara, CA, USA, June-July 2013,
22. Program Chair, 7th International Workshop on Virtualization Technologies in Distributed Computing (VTDC-2013), in conjunction with the 22nd ACM International Symposium on High-Performance Distributed Computing (HPDC 2013), New York, NY, USA, June 2013.
23. Program Chair, 1st International Workshop on Energy Efficient High Performance Distributed Computing (EEHPDC-2013), in conjunction with the 22nd ACM International Symposium on High-Performance Distributed Computing (HPDC 2013), New York, NY, USA, June 2013.
24. Program Co-Chair, International Conference on Cloud Research and Innovation (ICCRI 2013), CloudAsia 2013, Singapore, May 2013.
25. Program Co-Chair, 7th International Conference on Frontier of Computer Science and Technology (FCST12), Suzhou, China, November 2012
26. Program Co-Chair, 5th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2012), Chicago, IL,

USA, November 2012.
27. Program Chair, 41st International Conference on Parallel Processing (ICPP 2012), Pittsburgh, PA, USA, September 2012.
28. Program Chair, 5th International Conference on Contemporary Computing, Noida, India, August 2012.
29. Program Vice Chair, Grid and Cloud Computing Track, International Conference on Computer Communication Networks (ICCCN 2012), Munich, Germany, July–August, 2012.
30. Program Co-Chair, IEEE 9th International Conference on Services Computing (SCC 2012), Waikiki, Honolulu, Hawaii, USA, June 2012.
31. Vice Program Chair, Middleware, Autonomic Computing, and Cyberinfrastructure Track, 12th IEEE International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2012), Ottawa, Canada, May 2012.
32. Program Co-Chair, Workshop on Collaborative, Autonomic, and Resilient Defenses for Cyber Physical Systems (CyPhyCARD'2011), in conjunction with CollaborateCom 2011, Orlando, FL, USA, October 2011.
33. Program Co-Chair, Systems Track, 4th International Conference on Contemporary Computing, Noida, India, August 2011.
34. Program Co-Chair, 3rd IEEE Cloud Computing Conference (CLOUD 2011), Washington DC, USA, July 2011.
35. Vice Program Chair, Middleware, Autonomic Computing, and Cyberinfrastructure Track, 11th International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2011), Newport Beach, CA, USA, May 2011.
36. Program Chair, 10th IEEE International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2010), Melbourne, Australia, May 2010.
37. Vice Program Chair, Autonomic Computational Science Track, The 11th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2009), Lyon, France, November 2009.
38. Program Co-Chair, International Conference on Grid computing, high-performAnce and Distributed Applications (GADA'09), Vilamoura, Algarve, Portugal, November 2009.
39. Program Co-Chair, 6th IEEE International Conference on Autonomic Computing (ICAC 2009), Barcelona, Spain, June 2009.
40. Program Co-Chair, 5th International Conference on Distributed Computing and Internet Technologies (ICDCIT), New Delhi, India, December 2008.
41. Vice Program Chair, 8th International Symposium on Cluster Computing and the Grid (CCGrid 2008), Lyon, France, May 2008.
42. Vice Program Chair, International Conference on Self-Organization and Autonomic Systems in Computing and Communications (SOAS'2006), Erfurt, Germany, September 2006.
43. Program Co-Chair, 3rd International Conference on Autonomic and Trusted Computing (ATC-06), Wuhan and Three Gorges, China, September 2006.
44. Vice Program Chair, Peer-to-Peer Computing, 35th International Conference on Parallel Processing (ICPP 2006), Columbus, OH, August 2006.
45. Vice Program Chair, Autonomic Computing, 26th IEEE International Conference on Distributed Computing Systems (ICDCS-26), Lisbon, Portugal, July 2006.
46. Vice Program Chair, Peer-to-Peer Computing, The 2005 International Conference on High Performance Computing and Communications (HPCC 2005), Sorrento (Naples), Italy, September 2005.
47. Program Co-Chair, 14th IEEE International Symposium on High Performance Distributed Computing (HPDC 2005), Research Triangle Park, NC, July 2005.
48. Program Chair, Challenges of Large Applications in Distributed Environments, IEEE International Workshop on Heterogeneous and Adaptive Computation (CLADE), in conjunction with the 14th IEEE International Symposium on High Performance Distributed Computing, Honolulu, HI, June 2004.
49. Program Chair, High Performance Computing Symposium (HPC 2004), ASTC 2004, Arlington, VA, April 2004.
50. Program Chair, Autonomic Computing Workshop, 5th IEEE International Workshop on Active Middleware Services, in conjunction with the 13th IEEE International Symposium on High Performance Distributed Computing, Seattle, WA, June 2003.
51. Program Chair, 3rd. International Workshop on Grid Computing, in conjunction with Supercomputing 2002, Baltimore, MD, November 2002.

Miscellaneous Conference/Workshop Leadership / Miscellaneous Service

1. BOF Co-Organizers, "Agriculture Empowered by Supercomputing," ISC High Performance 2025, Hamburg, Germany, June 2025.
2. Co-Organizer, DECIDE: Computational Decision Support for High-Consequence, Complex Problems, NITRD/NSF/DoE Workshop, McLean, VA, USA, March 2025.
3. Member, CRA Awards Nominations Committee, 2025.
4. HPDC Achievement Award Chair, 34th International Symposium on High-Performance Parallel and Distributed Computing, Notre Dame, IN, USA, July 2025.

5. 3rd Workshop on Urgent Analytics for the Computing Continuum (Quick'25), co-located with the 25th IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing (CCGrid 2025), Tromso, Norway, May 2025.
6. Member of Advisory Board, 6th International Conference on Autonomic Computing and Self-Organizing Systems (ACSOS 2025), Tokyo, Japan, September 2025.
7. BOF Co-Organizers, "Bridging the Data Gaps to Democratize AI R&D," ACM/IEEE SC 2024, the 36th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 24), Atlanta, GA, USA, November 2024.
8. BOF Co-Organizers, "Workflows Community: Collaborative Pathways for Designing an Integrated Infrastructure for Research Excellence," ACM/IEEE SC 2024, the 36th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 24), Atlanta, GA, USA, November 2024.
9. BOF Co-Organizers, "Meeting HPC Community Needs: How ACM SIGHPC, IEEE TCPP/TCHPC, and SIAG-SC/CSE Join Efforts to Engage Communities and Deliver Services," ACM/IEEE SC 2024, the 36th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 24), Atlanta, GA, USA, November 2024.
10. BOF Co-Organizers, "Agriculture Empowered by Supercomputing," ACM/IEEE SC 2024, the 36th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 24), Atlanta, GA, USA, November 2024.
11. Keynote, Plenary Panel, and Invited Speakers Committee and Panels Committee, ACM/IEEE SC 2024, the 36th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 24), Atlanta, GA, USA, November 2024
12. 2nd Workshop on Urgent Analytics for the Computing Continuum (Quick'24), co-located with the 24th IEEE/ACM international Symposium on Cluster, Cloud and Internet Computing (CCGrid 2024), Philadelphia, PA, USA, May 2024.
13. Area Chair, NeurIPS 2023 Datasets and Benchmarks, New Orleans, LA, USA, December 2023.
14. 1st Workshop on Urgent Analytics for the Computing Continuum (Quick'23), co-located with Euro-Par 2023, Limassol, Cyprus, August 2023.
15. BOF Co-Organizers, "The Future of NSF Supported Advanced Cyberinfrastructure." ACM/IEEE SC 2019, the 32nd IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 19), Denver, CO, USA, November 2019-2022.
16. Invited Speakers Chair, ACM/IEEE SC 2019, the 32nd IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 19), Denver, CO, USA, November 2019.
17. BOF Co-Organizers, "U.S. Strategic Computing – An Update." ACM/IEEE SC 2019, the 32nd IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 19), Denver, CO, USA, November 2019.
18. BoF Co-Organizers, "Enabling Data Services for HPC." ACM/IEEE SC 2019, the 32nd IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 19), Denver, CO, USA, November 2019.
19. BOF Co-Organizers, "TCHPC Career Panel." ACM/IEEE SC 2019, the 32nd IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 19), Denver, CO, USA, November 2019.
20. Workshop Co-Organizer, "3rd International Workshop on the Convergence of Extreme Scale Computing and Big Data Analysis (CEBDA 2019)" in conjunction with the 19th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Larnaca, Cyprus, May 2019.
21. Workshops Co-Chair, 25th International Conference on High Performance Computing (HiPC 2018), Bangaluru, India, December 2018.
22. BoF Co-Organizers, "Enabling Data Services for HPC." ACM/IEEE SC 2018, the 31st IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 18), Dallas, TX, USA, November 2018.
23. BOF Co-Organizers, "TCHPC Career Panel." ACM/IEEE SC 2018, the 31st IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 18), Dallas, TX, USA, November 2018.
24. BOF Co-Organizers, "The Future of NSF Supported Advanced Cyberinfrastructure." ACM/IEEE SC 2018, the 31st IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 18), Dallas, TX, USA, November 2018.
25. Workshop Co-Organizer, "2nd International Workshop on the Convergence of Extreme Scale Computing and Big Data Analysis (CEBDA 2018)" in conjunction with the 32nd IEEE International Parallel and Distributed Computing Symposium (IPDPS 2018), Vancouver, British Columbia Canada, May 2018.
26. Member of Selection Committee, 2018 TCPP Outstanding Service and Contribution Award, May 2018.
27. BOF Co-Organizers, "TCHPC Career Panel." ACM/IEEE SC 2018, the 31st IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 18), Dallas, TX, USA, November 2018.
28. Workshops Co-Chair, 24th International Conference on High Performance Computing (HiPC 2017), Jaipur, India,

December 2017.
29. Member, ACM IEEE-CS George Michael Memorial HPC Fellowship Selection Committee, 2017.
30. Workshop Co-Chair, Workshop on InfoSymbiotics: DDDAS Dynamic Data Driven Applications Systems, In conjunction with the Foundations and Applications of Self* Systems (FAS*), Tucson, Arizona, USA, September 2017.
31. Workshop Co-Chair, Workshop on InfoSymbiotics: International Workshop on Autonomic Systems for Big Data Analytics (ASBDA 2017), In conjunction with the Foundations and Applications of Self* Systems (FAS*), Tucson, Arizona, USA, September 2017.
32. Track Co-Chair, Data Centers and Big Data Computing Track, International Conference on Computer Communication and Networks (ICCCN 2017), Vancouver, Canada, August 2017.
33. Track Chair, Special Track on Vision/Blue Sky Thinking, 37th IEEE International Conference on Distributed Computing Systems (ICDCS 2017), Atlanta, GA, USA, June 2017.
34. Workshop Co-Organizer, "XGreen 2017: Energy Efficiency and Sustainability in Large Scale Distributed Systems." in conjunction with the 17th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Madrid, Spain, May 2017.
35. Workshop Co-Organizer, "Workshop on the Integration of Extreme Scale Computing and Big Data Management and Analytics (EBDMA)." in conjunction with the 17th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Madrid, Spain, May 2017.
36. Workshops Co-Chair, 23rd International Conference on High Performance Computing (HiPC 2016), Hyderabad, India, December 2016.
37. Chair, ACM IEEE-CS George Michael Memorial HPC Fellowship, 2016.
38. Birds of a Feather (BOF) Chair, 29th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 16), Salt Lake City, UT, USA, November 2016.
39. Workshop Co-Organizer, 7th SC Workshop on Big Data Analytics: Challenges and Opportunities, ACM/IEEE Supercomputing 2016, 29th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 16), Salt Lake City, UT, USA, November 2016.
40. Track Co-Chair, Self-* and Autonomic Computing Track, 18th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2016), Lyon, France, November 2016.
41. SCALE Challenge Chair, 16th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2016), Cartagena, Columbia, May 2016.
42. Workshops Co-Chair, 22nd International Conference on High Performance Computing (HiPC 2015), Bangalore, India, December 2015.
43. Posters Chair, 28th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 15), Austin, TX, USA, November 2015.
44. Committee Member, ACM IEEE-CS George Michael Memorial Fellowships, ACM/IEEE International Conference for High Performance Computing, Networking Storage and Analysis (SC'15), Austin, TX, USA, November 2015.
45. Workshop Co-Organizer, 6th SC Workshop on Big Data Analytics: Challenges and Opportunities, ACM/IEEE Supercomputing 2015, the 28th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 15), Austin, TX, USA, November 2015.
46. Member of Steering Committee, 1st International Workshop on Data-Centric Infrastructure for Big Data Science (DIBS), in conjunction with the IEEE International Conference on Big Data, CA, USA, October-November 2015.
47. Member of the Organizing Committee, DOE Data Management, Visualization, and Analysis of Experimental and Observational Data (EOD) Workshop, Rockville, MD USA, April 2015.
48. Workshop Co-Organizer, Third Workshop on Sustainable Software for Science: Practice and Experiences (WSSSPE), Co-located with 10th Gateway Community Environments (GCE15) Workshop, Boulder, CO, USA, September 2015.
49. Workshop Co-Organizer, "ExtremeGreen 2015: Extreme Green & Energy Efficiency in Large Scale Distributed Systems." in conjunction with the 15th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Shenzhen, China, May 2015.
50. Member of the Organizing Committee, DOE Workshop on the Future of Scientific Workflows, Rockville, MD USA, April 2015.
51. Workshop Co-Organizers, "Novel Tools in Computational Chemistry Coding workshop (NTC3)." Rutgers Institute for Data Science, Learning, and Applications, Rutgers University – Newark, Newark, NJ, USA, April 2015.
52. Workshop Co-Organizer, Second Workshop on Sustainable Software for Science: Practice and Experiences (WSSSPE), ACM/IEEE Supercomputing 2014, the 27th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 14), New Orleans, LA, USA, November 2014.
53. Workshop Co-Organizer, 5th SC Workshop on Big Data Analytics: Challenges and Opportunities, ACM/IEEE Supercomputing 2014, the 27th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 14), New Orleans, LA, USA, November 2014.
54. Workshop Co-Organizer, "ExtremeGreen 2014: Extreme Green & Energy Efficiency in Large Scale Distributed

Systems." in conjunction with the 14th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Chicago, IL, USA, May 2014.

55. Workshop Co-Organizer, First Workshop on Sustainable Software for Science: Practice and Experiences (WSSSPE), ACM/IEEE Supercomputing 2013, the 26th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 13), Denver, CO, USA, November 2013.
56. Workshop Co-Organizer, 4th SC Workshop on Petascale Data Analytics: Challenges and Opportunities, ACM/IEEE Supercomputing 2013, the 26th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 13), Denver, CO, USA, November 2013.
57. BOF Co-Organizers, "Harnessing Accelerator Technology for Next-Gen Sequencing Bioinformatics." ACM/IEEE Supercomputing 2013, the 26th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 13), Denver, CO, USA, November 2013.
58. Member of Steering Committee, International Conference on Advances in Computing, Communications and Informatics (ICACCI-2013), Mysore, India, August 2013.
59. BOF Organizer, "Science Clouds." XSEDE'13, the 2nd Conference of the Extreme Science and Engineering Discovery Environment, San Diego, CA, USA, July 2013.
60. Workshop Co-Organizer, International Workshop on Energy Efficient High Performance Parallel and Distributed Computing (EEHPDC-2012), in conjunction with the 22nd ACM International Symposium on High-Performance Distributed Computing (HPDC 2013), New York, NY, USA, June 2013.
61. Member of Steering Committee, 10th International Conference on Frontiers of Information Technology (FIT), Islamabad, Pakistan, December 2012.
62. BOF Organizer, "Science-as-a-Service: Exploring Clouds for Computational and Data-Enabled Science and Engineering." the 25th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 12), Salt Lake City, Utah, USA, November 2012.
63. Workshop Organizer, 3rd SC Workshop on Petascale Data Analytics: Challenges and Opportunities, ACM/IEEE Supercomputing 2012, the 25th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 12), Salt Lake City, Utah, USA, November 2012.
64. BOF Organizer, "Cloud Computing for Science: Challenges and Opportunities." XSEDE'12, the 1st Conference of the Extreme Science and Engineering Discovery Environment, Chicago, IL, USA, July 2012.
65. Member of Steering Committee, 4th Workshop on Many-Task Computing on Grids and Supercomputers (MTAGS) 2011 in conjunction with IEEE/ACM Supercomputing/SC 2011, Seattle, WA, USA, November 2011.
66. Member of Steering Committee, 2nd International Workshop on Data Intensive Computing in the Clouds (DataCloud-SC11) in conjunction with IEEE/ACM Supercomputing/SC 2011, Seattle, WA, USA, November 2011.
67. Member of Steering Committee, 1st Workshop on Data Intensive Computing in the Clouds (DataCloud 2011), in conjunction 25th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2011), Anchorage, Alaska, USA, May 2011.
68. Workshop Co-Organizer, Workshop on Autonomic Computational Science, in conjunction with the 11th IEEE/ACM International Conference on Grid Computing, Brussels, Belgium, October 2010.
69. Workshop Co-Organizer, 1st International Workshop on Energy Efficient High-Performance Computing (EEHiPC'10), in conjunction with the 17th International Conference on High Performance Computing (HiPC 2010), Goa, India, December 2010.
70. Proceedings Chair and Member of Organizing Committee, Workshop on Secure Knowledge Management (SKM 2010), New Brunswick, NJ, USA, October 2010.
71. Co-Chair of International Advisory Committee, The IEEE International Workshop on Trusted and Autonomic Computing Systems, 20th IEEE International Conference on Advanced Information Networking and Applications (AINA 2006), Vienna, Austria, April 2006.
72. Member of Steering Committee, IEEE International Conference on Pervasive Services (ICPS), 2004 – 2008.
73. Workshop Co-Organizer, Abstractions for Distributed Applications and Systems, 4th IEEE International Conference on e-Science (eScience 2008), Indiana, USA, December 2008.
74. Organizer, Workshop on Autonomics for Grid and Datacenters, 8th International Symposium on Cluster Computing and the Grid (CCGrid 2008), Lyon, France, May 2008.
75. Publicity Co-Chair, 7th International Symposium on Cluster Computing and the Grid (CCGrid 2007), Rio de Janeiro, Brazil, May 2007.
76. Member of Steering Committee, Chair, High Performance Computing Symposium (HPC), SCS SpringSim Conference, 2005 – 2007.
77. Symposium organizer, 15th SIAM Conference on Parallel Processing for Scientific Computing, San Francisco, CA, February 2006.
78. Publicity Co-Chair, 5th International Symposium on Cluster Computing and the Grid (CCGrid 2005), Cardiff, UK, May 2005.

79. Member of Steering Committee, Challenges of Large Applications in Distributed Environments, International Workshop on Heterogeneous and Adaptive Computation (CLADE), 2003 – 2005.
80. Publicity Chair, 11th International Conference on High Performance Computing (HiPC 2004), Bangalore, India, December 2004.
81. Member of Steering Committee, IEEE International Workshop on Active Middleware Services (Autonomic Computing Workshop), 2003.
82. Publicity Chair, 10th International Conference on High Performance Computing (HiPC 2003), Hyderabad, India, December 2003.
83. Organizer, Autonomic Applications Workshop, in conjunction with the 10th International Conference on High Performance Computing (HiPC 2003), Hyderabad, India, December 2003.
84. Member of Scientific Organizing Committee, Workshop on Structured Adaptive Mesh Refinement, ASCI/Alliances Center for Astrophysical Thermonuclear Flashes at the University of Chicago, Chicago, Il, June 2003.
85. Symposium organizer, 10th SIAM Conference on Parallel Processing for Scientific Computing, Portsmouth, VA, March 2001.
86. Symposium organizer, Ninth SIAM Conference on Parallel Processing for Scientific Computing, San Antonio, TX, March 1999.
87. Publicity Chair, Sixth International Symposium on High Performance Distributed Computing (HPDC-6), Portland, OR, August 1997.
88. Publicity Chair, Fifth International Symposium on High Performance Distributed Computing (HPDC-5), Syracuse, NY, August 1996.

Miscellaneous Conference/Workshop Program Committees

1. Member of Program Committee, ACM/IEEE SC 25, The IEEE/ACM International Conference for High Performance Computing, State of the Practice Track, St. Louis, MO, USA, November 2025.
2. Member of Program Committee, 2024 ACM Conference on Reproducibility and Replicability (ACM REP '24), Rennes, France, June 2024.
3. Member of Program Committee, 4th International Conference on Autonomic Computing and Self-Organizing Systems (ACSOS 2023), Toronto, Canada, September 2023.
4. Member of Program Committee, ACM/IEEE SC 22, The IEEE/ACM International Conference for High Performance Computing, State of the Practice Track, Dallas, TX, USA, November 2022.
5. Member of Program Committee, ACM/IEEE SC 19, The IEEE/ACM International Conference for High Performance Computing, State of the Practice Track, Denver, CO, USA, November 2019.
6. Member of Program Committee, 15th IEEE International Conference on Autonomic Computing (ICAC'18), Trento, Italy, September 2018.
7. Member of Program Committee, 38th IEEE International Conference on Distributed Computing Systems (ICDCS'18), Industry & Experimentation Track, Vienna, Austria, July 2018.
8. Member of Program Committee, 27th ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC'18), Tempe, Arizona, USA, June 2018.
9. Member of Program Committee, 32nd IEEE International Parallel & Distributed Processing Symposium (IPDPS 2018), Primary Member of the Applications Track, Vancouver, Canada, May 2018.
10. Member of Program Committee, 8th NSF/TCPP Workshop on Parallel and Distributed Computing Education (EduPar-18), in conjunction with the 33rd IEEE International Parallel & Distributed Processing Symposium (IPDPS 2018), Vancouver, Canada, May 2018.
11. Member of Program Committee, 6th International Workshop on Clouds and (eScience) Applications Management - CloudAM 2017, in conjunction with 10th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2017), Austin, TX, USA, December 2017.
12. Member of Program Committee, 6th International Conference on Cloud Computing Technology and Science (CloudCom 2017), Distributed Cloud / Cloud Brokering / Edge and Fog Computing Track, Hong Kong, December 2017.
13. Member of the Research Posters Committee, 30th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 17), Denver, CO, USA, November 2017.
14. Member of Program Committee, 5th CDER/TCPP Workshop on Education for High-Performance Computing (EduHPC-17), In conjunction with 30th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 17), Denver, CO, USA, November 2017.
15. Member of Program Committee, ISAV 2017: In Situ Infrastructures for Enabling Extreme-scale Analysis and Visualization, In conjunction with the 30th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 17), Denver, CO, USA, November 2017.
16. Member of Program Committee, 13th International Conference on eScience (eScience 2017), Auckland, New Zealand, October 2017.

17. Member of Program Committee, 1st Workshop on Workflow Science (WoWS 2017), In conjunction with the 13th International Conference on eScience (eScience 2017), Auckland, New Zealand, October 2017.
18. Member of Program Committee, IEEE International Conference on Cluster Computing (Cluster 2017), Data, Storage, and Visualization Track, Honolulu, Hawai, USA, September 2017.
19. Member of Program Committee, IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2017), Tucson, AZ, USA, September 2017.
20. Member of Program Committee, 46th International Conference on Parallel Processing (ICPP 2017), Applications Track, Bristol, UK, August 2017.
21. Member of Program Committee, Education Track, 2017 International Conference on Contemporary Computing (IC3), Noida, India, August 2017.
22. Member of Program Committee, International Workshop on Autonomic High Performance Computing (AHPC) 2017, in conjunction with the 2017 International Conference on High Performance Computing & Simulation (HPCS 2017), Genova, Italy, July 2017.
23. Member of Program Committee, 26th ACM International Symposium on High-Performance Distributed Computing (HPDC 2017), Washington DC, USA, May-June 2017.
24. Member of Program Committee, 31st IEEE International Parallel & Distributed Processing Symposium (IPDPS 2017), Primary Member of the Applications Track, Orlando, FL, USA, May-June 2017.
25. Member of Program Committee, 7th CDER/TCPP Workshop on Parallel and Distributed Computing Education (EduPar-17), in conjunction with the 32nd IEEE International Parallel & Distributed Processing Symposium (IPDPS 2017), Orlando, FL, USA, May-June 2017.
26. Member of International Program Committee, TopHPC2017 – Advances in High Performance Computing and Big Data Analytics in the Exascale Era, Tehran, Iran, April 2017.
27. Member of Program Committee, 9th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2016), Shanghai, China, December 2016.
28. Member of Program Committee, the 3rd IEEE/ACM International Conference on Big Data Computing, Applications and Technologies (BDCAT 2016), Shanghai, China, December 2016.
29. Member of Program Committee, 2016 IEEE International Conference on Big Data, Washington D.C., USA, November 2016.
30. Member of Program Committee, 2nd International Conference on Internet of Things (S2 ICIOT 2016), Services Society, Hunan, China, August 2016.
31. Member of Program Committee, IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2016), Augsburg, Germany, September 2016.
32. Member of Program Committee, IEEE International Conference on Cluster Computing (Cluster 2016), Data, Storage, and Visualization Track, Taiwan, September 2016.
33. Member of Program Committee, 45th International Conference on Parallel Processing (ICPP 2016), Applications Track, Philadelphia, PA, USA, September 2016.
34. Member of Program Committee, International Symposium on Cloud Computing and Services for High Performance Computing Systems (InterCloud-HPC 2016), Co-located with the International Conference on High Performance Computing & Simulation (HPCS 2016), Innsbruck, Austria, July 2016.
35. Member of Program Committee, International Workshop on Autonomic High Perofrmance Computing (AHPC 2016), Co-located with the International Conference on High Performance Computing & Simulation (HPCS 2016), Innsbruck, Austria, July 2016.
36. Member of Program Committee, 9th IEEE International Conference on Cloud Computing (CLOUD 2016), San Francisco, USA, June-July 2016.
37. Member of Program Committee, Distributed Operating Systems and Middleware Track, 36th IEEE International Conference on Distributed Computing Systems (ICDCS 2016), Nara, Japan, June 2016.
38. Member of Program Committee, 25th ACM International Symposium on High-Performance Distributed Computing (HPDC 2016), Kyoto, Japan, May-June 2016.
39. Member of Program Committee, 30th IEEE International Parallel & Distributed Processing Symposium (IPDPS 2016), Chicago, IL, USA, May 2016.
40. Member of Program Committee, 6th CDER/TCPP Workshop on Parallel and Distributed Computing Education (EduPar-16), in conjunction 30th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2016), Chicago, IL, USA, May 2016.
41. Member of Program Committee, Scheduling and Resource Management Track, 16th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Cartagena, Columbia, May 2016.
42. Member of Program Committee, 4th IEEE International Conference on Cloud Engineering (IC2E), Berlin, Germany, April 2016.
43. Member of Program Committee & Doctoral Symposium Committee, 1st IEEE International Conference on Internet-of-

Things Design and Implementation (IoTDI 2016), co-located with the 4th IEEE International Conference on Cloud Engineering (IC2E), Berlin, Germany, April 2016.

44. Member for Advisory Committee, 10th IEEE International Symposium on Service-Oriented System Engineering (SOSE 2016), Oxford, UK, March-April 2016.
45. Member of Program Committee, International Workshop on Clouds and (eScience) Applications Management - CloudAM 2015, in conjunction with 8th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2015), Cyprus, December 2015.
46. Member of Program Committee, CDER/TCPP Workshop on Education for High-Performance Computing (EduHPC-15), In conjunction with 28th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 15), Austin, TX, USA, November 2015.
47. Member of Program Committee, 5th International Workshop on Network-aware Data Management (NDM 2015), In conjunction with 28th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 15), Austin, TX, USA, November 2015.
48. Member of Program Committee, IEEE Workshop on High Performance Computing for Big Data Computational Biology (IEEE HPC-BCB 2015), in conjunction with the IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Washington D.C., November 2015.
49. Member of Program Committee, NITRD/SDP Workshop Computational Science & Engineering Software Sustainability and Productivity Challenges (CSESSP Challenges), MD, USA, October 2015.
50. Member of Program Committee, Applications and Algorithms Track, 27th International Symposium on Computer Architecture and High-Performance Computing (SBAC-PAD 15), Santa Catarina, Brazil, October, 2015.
51. Member of Program Committee, IEEE Conference on Cluster Computing 2015 (Cluster 2015), Big Data, I/O and Storage, Visualization Track, Chicago, IL, USA, September 2015.
52. Member of Program Committee, Track on Smart Grids, The 12th International Conference on Economics of Grids, Clouds, Systems, and Services (GECON 2013), Cluj-Napoca, Romania, September 2015.
53. Member of Program Committee, 44th International Conference on Parallel Processing (ICPP 2015), Applications Track, Beijing, China, September 2015.
54. Member of Doctoral Symposium Committee, FAS* - Foundation and Applications of Self* Computing Conferences (CAC, SASO and P2P), Boston, MA, USA, September 2015.
55. Member of Program Committee, International Symposium on Cloud Computing and Services for High Performance Computing Systems (InterCloud-HPC 2015), Amsterdam, The Netherlands, July, 2015.
56. Member Program Committee, 8th IEEE International Conference on Cloud Computing (CLOUD 2015), New York, NY, USA, June-July 2105.
57. Member Program Committee, Energy Management and Green Computing Track, 35th IEEE International Conference on Distributed Computing Systems (ICDCS 2015), Columbus, OH, USA, June-July 2015.
58. Member of Program Committee, 24th ACM International Symposium on High-Performance Distributed Computing (HPDC 2015), part of the Federated Computing Research Conference (FCRC), Portland, OR, USA, June 2015.
59. Member of Program Committee, 5th CDER/TCPP Workshop on Parallel and Distributed Computing Education (EduPar-15), in conjunction 29th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2015), Hyderabad, India, May 2015.
60. Member of Program Committee, 21st International Conference on High Performance Computing (HiPC 2014), Goa, India, December 2014.
61. Member of Program Committee, 7th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2014), London, UK, December 2014.
62. Member of Program Committee, International Workshop on Clouds and (eScience) Applications Management - CloudAM 2014, in conjunction with 7th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2014), London, UK, December 2014.
63. Member of Program Committee, 6th International Conference on Cloud Computing Technology and Science (CloudCom 2014), Singapore, December 2014.
64. Member of Program Committee, Clouds/Grids, ACM/IEEE Supercomputing 2014, the 27th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 14), New Orleans, LA, USA, November 2014.
65. Member of Technical Posters Committee, ACM/IEEE Supercomputing 2014, the 27th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 14), New Orleans, LA, USA, November 2014.
66. Member of Program Committee, 11th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA'2014,) Doha, Qatar, November 2014.
67. Member of Program Committee, The 5th International Green Computing Conference (IGCC'14), Dallas, TX, USA, November 2014.

68. Member of Program Committee, 7th International Workshop on Internet and Distributed Computing Systems (IDCS'14), Calabria, Italy, October 2014.
69. Member of Program Committee, 3rd IEEE International Conference on Cloud Networking (IEEE CloudNet 2014), Luxembourg, October 2014.
70. Member of Program Committee, 43rd International Conference on Parallel Processing (ICPP 2014), Minneapolis, MN, USA, September/October 2014.
71. Member of Program Committee, IEEE Conference on Cluster Computing 2014 (Cluster 2014), Cluster Applications Track, Madrid, Spain, September 2014.
72. Member of Program Committee, 2nd ACM Cloud and Autonomic Computing Conference (CAC 2014), London, UK, September 2014.
73. Member Program Committee, Energy Management and Green Computing Track, 34rd IEEE International Conference on Distributed Computing Systems (ICDCS 2014), USA, July 2014.
74. Member Program Committee, 7th IEEE International Conference on Cloud Computing (CLOUD 2014), Anchorage, Alaska, USA, June/July 2104.
75. Member Program Committee, 3rd IEEE International Congress on Big Data (BigData 2014), Anchorage, Alaska, USA, June/July 2104.
76. Member Program Committee, 11th IEEE International Conference on Services Computing (SCC 2014), Anchorage, Alaska, USA, June/July 2104.
77. Member of Program Committee, 23rd ACM International Symposium on High-Performance Distributed Computing (HPDC 2014), Vancouver, Canada, June 2014.
78. Member of Program Committee, 4th CDER/TCPP Workshop on Parallel and Distributed Computing Education (EduPar-14), in conjunction 28th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2014), Phoenix, AZ, USA, May 2014.
79. Member of Program Committee, Doctoral Symposium, 14th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2014), Chicago, IL, USA, May 2014.
80. Member of Program Committee, Cloud Computing Track, 29th ACM Symposium on Applied Computing (ACM SAC), Gyeongju, Korea, March 2014.
81. Member of Program Committee, 3rd International Workshop on Cloud Computing and Scientific Applications (CCSA 2013), in conjunction with the 11th International Conference on Service Oriented Computing (ICSOC 2013), Berlin, Germany, December 2013.
82. Member of Program Committee, Clouds/Grids, ACM/IEEE Supercomputing 2013, the 26th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 13), Denver, CO, USA, November 2013.
83. Member of Program Committee, 4th International Workshop on Data Intensive Computing in the Clouds (DataCloud 2013), ACM/IEEE Supercomputing 2013, the 26th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 13), Denver, CO, USA, November 2013.
84. Member of Program Committee, Workshop on Parallel, Distributed, and High-Performance Computing in Undergraduate Curricula (EduPDHPC), ACM/IEEE Supercomputing 2013, the 26th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 13), Denver, CO, USA, November 2013.
85. Member of Program Committee, 2013 IEEE International Conference on Big Data (IEEE BigData 2013), Silicon Valley, CA, USA, October 2013.
86. Awards Chair, 42nd International Conference on Parallel Processing (ICPP 2013), Lyon, France, September 2013.
87. Member of Program Committee, The 10th International Conference on Economics of Grids, Clouds, Systems, and Services (GECON 2013), Zaragoza, Spain, September 2013.
88. Member of Program Committee, 1st Workshop on Self-Organization for Green Computing and Communications (So-Green 2013), IEEE GreenCom 2013, Beijing, China, August, 2013.
89. Member of Program Committee, Grid and Cloud Computing (GCC) Track, IEEE International Conference on Computer Communication Networks (ICCCN 2013), in the Nassau, Bahamas, July-August 2013.
90. Member Program Committee, Energy Management and Green Computing Track, 33rd IEEE International Conference on Distributed Computing Systems (ICDCS 2013), Philadelphia, PA, USA, July 2013.
91. Member Program Committee, 6th IEEE Cloud Computing Conference (CLOUD 2013), Santa Clara, CA, USA, June-July 2013.
92. Member of Program Committee, 22nd ACM International Symposium on High-Performance Distributed Computing (HPDC 2013), New York, NY, USA, June 2013.
93. Member of Program Committee, The 4th International Green Computing Conference (IGCC'13), Arlington, VA, USA, June 2013.
94. Member of Programing Committee, Applications and Experiences Track, 13th International Symposium on Cluster,

Cloud and Grid Computing (CCGrid 2013), Delft, Netherlands, May 2013.

95. Member of Programing Committee, "ExtremeGreen: Extreme Green & Energy Efficiency in Large Scale Distributed Systems." in conjunction with the 13th International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2013), Delft, Netherlands, May 2013.
96. Member of Program Committee, 3rd NSF/TCPP Workshop on Parallel and Distributed Computing Education (EduPar-13), in conjunction 27th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2013), Boston, MA, USA, May 2013.
97. Member of Program Committee, 1st IEEE International Conference on Cloud Engineering (IC2E), San Francisco, CA, USA, March 2013.
98. Member of Program Committee, International Conference on Parallel and Distributed Systems (ICPADS 2012), Singapore, December 2012.
99. Member of Program Committee, International Workshop on Cloud Services and Systems (CSS 2012), in conjunction with the International Conference on Parallel and Distributed Systems (ICPADS 2012), Singapore, December 2012.
100. Member of Program Committee, Clouds/Grids, Member of Educator Committee, HP Educators, ACM/IEEE Supercomputing 2012, the 25th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 12), Salt Lake City, Utah, USA, November 2012.
101. Member of Program Committee, 3rd International Workshop on Data Intensive Computing in the Clouds (DataCloud 2012), ACM/IEEE Supercomputing 2012, the 25th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 12), Salt Lake City, Utah, USA, November 2012.
102. Member of Program Committee, 2nd International Workshop on Network-aware Data Management (NDM 2012), ACM/IEEE Supercomputing 2012, the 25th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 12), Salt Lake City, Utah, USA, November 2012.
103. Member of Program Committee, The 9th International Conference on Economics of Grids, Clouds, Systems, and Services (GECON 2012), Berlin, Germany, November 2012.
104. Member of Program Committee, International Workshop on Clouds and (eScience) Applications Management (CloudAM 2012), In conjunction with the 5th IEEE/ACM International Conference on Utility and Cloud Computing, Chicago, USA. November 5-8, 2012.
105. Member of Program Committee, 8th IEEE International Conference on e-Science (e-Science 2012), Chicago, IL, USA, October 2012.
106. Member of Program Committee, 24th International Symposium on Computer Architecture and High-Performance Computing (SBAC-PAD'12), New York City, NY, USA, October, 2012.
107. Member of Program Committee, 9th IEEE International Conference on Autonomic Computing (ICAC 2012), San Jose, CA, US, September 2012.
108. Member of Program Committee, The 2012 International Workshop on Sustainable Software Development on Heterogeneous System (SSDHS 2012), in conjunction IEEE Cluster 2012, Beijing, China, September 2012.
109. Member of Program Committee, 13th Annual Conference on Grid Computing (Grid 2012), Beijing, China, September 2012.
110. Member of Program Committee, 2nd International Conference on ICT as Key Technology for the Fight against Global Warming (IT-GloW 2012), 23rd DEXA Conference, Vienna, Austria, September 2012.
111. Member of Program Committee, International Conference on Advances in Computing, Communications and Informatics (ICACCI-2012), Chennai, India, August 2012.
112. Member of Program Committee, International Conference on Advances in Cloud Computing (ACC 2012), Bangaluru, India, July 2012.
113. Member of Program Committee, 5th IEEE International Conference on Cloud Computing (CLOUD 2012), Honolulu, Hawaii, USA, June 2012.
114. Member of Program Committee, 21st ACM International Symposium on High-Performance Distributed Computing (HPDC 2012), Delft, Netherlands, June 2012.
115. Member of Program Committee, 5th International Workshops on Data Intensive Distributed Computing (DIDC 2012), in conjunction with the 21st ACM International Symposium on High-Performance Distributed Computing (HPDC 2012), Delft, Netherlands, June 2012.
116. Member of Steering Committee, "The 3rd International Emerging Computational Methods for the Life Science Workshop" (ECMLS 2012), in conjunction with 21st ACM International Symposium on High-Performance Distributed Computing (HPDC 2012), Delft, Netherlands, June 2012.
117. Member of Program Committee, The 3rd International Green Computing Conference (IGCC'12), San Jose, CA, USA, June 2012.
118. Member of Program Committee, 1st Workshop on Green Cloud Computing (GreenCloud), in conjunction with the 3rd International Green Computing Conference (IGCC'12), San Jose, CA, USA, June 2012.
119. Member of Program Committee, The 32nd IEEE Int'l Conference on Distributed Computing Systems (ICDCS 2012),

Kanazawa, Japan, June 2012.

120. Member for Program Committee, Cloud and Cluster Computing Track, 7th International Conference on Future Information Technology (FutureTech 2012), Vancouver, Canada, June 2012.
121. Member of Program Committee, 2nd NSF/TCPP Workshop on Parallel and Distributed Computing Education (EduPar-12), in conjunction 26th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2012), Shanghai, China, May 2012.
122. 2nd International Workshop on Cloud Computing and Scientific Applications (CCSA 2012), in conjunction with the 12th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2012), Ottawa, Canada, May 2012.
123. Workshop on Cloud for Business, Industry and Enterprises (C4BIE 2012), in conjunction with the 12th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2012), Ottawa, Canada, May 2012.
124. Member of Program Committee, 2nd International Conference on Cloud Computing and Services Science (CLOSER 2012), Porto, Portugal, April 2012.
125. Member of Program Committee, Cloud Computing Track, 27th ACM Symposium on Applied Computing (ACM SAC), Trento, Italy, March 2012.
126. Member of Program Committee, 6th International Conference on Information Systems, Technology and Management (ICISTM 2012), Grenoble, France, March 2012.
127. Member of Program Committee, International Workshop on fault Tolerant Architectures for Reliable Distributed Infrastructures and Services (TARDIS2011), International Conference on Utility and Cloud Computing (UCC 2011), Melbourne, Australia, December 2011.
128. Member of Program Committee, 7th IEEE International Conference on e-Science (e-Science 2011), Stockholm, Sweden, December 2011.
129. Member of Program Committee, 9th International Workshop on Middleware for Grids, Clouds and e-Science (MGC 2010), 11th ACM/IFIP/USENIX 12th International Middleware Conference 2011, Lisbon, Portugal, December, 2011.
130. Member of Program Committee, 3rd International Conference on Cloud Computing Technology and Science (CloudCom 2011), Athens, Greece, November – December 2011.
131. Member of Program Committee, Workshop on D3Science, in conjunction with 7th IEEE International Conference on e-Science (e-Science 2011), Stockholm, Sweden, December 2011.
132. Member of Program Committee, 2nd International Conference on Utility and Cloud Computing (UCC 2011), Melbourne, Australia, December 2011.
133. Member of Program Committee, 1st International Workshop on Cloud Computing and Scientific Applications (CCSA 2011), in conjunction with the 4th IEEE International Conference on Utility and Cloud Computing (UCC 2011), Melbourne, Australia, December 2011.
134. Member of Program Committee, 2nd Workshop on Green Computing Middleware (GCM), In conjunction with the 12th International Middleware Conference, Lisbon, Portugal, December 2011.
135. Member of Advisory Committee, IEEE International Conference on Advanced Computing (ICoAC), Chennai, India, December 2011.
136. Member of Program Committee & Tutorials Committee, Clouds/Grids, ACM/IEEE Supercomputing 2011, the 24th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 11), Seattle, WA, USA, November 2011.
137. Member of Program Committee, 2nd International Workshop on Petascale Data Analytics: Challenges, and Opportunities (PDAC-11), in conjunction with Supercomputing 2011, the 24th IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 11), Seattle, WA, USA, November 2011.
138. Member of Program Committee, Algorithms and Applications Track, 23rd International Symposium on Computer Architecture and High-Performance Computing (SBAC-PAD'11), Vitória, Espírito Santo, Brazil in October, 2011.
139. Member of Program Committee, Third International Workshop on MObile and NEtworking Technologies for social applications (MONET´11), Crete, Greece, October 2011.
140. Member of Program Committee, 5th International Conference on Self-Adaptive and Self-Organizing Systems. (SASO 2011), Ann Arbor, Michigan, USA, October 2011.
141. Member of Program Committee, 12th Annual Conference on Grid Computing (Grid 2011), Lyon, France, September 2011.
142. Member of Program Committee, Joint Workshop on High Performance and Distributed Computing for Medical Imaging (HP-MICCAI/MICCAI-DCI), in conjunction with 4th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2010), Toronto, Canada, September 2011.
143. Member of Program Committee, 1st International Conference on ICT as Key Technology for the Fight against Global Warming (IT-GloW 2011), 22nd DEXA Conference, Toulouse, France, August-September 2011.
144. Member of Program Committee, International Workshop on End-to-end Processing of Big Data (BIGDATA 2012), in conjunction with the 38th International Conference on Very Large Databases (VLDB 2012), Istanbul, Turkey, August

2012.

145. Member of Program Committee, International Conference on Advances in Cloud Computing (ACC 2011), Bangaluru, India, July 2011.
146. Member of Program Committee, 20th ACM International Symposium on High-Performance Distributed Computing (HPDC 2011), San Jose, CA, USA, June 2011.
147. Member of Program Committee, 4th International Workshops on Data Intensive Distributed Computing (DIDC 2011), in conjunction with the 20th ACM International Symposium on High-Performance Distributed Computing (HPDC 2011), San Jose, CA, USA, June 2011.
148. Member of Program Committee, 8th IEEE International Conference on Autonomic Computing (ICAC 2011), Karlsruhe, Germany, June 2011.
149. Member of Program Committee, 1st IEEE/ACM Workshop on Autonomic Computing for Economics, co-located with the 8th IEEE International Conference on Autonomic Computing (ICAC 2011), Karlsruhe, Germany, June 2011.
150. Member of Program Committee, 25th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2011), Anchorage, Alaska, USA, May 2011.
151. Member of Program Committee, Workshop on Data Intensive Computing in the Clouds (DataCloud 2011), in conjunction 25th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2011), Anchorage, Alaska, USA, May 2011.
152. Member of Program Committee, 1st NSF/TCPP Workshop on Parallel and Distributed Computing Education (EduPar-11), in conjunction 25th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2011), Anchorage, Alaska, USA, May 2011.
153. 112. Member of Program Committee, The First International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies (ENERGY 2011), Venice, Italy, May 2011.
154. Member of Program Committee, Cloud Computing Track, 26th ACM Symposium on Applied Computing (ACM SAC), TaiChung, Taiwan, March 2011.
155. Member of Program Committee, 6th IEEE International Conference on e-Science (e-Science 2010), Brisbane, Australia, December 2010.
156. Member of Program Committee, 13th IEEE International Conference on Computational Science and Engineering (CSE 2010), Cluster, Grid, Cloud and P2P Computing Track, Hong Kong, SAR, China, December 2010.
157. Member of Advisory and Program Committee, 2nd International Conference on Cloud Computing Technology and Science (CloudCom 2010), Indianapolis, Indiana, USA, November – December, 2010.
158. Member of Program Committee, 1st Workshop on Green Computing Middleware (GCM), 11th ACM/IFIP/USENIX 11th International Middleware Conference 2010, Bangalore, India, November-December, 2010.
159. Member of Program Committee, 8th International Workshop on Middleware for Grids, Clouds and e-Science (MGC 2010), 11th ACM/IFIP/USENIX 11th International Middleware Conference 2010, Bangalore, India, November-December, 2010.
160. Member of Program Committee, System Software, ACM/IEEE Supercomputing 2010, New Orleans, LA, USA, November 2010.
161. Member of Program Committee, 3rd ACM Workshop on Many-Task Computing on Grids and Supercomputers (MTAGS-10), In conjunctions with the ACM/IEEE Supercomputing 2010, New Orleans, LA, USA, November 2010.
162. Member of Program Committee, The 2010 IEEE/ACM International Conference on Green Computing and Communications (GreenCom2010), Hangzhou, China, October-November, 2010.
163. Member of Program Committee, 11th IEEE/ACM International Conference on Grid Computing, Brussels, Belgium, October 2010.
164. Member of Program Committee, Energy Efficient Grids, Clouds and Clusters Workshop (E2GC2 2010), in conjunction with IEEE 11th Annual IEEE/ACM Conference on Grid Computing (Grid 2010), Brussels, Belgium, October 2010.
165. Member of Program Committee, 4th International Conference on Self-Adaptive and Self-Organizing Systems. (SASO 2010), Budapest, Hungary, September – October, 2010.
166. Member of Program Committee, GMAC'10: Workshop Grids Meets Autonomic Computing, in conjunction with the 7th International Conference on Autonomic Computing and Communication, Washington DC, USA, June 2010.
167. Member of Program Committee, 1st International Workshop on Autonomic Computing for Enterprise Systems ACES 2010), In conjunction with the 5th International Conference on Software and Data Technologies (ICSOFT 2010), Athens, Greece, July 2010.
168. Member of Program Committee, 38th International Conference on Parallel Processing (ICPP 2009), Vienna, Austria, September 2010.
169. Member of Program Committee, 19th International Symposium on High-Performance Distributed Computing (HPDC 2010), Chicago, IL, USA, June 2010.
170. Member of Program Committee, Workshop on Challenges of Large Applications in Distributed Environments (CLADE) 2010, co-located with the 19th International Symposium on High-Performance Distributed Computing (HPDC 2010),

Chicago, IL, USA, June 2010.

171. Member for Program Committee, Cloud Computing Track, 5th International Conference on Future Information Technology (FutureTech 2010), Jeju, Korea, May 2010.
172. Member of Program Committee, 1st International Conference on Energy-Efficient Computing and Networking (eEnergy 2010), in cooperation with ACM SIGCOMM, Passsau, Germany, April 2010.
173. Member of Program Committee, Cloud Computing Track, 25th Symposium On Applied Computing, Sierre, Switzerland, March 2010.
174. Member of Program Committee, 8th Australasian Symposium on Parallel and Distributed Computing (AusPDC 2010), Brisbane, Australia, January 2010.
175. Member of Program Committee, 16th International Conference on High Performance Computing (HiPC 2009), Kochi, India, December 2009.
176. Member of Program Committee, 17th International Conference on Advanced Computing and Communication (ADCOM 2009), Bangalore, India, December 2009.
177. Member of Program Committee, 15th International Conference on Parallel and Distributed Systems (ICPADS 2009), Shenzhen, China, December 2009.
178. Member of Program Committee, 2nd International Workshop on Internet and Distributed Computing Systems (IDCS'08), Jeju Island, Korea, December 2009.
179. Member of Program Committee, International Workshop on Middleware for Grid (and Cloud) Computing, in conjunction with ACM/IFIP/USENIX 10th International Middleware Conference, Urbana Champaign, USA, November – December, 2009.
180. Member of Tutorial Committee, Supercomputing 2009, Portland, OR, USA, November 2009.
181. Member of Program Committee, Algorithms and Applications Track, 21st International Symposium on Computer Architecture and High-Performance Computing (SBAC-PAD'09), Sao Paulo, Brazil in October, 2009.
182. Member of Program Committee, 10th Annual IEEE/ACM Conference (Grid 2009), Banff, Alberta, Canada, October 2009.
183. Member of Program Committee, Energy Efficient Grids, Clouds and Clusters Workshop (E2GC2), in conjunction with IEEE 10th Annual IEEE/ACM Conference (Grid 2009), Banff, Alberta, Canada, October 2009.
184. Member of Program Committee, 3rd International Conference on Self-Adaptive and Self-Organizing Systems (SASO 2009), San Francisco, CA, USA, September 2009.
185. Member of Poster Committee, 3rd International Conference on Self-Adaptive and Self-Organizing Systems (SASO 2009), San Francisco, CA, USA, September 2009.
186. Member of Program Committee, 3rd International ICST Conference on Autonomic Computing and Communication Systems (Autonomics 2009), Cyprus, September 2009.
187. Program Committee, Networks, Parallel and Distributed Computing Track, 24th International Symposium on Computer and Information Sciences (ISCIS 2009), METU Northern Cyprus Campus, September, 2009.
188. Member of Program Committee, Ninth International Conference on Peer-to-Peer Computing (P2P2009) Seattle WA, USA, September 2009.
189. Member of Program Committee, 38th International Conference on Parallel Processing, Vienna, Austria, September 2009.
190. Member of Poster Committee, IEEE International Conference on Cluster Computing (Cluster 2009), New Orleans, Louisiana, USA, August-September 2009.
191. Member of Program Committee, 29th International Conference on Distributed Computing Systems (ICDCS 2009), Montreal, Canada, June 2009.
192. Member of Program Committee, 18th International Symposium on High-Performance Distributed Computing (HPDC 2009), Munich, Germany, June 2009.
193. Member of Program Committee, GMAC'09: Workshop Grids Meets Autonomic Computing, in conjunction with the 6th International Conference on Autonomic Computing and Communication, Barcelona, Spain, June 2009.
194. Member of Program Committee, 9th International Symposium on Cluster Computing and the Grid (CCGrid 2009), Shanghai, China, May 2009.
195. Member of Program Committee, 3rd IEEE TCSC Doctoral Symposium, 9th International Symposium on Cluster Computing and the Grid (CCGrid 2009), Shanghai, China, May 2009.
196. Member of Program Committee, 14th International Workshop on High-Level Parallel Programming Models and Supportive Environments (HIPS 2009), in conjunction with the 23rd IEEE International Parallel and Distributed Processing Symposium (IPDPS 2009), Rome, Italy, May 2009.
197. Member of Program Committee, 5th International Workshop on System Management Techniques, Processes, and Services (SMTPS), In conjunction with the 23rd IEEE International Parallel and Distributed Processing Symposium (IPDPS 2009), Rome, Italy, May, 2009.
198. Member of Program Committee, International Conference on Computational Science 2009 (ICCS 2009), Baton Rouge, LA, USA, May 2009.

199. Member of Program Committee, Second International Workshop on Adaptive Systems in Heterogeneous Environments (ASHEs), Fukuoka, Japan, March, 2009.
200. Member of Program Committee, International Conference on Information Systems, Technology and Management (ICISTM 2009), New Delhi, India, March 2009.
201. Member of Program Committee, Wireless Sensor Networks (WSN), ACM Symposium on Applied Computing (ACM SAC), Honolulu, Hawaii, USA, March 2009.
202. Member of Program Committee, 7th Australasian Symposium on Grid Computing and e-Research (AusGrid 2009), Wellington, New Zealand, January, 2009.
203. Member of Program Committee, IEEE International Symposium on Parallel and Distributed Processing and Applications (ISPA'08), Sydney, Australia, December 2008.
204. Member of Program Committee, 4th IEEE International Conference on e-Science (eScience 2008), Indiana, USA, December 2008.
205. Member of Program Committee, 6th International Workshop on Middleware for Grid Computing (MGC 2008), in conjunction with ACM/IFIP/USENIX 9th Intl. Middleware Conference 2008,Leuven, Belgium, December 2008.
206. Member of Program Committee, International Workshop on Internet and Distributed Computing Systems (IDCS'08), In conjunction with 11th IEEE International Conference on Computer and Information Technology (ICCIT 2008), Khulna, Bangladesh, December 2008.
207. Member of Program Committee, Third International Workshop on MObile and NEtworking Technologies for social applications (MONET´08), Monterrey, Mexico, November 2008.
208. Member of Program Committee, Third International Symposium on Grid computing, high-performAnce and Distributed Applications (GADA'08), in conjunction with OnTheMove Federated Conferences (OTM'08), November 2008.
209. Member of Poster Committee, 2nd International Conference on Self-Adaptive and Self-Organizing Systems (SASO 2008), Isola di San Servolo (Venice), Italy, October 2008.
210. Member of Program Committee, 2nd International Conference on Advanced Engineering, Computing and Applications in Science (ADVCOMP 2008), Valencia, Spain, September-October 2008.
211. Member of Program Committee, 9th IEEE/ACM International Conference on Grid Computing, Tsukuba, Japan, September 2008.
212. Member of Program Committee, 37th International Conference on Parallel Processing (ICPP 2008), Portland, OR, USA, September 2008.
213. Member of Program Committee, 3rd International Workshop on Self-Organizing Systems (IWSOS 2008), Vienna, Austria, September 2008.
214. Member of Program Committee, 3rd IEEE Workshop on International Modeling Autonomic Communications Environments (MACE 2008), Samos Island, Greece, September 2008.
215. Member of Program Committee, 3rd Latin American Autonomic Computing Symposium (LAACS 2008), Gramado, Brazil, September 2008.
216. Member of Program Committee, 1st International Conference on Contemporary Computing, Noida, India, August 2008.
217. Member of Program Committee, 20th International Conference on Software Engineering and Knowledge Engineering (SEKE'2008), San Francisco, CA, USA, July 2008.
218. Member of Program Committee, IEEE International Workshop on Autonomic Service Discovery and Management (ASDM'08), in conjunction with SCC 2008, Honolulu, Hawaii, USA, July 2008.
219. Member of Program Committee, Symposium of Pervasive Grids, 2008 IEEE 11th International Conference on Computational Science and Engineering (CSE 2008) Sao Paulo, Brazil, July 2008.
220. Member of Program Committee, 28th International Conference on Distributed Computing Systems (ICDCS 2008), Beijing, China, June 2008.
221. Member of Program Committee, 3rd Workshop on Hot Topics in Autonomic Computing, In conjunction with the 5th IEEE International Conference on Autonomic Computing (ICAC 08), Chicago, IL, USA, June 2008.
222. Member of Program Committee, 9th IEEE International Conference on Computational Science and Engineering (CSE-08), Sao Paulo, Brazil, June 2008.
223. Member of Program Committee Workshop on Machine Learning in Cognitive Networks: Theory, Application, and Future (MLCN'08), in conjunction with the IEEE World Congress on Computational Intelligence (WCCI 2008), Hong Kong, China, June 2008.
224. Member of Program Committee, International Conference on Computational Science 2008 (ICCS 2008), Krakow, Poland, May 2008.
225. Member of Program Committee, 2nd IEEE TCSC Doctoral Symposium, 8th International Symposium on Cluster Computing and the Grid (CCGrid 2008), Lyon, France, May 2008.
226. Member of Program Committee, 3rd International Workshop on Workflow Management and Applications in Grid Environments (WaGe08), in conjunction with The 3rd International Conference on Grid and Pervasive Computing (GPC 2008), Kunming, China, May 2008.

227. Member of Program Committee, 5th International Workshop on Hot Topics in Peer-to-Peer Systems (Hot-P2P'07), In conjunction with the 22nd IEEE International Parallel and Distributed Processing Symposium (IPDPS 2008), Miami, FL, USA, April, 2008.
228. Member of Program Committee, 4th International Workshop on System Management Techniques, Processes, and Services (SMTPS), In conjunction with the 22nd IEEE International Parallel and Distributed Processing Symposium (IPDPS 2008), Miami, FL, USA, April, 2008.
229. Member of Program Committee, High Performance Computing Simulation Symposium (HPCS 2008), SCS Spring Simulation Multiconference, Ottawa, Ontario, Canada, April 2008.
230. Member of Program Committee, 5th IEEE Workshop on Engineering of Autonomic Systems (EASe 2008), Belfast, Ireland, March-April, 2008.
231. Member of Program Committee, 3rd International Conference on Availability, Reliability and Security (AReS 2008), Barcelona, Spain, March 2008.
232. Member of International Program Committee (IPC), IASTED International Conference on Parallel and Distributed Computing and Networks (PDCN 2008), Innsbruck, Austria, February 2008.
233. Member of Program Committee, 6th Australasian Symposium on Grid Computing and e-Research (AusGrid 2008), Wollongong, Australia, January, 2008.
234. Member of Program Committee, 3rd IEEE International Conference on e-Science and Grid Technologies (eScience 2007), Bangalore, India, December 2007.
235. Member of Program Committee, SC07 International Conference on High Performance Computing, Networking, Storage and Analysis, Reno, NV, USA, November 2007.
236. Member of Program Committee, The 6th Workshop on Adaptive and Reflective Middleware (ARM 2007),in conjunction with the 8th International Middleware Conference (Middleware 2007), Newport Beach, CA, USA, November 2007.
237. Member of Program Committee, International Conference on Advanced Engineering, Computing and Applications in Science (ADVCOMP 2007), Papeete, Tahiti, French Polynesia, November, 2007.
238. Member of Program Committee, Second International Symposium on Grid computing, High-Performance and Distributed Applications (GADA'07), in conjunction with OnTheMove Federated Conferences (OTM'07), October-November 2007.
239. Member of Program Committee, 2nd IEEE Workshop on International Modeling Autonomic Communications Environments (MACE 2007), San Jose, CA, USA, October 2007.
240. Member of Program Committee, 1st IEEE/IFIP International Workshop on End-to-end Virtualization and Grid Management (EVGM 2007), San Jose, CA, USA, October 2007.
241. Member of Program Committee, Joint HPC-GECO/CompFrame'07, in conjunction with OOPSLA, Montreal, Canada, October 2007.
242. Co-Chair of International Advisory Committee, 3rd IEEE International Symposium on Dependable Autonomic and Secure Computing (DASC 2007), Baltimore, MD, USA, October 2007.
243. Member of Program Committee, 8th IEEE/ACM International Conference on Grid Computing, Austin, TX, USA, September 2007.
244. Member of Program Committee, 3rd International Conference on Self Organization and Autonomous Systems in Computing and Communications (SOAS'2007), Leipzig, Germany on September, 2007.
245. Member of Program Committee, New Trends in Network Architectures and Services: 2nd International Workshop on Self-Organizing Systems (IWSOS 2007), Lancaster, UK, September 2007.
246. Member of Program Committee, 2nd Latin American Autonomic Computing Symposium (LAACS 2007), Petropolis, Brazil, September 2007.
247. Member of Program Committee, 4th International Conference on Grid Service Engineering and Management (GSEM 2007), co-located with Software Agents and Services for Business, Research, and E-Science (SABRE 2007), Leipzig, Germany, September 2007.
248. Member of Program Committee, 1st International Conference on Self-Adaptive and Self-Organizing Systems (SASO 2007), Boston, MA, USA, July 2007.
249. Member of Program Committee, The 2007 International Conference on Complex Open Distributed Systems (CODS 2007), Chengdu, China, July 2007.
250. Member of Program Committee, 3rd International Workshops on Agent-Oriented Software Development Methodology (AOSDM '07), Chengdu, China, July 2007.
251. Member of Program Committee, 27th International Conference on Distributed Computing Systems (ICDCS 2007), Toronto, Canada, June 2007.
252. Member of Program Committee, 2nd International Workshop on Engineering Emergence in Decentralized Autonomic Systems (EEDAS), in conjunction with the 4th IEEE International Conference on Autonomic Computing (ICAC 2007), Jacksonville, Florida, USA, June 2007.
253. Member of Program Committee, 2nd Workshop on Hot Topics in Autonomic Computing, In conjunction with the 4th

IEEE International Conference on Autonomic Computing (ICAC 07), Jacksonville, FL, USA, June 2007.

254. Member of Program Committee, 1st IEEE TCSC Doctoral Symposium, 7th International Symposium on Cluster Computing and the Grid (CCGrid 2007), Rio de Janeiro, Brazil, May 2007.
255. Member of Program Committee, International Conference on Computational Science 2007 (ICCS 2007), Beijing, China, May 2007.
256. Member of Program Committee, 21st IEEE International Parallel and Distributed Processing Symposium (IPDPS 2007), Long Beach, CA, USA, April, 2007.
257. Member of Program Committee, 4th International Workshop on Hot Topics in Peer-to-Peer Systems (Hot-P2P'07),), In conjunction with the 21st IEEE International Parallel and Distributed Processing Symposium (IPDPS 2007), Long Beach, CA, USA, April, 2007.
258. Member of Program Committee, Third International Workshop on System Management Techniques, Processes, and Services (SMTPS), In conjunction with the 21st IEEE International Parallel and Distributed Processing Symposium (IPDPS 2007), Long Beach, CA, USA, April, 2007.
259. Member of Program Committee, 2nd International Conference on Availability, Reliability and Security (AReS 2007), Vienna, Austria, April 2007.
260. Member of Program Committee, 4th IEEE Workshop on Engineering of Autonomic Systems (EASe 2007), Tucson, AZ, USA, March 2007.
261. Member of Program Committee, International Conference on Information Systems, Technology and Management (ICISTM 2007), New Delhi, India, March 2007.
262. Member of International Program Committee (IPC), IASTED International Conference on Parallel and Distributed Computing and Networks (PDCN 2007), Innsbruck, Austria, February 2007.
263. Member of Program Committee, 5th Australasian Symposium on Grid Computing and e-Research (AusGrid 2007), Ballarat, Australia, January/February, 2007.
264. Member of Program Committee, 2nd IEEE International Conference on e-Science and Grid Technologies (eScience 2006), Amsterdam, Netherlands, December 2006.
265. Member of Program Committee, 14th International Conference on Advanced Computing and Communication (ADCOM 2006), Mangalore, India, December 2006.
266. Member of Program Committee, SC06 International Conference on High Performance Computing, Networking, Storage and Analysis, Tampa Bay, FL, USA, November 2006.
267. Member of Program Committee, International Symposium on Grid computing, high-performAnce and Distributed Applications (GADA'06), in conjunction with OnTheMove Federated Conferences (OTM'06), Montpellier, France, October-November 2006.
268. Member of Program Committee, 1st IEEE Workshop on Modeling Autonomic Communications Environments (MACE 2006), Dublin, Ireland, October 2006.
269. Member of Program Committee, 2nd IEEE/IFIP International Workshop on Autonomic Grid Networking and Management (AGNM06), Dublin, Ireland, October, 2006.
270. Co-Chair of International Advisory Committee, 2nd IEEE International Symposium on Dependable Autonomic and Secure Computing (DASC 2006), Indianapolis, IN, USA, October 2006.
271. Member of Program Committee, 7th IEEE/ACM International Conference on Grid Computing, Barcelona, Spain, September 2006.
272. Member of Program Committee, New Trends in Network Architectures and Services: International Workshop on Self-Organizing Systems (IWSOS 2006), University of Passau, Germany, September 2006.
273. Member of Program Committee, First International Workshop on Agent Technology and Autonomic Computing (ATAC 2006), Erfurt, Germany, September 2006.
274. Member of Program Committee, 12th International Conference on Parallel and Distributed Systems (ICPADS 2005), Minneapolis, MN, USA, July, 2006.
275. Member of Program Committee, 2nd International Workshops on Agent-Oriented Software Development Methodology (AOSDM '06), San Francisco, CA, USA, July 2006.
276. Member of Program Committee, 20th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2006), Rhodes, Greece, April, 2006.
277. Member of Program Committee, 3rd International Workshop on Hot Topics in Peer-to-Peer Systems (Hot-P2P'06), IPDPS 2006, Denver, Rhodes Island, Greece, April 2006.
278. Member of Program Committee, 11th International Workshop on High-Level Parallel Programming Models and Supportive Environments, IPDPS 2006, Rhodes Island, Greece, April 2006.
279. Member of Program Committee, 2nd Workshop on System Management Tools for Large-Scale Parallel Systems, IPDPS 2006, Denver, Rhodes Island, Greece, April 2006.
280. Member of Program Committee, 3rd IEEE Workshop on Engineering of Autonomic Systems (EASe 2006), Greenbelt, MD, USA, April 2006.

281. Member of Program Committee, 20th IEEE International Conference on Advanced Information Networking and Applications (AINA 2006), Vienna, Austria, April 2006.
282. Member of Program Committee, 1st International Conference on Availability, Reliability and Security (AReS), Vienna, Austria, April 2006.
283. Member of International Program Committee (IPC), IASTED International Conference on Parallel and Distributed Computing and Networks (PDCN 2006), Innsbruck, Austria, February 2006.
284. Member of Program Committee, 4th Australasian Symposium on Grid Computing and e-Research (AusGrid 2006), in conjunction with Australasian Computer Science Week, Hobart, Newcastle, Australia, January, 2006.
285. Member of Program Committee, 1st IEEE International Conference on e-Science and Grid Technologies (eScience 2005), Seattle, Melbourne, Australia, December, 2005.
286. Member of Advisory Committee, 2nd International Symposium on Ubiquitous Intelligence and Smart Worlds (UISW 2005), in conjunction with the IFIP International Conference on Embedded And Ubiquitous Computing (EUC'2005), Nagasaki, Japan, December, 2005.
287. Member of Program Committee, 2005 International Conference on Self-Organization and Adaptation of Multi-Agent and Grid Systems (SOAS 2005), Glasgow, Scotland, UK, December 2005.
288. Member of Program Committee, 6th IEEE/ACM International Workshop on Grid Computing, (Grid 2005), Seattle, WA, USA, November, 2005.
289. Member of Program Committee, Workshop on Grid Computing Portals (GCE 2005), Supercomputing 2005, Seattle, WA, USA, November, 2005.
290. Member of Program Committee, 3rd International Symposium on Parallel and Distributed Processing and Applications (ISPA'05), Nanjing, P. R. China, November, 2005.
291. Member of Program Committee, 1st IEEE/IFIP International Workshop on Autonomic Grid Networking and Management (AGNM05), Barcelona, Spain, October, 2005.
292. Member of Program Committee, 7th International Symposium on Self-Stabilizing Systems (SSS 2005), Barcelona, Spain, October 2005.
293. Member of Program Committee, International Conference on Autonomic and Autonomous Systems (ICAS 2005), Papeete, Tahiti, French Polynesia, October, 2005.
294. Member of Program Committee, International Workshop on Peer-to-Peer and Service Oriented Hypermedia: Techniques and Systems, in conjunction with the Sixteenth ACM Conference on Hypertext and Hypermedia (HT 2005), Salzburg, Austria, September, 2005.
295. Member of Program Committee, International Workshop on Agent-Oriented Software Development Methodologies (AOSDM'05), Taipei, Taiwan, China, July, 2005.
296. Member of Program Committee, 3rd International Workshop on Self-Managing Enterprise Application (ASMEA '05), CAISE'05, Porto, Portugal, June, 2005.
297. Member of Program Committee, 10th International Workshop on High-Level Parallel Programming Models and Supportive Environments, IPDPS 2005, Denver, CO, USA, April 2005.
298. Member of Program Committee, 1st Workshop on System Management Tools for Large-Scale Parallel Systems, IPDPS 2005, Denver, CO, USA, April 2005.
299. Member of Program Committee, 6th International Workshop on Parallel and Distributed Scientific and Engineering Computing (PDSEC-05), IPDPS 2005, Denver, CO, USA, April 2005.
300. Member of Program Committee, 2nd IEEE Workshop on Engineering of Autonomic Systems (EASe 2005), Greenbelt, MD, April 2005.
301. Member of Program Committee, Special Session on Objects Oriented Programming Languages and Systems, 2005 ACM Symposium on Applied Computing (SAC 2005), Santa Fe, NM, March 2005.
302. Member of International Program Committee (IPC), IASTED International Conference on Parallel and Distributed Computing and Networks (PDCN 2005), Innsbruck, Austria, February 2005.
303. Member of Program Committee, Australasian Workshop on Grid Computing and eResearch (AusGrid 2005), Newcastle, Australia, January-February 2005.
304. Member of Program Committee, 11th International Conference on High Performance Computing (HiPC 2004), Bangalore, India, December 2004.
305. Member of Program Committee, 2nd International Symposium on Parallel and Distributed Processing and Applications (ISPA'2004), Hong Kong, China, December 2004.
306. Track Organizer, Autonomic Computing Track, Unconventional Programming Paradigms 2004, Mont Saint-Michel, France, September 2004.
307. Member of Program Committee, The 8th International IEEE Enterprise Distributed Object Computing Conference (EDOC 2004), Monterey, CA, USA, September 2004.
308. Member of Program Committee, 17th International Conference on Parallel and Distributed Computing Systems (PDCS 2004), San Francisco, CA, September 2004.

309. Member of Program Committee, Workshop on Grid Computing Techniques and Applications, The 2004 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'04), Las Vegas, NV, USA. June 2004.
310. Member of Program Committee, Workshop on Engineering of Autonomic Systems (EASe 2004), 11th Annual IEEE International Conference and Workshop on the Engineering of Computer Based Systems (ECBS 2004), Brno, Czech Republic, May 2004.
311. Member of Program Committee, 6th Workshop on High Performance Scientific and Engineering Computing with Applications (HPSECA-04), International Parallel and Distributed Processing Symposium (IPDPS-04), Santa Fe, NM, April 2004.
312. Member of International Program Committee (IPC), IASTED International Conference on Parallel and Distributed Computing and Networks (PDCN 2004), Innsbruck, Austria, February 2004.
313. Member of Program Committee, 10th International Conference on High Performance Computing (HiPC 2003), Hyderabad, India, December 2003.
314. Member of Program Committee, ACM Group 2003 Conference (Group 2003), Sanibel Island, FL, November 2003.
315. Member of Program Committee, International Conference on Parallel Processing (ICPP-03), Kaohsiung, Taiwan, ROC, October 2003.
316. Member of Program Committee, 5th Workshop on High Performance Scientific and Engineering Computing with Applications (HPSECA-03), International Conference on Parallel Processing (ICPP-03), Kaohsiung, Taiwan, ROC, October 2003.
317. Member of Program Committee, 11th High Performance Computing Symposium (HPC 2003), Orlando, FL, March-April 2003.
318. Publicity Chair and Member of Program Committee, 9th International Conference on High Performance Computing (HiPC 2002), Bangalore, India, December 2002.
319. Member of Program Committee, ACM Java Grande and International Symposium on Computing in Object-Oriented Parallel Environments (JGI 2002), 17th Annual ACM conference on Object-Oriented Programming, System Languages and Applications (OOPSLA 2002), Seattle, WA, November 2002.
320. Member of Program Committee, 4th IEEE International Workshop on Active Middleware Services, in conjunction with the 12th IEEE International Symposium on High Performance Distributed Computing, Edinburgh, UK, August 2002.
321. Member of Program Committee, 16th International Parallel and Distributed Processing Symposium (IPDPS 2002), Fort Lauderdale, FL, April 2002.
322. Member of Program Committee, 11th Heterogeneous Computing Workshop, IEEE Fourth Merged Symposium of the 16th International Parallel Processing Symposium and the 13th Symposium on Parallel and Distributed Processing (IPPS/SPDP), Fort Lauderdale, FL, April 2002.
323. Member of Scientific Organizing Committee, Caltech Visitors Program for the Numerical Simulation of Gravitational Wave Sources, California Institute of Technology 2001-2005, (http://www.tapir.caltech.edu/GWSourceSimulation/).
324. Member of Program Committee, 10th Heterogeneous Computing Workshop, IEEE Third Merged Symposium of the 15th International Parallel Processing Symposium and the 12th Symposium on Parallel and Distributed Processing (IPPS/SPDP), San Francisco, CA, April 2001.
325. Member of Program Committee, Special Session on Distributed Objects and Components, 2001 ACM Symposium on Applied Computing (SAC 2001), Las Vegas, NV, March 2001.
326. Symposium organizer, First SIAM Conference on Computational Science and Engineering Computing, Washington, D.C., September 2000.
327. Member of Program Committee, 2000 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA `00), Las Vegas, NV, June 2000.
328. Member of Program Committee, 1999 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA `99), Las Vegas, NV, June 1999.
329. Member of Program Committee, Sixth International Symposium on High Performance Distributed Computing (HPDC-6), Portland, OR, August 1997.
330. Member of Program Committee, Ninth International Conference on Parallel and Distributed Computing Systems (PDCS `96), Dijon, France, September 1996.
331. Member of Program Committee, Fifth International Symposium on High Performance Distributed Computing (HPDC-5), Syracuse, NY, August 1996.

Proposal Reviewing

- Scientific Reviewer, Partnership for Advanced Computing in Europe (PRACE).
- Panelist/Reviewer, National Science Foundation of the United States.
- United States Department of Energy (DoE).
- U.S. Civilian Research and Development Foundation (CRDF).

- National Sciences and Engineering Research Council of Canada (NSERC).
- Dutch National Science Foundation (NWO).
- Engineering, National University of Singapore.
- Irish Research Council for Science, Engineering and Technology (IRCSET).
- Louisiana Board of Regents, USA.
- Austrian Science Fund (FWF).
- French National Research Agency (ANR).
- Portuguese Foundation for Science and Technology (FCT).

Journal, and Conference Reviewing (list not complete)

- IEEE Computer Journal.
- IEEE Transactions on Parallel and Distributed Computing.
- IEEE Transactions on Knowledge and Data Engineering.
- IEEE Transactions on Information Technology in Biomedicine.
- IEEE Transactions on Systems, Man, Cybernetics.
- IEEE Computer Graphics and Applications.
- The Computer Journal, British Computer Society, Oxford University Press.
- Journal of Parallel and Distributed Computing, Academic Press.
- Journal of Computational Physics, Academic Press.
- Journal of Computer Communication, Elsevier Science Publishers.
- Journal of Information Sciences, Elsevier Science Publishers.
- Journal of Web Engineering, Rinton Press.
- Concurrency and Computation, Practice and Experience Journal, John Wiley & Sons.
- Cluster Computing: The Journal of Networks, Software Tools, and Applications, Kluwer Academic.
- Journal of Parallel Computing, Elsevier Science Publishers.
- International Journal of High Performance Computing Applications, Sage Publications.
- Integrated Computer-Aided Engineering Journal, IOS Press.
- SIMULATION: Transactions of the Society for Modeling and Simulation.
- IPSI Transactions on Advanced Research.
- IEEE/ACM Supercomputing International Conference.
- IEEE High Performance Distributed Computing International Conference
- IEEE International Conference on Cluster Computing.
- International Conference on Parallel and Distributed Processing Techniques and Applications, CSREA.
- IEEE International Conference on Parallel Processing.
- IEEE International Parallel Processing Symposium.
- ACM International Conference on Computing Frontiers
- ACM GROUPS International Conference.
- ACM/IEEE/IFIP Euro-Par Conference.
- IEEE Hawaii International Conference on System Sciences.
- ISCA International Conference on Parallel and Distributed Computing Systems.
- SIAM Conference on Parallel Processing for Scientific Computing.
- IEEE International Workshop on Solving Irregularly Structured Problems in Parallel.
- IEEE/ACM International Parallel and Distributed Processing Symposium.
- IEEE Heterogeneous Computing Workshop.
- IEEE Workshop on Information and Computer Science.
- ACM Java Grande and International Symposium on Computing in Object-Oriented Parallel Environments.
- ACM International Symposium on Distributed Object and Component-Based Software Systems.
- IEEE International Symposium on Computer Architecture and High Performance Computing.

Society Memberships & Miscellaneous Activities

- Fellow, American Association for the Advancement of Science (AAAS), 2012.
- Fellow, Institute of Electrical and Electronics Engineers (IEEE) and IEEE Computer Society, 2011.
- Fellow, Association for Computer Machinery (ACM), 2021.
- Member, Department of Energy Exascale Computing Project (ECP) Industry and Agency Council (IAC), 2022 – Present.
- Member, 2023 IEEE PSPB Strategic Planning Committee (SPC).

- Chair, IEEE Computer Society Technical Committee on Parallel Processing (TCPP) Outstanding Service and Contributions Award Selection Committee, 2022.
- Chair, IEEE Computer Society Committee on Open Science and Replicability, 2020 – 2021.
- Founder and Chair, IEEE Computer Society Technical Consortium on High Performance Computing (TCHPC), 2016.
- Founder and Committee Chair, IEEE TCHPC Award for Excellence for Early Career Researchers in High Performance Computing, 2016.
- IEEE Fellows Committee, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2023.
- Member of Executive Committee, IEEE Computer Society Technical Committee on Parallel Processing (TCPP), 2003 – Present.
- Member of Advisory Board, IEEE Computer Society Technical Committee on Scalable Computing (TCSC), 2007 – 2016.
- Chair, Awards Committee, IEEE Computer Society Technical Committee on Scalable Computing (TCSC), 2012 – 2016.
- Chair, Awards Committee, IEEE Computer Society Technical Committee on Parallel Processing (TCPP), 2003 – 2016.
- Chair, IEEE Computer Society Technical Committee on Scalable Computing (TCSC) Chair Nomination Committee, 2009, 2011.
- Vice Chair, IEEE Computer Society Technical Committee on Scalable Computing (TCSC), 2007 – 2011.
- Founder and Committee Chair, IEEE TCSC Award for Excellence for Scalable Computing, 2008 – 2016.
- Founder and Committee Chair, IEEE TCSC Award for Excellence for Scalable Computing – Early Career Researchers / Award for Young Achievers in Scalable Computing, 2013 – 2015.
- Member, TCPP Outstanding Service and Contributions Award Committee, 2015, 2016.
- Founder and coordinator of the IEEE International Scalable Computing Challenge (SCALE), 2008 – 2010, 2016.
- Member, Editor-in-Chief (EiC) Search Committee, IEEE Computer Architecture Letters (CAL), 2020.
- Member, Editor-in-Chief (EiC) Search Committee, IEEE Transactions on Services Computing (TSC), 2016.
- Member, 2016 IEEE TCPP Outstanding Service and Contributions Award Committee, 2016.
- Member of IEEE Computer Society Charles Baggage Award, 2016.

Educational/Instructional Achievements

Teaching Profile

Course Number	Audience	Name	Semester
16:198:671	MS/PhD	Parallel Programming and Extreme Scale Computing	Fall ‘16
16:198:671	MS/PhD	Parallel Programming and Extreme Scale Computing	Fall ‘15
16:198:545	MS/PhD	Distributed Systems	Spring ‘15
14:198:214	BS	Systems Programming	Fall ‘14
14:332:438	BS	Capstone Design: Software	Spring ‘14
16:332:566	MS/PhD	Introduction to Parallel and Distributed Programming	Fall ‘13
14:332:451	BS	Introduction to Parallel and Distributed Programming	Fall ‘13
16:332:572	PhD	Advanced Parallel and Distributed Computing (Cloud Computing)	Spring ‘13
14:332:438	BS	Capstone Design: Software	Spring ‘13
16:332:566	MS/PhD	Introduction to Parallel and Distributed Programming	Fall ‘12
14:332:451	BS	Introduction to Parallel and Distributed Programming	Fall ‘12
16:332:572	PhD	Advanced Parallel and Distributed Computing (Cloud Computing)	Spring ‘12
14:332:438	BS	Capstone Design: Software	Spring ‘12
16:332:566	MS/PhD	Introduction to Parallel and Distributed Programming	Fall ‘11
14:332:451	BS	Introduction to Parallel and Distributed Programming	Fall ‘11
14:332:438	BS	Capstone Design: Software	Spring ‘09
16:332:572	PhD	Advanced Parallel and Distributed Computing (DataIntensive Computing & Clouds)	Spring ‘09
16:332:566	MS/PhD	Introduction to Parallel and Distributed Programming	Fall ‘08
14:332:451	BS	Introduction to Parallel and Distributed Programming	Fall ‘08

14:332:438	BS	Capstone Design: Software	Spring ‘08
16:332:572	PhD	Advanced Parallel and Distributed Computing (ExtremeScale Computing)	Spring ‘08
16:332:572	PhD	Advanced Parallel and Distributed Computing (Autonomic Computing)	Spring ‘07
14:332:438	BS	Capstone Design: Software	Spring ‘07
16:332:566	MS/PhD	Introduction to Parallel and Distributed Programming	Fall ‘06
14:332:451	BS	Introduction to Parallel and Distributed Programming	Fall ‘06
16:332:572	PhD	Advanced Parallel and Distributed Computing (Pervasive Computing)	Spring ‘06
14:332:452	BS	Introduction to Software Engineering	Spring ‘06
16:332:566	MS/PhD	Introduction to Parallel and Distributed Programming	Fall ‘05
14:332:451	BS	Introduction to Parallel and Distributed Programming	Fall ‘05
16:332:572	PhD	Advanced Parallel and Distributed Computing	Spring ‘05
14:332:452	BS	Introduction to Software Engineering	Spring ‘05
16:332:566	MS/PhD	Introduction to Parallel and Distributed Programming	Fall ‘04
14:332:451	BS	Introduction to Parallel and Distributed Programming	Fall ‘04
16:332:572	PhD	Advanced Parallel and Distributed Computing	Spring ‘04
16:332:566	MS/PhD	Introduction to Parallel and Distributed Programming	Fall ‘03
14:332:451	BS	Introduction to Parallel and Distributed Programming	Fall ‘03
16:332:572	PhD	Advanced Parallel and Distributed Computing: Grid Computing & Pervasive Computing	Spring ‘03
16:332:566	MS/PhD	Introduction to Parallel and Distributed Programming	Fall ‘02
14:332:451	BS	Introduction to Parallel and Distributed Programming	Fall ‘02
16:332:566	MS/PhD	Parallel and Distributed Computing	Spring ‘02
14:332:452	BS	Introduction to Software Engineering	Spring ‘02
16:332:579	PhD	Advanced Topics in Computer Eng. – Peer-to-Peer Computing	Fall ‘01
14:332:451	BS/MS	Introduction to Parallel and Distributed Programming	Fall ‘01
14:332:452	BS	Introduction to Software Engineering	Spring ‘01
16:332:566	MS/PhD	Parallel & Distributed Computing	Spring ‘00
16:332:579	PhD	Advanced Topics in Computer Eng. – Network Computing	Fall ‘99
16:332:567	MS/PhD	Software Engineering I	Fall ‘99
16:332:566	MS/PhD	Parallel & Distributed Computing	Spring ‘99
16:332: 678 (CS 198:671)	PhD	Advanced Parallel Computing Seminar	Fall ‘98
16:332:567	MS/PhD	Software Engineering I	Fall ‘98
16:332:568	MS/PhD	Software Engineering II	Spring ‘98
16:332:567	MS/PhD	Software Engineering I	Fall ‘97

Honors and Awards

NSF CAREER Award for an Education Program in Applied Computation: The prestigious NSF CAREER award was awarded in part for an educational program in applied computation. The overall educational goal of the program is to establish a *comprehensive (graduate and undergraduate) program in applied parallel and distributed computation*. It aims at promoting active, cooperative and experiential learning targeted to an evolving global multidisciplinary marketplace.

Educational Grants

Rational Educational Grants for Advanced Software Engineering Education (1999 & 2002): These grants provided state-of-the-art software engineering tools and systems to support advanced software engineering education. The goal

of the grants was to ensure that Rutgers' graduates are trained in the current approaches and practices in software engineering. Each of these grants approximated $25,000.00 in software.

Student Advising and Supervision

Professor Parashar routinely advises graduate and undergraduate students on academic matters. His advising activities (current and past) are summarized below. He also regularly mentors high-school students as part of the Governors School program at Rutgers.

Post-Doctoral Researchers Mentored	14
Ph.D. Students Graduated	25
M.S. (Thesis) Students Graduated	50
Ph.D. Committees (14 International, 3 External)	49
M.S. Committees	73

Curriculum Development

NSF/IEEE-TCPP Curriculum Initiative on Parallel and Distributed Computing

- Member of the NSF/IEEE-TCPP Curriculum Initiative Committee focused on restructuring standard curricula across various courses and modules related to parallel and distributed computing. Specifically, the current focus has been on developing a parallel and distributed computing core curriculum for CS/CE undergraduates.

Newly Created Program/Courses at Rutgers:

- Established a program in "Parallel and Distributed Computing" incorporating the following courses:
  - 14:332:451 – Introduction to Parallel & Distributed Programming (Undergraduate)
  - 16:332:566 – Introduction to Parallel & Distributed Programming (Graduate)
  - 16:332:572 – Parallel & Distributed Computing – Techniques and Technologies (Graduate)
    - Theory and Practice
    - Grid and Pervasive Computing
    - Sensor-based Systems
    - Autonomic Computing
    - Multicore Systems
    - Data-Intensive Computing
    - Clouds Computing
  - 16:332:678 – Advanced Parallel & Distributed Computing Seminar (Graduate)
    (This course was cross-listed at CS 671 and offered jointly with Prof. A. Gerasoulis)
  - 16:332:579 – Advanced Topics in Computer Engineering – Pervasive & Grid Computing (Graduate)
  - 16:332:579 – Advanced Topics in Computer Engineering – Peer-to-Peer Computing (Graduate)
  - 16:332:579 – Advanced Topics in Computer Engineering – Network Computing (Graduate)
  - 16:332:579 – Advanced Topics in Computer Engineering – Cloud Computing (Graduate)
- Developing an inter-disciplinary program *in Computational Finance* (with P. Feehan, Department of Mathematics).
- Developed a dual-degree *pilot graduate program* (with M. Bushnell, H. Benaroya, and N. Zabusky) with Department Mechanical and Aerospace Engineering.
- Currently developing a *multi-disciplinary program* in *Applied Parallel and Distributed Computing* as part of the educational plan of my NSF CAREER Award.

Program/Course Revisions

- Redesigned the Computer Engineering MS curriculum (with Prof. M. Hsiao).
- Revised the Software Engineering course sequence to reflect the current state of technology and practice.
  Courses revised include:
  - 14:332:452 – Introduction to Software Engineering (Undergraduate)
  - 16:332:567 – Software Engineering I (Graduate)
  - 16:332:568 – Software Engineering II (Graduate)
- Currently designing interactive and collaborative simulation portals for instruction in computational sciences.
- Currently establishing an instructional laboratory for Software Engineering.

Miscellaneous Professional Instruction

Professor Parashar has been actively involved in professional instruction and has given a number of tutorials in specific areas of technology and research. These include:

1. "High Performance I/O Frameworks 101," Tutorial at ACM/IEEE SC 2019, the 32nd IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 19), Denver, CO, USA, November 2019.
2. "High Performance I/O Frameworks 101," Tutorial at ACM/IEEE SC 2018, the 31st IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC 18), Dallas, TX, USA, November 2018.
3. "Extreme-Scale Data-Management for Simulation-based Science," Short Course at Beihang University, Beijing, China, July 2016.
4. "Software-Defined Federations using CometCloud." Tutorial at the 2015 IEEE International Conference on Cloud and Autonomic Computing (ICCAC), Part of the 2015 Foundation and Applications of Self* Computing Conferences (FAS* 2105), Boston, MA, USA, September 2015.
5. "An Introduction to DataSpaces: An Extreme-Scale Data-Management Framework." Tutorial at XSEDE'15, St. Louis, MO, July 2015.
6. "Big Data Challenges in Simulation-based Science." BigData 2015 – International Winter School on Big Data, Tarragona, Spain, January 2015.
7. "Autonomic Clouds." with O. Rana, Cardiff University, UK, 7th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2014), London, UK, December 2014.
8. "Autonomic Clouds." with O. Rana, Cardiff University, UK, 14th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2014), Chicago, IL, USA, May 2014.
9. "Autonomic Computing – Foundations, Systems and Applications." 1st Summer School Autonomic Road Transport Support Systems: Foundations & Techniques, Paris-Marne La Valée, France, May 2013.
10. "Federating Advanced Cyberinfrastructure and Clouds from an Application Perspective." Virtual School of Computational Science & Engineering Summer Schools, July-August 2012.
11. Tutorial on "Developing and Deploying Applications on Federated Clouds using CometCloud" at the 12th International Symposium on Cluster Computing and the Grid (CCGrid 2012), Ottawa, Canada, May 2012.
12. "Introduction to Cloud Computing." Indo-US Collaboration for Engineering Education (IUCEE) / International Federation for Engineering Education Societies (IFEES) Global Webinar, February 2012.
13. Tutorial on "Autonomic Grid Computing." 2nd International Conference on Self-adaptive and Self-Organizing Systems (SASO 2008), Venice, Italy, October 2008.
14. Tutorial on "Autonomic Grid Computing: Concepts, Infrastructure and Applications." 3rd IEEE International Conference on e-Science and Grid Computing (e-Science 2007), Bangalore, India, December 2007.
15. Tutorial on "Autonomic Grid Computing: Concepts, Infrastructure and Applications." 2nd Latin American Autonomic Computing Symposium (LAACS 2007), Petropolis, Brazil, September 2007.
16. Short course on "Autonomic Computing" at Universitat Politecnica De Catalunya (UPC), Barcelona, Spain, July 2007.
17. Tutorial on "Autonomic Grid Computing" at the 7th International Symposium on Cluster Computing and the Grid (CCGrid 2007), Rio de Janeiro, Brazil, May 2007.
18. Tutorial on "Autonomic Grid Computing" at Xerox Innovation Group, Webster, NY, USA, August 03, 2005.
19. Tutorial on "Autonomic Grid Computing" at the 14th IEEE International Symposium on High-Performance Distributed Computing (HPDC 14), Research Triangle Park, NC, USA, July 24-27, 2005.
20. Tutorial on "Autonomic Grid Computing" at the 1st IEEE International Conference on Autonomic Computing (ICAC 2004), New York, NY, USA, May 16-18, 2004.
21. Tutorial on "Autonomic Computing" at the ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2003), Tunisia, July 14-18, 2003.
22. Tutorial on "Autonomic Computing" at the 12th IEEE International Symposium on High-Performance Distributed Computing (HPDC 12) and the 8th Global Grid Forum (GGF 8), Seattle, WA, June 22-24, 2003.
23. Tutorial and Workshop on "Autonomic Computing" at the Center for Advanced Information Processing (CAIP), Rutgers University, Piscataway, NJ, June 18, 2003.
24. Tutorial on "Using Parallel Adaptive Algorithms for Astrophysics and Numerical Relativity Applications" at the Center on Astrophysical Thermonuclear Flashes, DOE ASCI/ASAP Center for Excellence, University of Chicago and Argonne National Laboratory, June 1998.
25. Tutorial on "Implementation Methods for Parallel AMR Solutions of Partial Differential Equations." at Supercomputing '98, November 1998. The conference was sponsored by ACM and IEEE Computer Society and is one of the premier conferences in the field. The tutorial was attended by about 25 engineers and scientists from industry, universities and the national research laboratories.
26. Tutorial on "Parallel Adaptive Techniques for Large-Scale Oil Reservoir Simulations." at Center for Subsurface

Modeling Industrial Affiliates Workshop, November 1998. This tutorial was attended by 26 researchers from the oil industry.

University/School/Department Committee Memberships/Service

- Member, Dean Search Committee, Price College of Engineering, 2023-2024.
- Member, Partnerships, Networks & Locations Working Group, Office of Global Engagement (OGE) Strategic Planning Steering Committee, 2023 – Present.
- Member, Data Exploration and Learning for Precision Health Intelligence (DELPHI) Data Science Initiative Executive Board, 2023 – Present.
- Member of Advisory Council, AI, Machine Learning, and Data Science, School or Arts and Sciences, 2019.
- Member of Search Committee, Rutgers New Brunswick Vice-Chancellor for Research and Innovation, 2017.
- Member of the Steering Committee, Developing Rutgers Telecommunications 10 Year Master Plan, 2016 – Present.
- Member of Institute for Healthcare Innovation Search Committee, 2016 – Present.
- Member, Executive Faculty Committee, Professional Science Master's Program, 2016 – Present.
- Member of the Compensation Review Committee, Rutgers University Libraries, 2016.
- Co-Director & Interim Associate Vice President for Research Computing, Rutgers Office for Advanced Research Computing (OARC), 2015 – 2016.
- Member of Search Committee, Joint Proteomics-Statistics and Biostatistics Data Science Faculty Search, 2015 – Present.
- Member of Search Committee for a Senior Henry Rutgers Data Science Professor, 2015 – Present.
- Member of Search Committee, Department of Computer Science, 2015 – Present.
- Co-Lead, Rutgers University Strategic Planning for Advanced Research Cyberinfrastructure, 2012 – Present.
- Co-Chair, Big Data Working Group, Rutgers Biomedical and Health Sciences Strategic Planning Steering Committee, 2014 – Present.
- Member of Admissions Committee, Department of Computer Science, 2014 – Present.
- Member, Rutgers Strategic Planning Committee on "Envisioning Tomorrows University." 2013 – 2014.
- Member, Rutgers Strategic Planning Committee on "Understanding and creating a sustainable world through discovery, innovation, engineering, and technology." 2013 – 2014.
- Member of Internal Advisory Board, Rutgers Cancer Institute of New Jersey (RCINJ), 2013 – Present.
- Member of School of Engineering Strategic Research Implementation Group: Advancement of SOE Research Productivity and Outcomes, 2013 – 2014.
- Chair, School of Engineering Committee for High Performance Computing Strategy, 2011 – 2014.
- Chair, ECE Strategic Planning Committee, 2011 – 2014.
- Member, ECE Undergraduate Committee, 2012 – 2014.
- Member, ECE Ph.D. Mentoring Committee, 2012 – 2014.
- Member, ECE ABET Committee, 2011 – 2014.
- Member, ECE Scholarship Committee, 2011 – 2014.
- Member, Task Force on Enhanced Education and Research for Undergraduates, 2011.
- Member, Graduate Committee, 2011.
- Member, Faculty Search Committee, 2010, 2011, 2012.
- Member, Capstone Committee, 2011.
- Member, Chair Search Committee, 2010.
- Member, Faculty Compensation Program (FCP) Evaluation Committee, 2009.
- Lead, CCC Green Computing Initiative, 2008 – 2010
- Member of Review Committee of the Office of Information Technology (OIT) at Rutgers University.
- Member of Steering Committee and Participating Faculty, Mathematical Finance Program, Department of Mathematics, 2007 – 2014.
- Lead, CCC Pervasive Computing Initiative, 2007 – 2010.
- Member, ECE Department Curriculum Committee, 2006 – 2007.
- Member, College Planning Committee, 2006 – 2009.
- Member, Rutgers Computing Coordinating Council (CCC), 2006 – 2010.
- Member, ECE Department Hiring Committee, 2006 – 2007.
- Marshal, School of Engineering Commencement, 2006.
- Chair, ECE Department Chair Nomination Committee, 2006.
- Member, Rutgers Board of Trustees Awards Committee, 2006.

- Member, Advisory Committee on Appointments and Promotions, 2005 – 2006.
- Member, CAIP Executive Committee, 2005 – 2009.
- Chair, ECE Department Colloquium/Distinguished Seminars Committee, 2004 – 2006.
- Member, ECE Department Tenure/Reappointment Evaluation Committee, 2004 - 2006.
- Member, ECE Department Fellowship Committee, 2001 - 2014.
- Member, ECE Department Scholastic Standing Committee, 1999 - 2014.
- Member, ECE Department Admissions Committee (Admissions Coordinator for Computer Engineering – Software), 1999 – 2014.
- Member, ECE Department Colloquium/Distinguished Seminars Committee, 2000 – 2004.
- Member, ECE Department Ph.D. Qualifying Examination Committee, 1997- 2014.
- Member and Department Representative, School of Engineering Instructional Technology Proposal Committee, 1999 – 2000.
- Member, Center for Advanced Information Processing (CAIP) E10K Steering Committee, 1999.
- Member, School of Engineering Unisys/Rutgers Steering Committee, 1998.
- Marshal, School of Engineering Commencement, 1999.