

Amit Majumdar, Ph.D
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EDUCATIONAL BACKGROUND

School, college, university, or hospital (internship, residency, or fellowship)	Dates of attendance	Location	Major subject or field	Degrees or certificates	Date received
Jadavpur University	07/81-06/85	Calcutta, India	Electronics and Telecommunication	B.S.	06/85
Idaho State University	08/85-07/88	Pocatello, ID	Nuclear Science and Engineering	M.S.	07/88
University of Michigan	08/92-12/93	Ann Arbor, MI	Mathematics	M.S.	01/94
University of Michigan	08/88-01/96	Ann Arbor, MI	Nuclear Engineering and Scientific Computing	Ph.D	02/96

Ph.D. Dissertation Title: *Development of a Multiple Perturbation Monte Carlo Method for Eigenvalue Problems and Implementation on Parallel Processors*

Ph.D. Advisor: William R. Martin, Nuclear Engineering Department, University of Michigan, Ann Arbor, MI

EMPLOYMENT HISTORY

Period of employment From: To:	Institution, firm or organization	Location	Rank, title, or position
09/01/86-04/30/87	Idaho National Engineering Lab	Idaho Falls, ID	Research Assistant
03/01/96-02/28/97	Ford Research Lab	Dearborn, MI	Prog. Analyst
03/01/97-12/31/00	San Diego Supercomputer Center (SDSC)	San Diego, CA	Prog. Analyst
01/01/01-01/31/02	SDSC	San Diego, CA	Staff Scientist
02/01/02-09/30/13	SDSC	San Diego, CA	Director, Scientific Computing Applications; Sr. Computational Scientist
08/01/08-07/31/11	SDSC/TeraGrid	San Diego, CA	TeraGrid Area Director
12/01/09-present	Dept. of Radiation	San Diego, CA	Clinical Assoc. Prof

	Medicine and Applied Sciences		
10/01/13-present	SDSC	San Diego, CA	Division Director, Data Enabled Scientific Computing

University Service

2008 – 2009 Member of SDSC’s next generation management reorganization committee
 2013 – present Member of SDSC’s executive team
 2016 – 2016 Member of SDSC’s Strategic Planning Committee

Professional Membership

1991 – present: Institute of Electrical and Electronics Engineering (IEEE)
 1992 – 2008: American Nuclear Society (ANS)
 2000 – present: Society of Industrial and Applied Mathematics (SIAM)
 2008 – present: American Physical Society (APS)
 2015 – present: Organization for Computational Neuroscience (OCNS)
 2017 – present: Society for Neuroscience (SfN)

Honors and Awards

SDSC Excellence Award, January 2015
 SDSC Pi Person of the year 2017, July 2017

GRANTS

GRANTS AWARDED (CURRENT and COMPLETED)

1. NSF OAC: Category II: Exploring Neural Network Processors for AI in Science and Engineering. **PI: Amit Majumdar**, Co-PIs: Rommie Amaro, Robert Sinkovits, Mai Nguyen, Javier Duarte, \$5,999,999; 6/1/2020 – 12/31/2026.
2. NSF DBI: Collaborative Research: CIBR: Building Capacity for Data-driven Neuroscience Research. **PI: Amit Majumdar**, **Co-PI:** Subhashini Sivagnanam, **Senior Personnel:** Kenneth Yoshimoto; Ted Carnevale, PI Yale University; UCSD \$630,486 and Yale \$121,058; 4/15/20 – 3/31/23.
3. NIH NIBIB U24: Neuroscience Gateway to Enable Dissemination of Computational and Data Processing Tools and Software. **PI: Amit Majumdar**, **Co-I:** Subhashini Sivagnanam, UCSD; Ted Carnevale, Yale University; \$1,869,957; 09/20/19 – 05/31/24
4. NIH NIHM R24: BRAIN INITIATIVE RESOURCE: Development of a Human Neuroelectromagnetic Data Archive and Tools Resource (NEMAR); **MPIs** Scott Makeig, **Amit Majumdar**, Arnaud Delorme, UCSD; Russ Poldrack (Stanford); \$4,400,000 (approx. total); 08/01/19 – 07/31/24
5. NSF OAC: **CSSI; Collaborative Research:** Frameworks: Designing Next-Generation MPI Libraries for Emerging Dense GPU Systems; NSF Division: OAC; **PI: Amit Majumdar**; DK Panda (Ohio State) as the

lead PI, and Bill Barth, the PI from TACC. Co-PIs of this project are Mahidhar Tatineni (SDSC), Karen Tomko (Ohio Supercomputer Center), Hari Subramoni (Ohio State), Samuel Khuvis (OSC) and Zhao Zhang (TACC); \$350,612.00; 11/1/19 – 10/31/22

6. **NSF OAC:** Category I. Computing without Boundaries: Cyberinfrastructure for the Long Tail of Science; NSF OAC; PI Mike Norman, **Co-PIs: Amit Majumdar**, Ilkay Altintas, Shawn Strande, Mahidhar Tatineni (all UCSD); \$11,999,999; 10/01/19 – 09/30/21
7. **NSF CRI:** CI-NEW: Trainable Reconfigurable Development Platform for Large-Scale Neuromorphic Cognitive Computing; NSF Division: CNS; PI Gert Cauwenberghs (UCSD), **Co-PIs Amit Majumdar**, Emre Neftci (UC Irvine); \$1,500,000; 08/01/18 – 07/31/21
8. **NSF OAC:** Promoting International Collaboration on Developing Scalable, Portable & Efficient HPC Software for Modern HPC Platforms, **PI: Amit Majumdar**, \$27,750; 10/01/18 – 09/30/20
9. **NIH NIBIB R01:** The Open EEGLAB Portal Project; **MPIs** Scott Makeig, **Amit Majumdar**, Arnaud Delorme, UCSD; \$750,000 (approx. SDSC portion); \$2,600,000 (approx. total); 09/01/17 – 08/31/21
10. **NSF OAC:** Gateways to Discovery: Cyberinfrastructure for the Long Tail of Science; PI: Mike Norman; Co-PIs: Shawn Strande, Robert Sinkovits, Mahidhar Tatineni; **Amit Majumdar** (all UCSD); \$27,313,477; 10/01/13 – 03/31/21
11. **NSF CyberTraining:** DSE: Self-Service Training Modules for Data-Intensive Neuroscience Learning and Research; NSF Division: OCI; PI Satish Nair University of Missouri ; **Co-PI Amit Majumdar**, other Co-PIs Prasad Calyam, David Bergin, University of Missouri. \$90,000 (SDSC portion); 09/01/17 – 08/31/20
12. **NSF Collaborative SHF:** Large: Collaborative Research: Next Generation Communication Mechanisms exploiting Heterogeneity, Hierarchy and Concurrency for Emerging HPC Systems; **PI Amit Majumdar**, Co-PI Mahidhar Tatineni (UCSD); other PIs and Co-PIs DK Panda (Lead PI), Hari Subramoni, Ohio State; Karen Tomko, Ohio Supercomputer Center; Bill Barth, University of Texas. \$405,000 (SDSC portion); 8/15/16-7/31/20
13. **NSF Collaborative Research:** Bilateral BBSRC-NSF/BIO: Collaborative Research: **ABI Development:** Seamless Integration of Neuroscience Models and Tools with HPC - Easy Path to Supercomputing for Neuroscience; NSF Division – DBI; **PI Amit Majumdar** (lead PI), Co-PI Subhashini Sivagnanam (UCSD); other PI Ted Carnevale, Yale University; \$774,000 (SDSC portion); 08/15 - 07/20
14. **NSF Collaborative Research: SI2-SSI:** Open Gateway Computing Environments Science Gateways Platform as a Service (OGCE SciGaP); NSF Division – ACI; PI Mark Miller, **Co-PI Amit Majumdar** (UCSD); other PIs Marlon Pierce (lead PI), Suresh Marru (Indiana University), Borries Demeler (University of Texas San Antonio Health Center); \$1,742,099 (SDSC portion), 10/13-09/19.
15. **Department of Defense (DOD) Subcontract :** Design and Implementation of High Performance and Portable Parallel I/O and I/O Technologies for Naval Computational Science Library; **PI Amit Majumdar**; \$449,934; 09/01/17-08/31/19
16. **NSF Collaborative Research: BIGDATA:** F: DKM: Collaborative Research: Scalable Middleware for Managing and Processing Big Data on Next Generation HPC Systems; NSF Division – IIS. **PI Amit Majumdar**, Co-PI Mahidhar Tatineni (UCSD); other PIs DK Panda (Lead PI), Ohio State University; \$359,999 (SDSC portion); 09/14-08/17.
17. **Department of Defense (DOD) Subcontract :** Strategies for Large Scale I/O for Application Performance Improvement; **PI Amit Majumdar**; \$199,502; 06/01/16-08/31/17

18. **NSF CC*IIIE Integration:** RADII: Resource Aware Datacenteric Collaboration Infrastructure; NSF OAC; PI: Ilya Baldin, Co-PIs: Claris Castillo, Charles Schmitt, Arcot Rajasekar, U. North Carolina, \$853,658 (\$18,876 SDSC portion; subcontract **Amit Majumdar**, SDSC); 10/14 – 09/17.
19. **Engility Co.** grant for student summer internship: Analyzing I/O Usage Patterns of User Jobs to Improve Overall HPC System Efficiency, **PI: Amit Majumdar**, students: Syed Sadat Nazrul, Cherie Huang (UCSD); \$25,000; 06/16-08/16.
20. **NSF Collaborative Research: SHF:** Large: Unified Runtime for Supporting Hybrid Programming Models on Heterogeneous Architecture; NSF Division – CCF. **PI Amit Majumdar**, Co-PI Yifeng Cui; other PIs: DK Panda (lead PI), Ohio State University, Karl Schulz and Bill Barth, TACC, U. Texas; \$382,204 (SDSC portion); 07/12-06/16
21. **NSF Collaborative Research: ABI Development:** Building A Community Resource for Neuroscientists; NSF Division – DBI. **PI Amit Majumdar** (lead PI), Co-PI Maryann Martone (UCSD); other PI Ted Carnevale, Yale University; \$706,608 (SDSC portion); 05/12-04/16
22. **NSF Collaborative Research: SI2-SSI:** A Comprehensive Performance Tuning Framework for the MPI Stack; NSF Division – OCI. **PI Amit Majumdar**; other PIs DK Panda (lead PI), Ohio State University; Bill Barth and Tommy Minyard, TACC, U. Texas; \$450,772 (SDSC portion); 06/12-05/15
23. **Air Force Office of Scientific Research (AFOSR):** Dynamic Data Driven Application System (DDDAS) - Computational steering of large-scale structural systems through advanced simulation, optimization and structural health monitoring; PI: Yuri Bazilevs, UCSD, **Co-PIs Amit Majumdar**; Mahidhar Tatineni, Alison Marsden; \$695,905; 11/11 – 10/15.
24. **Intel Parallel Computing Center; PIs:** Ross Walker, **Amit Majumdar**, Andreas Goetz, UCSD; \$100,000 (approx.); 2014.
25. PI of a **SDSC internal grant** (2012 - 2013) titled, "In-site Visualization, Data Mining and Computational Steering on the Gordon Machine". Co-PI is Mahidhar Tatineni from SDSC; \$20,000.
26. **NSF PRAC:** Petascale Computations for Complex Turbulent Flows at High Reynolds Number. PI: P.K Yeung, Georgia Tech, **Co-PIs: Amit Majumdar** (SDSC), Dmitry Pekurovsky (SDSC), Robert Moser, U. Texas; Jim Riley, U. Washington; Co-PI. \$26,448 (travel funding); 09/11 – 08/16.
27. **NSF PRAC:** Enabling Breakthrough Kinetic Simulations of the Magnetosphere via Petascale Computing. PI Homa Karimabadi, UCSD, **Co-PIs – Amit Majumdar** (SDSC), Kevin Quest (UCSD). \$39,900 (travel funding); 11/2010 – 10/2013.
28. **NSF Collaborative Research PetaApps:** Enabling Breakthrough Kinetic Simulations of the Magnetosphere via Multi-zone Petascale Computing; NSF Division – OCI. PI: Homa Karimabadi, UCSD, **Co-PI Amit Majumdar**, UCSD, Yuri Omelchenko, Kevin Quest, UCSD; Umit Catalyurek, Ohio State Univ.; NSF Division – OCI; \$1,182,755.00 (total among all the institutions for three years); 08/09-07/13.
29. **University of California Lab Program:** Adaptive Radiotherapy Based on High Performance Computing. PI – Steve Jiang, UCSD, **Co-PIs – Amit Majumdar**, Mike Holst, UCSD, Marie-Anne Descalle, LLNL; \$1,500,000 total; 01/09-12/12.
30. **NSF Collaborative Research:** Topology-Aware MPI Communication and Scheduling for PetaScale Systems. NSF Division – OCI. **PI – Amit Majumdar**; other PIs: D.K. Panda (lead PI), Ohio State University; Karl Schulz and Bill Barth, TACC, U. Texas; NSF Division – OCI; \$460,000 (SDSC portion); 10/09-09/13
31. **NSF PetaApps:** Collaborative Research: Discovery in High Reynolds Number Turbulence via Advanced Tools for Petascale Simulation and Analysis. **PI – Amit Majumdar**; other PIs: P.K. Yeung (lead PI), Georgia

Tech; Robert Moser, U. Texas; Jim Riley, U. Washington; Co-PI: Dmitry Pekurovsky, UCSD; NSF Division – OCI; \$384,000 (SDSC portion); 10/07 – 09/13.

32. PI, **Microsoft gift** grant, \$35,000. (2008 - 2011). Project was to port and benchmark scientific applications on a Windows HPC Server 2008 cluster.
33. **NSF SGER**: P3DFFT+ A Highly Scalable Framework for Fourier like Transforms in Three Dimensions. PI – Dmitry Pekurovsky, **Co-PI – Amit Majumdar** (SDSC). \$151,650, 10/09 – 09/11.
34. **PI of a SDSC internal funded project** (2010 - 2011) on computational framework for cardiovascular surgical procedures. Other Co-PIs are Alison Marsden (Dept. of Mechanical and Aerospace Engr, UCSD), Yuri Bazilevs (Dept. of Structural Engr, UCSD), Mahidhar Tatineni (SDSC). Postdoc Sethuraman Sankaran and graduate student Kenneth Benner (Dept. of Structural Engr, UCSD) were involved in this project. \$20,000
35. **NSF PRAC**: Petascale Computations for Complex Turbulent Flows. PI: P.K Yeung, Georgia Tech, Co-PIs: **Amit Majumdar** (SDSC), Robert Moser, U. Texas; Jim Riley, U. Washington; Co-PI. \$13,224 (travel funding); 09/09 – 08/12.
36. **NSF HECURA**: Collaborative Research – Extending One-sided Communication in MPI Programming Model for Next-Generation Ultra-Scale HEC. **PI – Amit Majumdar**; other PIs: D.K. Panda (lead PI), Ohio State University, and Karl Schulz, TACC, University of Texas; NSF Division – CISE; \$200,000 (SDSC portion); 09/08 – 08/10.
37. **NSF (Engr)** funded educational project for Cyberinfrastructure Experiences for Graduate Students (CIEG-2007, CIEG-2008). Provided funding for about 10 graduate students from various universities who were research interns at SDSC for summer months in 2007 and 2008.
38. **NSF ITR**: Collaborative Research - (ASE) - (DMC): DDDAS: A Novel Grid Architecture Integrating Real-Time Data and Intervention During Image Guided Therapy. PI – Kim Baldrige, **Co-PIs – Amit Majumdar**, UCSD, Maryann Martone, UCSD, Simon K Warfield, Brigham and Women’s Hospital, Harvard Medical School; NSF Division – CNS; \$325,000.00 (SDSC portion); 10/04 – 09/07.
39. **NSF SGER**: Collaborative Research: Profiling and Analysis of Southern California Earthquake Center (SCEC) HPC Code for Petascale Simulations. **PI – Amit Majumdar** other PI: Tom Jordan, U. Southern California; Senior Personnel: Yifeng Cui, UCSD; NSF Division – ATM; \$20,000.00 (SDSC portion); 09/06 - 08/07.

TEACHING EXPERIENCE AND ACTIVITIES

- He co-developed a senior/graduate level parallel computing class for the program in computational science at the San Diego State University and has taught the course, titled Introduction to Parallel Computing, for four years (1999-2002). In each of these years, about 25 seniors and graduate students attended the class. He has mentored summer undergraduate and graduate students at SDSC.
- He regularly teaches parallel computing and parallel programming workshops at SDSC, University of California Los Angeles, University of California Davis, University of California Irvine, University of California Irvine, and has taught parallel computing workshops at the New Mexico State University, Cal State San Bernardino, University of Michigan, Stanford University, University of California San Francisco, Naval Oceanographic Office (J.C. Stennis Space Center, Mississippi), and at national workshops/conferences.

- In the summers of 2007 and 2008 he directed, with funding from the NSF Division of Design and Manufacturing Innovation (DMI) and Engineering directorates a national graduate student internship program (CIEG – Cyberinfrastructure Experiences for Graduate Students) to introduce HPC methods in graduate students’ Ph.D research work (<http://www.nsf.gov/pubs/2006/nsf06044/nsf06044.jsp>). (<http://www.nsf.gov/pubs/2008/nsf08009/nsf08009.pdf>).
- Student mentored (during summer and school year):
 - 2013 – present: mentoring 2 to 3 high school students every summer as a part of SDSC’s Research Experience for High School (REHS) students program since 2013
 - 2018 – 2019 Brian Rojas, undergraduate student, UCSD Computer Science.
 - 2017 – David Paz-ruiz, undergraduate student, UCSD Computer Science and Engineering; Emily Le, undergraduate student, UCSD Mathematics
 - 2016 – Syed Sadat Nazrul graduate student Data Science Program; Cherie Huang, undergraduate student, computer science UCSD
 - 2012 – Kenny Benner, grad student Structural Engr, UCSD, Debleena Sengupta, high school student, West View High, San Diego
 - 2011 - Prithvi Sundararaman, undergraduate student, Mechanical Engineering, UCSD
 - 2008 – Qiaoyan Wu, Electrical Engr, Rutgers Univ.
Haifeng Ge, Electrical Engr., University of Nebraska-Lincoln.
 - 2007 - Enlu Zhou, Elec Engr grad student, U. Maryland
Haolin Feng, Industrial Engr. grad student, Purdue
 - 2005 - Tharaka Devadithya, CS grad student, Indiana Univ.
June Andrews, Elec. Engr. undergraduate student, UC Berkeley
 - 2004 - Abhishek Trivedi, Mech Eng. grad student, UCSD

PROFESSIONAL ACTIVITIES

- Technical service to organizations
 - Program Committee Member, International Conference on Mathematics and Computational Methods Applied to Nuclear Science and Engineering, M&C 2021, October 3-7, 2021, Raleigh, North Carolina
 - Program Committee Member, 17th IEEE International eScience Conference (eScience 2021), September 20-23, 2021 Innsbruck, Austria
 - Program Committee Member, Gateways2020, October 19-21, 2020, Bethesda, MD
 - Program Committee Member, Supercomputing Asia 2020 (SCA), February 24-27, 2020, Singapore
 - Program Committee Member, HiPC 2019, 17-20 December 2019, Hyderabad, India
 - Program Committee Member, eScience2019, 15th eScience International Conference, September 24-27, 2019, San Diego, CA
 - Program Committee Member, Gateways2019, September 23-25, 2019, San Diego, CA
 - Co-editor of Springer Communications in Computer and Information Science published workshop proceedings (Software Challenges to Exascale Computing - SCEC 2018), CCIS 964.
 - General Chair, 2nd Workshop on Software Challenges for Exascale Computing (SCEC), December 13-14, 2018, Delhi, India
 - Program Committee Member, 18th International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP-2018), November 2018, Guangzhou, China
 - Program Committee Member, Gateways 2018, September 2018, Austin, TX
 - Reviewer - Computational Neuroscience Annual Conference (CNS), July 2018, Seattle, USA
 - Program Committee Member, First Workshop on Software Challenges to Exascale Computing, December 2017, Jaipur, India
 - Program Committee Member, Gateways 2017, October 2017, Ann Arbor, MI

- Program Committee Member, 17th International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP-2017), August 2017, Helsinki, Finland
 - Program Committee Member, Practice & Experience in Advanced Research Computing PEARC17, July 2017, New Orleans, LA
 - Program Committee Member, Gateways 2016, November 2016, San Diego, CA
 - Program Committee Member, XSEDE 16 (Extreme Science and Engineering Discovery Environment), 2016, July 2016, Miami, FL
 - Program Committee Member, International Conference on Computational Science, June, 2016, San Diego, CA
 - Program Committee Member, The 16th International Conference on Algorithms and Architectures for Parallel Processing, December 2016, Granada, Spain
 - Program Committee Member, XSEDE 15 (Extreme Science and Engineering Discovery Environment), 2015, July 2015, St. Louis, MO
 - Program Committee Member, The 15th International Conference on Algorithms and Architectures for Parallel Processing, November 2015, Zhangjiajie, China
 - Program Committee, The 9th International Conference on Frontier of Computer Science and Technology, August 2015, Dalian, China
 - HPC Technical Computing Advisory Panel, Hyperion Research (2015-present)
 - Co-editor, XSEDE13 Special Journal Issue, Concurrency and Computation: Practice & Experience, 2014
 - Program Committee Member, XSEDE 14 (Extreme Science and Engineering Discovery Environment), 2014, July 2014, Atlanta, GA
 - Co-Editor XSEDE13 Special Issue Journal of Concurrency and Computation – Practice and Experience, John Wiley and Sons, 2014
 - Program Committee member, International Conference on Algorithms and Architectures for Parallel Processing, 2014, Dalian, China
 - Program Committee member, IEEE International Symposium on Parallel and Distributed Processing with Applications, 2014, Milan, Italy
 - Program Committee member, IEEE International Conference on High Performance Computing and Communications, 2013, Zhangjiajie, China
 - Technical Program Chair, XSEDE 13 (Extreme Science and Engineering Discovery Environment), 2013, San Diego, USA
 - Program Committee member, IEEE International Conference on eScience, 2012, Chicago, USA
 - Technical Program Deputy Chair, XSEDE 12 (Extreme Science and Engineering Discovery Environment), 2012, Chicago, USA
 - Science Track Chair, Teragrid Extreme Digital Discovery 11, 2011, Salt Lake City, USA
 - Science Track Co-Chair, Teragrid Extreme Digital Discovery 10, 2010, Pittsburgh, USA
- Scientific Advisory Committee member – Canadian Open Neuroscience Platform (CONP) Project
 - Reviewer of journals
 - Review Board Member, Machine Learning and Knowledge Extraction (MAKE) Journal, MDPI
 - ACM Transactions on the Web
 - Applied Sciences, MDPI Publishing
 - Future Generation Computer Systems
 - IEEE Transactions on Parallel and Distributed Computing
 - International Parallel and Distributed Processing Symposium (IPDPS)
 - Journal of Concurrency and Computation: Practice and Experience
 - Neuroinformatics
 - Transactions on Parallel and Distributed Systems (TPDS)
 - Reviewer of proposals for funding agencies

- National Science Foundation
 - Air Force Office of Scientific Research
 - DOE
 - India-US Science and Technology Forum
- Contributions to promote diversity

Majumdar has been involved with HSISTEM Hub (<https://hsistemhub.org/>) where he coordinates Supercomputing and Neuroscience Gateway workshops (<https://hsistemhub.org/2021-summer-stemed-workshops/nsg-eeg/>) for teaching faculties from HSIs.

In earlier years Majumdar has co-mentored 5 female graduate students over summers and one has become an assistant professor at Georgia Tech; another is a scientist in industry; yet another joined U. New Hampshire as an assistant professor.

Majumdar presents workshop on supercomputing and science gateways at Minority Serving Institutes (MSI) such as at New Mexico State University in March 2015 and at Cal State San Bernardino workshop in April, 2014.

For the school year of 2016/2017 Majumdar has mentored a UCSD Mathematics undergraduate female student and a Hispanic Computer Science undergraduate student on a NSF funded research project and this resulted in poster presentation at the PEARC17 conference in July, 2017. Over the summers of 2015, 2017, 2018, 2020, and 2021 Majumdar had mentored nine female high school students as interns as a part of the Neuroscience Gateway project.

PRESENTATIONS and PUBLICATIONS

Keynote/Invited Talks

1. A. Majumdar (invited talk), "Computational Science: TeraFlop to PetaFlop," Kobe University, Japan, Sept 5, 2007.
2. A. Majumdar (invited talk), "High Performance Computational Science - Teraflop to Petaflop," High Performance Computing and Simulation Symposium (HPC 2009), 2009 Spring Simulation Multiconference (SpringSim'09), March 22-27, 2009, San Diego, CA.
3. A. Majumdar (invited talk), "Teraflop to Petaflop - Computational Science," 1st International Supercomputing Conference in Mexico, Guadalajara, Jalisco, Mexico, March 2-5, 2010.
4. A. Majumdar (invited talk), "Application of High Performance Computing to Situation Awareness Simulations," Interactive Situation Awareness Simulation (ISAS) Workshop, UCSD, May 25, 2010
5. A. Majumdar, (invited talk), "Cyberinfrastructure Enabling Science", 7th International Supercomputing Conference in Mexico, April 2016, Puebla, Mexico
6. A. Majumdar (keynote talk), "High Performance Computing and Big Data with RDMA-enabled High Speed Interconnects – Delivering Science at SDSC for a Decade," Keynote talk MVAPOCH User Group (MUG) Meeting, Columbus, OH, August 6-8, 2018.
7. A. Majumdar (invited talk), "High Performance Computing Enabling Scientific Advances via Simulations and Data Processing," Instituto Politécnico Nacional, Mexico City, October 26, 2018.

8. A. Majumdar, G. Jacobs, C. Song, W. Gropp, D. Hancock, P. Buitrago, Plenary Panel “ Introduction of the new NSF Innovative HPC Systems”, PEARC2020, July 27-31, 2020

Presentations, Workshops, Posters:

1. Center d'Etudes, Saclay, France, April 1993: “Experiences with Different Parallel Programming Paradigms for Monte Carlo Particle Transport Leads to a Portable Toolkit for Parallel Monte Carlo.” (with W. R. Martin, J. A. Rathkopf and M. Litvin)
2. Bettis Atomic Power Lab., Pittsburg, April, 1995: “Development of a Multiple Perturbation Monte Carlo Method for Criticality Problems and Impelmentaion on Parallel Processors.” (with W. R. Martin)
3. University of Houston, Center for Parallel Computing, April, 1996: “Development of a Multiple Perturbation Monte Carlo Method for Eigenvalue Problems and Impelmentaion on Parallel Processors.”(with W. R. Martin)
4. Texas A&M University, Nuclear Engineering Department, April,1996: “Development of a Multiple Perturbation Monte Carlo Method for Eigenvalue Problems and Impelmentaion on Parallel Processors.” (with W. R. Martin)
5. Argonne National Laboratory, Reactor Engineering and Reactor Analysis Department Joint Seminar, December, 1995: “Monte Carlo Perturbation Methods and Implementation on Parallel Computers.”
6. University of Michigan, Nuclear Engineering Department, April, 1995: “Calculation of Reactivity Perturbations Using Monte Carlo Methods.”
7. J. Boisseau, L. Carter, K.S. Gatlin, A. Majumdar and A. Snavely, “NAS Benchmarks on the Tera MTA,” Workshop on Multi-Threaded Execution, Architecture and Compilation (M-TEAC 98), February 1998.
8. IBM T. J. Watson Research Center, New York, October 7, 1999: “Parallelization and Performance Issues of a Monte Carlo Photon Transport Code on Nighthawk and other machines”.
9. Hitachi Research Lab, Hitachi, Japan, December 28, 1999: “Parallelization and Performance Issues of a Monte Carlo Photon Transport Code”.
10. San Diego, American Chemical Society National Meeting, April 1-5, 2001: “Mapping of Parallel Monte Carlo and Fast Multipole Algorithms on Parallel Machines”.
11. Berkeley, IBM SP SciComp6, August 19-23, 2002: “Parallel Medical and Genomics Applications on Power3 and Power4 Machines”.
12. A. Majumdar, Simon K. Warfield, Florin Talos, Ron Kikinis, Ferenc A. Jolesz, Adam Birnbaum, Dong Ju Choi, and Kim Baldrige, Grid Enabled High Performance Computing for Image Guided Therapy, 5th Interventional MRI Symposium, Boston, MA, Oct 15-16, 2004.
13. A. Majumdar, A. Birnbaum, T. Devadithya, J. Andrews, K. Bladridge, D. Choi, S. Warfield, N. Archip, "Grid Enabled Image Guided Neurosurgery Using High Performance Computing," Fifth Virtual Conference on Genomics and Bioinformatics, Oct. 25-28, 2005.

14. L. Hoyte, P. Krysl, G. Chukkapalli, A. Majumdar, D. Choi, A. Trivedi, S. K. Warfield, M. Damaser, "Computational Model of Levator Ani Muscle Stretch During Vaginal Delivery," 5th World Congress of Biomechanics, Munich, Germany, July, 2006.
15. Lennox Hoyte, Margot S. Damaser, Simon K. Warfield, Giridhar Chukkapalli, Amitava Majumdar, Dong Ju Choi, Abhishek Trivedi, and Petr Krysl, "Quantity and Distribution of Levator Ani Stretch during Vaginal Childbirth," South Atlantic Association of Obstetricians and Gynecologists 70th Conference, January 20-23, 2008, Sarasota, Florida.
16. A. Majumdar (panel), "HPC at Major Universities," HPC User Forum, Sept. 25-27, 2007, Santa Fe, New Mexico.
17. A. Majumdar (panel), "Dynamic Data Driven Application Systems - New Drivers for Networking and Communications," IEEE GLOBECOM 2007, Nov. 26 - 30, 2007, Washington, DC.
18. A. Majumdar, "HPC and Applications Benchmark on Windows HPC Cluster," Microsoft HPC User Forum, SC2008, Austin, TX, Nov. 15-21, 2008.
19. H. Karimabadi, H.X. Vu, Y. Omelchenko, M. Tatineni, A. Majumdar, D. Krauss-Varban, "Enabling Breakthrough Kinetic Simulations of the Magnetosphere Using Petascale Computing," AGU Fall Meeting, San Francisco, Dec. 14-18, 2009.
20. A. Majumdar, D. Choi, Workshop: Introduction to Parallel Computing, GPU programming, one-sided MPI, Instituto Politecnico Nacional, Mexico City, August 16 - 20, 2010.
21. NSF OCI Campus Bridging Task Force Workshop, Denver, CO, August 25-27, 2010.
22. NSF and AFOSR workshop on Dynamic Data Driven Application Systems (DDDAS), Washington D.C., August 29-31, 2010.
23. A. Majumdar, "On-Demand Dynamic Data Driven Real-Time Computing for Scientific Applications", The 2nd Workshop on "Frontiers of Multicore Computing", University of Maryland, Baltimore County (UMBC), Sept 21-23, 2010.
24. D. Choi, O. Fluck, M. Folkerts, X. Gu, X. Jia, S. Jiang, A. Majumdar, Z. Tian, F. Vidal, D. Unat, "Short Course on GPU Programming for Medical Physics and Medical Imaging Research," San Diego Supercomputer Center (organized by Center for Advanced Radiotherapy Technologies (CART), Dept of Radiation Oncology, UCSD), Oct 29-30, 2010.
25. H. Karimabadi, B. Loring, A. Majumdar, M. Tatineni, "I/O Strategies for Massively Parallel Kinetic Simulations", SC2010, New Orleans, Nov. 13-19, 2010 (poster).
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