

Dr. Gabrielle D. Allen

gdallen@uwyo.edu (Work)

Education

Ph.D., Physics, Cardiff University, UK, 1993. Thesis Advisor, Prof. Bernard Schutz

Certificate of Advanced Study in Mathematics (Part III), University of Cambridge, UK, 1989
(Masters of Advanced Study in Mathematics, University of Cambridge, UK, 2011)

B.Sc in Mathematics (First Class Honours), University of Nottingham, UK, 1988.

Current Positions

Director, March 2022 — present

School of Computing, University of Wyoming

- Inaugural director of new interdisciplinary, academic unit, approved in 2022, reporting to Provost initially incubated in the College of Engineering and Physical Sciences but serving all disciplines, with a budget that will grow to \$3M/yr over 5 years.
- Within two years, grew the School of Computing to 19 core faculty, 44 affiliate faculty, 111 students and 5 postdocs. Established engagement programs across the university for faculty and students, resulting in over 300 engagements.
- Led School's administrative team in development of 7 new degree and certificate programs, development of community college block transfer arrangements, faculty cluster hiring with joint appointments across university, building research funding of \$720K per year per faculty, development of unit by-laws and policies.
- University level service includes: advisory board for American Heritage Center, committee for Digital Literacy for Next Generation University Studies Program, representative for Coalition for Academic Scientific Computation, representative for University Corporation for Atmospheric Research.

Professor, January 2021 — present

Department of Mathematics & Statistics, University of Wyoming

Adjunct Professor, August 2021 — present

Department of Physics & Astronomy, University of Wyoming

Council Member, Computing Community Consortium, 2024 — present

Lifetime Fellow, American Physical Society, Elected, October 2017

Prizes and Awards

Major International Awards

Winner of Gordon Bell Prize for Supercomputing (Special Category, Supercomputing 2001, November 2001) for the paper *Supporting Efficient Execution in Heterogeneous Distributed Computing Environments with Cactus and Globus* (T. Dramlitsch, G. Allen, E. Seidel, I. Foster, B. Toonen, N. Karonis, M. Ripeanu).

One of the top 20 papers from 1992-2012 published in the proceedings of the IEEE HPDC conference. “*The Cactus Code: A Problem Solving Environment For The Grid*”.
<http://www.hpdc.org/best.php>

Winner of Second IEEE International Scalable Computing Challenge (SCALE 2009), Shanghai May 2009, for *Large Scale Problem Solving Using Automatic Code Generation and Distributed Visualization*.

Winner of Best Paper at GCE 2005 (Workshop on Grid Computing Portals, Supercomputing 2005) for *An Application Portal for Collaborative Coastal Modeling* (C. Zhang, C. Dekate, G. Allen, I. Kelley and J. MacLaren).

Member of winning team for HPC Challenge Awards (Supercomputing 2002, November 2002), *Most Geographically Distributed Application* and *Most Heterogeneous Set of Platforms*.

Member of winning team for High-performance bandwidth challenge (Supercomputing 2002, November 2002), *Highest Performing Application: Wide Area Distributed Simulations Using Cactus, Globus and Visapult*.

Other Awards:

LSU Rainmaker 2009. For faculty who are nationally and internationally recognized for innovative research and creative scholarship, who compete for external funding at the highest levels and who attract and mentor exceptional graduate students.

Previous Positions

Special Assistant for Strategic Initiatives, January 2021 — February 2022

Office of Research and Economic Development/Office of Provost, University of Wyoming

- Contributed to developing plans to leverage and extend the University of Wyoming’s use of computing resources and partnerships of the NCAR-Wyoming Supercomputing Center. Included extending University of Wyoming’s 15% allocation on the NSF NCAR supercomputer to be used by all science disciplines (instead of only applications connected to geoscience and atmospheric science).
- Oversaw the University of Wyoming’s Advanced Computing Research Center during search for new director.
- Wrote three successful proposals to secure grants for the High Plains American Research Institute to contribute to NEH Challenge award for developed K-12 curricula materials for schools on the Wind River Indian Reservation on Elk Culture. Honored by Eastern Shoshone Tribe for these contributions.
- Contributing member of UW President’s Pillar Digital and Interdisciplinary Working Groups. Working group member for team developing plan for new School of Computing.

Senior Research Scientist, January 2014 — July 2023

National Center for Supercomputing Applications, University of Illinois at Urbana-Champaign

- Co-lead for Gravity Group at National Center for Computing Applications, building up research in application of advanced computing, software, and AI for relativistic astrophysics.
- Position retained after move to University of Wyoming in 2021 to continue to contribute to funded projects and graduate student supervision.

Associate Dean for Research and Research Education, October 2016 — December 2020

College of Education, University of Illinois at Urbana-Champaign

- Initiated and facilitated new university-funded initiative including cluster hire of five faculty in Technology Innovation in Educational Research and Design (TIER-ED)

- Initiated and facilitated new university-funded initiative to develop state certification programs for K-12 computer science teachers
- Consolidated multiple, independent research spaces used by College of Education faculty into a single building to support interdisciplinary collaborations and reduce College expenditures
- University level committee service includes: Diversity Realized at Illinois Through Vision Excellence (2018-2020), Public Engagement Technology Platform Implementation Committee (2019-2020), Taskforce on Recognizing and Supporting Public Engagement (2019-2020), Campus Research Administrators Working Group (2014-2020), Research Policy Committee (2017-2018), Data Science Strategy Task Force (2017-2018).

Director, October 2016 — December 2020

Bureau of Educational Research, College of Education, University of Illinois at Urbana-Champaign

- Responsible for leading eight staff in supporting College of Education faculty in strategic initiatives, proposal development and submission, pre-award and post award administration, school research collaborations and public engagement.
- Grew staff through securing campus support for a school research coordinator, and College of Education support for a research development manager at the intersection of health sciences and education.

Professor, June 2018 — December 2020

Department of Curriculum & Instruction, University of Illinois at Urbana-Champaign

Professor, January 2014 — December 2020

Adjunct Professor, January 2021 — December 2023

Department of Astronomy, University of Illinois at Urbana-Champaign

Research Professor, May 2017 — December 2020

Department of Computer Science, University of Illinois at Urbana-Champaign

Faculty Affiliate, February 2017 — December 2020, Computational Science & Engineering

College of Engineering, University of Illinois at Urbana-Champaign

Member of LIGO Scientific Collaboration (LSC), 2016 — 2019.

- Member of the international collaboration (LSC) that discovered gravitational waves, for which the 2017 Nobel Prize in Physics was awarded to Barry Barish, Kip Thorne, and Rai Weiss.

Associate Director for Research & Education, January 2014 — October 2016

National Center for Supercomputing Applications, University of Illinois at Urbana-Champaign

- Created and oversaw a new NCSA Directorate for research and education, including working with departments to hire over 20 new faculty in joint positions
- Established core interdisciplinary thematic areas from many departments, including a faculty affiliate program with some 100 faculty
- Established new postdoctoral program increasing postdoc presence at NCSA from a few to thirty
- Expanded undergraduate research program and hired Education Coordinator

Professor, January 2013 — December 2013

Skolkovo Institute of Science & Technology (Skoltech), Moscow, Russia

- One of the founding faculty for a new private, graduate university in Russia with a unique strategy for building interdisciplinary centers and pedagogical programs. Worked with the Skoltech leadership team and the MIT-Skoltech partnership to develop programs, policies and procedures for students and faculty.

Acting Chief Information Officer, March 2013 - December 2013
Skolkovo Institute of Science & Technology (Skoltech), Moscow, Russia

- Developed and implemented plans and strategies for administrative and research information technology for a new private, graduate university in Russia.
- Represented Skoltech in infrastructure discussions and negotiations with the Russian Academy of Sciences and European Commission.
- Promoted strategic and coordinated cyberinfrastructure as part of a modern, international technology focused university.
- Hired and supervised IT staff, included hiring of a full time CIO.

Adjunct Professor, January 2013 - April 2019
School of Electrical Engineering & Computer Science
Louisiana State University, Baton Rouge, Louisiana, USA

Russell Long Professor of Computer Science, August 2012 - December 2012
Louisiana State University, Baton Rouge, Louisiana, USA

Russell Long Associate Professor of Computer Science, August 2008 - 2012
Louisiana State University, Baton Rouge, Louisiana, USA

Associate Professor of Computer Science, August 2003 - 2008
Louisiana State University, Baton Rouge, Louisiana, USA

Adjunct Professor, August 2003 - 2012
Department of Physics
Louisiana State University, Baton Rouge, Louisiana, USA

Program Officer, November 2010 - September 2012
Office of Cyberinfrastructure (OCI)
National Science Foundation, Arlington, USA

- Lead for Learning and Workforce Development cluster in OCI including computational and data-enabled science and engineering, and virtual organizations, as well as early career development and curricula in cyberinfrastructure related research.
- Lead of the NSF-wide working group for software for the NSF strategic initiative for Cyberinfrastructure for 21st Century Science & Engineering involving strategic planning and coordination.
- Lead for NSF-wide Software group, coordinating the development and implementation of foundation-wide programs for software innovation and sustainability including Software Institutes (2011-2012). Management of \$25M budget and portfolio of 150 funded projects.
- Co-Chair of NITRD Middleware And Grid Interagency Coordination (MAGIC) task force that provides for information sharing among Federal agencies and non-Federal participants with interests and responsibility for middleware, Grid, and cloud projects; individuals involved in middleware, Grid, and cloud research and infrastructure; individuals involved in implementing or operating Grids and clouds; and users of Grids, clouds and middleware.

Lead of Louisiana Statewide CyberTools Project, September 2008 - November 2010.

This was a major component of a \$12M NSF award focused on develop new research infrastructure and capacity in the State of Louisiana.

Responsibilities included:

- Development of cyberinfrastructure for Louisiana NSF Research Infrastructure Improvement award
- Coordination of faculty, postdocs and students at four sites in Louisiana
- Development of interactions between cyberinfrastructure and science domains
- Education and outreach

Assistant Director for Computing Applications, August 2003 - September 2008
Center for Computation & Technology, Louisiana State University, Baton Rouge, Louisiana, USA

This position oversaw strategic development of all research activities at CCT, including developing faculty hiring plans and recruitment of over 30 joint CCT faculty in 13 LSU departments.

Responsibilities included:

- Strategic planning for CCT
- Development of CCT-wide cross-disciplinary research programs, projects and proposals.
- Contacts and collaborations with departments at LSU and other national and international institutions.
- Establishment of CCT (Equipment, hiring, policies and procedures, grants and funding)
- Coordination of faculty involved with CCT, including all faculty meetings and workshops
- Establishment and organization of CCT programs (education, fellowships, faculty development, seminars).
- Economic development (Meetings with e.g. DOW, IBM, Shell, ...).
- Advertising mission of CCT.
- Representing CCT on programs/funding opportunities across the university.
- Management of CCT budget for focus area research groups.

Focus Area Head, Core Computing Sciences, August 2003 - September 2008
Center for Computation & Technology, Louisiana State University, Baton Rouge, Louisiana, USA

Position akin to department chair within CCT for Core Computing Sciences (Applied Math, Scientific Computing, Visualization, HCI) research area.

- Developing and coordinating research activities related to core computational science at the CCT, including Grid Computing, Scientific Computing, Computational Mathematics, Frameworks, Sensors and Networks.
- Working with leads of research groups to hire staff and develop research programs.
- Managing the budget of the Core CS area and attending administrative meetings at CCT.
- Organizing regular meetings of the Core CS area.

Lead of Computational Science Group, Albert Einstein Institute, Golm, Germany, (2000-2003)

Visiting Scientist, Argonne National Laboratory, 2000-2003

Cactus Project Leader, Albert Einstein Institute, Golm, Germany, 1998-2001

Max-Planck Postdoctoral Fellowship, Albert Einstein Institute, Golm, Germany, 1995-1998

Particle Physics & Astrophysics Research Council Research Associate, Cardiff University, 1995

Science and Engineering Research Council Fellowship, Cardiff University, 1993-1995

Sponsored Student, Rolls Royce and Associates, Derby, 1985-1988.

Recent Professional Activities

Governance Board, Irish Center for High-end Computing (ICHEC), Ireland, 2018-present

External Advisory Board, School of Computer Science and Informatics, Cardiff University, UK, 2013-present

External Advisory Board, Supercomputing Wales, 2017-present

Co-chair for Applications Track, Supercomputing 2015 (SC2015)

Program Committee, Workshop on Parallel, Distributed and High-Performance Computing in Undergraduate Curricula, Supercomputing 2013

Vice Co-Chair for Applications, IEEE eScience 2012

Nominations Committee, IEEE Award of Excellence in Scientific Computing, 2012

Applications Track Chair, HiPC 2011.

International Reviewer for ICHEC and HPC, Ireland 2010.

NSF OCI Task Force on Software Infrastructure, 2009.

Co-chair for International Conference on Computational Science, Baton Rouge, 2009.

Reviewer for PRTL program, Ireland (2007, 2008, 2009)

Program Committees: IEEE Cluster 2017, SC2017, SC2014, ICCS 2013, SC2012, CCGrid 2012, ICCS 2012, ICCS 2011, SC2010, CLADE2010, ParCo 2009, HAPCW2006, High Performance Computing Symposium (HPC09, HPC07, HPC06)

Journal Reviews: Journal of Computational and Applied Mathematics, Journal of Parallel and Distributed Computing, International Journal on Grid Computing, Future Generation Computer Systems, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Education.

Research Interests

Computational Astrophysics: Computational modeling of compact objects, gravitational waves, formulations of Einstein's Equations, software for computational astrophysics (Einstein Toolkit).

Scientific Software: Practice and experiences in developing sustainable software, community development of software, credit mechanisms for software, metrics for software.

Computational Science: Parallel computing methods and paradigms. Frameworks and toolkits. Collaborative techniques and working practices. Increasing ease-of-use of resources for application programmers and users.

Grid and Distributed Computing: Design of tools and techniques which exploit the worldwide *Grid* of computational resources, particularly with regard to making such resources more accessible for real applications, enabling large-scale computing.

Computational Physics and Scientific Applications: Algorithms, numerical relativity and astrophysics. Coastal science. Petroleum Engineering. Computational Fluid Dynamics.

Education and Learning: Application of novel paradigms for teaching, workforce development in interdisciplinary and large scale science

Teaching

- Computing in Society (COMP2000): Fall 2024
- Scientific Computing (CS7700): Fall 2010, Fall 2011
- Video Game Design (CS4700/CS4999): Fall 2007, Spring 2008, Fall 2008, Spring 2009

- Grid Computing (CS7700): Fall 2007, Fall 2005, Spring 2004
- Numerical Methods for Fluid Dynamics (HON4823): Fall 2007, Fall 2006, Spring 2006
- Numerical Methods (CS2262): Spring 2007
- General Relativity (Cardiff University): 1996, 1997

Major Grants and Funding

Current Grants:

- **NSF MRI**, *Equipment: MRI: Track 2 Acquisition of an Advanced Infrastructure to Accelerate Impact of AI Through Applications and Innovation for Wyoming (AI4WY)*, #2407756, \$3,894,209, September 1 2024 to August 31 2027. Co-Principal Investigator.
- **NSF IUCRC**, *IUCRC Planning Grant University of Wyoming: Center for AI/ML driven Research in Infrastructure Trust Assurance and Sustainability (AMRITAS)*, #2435474, \$20,000, September 1, 2024 to August 31 2025. Co-Principal Investigator.
- **State of Wyoming**, *Wyoming Innovation Partnership: Development of BS Applied Software Development Program in partnership with Wyoming Community Colleges*, \$576,705, Principal Investigator.
- **State of Wyoming**, *Wyoming Innovation Partnership: Start up for School of Computing*, \$1,213,651, Principal Investigator.
- **DOE EPSCOR**, *Creating the Framework for the Next Generation Energy Exascale Earth System Model (E3SM) at PROCEED (Perturbed Physics EnsembleRegression Optimization Center for ESM)*, \$998,827, Co-Principal Investigator.

Previous Grants:

- **NSF IIP**, *Workshop: Human-Technology Interface Series - Pathways to Products for Lifelong Learning*, #2140283, \$99,998, August 1 2021 to July 31 2022. Co-Principal Investigator.
- **NSF OAC**, *Collaborative Research: Frameworks: The Einstein Toolkit ecosystem: Enabling fundamental research in the era of multi-messenger astrophysics*, #2004879, \$683,514 to UI, Co-Principal Investigator, July 1 2020 to June 30 2025. Collaborative award to UI, Georgia Tech, RIT, UWV.
- **NSF SSI**, *SI2-SSI: Collaborative Research: Einstein Toolkit Community Integration and Data Exploration*, \$450,000 to UI, Principal Investigator (transferred to Roland Haas when moved to University of Wyoming), July 2016 to June 2022. Collaborative award to UI, GeorgiaTech, RIT, LSU.
- **NSF OAC/AST/PHY**, *Collaborative Research: Community Planning for Scalable Cyberinfrastructure to Support Multi-Messenger Astrophysics*, #1841636, \$38,210 to UI, October 2018 to September 2020. Collaborative award to 13 partners.
- **NSF CCF**, *Inter-agency Workshop for Computational Science & Engineering Software Sustainability and Productivity Challenges (CSESSP Challenges)*, #1551592, \$88,251, September 2015 to August 2019, Principal Investigator.
- **NSF ACI**, *The 2nd Workshop on Sustainable Software: Best Practices and Experiences (WSSSPE 2)*, #1434218, \$24,658, April 2014 to April 2016, Principal Investigator.
- **LONI**, *Modeling and Visualization of the Effect of Severe Storms on Oil Spill Trajectories with the Cactus Framework and LONI*, #HPC 2010-11-03, August 2010 to November 2010, \$10,000. Principal Investigator.

- **NSF OCI (REU)**, *Interdisciplinary Research Experience in Computational Sciences*, #1005165, May 2010 to April 2013, \$253,518. co-PI.
- **NSF OCI (STCI)**, *Strategies for Remote Visualization on a Dynamically Configurable Testbed*, #0947825, \$299447. Partners LSU, NCSA, ORNL, Internet2, LONI, August 2009 to July 2011, Principal Investigator.
- **NSF OCI**, *PetaCactus: Unraveling the Supernova — Gamma-Ray Burst Mystery*, #0905046, \$1,461,455. September 2009 to August 2014, co-PI.
- **NSF OCI (PRAC)**, *Enabling Science at the Petascale: From Binary Systems and Stellar Core Collapse To Gamma-Ray Bursts*, #0941653, September 2009 to August 2012, \$35,896. co-PI.
- **NSF PHY (PIF)** *Collaborative Research: Community Infrastructure for General Relativity MHD (CIGR)*, #0904015, \$400,000. October 2009 to September 2012, Principal Investigator.
- **DOE/BOR**: *Ubiquitous Computing and Monitoring System (UCoMS) for Discovery and Management of Energy Resources*, \$3.3M (total). Co-PI at LSU.
- **NSF OCI**: *The LONI Grid - Leveraging HPC Resources of the Louisiana Optical Network Initiative for Science and Engineering Research and Education*, #0710874, \$2.6M (Total, LSU). October 2007 July 2011. Senior Investigator (\$90K for TeraGrid Gateway development)
- **NSF OCI**: *Leadership-Class Scientific and Engineering Computing: Breaking Through the Limits (Blue Waters)*, \$189M (Total), #0725070, \$300K (LSU). October 2007 to March 2012. PI at LSU.
- **NSF ESPCOR/BOR**: *Louisiana's Research Infrastructure Improvement Strategy (Includes CyberTools)*, \$12M (Total), October 2007 to September 2010, PI at LSU (subcontracts to ULL, LATECH, Southern), Lead of CyberTools Component.
- **NSF OCI (SDCI)**: *ALPACA: Cactus Tools for Application Level Performance and Correctness Analysis*, #0721915, \$587K (Total), October 2007 to July 2011, co-PI.
- **NSF MPS**: *XiRel: A Next Generation Infrastructure for Numerical Relativity*, \$250K (Total, LSU), September 2007 to July 2010, Principal Investigator.
- **BOR PKSFI**: *Center of Excellence in Integrated Smart Sensor Surveillance System (CyberSpace)*, \$3,638,000 (Total), June 2007 to June 2012, co-PI.
- **BOR PKSFI**: *The LONI Institute: Advancing Biology, Materials, and Computational Sciences doe Research, Education and Economic Development*, \$7M (Total), June 2007 to May 2012, Senior Investigator.
- **DOD/ONR**: *Development of a Unified Modeling Framework for Simulations of Coastal Processes in Deltaic Environments Using High-Performance Computing (COMI)*, \$463K (LSU, June 2007 to May 2011, co-PI.
- **NSF CNS**: *MRI: Development of PetaShare: A Distributed Data Archival, Analysis and Visualization System for Data Intensive Collaborative Research*, \$958K, August 2006 to July 2010, co-PI.
- **NSF IGERT** *IGERT on Multi-scale Computations of Fluid Dynamics*, \approx \$3,200,000 (all to LSU), September 2005 to September 2010. co-PI.
- **NSF TRAC** (MCA02N014) *General Relativity meets Astrophysics: Nonlinear Dynamics of Black Holes and Neutron Stars*, Computer allocation at NSF TeraGrid. Over 21,000,000 CPU hours (SUs) across various NSF sites, 2010—2011. co-PI.
- **SURA/NOAA**: *SURA Coastal Ocean Observing and Prediction Program*, \$150K (LSU), December 2006 to August 2008, PI at LSU.

- **NSF DDDAS:** *DynaCode: A General DDDAS Framework with Coast and Environment Modeling Applications*, \$220,000, January 1, 2006 to December 31st, 2008. Principal Investigator.
- **NSF CNS:** *EnLIGHTened Computing: Highly-dynamic Grid E-science Applications Driving Adaptive Optical Control Plane and Compute Resources*, \$50,000, 1st September 2005 to 31st August 2006. Principal Investigator at LSU.
- **DOE and Louisiana BOR:** *Ubiquitous Computing and Monitoring Systems for Discovery and Management of Energy Resources (UCOMS)*, \$2.4M (\$582,000 to LSU), August 15, 2004 to August 14, 2007. Principal Investigator at LSU.
- **NSF NMI:** *GridChem: Cyberinfrastructure for Computational Chemistry*, \$2.7M (\$600,000 to LSU), October 1, 2004 to September 30, 2007. Principal Investigator at LSU. (Summer salary)
- **SURA (NOAA/ONR):** *SCOOP: SURA Coastal Ocean Observing Program*, Around \$7M (\$480,000 to LSU), September 2004 to November 2006. Principal Investigator at LSU.
- **DFG-SFB, Germany** *Gravitational Wave Astronomy: Methods — Sources — Observations*. Over 4M Euros shared between 5 institutes over 4 years. Senior Investigator.
- **EU 5th Framework Program: Information Society Technologies:** *GridLab: A Grid Application Toolkit and Testbed*, ~ \$7,000,000 (~ \$1,000,000 to AEI), January 1, 2002 to April 1, 2005. Primary author and PI at AEI.
- **DFN Verein, Germany:** *“GriKSL”: Development of Grid Based Simulation and Visualization Techniques*, approx. 1M DM, April 2002 to March 2004, co-PI at AEI.
- **EU 5th Framework Training Network:** *Theoretical Foundations of Sources for Gravitational Wave Astronomy of the Next Century: Synergy between Supercomputer Simulations and Approximation Techniques*, ~ 2,000,000 (total), January 2001 to April 2004, co-PI at AEI.

Students and Postdocs Supervised

Graduate Students

- Past graduate students: Daniel George (PhD, Astronomy, U. Illinois, Fall 2018), Andrei Hutanu (PhD, Computer Science, LSU, Fall 2009), Archit Kulshrestha (PhD, Computer Science, LSU, Spring 2011), Jiang Lei (PhD Computer Science, LSU, Spring 2013), Thomas Dramlitsch (PhD, Computer Science, University of Potsdam, 2002, co-supervised with E. Seidel), Gerd Lanferman (PhD, University of Potsdam, 2002, co-supervised with E. Seidel).
- Masters in System Science, LSU: Sandeep Nimmagadda (2011), Lei Jiang (2011, Thesis), Feng Jiao (2009), Dylan Stark (2007), Santiago Pena (2007), Xiaoxi Xu (2007), Sasanka Madiraju (2006), Chongjie Zhang (2006), Chirag Dekate (2004), Archit Kulshrestha (2004).

Graduate Committee Member

- Cornelius Toole (PhD, Computer Science), Zhifeng Yun (PhD, ECE, 2011), Abinav Thota (MS, Computer Science, 2011), Esma Yildirim (PhD, Computer Science 2010), Ibrahim Suslu (PhD, Computer Science, 2010), Mehmet Balman (PhD, Computer Science, 2010), Sean O’Connell (Masters, System Science, 2009), Samantha Danchuk (PhD, Coastal Engineering, 2009), Jason Tate (Masters, System Science, 2009), Xin Li (PhD, Petroleum Engineering, 2008), Sirish Tumula (Masters, System Science, 2008), Emrah Ceyhan (Masters, System Science, 2007), Prathyusha Akunuri (Masters, ECE, 2007), Aran Nayar (Masters, Engineering, 2005), Shangli Ou (Masters, System Science, 2004)

Undergraduate Students

- Undergraduate mentoring at U. Illinois: E. Chen (CS, 2016).
- Undergraduate Mentoring at LSU: Noah Davies (Physics), Chad Thompson (CS), Michael Thomas (CS, 2010), Matt Kemp (CS), Robert Cross (CS/Physics), Irina Craciun (Math, 2008), Razvan Carbenescu (CS/Math, 2008), Ana Buleu (ECE), Elena Caraba (Math, 2008), Andrew Davidson (ECE, 2008), John Lewis (CS, 2009), Alex Nagelberg (CS, 2009), Tyler Barker (CS/Math, University Medalist/Honors, 2009), Alex Clary (ECE), Kevin Kolz (CS, 2008), Edwin Lee (ECE, 2009), Colby Jordan (CS, 2009).
- Henryk Feider, Diplome thesis, University of Potsdam, 2003.
- Annabelle Roentgen, Vordiplome, University of Potsdam, 2002.

Postdocs

- Qian Zhang, U. Illinois, 2017—2018
- Eliu Huerta, U. Illinois, 2015—2017
- Justin Schrive, U. Illinois, 2015—2018
- Charalampos Markarkis, U. Illinois, 2016—2019
- Frank Loeffler, LSU, 2007—2011
- Jian Tao, LSU, 2007—2009, 2010—2011
- Hugh Wang, LSU, 2006—2007
- Shangli Ou, LSU, 2004 — 2005
- David Rideout, AEI, 2001— 2003

Publications

My h-index as measured by Scopus is 65 with 39,881 citations. My h-index as measured by Google Scholar is 82 with 63,265 citations (including LIGO Collaboration publications).

Books and Monographs

- A1 G. Allen, J. Nabryszki, E. Seidel, G.D. van Albada, J.J. Dongarra and P.M.A. Sloot: in Computational Science - ICCS 2009: 9th International Conference, Baton Rouge, USA, Proceedings, Part I, in series Lecture Notes in Computer Science.
- A2 Proceedings of the 13th Annual Mardi Gras Conference, Frontiers of Grid Applications and Technologies, 3-5 February 2005, Baton Rouge, Editors: Gabrielle Allen, Karen Jones, Ravi Paruchuri and Archit Kulshrestha.

Chapters in Books

- B1 Zhou Lei, Zhifeng Yun, and Gabrielle Allen, *Grid Resource Allocation* in Grid Computing: Infrastructure, Service, and Applications, Ed: L. Wang, J. Wei and J. Chen, ISBN-10: 1420067664, CRC Press (2008).
- B2 Gabrielle Allen, Phil Bogden, Richard A. Luettich Jr, Ed Seidel, Robert Twilley, *Designing a Dynamic Data Driven Application System for Coastal and Environmental Modeling*, in IFIP International Federation for Information Processing, Volume 239, Grid-Based Problem Solving Environments, Eds. Gaffney, P.W., Pool, J.C.T., (Boston: Springer), pp. 275-293,(2007).
- B3 Erik Schnetter, Christian Ott, Gabrielle Allen, Peter Diener, Tom Goodale, Thomas Radke, Edward Seidel, John Shalf, *Cactus Framework: Black Holes to Gamma Ray Bursts*, in Petascale Computing: Algorithms and Applications, Ed. D. Bader, CRC Press LLC (2007).

- B4 Gabrielle Allen and Ed Seidel, *Collaborative Science: Astrophysics Requirements and Experiences*, in *The Grid: Blueprint for a New Computing Infrastructure* (2nd Edition), Ed: Ian Foster and Carl Kesselmann, p. 201-213, (2004).
- B5 Michael Russell, Gabrielle Allen, Jarek Nabrzyski, Tom Goodale, and Ed Seidel, *Applications Requirements for Resource Brokering in a Grid Environment*, In *Grid Resource Management: State of the Art and Future Trends* (International Series in Operations Research and Management Science), Ed: J. Nabrzyski, J. Schopf and J. Wagarz, Kluwer Academic Publishers, Pages 25-40, (2004).
- B6 Gabrielle Allen, Tom Goodale, Michael Russell, Ed Seidel and John Shalf, *Classifying and Enabling Grid Applications*, chapter in *Grid Computing: Making the Global Infrastructure a Reality*, Ed: F. Berman, G. Fox, A. J. G. Hey, John Wiley, Pages 601-614, (2003).

LIGO Scientific Collaboration (LSC) Publications

Included as an author on publications of the LIGO Scientific Collaboration during membership (2016-2019), including

- C1 Abbott et al, *GW170817: observation of gravitational waves from a binary neutron star inspiral*, Physical Review Letters 119 (16), 161101 (2017).
- C2 Abbott, et al, *GW170104: observation of a 50-solar-mass binary black hole coalescence at redshift 0.2*, Physical Review Letters 118 (22), 221101 (2017).
- C3 Abbott, et al, *GW170814: a three-detector observation of gravitational waves from a binary black hole coalescence*, Physical Review Letters 119 (14), 141101 (2017).
- C4 Abbott, et al, *Gravitational waves and gamma-rays from a binary neutron star merger: GW170817 and GRB 170817A*, The Astrophysical Journal Letters 848 (2), L13 (2017).
- C5 Abbott, et al, *GW170608: Observation of a 19 solar-mass binary black hole coalescence*, The Astrophysical Journal Letters 851 (2), L35 (2017).

Journals

- D1 Yufeng Luo, Qian Zhang, Roland Haas, Zachariah B Etienne and Gabrielle Allen, *HPC-driven computational reproducibility in numerical relativity codes: a use case study with IllinoisGRMHD*, Class. Quantum Grav. **41**, 025002, 2024
- D2 Luo, Y, Haas, R., Zhang, Q. and Allen, G., *DataVault: a data storage infrastructure for the Einstein Toolkit*, Class. Quantum Grav., **38**, 135016, 2021.
- D3 Huerta, E.A., Allen, G., Andreoni, I. et al. *Enabling real-time multi-messenger astrophysics discoveries with deep learning*. Nat Rev Phys 1, 600-608 (2019) doi:10.1038/s42254-019-0097-4
- D4 Marshall-Colon Amy, Long Stephen P., Allen Douglas K., Allen Gabrielle, Beard Daniel A., Benes Bedrich, von Caemmerer Susanne, Christensen A. J., Cox Donna J., Hart John C., Hirst Peter M., Kannan Kavya, Katz Daniel S., Lynch Jonathan P., Millar Andrew J., Panneerselvam Balaji, Price Nathan D., Prusinkiewicz Przemyslaw, Raila David, Shekar Rachel G., Shrivastava Stuti, Shukla Diwakar, Srinivasan Venkatraman, Stitt Mark, Turk Matthew J., Voit Eberhard O., Wang Yu, Yin Xinyou, Zhu Xin-Guang, *Crops In Silico: Generating Virtual Crops Using an Integrative and Multi-scale Modeling Platform*, Frontiers in Plant Science, Volume 8, 2017.
- D5 Zhifeng Yun, Zhou Lei, Gabrielle Allen, Daniel S. Katz, J. Ramanujam, *DA-TC: a novel application execution model in multicluster systems*, Journal of Cluster Computing, Volume 17, Issue 2, pp 371-387, (2014).

- D6 Frank Löffler, Joshua Faber, Eloisa Bentivegna, Tanja Bode, Peter Diener, Roland Haas, Ian Hinder, Bruno C. Mundim, Christian D. Ott, Erik Schnetter, Gabrielle Allen, Manuela Campanelli, and Pablo Laguna. *The Einstein Toolkit: A Community Computational Infrastructure for Relativistic Astrophysics*. *Classical and Quantum Gravity*, 29(11):115001, 2012. (doi:10.1088/0264-9381/29/11/115001)
- D7 Andrei Hutanu, Erik Schnetter, Werner Bengert, Eloisa Bentivegna, Alex Clary, Peter Diener, Jinghua Ge, Robert Kooima, Oleg Korobkin, Kexi Liu, Frank Löffler, Ravi Paruchuri, Jian Tao, Cornelius Toole, Adam Yates, and Gabrielle Allen. *Large scale problem solving using automatic code generation and distributed visualization*. In Ewa Deelman, Norbert Meyer, Dana Petcu, and Marcin Paprzycki, editors, *Scalable Computing: Practice and Experience; Scientific International Journal for Parallel and Distributed Computing; Special Issue: Grid and Cloud Computing and their Application*, volume 11, page 205-220, 2010.
- D8 Daniel S. Katz, Gabrielle Allen, Ricardo Cortez, Carolina Cruz-Neira, R. Gottumukkala, Z. D. Greenwood, Les Guice, Shantenu Jha, R. Kolluru, Tevfik Kosar, Lonnie Leger, H. Liu, Charlie McMahon, Jarek Nabrzyski, Bety Rodriguez-Milla, Ed Seidel, G. Speyrer, Michael Stubblefield, Brian Voss, S. Whittenburg, *Louisiana: A Model for Advancing Regional e-Research through Cyberinfrastructure*, *Phil. Trans. R. Soc. A* 28, June 2009, vol. 367, no. 1897, 2459-2469, (2009).
- D9 X. Wang, Dayong Huang, Ismail Akturk, Mehmet Balman, Gabrielle Allen and Tevfik Kosar, *Semantic Enabled Metadata Management in PetaShare*, *International Journal of Grid and Utility Computing*, Volume 1, No. 4, (2009).
- D10 Gabrielle Allen, Philip Bogden, Gerald Creager, Chirag Dekate, Carola Jesch, Hartmut Kaiser, Jon MacLaren, Will Perrie, Gregory Stone, Xiongping Zhang, *Towards an integrated GIS-based coastal forecast workflow*, *Concurrency and Computation: Practice and Experience*, Volume 20 Issue 14, Pages 1637 - 1651, (2008).
- D11 Zhou Lei, Gabrielle Allen, Promita Chakraborty, Dayong Huang, John Lewis, Xin Li, Christopher D. White, *A Grid-enabled problem-solving environment for advanced reservoir uncertainty analysis*, *Concurrency and Computation: Practice and Experience*, Volume 20, Issue 18, (2008).
- D12 Phil Bogden, Tom Gale, Gabrielle Allen, John MacLaren, Guy Almes, Gerry Creager, Joanne Bintz, L. D. Wright, Hans Graber, N. Williams, Sara Graves, Helen Conover, Ken Galluppi, Rick Luettich, Will Perrie, B. Toulany, Y. P. Sheng, Justin R. Davis, Harry Wang, David Forrest, *Architecture of a community infrastructure for predicting and analyzing coastal inundation*, *Marine Technology Society Journal*, 41, No 1: 53-71, (2007).
- D13 Chongjie Zhang, Chirag Dekate, Gabrielle Allen, Ian Kelley and Jon MacLaren, *An Application Portal for Collaborative Coastal Modeling*, *Concurrency and Computation: Practice and Experience*, Volume 19, Issue 12, p. 1571-1581, (2007).
- D14 Chongjie Zhang, Ian Kelley and Gabrielle Allen, *Grid Portal Solutions: A Comparison of GridPortlets and OGCE*, *Concurrency and Computation: Practice and Experience*, Volume 19, Issue 12, p. 1739-1748, (2007).
- D15 Andrei Hutanu, Gabrielle Allen, Stephen D. Beck, Petr Holub, Hartmut Kaiser, Archit Kulshrestha, Milos Liska, Jon MacLaren, Ludek Matyska, Ravi Paruchuri, Steffen Prohaska, Ed Seidel, Brygg Ullmer, Shalini Venkataraman, *Distributed and Collaborative Visualization of Large Data Sets Using High-speed Networks*, *Future Generation Computer Systems*, Volume 22, Issue 8, p 1004-1010, (2006).
- D16 Rion Dooley, Kent Milfeld, Chona Guiang, Sudhakar Pamidighantam, Gabrielle Allen, *From Proposal to Production: Lessons Learned Developing the Computational Chemistry Grid Cyberinfrastructure*, *Journal of Grid Computing*, Jan 2006, Pages 1 - 14, DOI 10.1007/s10723-006-9043-7, (2006)
- D17 Gabrielle Allen, Kelly Davis, Tom Goodale, Andrei Hutanu, Hartmut Kaiser, Thilo Kielmann, Andre Merzky, R. Van Nieuwpoort, A. Reinefeld, F. Schintke, T. Schuett, Ed Seidel and B. Ullmer, *The Grid Application Toolkit: Toward Generic and Easy Application Programming Interfaces for the Grid*, *Proceedings of the IEEE*, 93(3), (2005).

- D18 Ruxandra Bondarescu, Gabrielle Allen, Greg Daues, Ian Kelley, Michael Russell, Ed Seidel, John Shalf and M. Tobias, *The Astrophysics Simulation Collaboratory Portal: a Framework for Effective Distributed Research*, Future Generation Computer Systems, Volume 21, Issue 2, Pages 259-270, (2005).
- D19 Miguel Alcubierre, Gabrielle Allen, Carlos Bona, David Fiske, Tom Goodale, Francisco S. Guzman, Ian Hawke, Scott Hawley, Sascha Husa, Michael Koppitz, Christiana Lechner, Denis Pollney, David Rideout, Marcelo Salgado, Erik Schnetter, Ed Seidel, H. Shinkai, Deirdre Shoemaker, Bela Szilagyi, Ryoji Takahashi, Jeff Winicour, *Towards standard testbeds for numerical relativity*, Class. Quantum Grav., 21(2), p. 589-613, (2004).
- D20 Gabrielle Allen, Kelly Davis, N. Dolkas, N. D. Doulamis, Tom Goodale, Thilo Kielmann, Andre Merzky, Jarek Nabrzyski, J. Pukacki, and Thomas Radke, *Enabling applications on the grid: A Gridlab overview*, International Journal of High Performance Computing Applications, Volume 17, Number 4, Pages 449-466, (2003).
- D21 Ed Seidel, Gabrielle Allen, Andre Merzky and Jarek Nabrzyski, *GridLab — A Grid Application Toolkit and Testbed*, Future Generation Computer Systems, Volume 18, Issue 8, Pages, 1143-1153, (2002).
- D22 Michael Russell, Gabrielle Allen, Ian Foster, Ed Seidel, Jason Novotny, John Shalf, Gregor von Laszewski and Greg Daues, *The Astrophysics Simulation Collaboratory: A Science Portal Enabling Community Software Development*, Journal on Cluster Computing, Volume 5, Issue 3, Pages 297—304, (2002).
- D23 Gregor von Laszewski, Michael Russell, Ian Foster, John Shalf, Gabrielle Allen, Greg Daues, Jason Novotny and Ed Seidel, *Community Software Development with the Astrophysics Simulation Collaboratory*, Concurrency and Computation: Practice and Experience, Volume 14, Issue 13-15, Pages 1289-1301, (2002).
- D24 Gabrielle Allen, Dave Angulo, Ian Foster, Gerd Lanfermann, C. Liu, Thomas Radke, Ed Seidel and John Shalf, *The Cactus Worm: Experiments with Dynamic Resource Discovery and Allocation in a Grid Environment*, International Journal of High Performance Computing Applications, **15**(4), (2001).
- D25 Gabrielle Allen, Werner Benger, Tom Goodale, H. Hege, Gerd Lanfermann, Andre Merzky, Thomas Radke, Ed Seidel and John Shalf, *Cactus Tools for Grid Applications*, Cluster Computing, Volume 4, Issue 3, Pages 179-188, (2001).
- D26 Miguel Alcubierre, Gabrielle Allen, Bernd Brügmann, Gerd Lanfermann, Ed Seidel, Wai-Mo Suen, Malcolm Tobias, *Gravitational Collapse of Gravitational Waves in 3D Numerical Relativity*, Physical Review D, **61**, 041501, (2000).
- D27 Miguel Alcubierre, Gabrielle Allen, Bernd Brügmann, Edward Seidel and Wai-Mo Suen, *Towards an understanding of the stability properties of the 3+1 evolution equations in general relativity*, Physical Review D, **62**, 124011, (2000).
- D28 Gabrielle Allen, Tom Goodale, Gerd Lanfermann, Thomas Radke, Ed Seidel, Werner Benger, H. Hege, Andre Merzky, J. Massó and John Shalf, *Solving Einstein's Equations on Supercomputers*, IEEE Computer, **32**, (1999). [Cover story]
- D29 Gabrielle Allen, Nils Andersson, Kostas Kokkotas, Pablo Laguna, Jorge Pullin and Joannes Ruoff, *The close-limit approximation to neutron star collisions*, Physical Review D, **60** 104021, (1999).
- D30 Gabrielle Allen, Nils Andersson, Kostas Kokkotas, Bernard Schutz, *Gravitational Waves from Pulsating Stars: Evolving the Perturbation Equations for a Relativistic Star*, Phys. Rev. D, **58**, 124012, (1998).

Conference Proceedings (Refereed)

- E1 Soon-Heum Ko, Prasad Kalghatgi, Erik Schnetter, Jian Tao, Sumanta Acharya, Gabrielle Allen, Shantenu Jha, Frank Loeffler, *CFD Toolkit: A Cactus Computational Toolkit for Parallel Multi-Block CFD Applications*, Accepted for ParCo 2011

- E2 Lei Jiang, Gabrielle Allen and Qin Chen, *Scalable and automated workflow for large-scale severe-storm simulations*, Proceedings of the 23rd International Conference of Scientific and Statistical Database Management (SSDBMO11), 2011.
- E3 Gabrielle Allen, Werner Bengler, Andrei Hutanu, Shantenu Jha, Frank Loeffler, Erik Schnetter, *A practical and comprehensive graduate course preparing students for research involving scientific computing*, Proceedings of International Conference for Computational Science (ICCS 2011), Singapore 2011.
- E4 Oleg Korobkin, Gabrielle Allen, Eloisa Bentivegna, Steven Brandt, Peter Diener, Jinghua Ge, Frank LLöffler, Erik Schnetter and Jian Tao, *Runtime Analysis Tools for Parallel Scientific Applications*, Proceedings of TeraGrid 2011
- E5 Frank Loeffler, Gabrielle Allen, Werner Bengler, Andrei Hutanu, Shantenu Jha, Erik Schnetter, *Using the TeraGrid to Teach Scientific Computing*, Proceedings of TeraGrid 2011.
- E6 Q. J. Chen, Q. Fan, S. H. Ko, H.Huang, G. Allen, *An Euler Solver for Nonlinear Water Waves Simulation Using a Modified Staggered Grid and Gaussian Quadrature Approach*, Recent Progresses in Fluid Dynamics Research, Proceedings of the Sixth International Conference on Fluid Mechanics, AIP Conference Proceedings Volume 1376, 2011.
- E7 Soon-Heum Ko, Prasad Kalghatgi, Erik Schnetter, Sumanta Acharya, Gabrielle Allen,?, Shantenu Jha and Mayank Tyagi, *Development Of A Cactus CFD Toolkit And Its Utilisation On Large-Scale Multi-Block Simulations*, Proceedings of 5th European Conference on Computational Fluid Dynamics ECCOMAS CFD 2010 June 14th - 17th, 2010 Lisbon, Portugal, 2010.
- E8 Jian Tao, Werner Bengler, Kelin Hu, Edwin Mathews, Marcel Ritter, Peter Diener, Carola Kaiser, Zhao, H., Gabrielle Allen and Qin Chen, *An HPC framework for large scale simulations and visualizations of oil spill trajectories*, Coastal Hazards, ASCE/EMI 2010 Conference, 2010.
- E9 Andrei Hutanu, Gabrielle Allen, Tevfik Kosar, *High-performance Remote Data Access for Remote Visualization*, Proceedings of Grid 2010, 2010.
- E10 Lei Jiang, Jian Zhang and Gabrielle Allen, (2010). Transferred Correlation Learning : An Incremental Scheme for Neural Network Ensembles. Proceedings of International Joint Conference on Neural Networks, 2010.
- E11 Gabrielle Allen, Tom Goodale, Frank Loeffler, avid Rideout, Erik Schnetter, and Eric L. Seidel. *Component specification in the Cactus framework: The Cactus configuration language*, in Proceedings of CBHPC 2010.
- E12 Eric L. Seidel, Gabrielle Allen, Steven Brandt, Frank Loeffler, Erik Schnetter, *Simplifying Complex Software Assembly: The Component Retrieval Language and Implementation*, In Proceedings of the 2010 Teragrid Conference (Pittsburgh, Pennsylvania, August 02 - 05, 2010). TG '10. ACM, New York, NY, 1-8. DOI= <http://doi.acm.org/10.1145/1838574.1838592>
- E13 Welshons, K., Dorn, P., Hutanu, A., Holub, P., Vollbrecht, J., and Allen, G. 2010. *Design and implementation of a production dynamically configurable testbed*. In Proceedings of the 2010 Teragrid Conference (Pittsburgh, Pennsylvania, August 02 - 05, 2010). TG '10. ACM, New York, NY, 1-8. DOI= <http://doi.acm.org/10.1145/1838574.1838595>
- E14 Design, Implementation and Use of a Simulation Data Archive for Coastal Science, Harsha Bhagawaty, Lei Jiang, Sreekanth Pothanis, Gabrielle Allen, Nathan Brener, Tevfik Kosar, to appear in Proceedings of CLADE 2010.
- E15 Andrei Hutanu, Jinghua Ge, Cornelius Toole Jr., and Gabrielle Allen, *On Network-Aware Ultrascale Visualization*, to appear in 2009 Ultrascale Visualization Workshop, SC09.

- E16 Zhifeng Yun, Zhou Lei, Daniel S. Katz, J. Ramanujam, Gabrielle Allen, Tevfik Kosar, Shantenu Jha, to appear in: Poster reception—*Integrating Multiclusters for Efficient Application Execution*. In Proceedings of the 2009 ACM/IEEE Conference on Supercomputing (Portland, Oregon, November 14 - 20, 2009). SC '09. ACM Press, New York, NY.
- E17 Eloisa Bentivegna, Gabrielle Allen, Oleg Korobkin and Erik Schnetter, *Ensuring Correctness at the Application Level: A Software Framework Approach*, Workshop on Component-Based High Performance Computing (CBHPC 2009).
- E18 Archit Kulshrestha and Gabrielle Allen, *Service Oriented Architecture for Job Submission and Management on Grid Computing Resources*, 16th Annual International Conference on High Performance Computing (HiPC 2009).
- E19 Gabrielle Allen, Frank Löffler, Thomas Radke, Erik Schnetter, Ed Seidel, *Integrating Web 2.0 Technologies with Scientific Simulation Codes for Real-Time Collaboration*, to appear in IEEE International Conference on Cluster Computing (Cluster 2009), Workshop on The Impact and Influence of Web 2.0 on e-Research Infrastructure, Services and Applications.
- E20 Steven Brandt, Gabrielle Allen, Matthew Eastman, Matthew Kemp, Erik Schnetter, *Dynamic Deployment of a Component Framework with the Ubiquis System*, to appear in Proceeding of The Second International Conference on the Applications of Digital Information and Web Technologies, 2009.
- E21 Andrei Hutanu, Jinghua Ge, Cornelius Toole and Gabrielle Allen, *Towards an interactive and distributed visualization system for exploring large datasets*, to appear in Proceedings of 5th High-End Visualization Workshop, Baton Rouge, Louisiana, 2009.
- E22 Frank Löffler, Gabrielle Allen, Erik Schnetter, Jian Tao, *Benchmarking Parallel I/O Performance for a Large Scale Scientific Application on the TeraGrid*, to appear in Proceedings of the *Second International Conference on High Performance Computing and Applications (HPCA2009)*, 2009.
- E23 Jian Tao, Gabrielle Allen, Peter Diener, Frank Loeffler, Roland Haas, Ian Hinder, Erik Schnetter and Yosef Zlochower, *Towards a Highly Efficient and Scalable Infrastructure for Numerical Relativity Codes*, to appear, Proceedings of TeraGrid 2009.
- E24 Claes Eskilsson, Yaakoub El-Khamra, David Rideout, Gabrielle Allen, Q. Jim Chen and Mayank Tyagi, *A Parallel High-Order Discontinuous Galerkin Shallow Water Model*, Computational Science - ICCS 2009, Lecture Notes in Computer Science, Volume 5544/2009, p. 63-72, Springer, 2009.
- E25 Z. Lei, Z. Yun, G. Allen, X. Li, N. F. Tzeng, C. White, *Improving Application Execution in Multi-cluster Grids*, in Proceedings of 11th IEEE International Conference on Computational Science and Engineering (CSE 2008), pp.163-170, Sao Paulo, Brazil, 2008.
- E26 Z. Yun, M. Xie, F. Zhou, G. Allen, T. Kosar, and Z. Lei, *Collaborating Mechanical Design Phases Across A Grid*, in Proceedings of 11th IEEE International Conference on Computational Science and Engineering Workshops, pp.65-70, Sao Paulo, Brazil, 2008.
- E27 Emrah Ceyhan, Gabrielle Allen, Christopher White, and Tevfik Kosar, *A Grid-enabled Workflow System for Reservoir Uncertainty Analysis*, Proceedings of CLADE'08 (in conjunction with HPDC'08), p 45-52, Boston, MA, (2008).
- E28 Dayong Huang, Xinqi Wang, Gabrielle Allen, and Tevfik Kosar, *Semantic Enabled Metadata Framework for Data Grids*, Proceedings of International Workshop on P2P, Parallel, Grid and Internet Computing (3PGIC-2008), Barcelona, Spain, (2008).
- E29 Jason G. Fleming, Crystal W. Fulcher, Richard A. Luetlich, Brett D. Estrade, Gabrielle D. Allen, and Harley S. Winer, *A Real Time Storm Surge Forecasting System using ADCIRC*, Estuarine and Coastal Modeling X, M. Spaulding [ed], American Society of Civil Engineers, (2008).

- E30 Christian D. Ott, Erik Schnetter, Gabrielle Allen, Ed Seidel, Jian Tao, and Burkhard Zink, B, *A case study for petascale applications in astrophysics: simulating gamma-ray bursts*. In Proceedings of the 15th ACM Mardi Gras Conference: From Lightweight Mash-Ups To Lambda Grids: Understanding the Spectrum of Distributed Computing Requirements, Applications, Tools, infrastructures, interoperability, and the incremental Adoption of Key Capabilities (Baton Rouge, Louisiana, January 29 - February 03, 2008). MG '08. ACM, New York, NY, 1-9, (2008).
- E31 Yun, Z., Chang, S. J., Lei, Z., Allen, G., and Bommathanahalli, A. 2008. *Grid-enabled sawing optimization: from scanning images to cutting solution*. In Proceedings of the 15th ACM Mardi Gras Conference: From Lightweight Mash-Ups To Lambda Grids: Understanding the Spectrum of Distributed Computing Requirements, Applications, Tools, infrastructures, interoperability, and the incremental Adoption of Key Capabilities (Baton Rouge, Louisiana, January 29 - February 03, 2008). MG '08. ACM, New York, NY, 1-8.
- E32 Dylan Stark, Gabrielle Allen, Tom Goodale, Erik Schnetter, Thomas Radke, *An Extensible Timing Infrastructure for Adaptive Large-scale Applications*, R. Wyrzykowski et al. (Eds.), Parallel Processing and Applied Mathematics (PPAM 2007), Lecture Notes in Computer Science 4967, pp. 1170-1179, (2008).
- E33 X. Li, C. White, Z. Lei, and G. Allen, *Reservoir Model Updating by Ensemble Kalman Filter- Practical Approaches Using Grid Computing Technology*, Proceedings of EAGE Conference on Petroleum Geostatistics, June 2007.
- E34 X. Li, C. White, Z. Lei, and G. Allen, *Beyond Queues: Using Grid Computing for Simulation Studies*, Proceedings of SPE Digital Energy Conference and Exhibition, April 2007.
- E35 Dylan Stark and Gabrielle Allen, *Annotating High Performance Computing Simulations with Semantic Metadata*, in Joint Sessions of the Cyberspace Research Symposium and the 3rd International Innovations and Real-time Applications of Distributed Sensor Networks (DSN) Symposium, Shreveport, Louisiana, 2007.
- E36 X. Li, C. White, Z. Lei, and G. Allen, *Using Designed Reservoir Simulations and Grid Computing to Compare Geostatistical Simulation Algorithms*, Proceedings of Fifth Institute for Mathematics and its Applications conference on Modeling Permeable Rocks, April 2007.
- E37 Promita Chakraborty, Gabrielle Allen, Zhou Lei, John Lewis, Adam Lewis, Ian Chang-Yen, Itthichok Jangjaimon, Nian-Feng Tzeng, *An Integrated Grid Portal for Managing Energy Resources*, e-Science and Grid Computing, International Conference on, pp. 25-33, Third IEEE International Conference on e-Science and Grid Computing (e-Science 2007), 2007.
- E38 Xin Li, Zhou Li, Christopher White, Gabrielle Allen, Guan Qin, Frank T-C. Tsai, *Grid-Enabled Ensemble Subsurface Modeling*, Proceedings of The 19th IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS 2007), November 19-21, 2007, Cambridge, Massachusetts, USA.
- E39 Gabrielle Allen, Promita Chakraborty, Dayong Huang, Zhou Lei, John Lewis, Christopher White, Xiaoxi Xu, Chongjie Zhang, *A Workflow Approach to Designed Reservoir Study*, In Proceedings of the 2nd Workshop on Workflows in Support of Large-Scale Science (Monterey, California, USA, June 25 - 25, 2007). WORKS '07. ACM Press, New York, NY, 75-79, (2007).
- E40 Zhifeng Yun, Samuel J. Keasler, Maoyuan Xie, Zhou Lei, Gabrielle Allen, *An Innovative Simulation Approach for Water Mediated Attraction Based on Grid Computing*, IMSCCS, pp.204-211, Second International Multi-Symposiums on Computer and Computational Sciences (IMSCCS 2007), 2007
- E41 Xin Li, Zhou Lei, White, C.D., Gabrielle Allen, Qin Guan, F.T.-C. Tsai, *Ensemble Subsurface Modeling Using Grid Computing Technology*, Computer and Computational Sciences, International Multi-Symposiums on, pp. 235-244, Second International Multi-Symposiums on Computer and Computational Sciences (IMSCCS 2007), 2007.

- E42 Maoyuan Xie, Fuguo Zhou, Zhifeng Yun, Gabrielle Allen, Tefvik Kosar, and Zhou Lei. *Collaborating Mechanical Design Phases Across A Grid*. Proceedings of International Multi-Symposiums on Computer and Computational Sciences 2007 (IMSCCS—07), Iowa City, Iowa, USA, August 13-15, (2007).
- E43 Ashwin Bommathanahalli, Maoyuan Xie, Zhifeng Yun, Sun Joseph Chang, Zhou Lei, Gabrielle Allen, *TOPSAW Sawing Optimization Analysis Using Grid Computing*, Proceedings of International Multi-Symposiums on Computer and Computational Sciences 2007 (IMSCCS—07), Iowa City, Iowa, USA, August 13-15, (2007).
- E44 Maoyuan Xie, Zhifeng Yun, Zhou Lei, Gabrielle Allen, *Cluster Abstraction: Towards Uniform Resource Description and Access in Multicluster Grid*, Proceedings of International Multi-Symposiums on Computer and Computational Sciences 2007 (IMSCCS—07), Iowa City, Iowa, USA, August 13-15, (2007).
- E45 Zhou Lei, Gabrielle Allen, Huang, D., Kaiser, H., Li, X., and White, C. 2006. Poster reception—*Utilizing grid computing technologies for advanced reservoir studies*. In Proceedings of the 2006 ACM/IEEE Conference on Supercomputing (Tampa, Florida, November 11 - 17, 2006). SC '06. ACM Press, New York, NY, 151.
- E46 Philip Bogden, Gabrielle Allen, Gerry Creager, Sara Graves, Rick Luetlich, and Lavanya Ramakrishnan, 2006. Poster reception—*Designing a collaborative cyberinfrastructure for event-driven coastal modeling*. In Proceedings of the 2006 ACM/IEEE Conference on Supercomputing (Tampa, Florida, November 11 - 17, 2006). SC '06. ACM Press, New York, NY, 185.
- E47 Andrei Hutanu, Stephan Hirmer, Gabrielle Allen, Andre Merzky, *Analysis of Remote Execution Models for Grid Middleware*, MGC'06: Proceedings of 4th International Workshop on Middleware for Grid Computing, ACM Press, pp. 62-67, 2006.
- E48 Hartmut Kaiser, Andre Merzky, Stephan Hirmer, Gabrielle Allen, Edward Seidel and Ole Weidner, Poster reception—*The SAGA C++ reference implementation: a milestone toward new high-level grid applications*, in SC '06: Proceedings of the 2006 ACM/IEEE conference on Supercomputing, p. 184, ACM Press, New York, 2006.
- E49 Stephan Hirmer, Hartmut Kaiser, Andre Merzky, Andrei Hutanu and Gabrielle Allen, *Generic Support for Bulk Operations in Grid Applications*, MGC'06 Proceedings of 4th International Workshop on Middleware for Grid Computing, ACM Press, pp. 50-55, 2006.
- E50 Stephan Hirmer , Hartmut Kaiser, Andre Merzky, Andrei Hutanu and Gabrielle Allen, *Seamless Integration of Generic Bulk Operations in Grid Applications*
- E51 Stephan Hirmer, Hartmut Kaiser, Andre Merzky, Andrei Hutanu and Gabrielle Allen, *Seamless Integration of Generic Bulk Operations in Grid Applications*, R. Meersman, Z. Tari, P. Herrero et al. (Eds.): OTM Workshops 2006, LNCS 4277, pp. 52-54, 2006. (Poster Paper)
- E52 Hartmut Kaiser, Andre Merzky, Stephan Hirmer, Gabrielle Allen, *The SAGA C++ Reference Implementation*, Proceedings of the Workshop on Library-Centric Software Design LCSD'06, Technical Report in Computer Science and Engineering at Chalmers University of Technology and Goeteborg University, No. 06-18, 2006.
- E53 Shalini Venkataraman, Werner Benger, Amanda Long, Chirag Dekate, Gabrielle Allen, and Stephen David Beck, *Visualizing Katrina - Merging Computer Simulations with Observations*, Proceedings of PARA'06: Workshop on State-of-the-art in Scientific and Parallel Computing, Umea, Sweden, June 18-21, 2006.
- E54 C. C. Douglas, G. Allen, Y. Efendiev, and G. Qin, *High performance computing issues for grid based dynamic data-driven applications*, Proceedings of DCABES 2006, W. Xu and G. Wang (eds.), Shanghai University Press, Shanghai, 2006, pp. 175-178.

- E55 Santiago Pena, Dayong Huang, Xin Li, Zhou Lei, Gabrielle Allen, Chris White, *A Generic Task-Farming Framework for Reservoir Analysis in a Grid Environment*, Proceedings of The 8th Workshop on High Performance Scientific and Engineering Computing (HPSEC-06), Columbus, Ohio, USA, August 18, 2006, in press.
- E56 Dayong Huang, Gabrielle Allen, Chirag Dekate, Hartmut Kaiser, Zhou Lei and Jon MacLaren, *getdata: A Grid Enabled Data Client for Coastal Modeling*, in the proceeding of High Performance Computing Symposium (HPC 2006), April 3- 6, 2006, Huntsville, AL, 2006.
- E57 Zhou Lei, Dayong Huang, Archit Kulshrestha, Santiago Pena, Gabrielle Allen, Xin Li, Richard Duff, Subhash Kalla, Chris White, John Smith, *ResGrid: A Grid-aware Toolkit for Reservoir Uncertainty Analysis*, in proceedings of the Sixth IEEE International Symposium on Cluster Computing and the Grid (CCGrid06), May 16-19, 2006, Singapore, 2006.
- E58 Zhou Lei, Dayong Huang, Archit Kulshrestha, Santiago Pena, Gabrielle Allen, Xin Li, Richard Duff, Subhash Kalla, Chris D. White, John R. Smith, *Leveraging Grid Technologies For Reservoir Uncertainty Analysis*, in the proceeding of High Performance Computing Symposium (HPC 2006), April 3- 6, 2006, Huntsville, AL, 2006.
- E59 Daniel S. Katz, Joseph C. Jacob, Peggy P. Li, Yi Chao, Gabrielle Allen, *Data-Oriented Distributed Computing for Science: Reality and Possibilities*, R. Meersman, Z. Tari et al. (Eds.): On the Move to Meaningful Internet Systems 2006: CoopIS, DOA, GADA, and ODBASE, OTM 2006, LNCS 4276, pp. 1119-1124, (2006).
- E60 Jon MacLaren, Gabrielle Allen, Chirag Dekate, Dayong Huang, Andrei Hutanu and Chongjie Zhang, *Shelter from the Storm: Building a Safe Archive in a Hostile World*, Lecture Notes in Computer Science Volume 3752, On the Move to Meaningful Internet Systems 2005, Ed: R. Meersman, Z. Tari, P. Herrero, p. 294, 2005.
- E61 Jiri Denemark, Archit Kulshrestha and Gabrielle Allen, *Deploying Legacy Applications on Grids*, Proceedings of the 13th Annual Mardi Gras Conference, Frontiers of Grid Applications and Technologies, 3-5 February 2005, Baton Rouge, pp 29-34, (2005).
- E62 Zhou Lei, S. Lui, Rion Dooley and Gabrielle Allen, *Enabling GRAM Applications Using GAT: A GAT Resource Broker Adaptor*, Proceedings of the 13th Annual Mardi Gras Conference, Frontiers of Grid Applications and Technologies, 3-5 February 2005, Baton Rouge, pp 29-34, (2005).
- E63 Gabrielle Allen, Dave Angulo, Tom Goodale, Thilo Kielmann, Andre Merzky, Jarek Nabrzysky, J. Pukacki, Michael Russell, Thomas Radke, Ed Seidel, John Shalf and Ian Taylor, *GridLab: Enabling Applications on the Grid*, In Lecture Notes in Computer Science, Grid Computing - GRID 2002 : Third International Workshop, Baltimore, MD, USA, November 18, 2002. Proceedings, Springer Verlag, Pages 39-45, (2003).
- E64 Tom Goodale, Gabrielle Allen, Gerd Lanfermann, Joan Masso, Thomas Radke, Ed Seidel and John Shalf, *The Cactus Framework and Toolkit: Design and Applications*, Vector and Parallel Processing — VECPAR'2002, 5th International Conference, Springer, (2003).
- E65 Gabrielle Allen, Kelly Davis, Thomas Dramlitsch, Tom Goodale, Ian Kelley, Gerd Lanfermann, Jason Novotny, Thomas Radke, Kashif Rasul, Michael Russell, Ed Seidel and Oliver Wehrens, *The GridLab Grid Application Toolkit*, Proceedings of 11th IEEE International Symposium on High Performance Distributed Computing HPDC-11 2002 (HPDC'02), (2002).
- E66 Gabrielle Allen, Thomas Dramlitsch, Ian Foster, Nick Karonis, Matei Ripeanu, Ed Seidel and Brian Toonen, *Supporting efficient execution in heterogeneous distributed computing environments with Cactus and Globus*, Proceedings of Supercomputing 2001, Denver, USA, (2001).
- E67 Michael Russell, Gabrielle Allen, Greg Daues, Ian Foster, Tom Goodale, Ed Seidel, Jason Novotny, John Shalf, Wai-Mo Suen and Gregor Von Laszewski, *The Astrophysics Simulation Collaboratory: A*

Science Portal Enabling Community Software Development, In: High Performance Distributed Computing, 2001, Proceedings of Tenth IEEE International Symposium on High Performance Distributed Computing, HPDC-10, San Francisco, Pages 207-215, (2001).

- E68 Gabrielle Allen, Werner Benger, Thomas Dramlitsch, Tom Goodale, Christian Hege, Gerd Lanfermann, Andre Merzky, Thomas Radke and Ed Seidel, *Cactus Grid Computing: Review of Current Development*, Lecture Notes In Computer Science; Vol. 2150, Euro-Par 2001: Parallel Processing, Proceedings of 7th International Euro-Par Conference Manchester, UK August 28-31, 2001, R. Sakellariou, J. Keane, J. Gurd, L. Freeman (Eds.), Springer-Verlag, (2001).
- E69 Gabrielle Allen, Thomas Dramlitsch, Tom Goodale, Gerd Lanfermann, Thomas Radke, Ed Seidel, Thilo Kielmann, K. Verstoep, Z. Balaton, Peter Kacsuk, F. Szalai, J. Gehring, A. Keller, A. Streit, L. Matyska, M. Ruda, A. Krenek, B. Ludwiczak, J. Nabrzyski, J. Pukacki, H. Frese, H. Knipp, Andre Merzky, Alexander Reinefeld, F. Schinkte, H. Kersken, G. Aloisio, M. Cafaro, W. Ziegler and Michael Russell, *Early Experiences with the Egrid Testbed*, First IEEE/ACM International Symposium on Cluster Computing and the Grid, Brisbane, Australia, May 16-18, pages 130-137, (2001).
- E70 Gabrielle Allen, Werner Benger, Tom Goodale, H. Hege, Gerd Lanfermann, Andre Merzky, Thomas Radke, Ed Seidel and John Shalf, *The Cactus Code: A Problem Solving Environment for the Grid*, Proceedings of the 9th IEEE International Symposium on High Performance Distributed Computing (HPDC9), August 1-4 2000, Pittsburgh, pp 253-260, IEEE Computer Society, (2000).
- E71 Gabrielle Allen, Tom Goodale, Joan Massó and Ed Seidel, *The Cactus Computational Toolkit and Using Distributed Computing to Collide Neutron Stars*, Proceedings of the 8th IEEE International Symposium on High Performance Distributed Computing (HPDC8), Redondo Beach August 3-6 1999, IEEE Computer Society, (1999).
- E72 Gabrielle D. Allen, Nils Andersson, Kostas D. Kokkotas and Bernard F. Schutz, *Evolutions of Stellar Oscillations*, in Proceedings of the 8th Marcel Grossmann Meeting on General Relativity, Ed: T. Piran, World Scientific, Singapore, p.732-734, (1999).
- E73 Gabrielle Allen, Tom Goodale and Ed Seidel, *The Cactus Computational Collaboratory: Enabling Technologies for Relativistic Astrophysics, and a Toolkit for Solving PDEs by Communities in Science and Engineering*, Proceedings of 7th Symposium on the Frontiers of Massively Parallel Computation (Frontiers99), IEEE, New York, (1999).
- E74 Gabrielle D. Allen and Bernard F. Schutz, *An ADI Scheme for a Black Hole Problem*, In Approaches to Numerical Relativity, Ed: R. d'Inverno, Cambridge University Press, Cambridge, (1992).

Invited Articles

- F1 Gabrielle Allen, Phil Bogden, Tevfik Kosar, Archit Kulshrestha, Gayathri Namala, Sirish Tummala, Ed Seidel, *Cyberinfrastructure for Coastal Hazard Prediction*, CTWatch Quarterly, Volume 4, Number 1, March 2008.
- F2 Gabrielle Allen, Building a Dynamic Data Driven Application System for Hurricane Forecasting, Proceedings of ICCS 2007, Y. Shi et al. (Eds.): ICCS 2007, Part I, LNCS 4487, pp. 1034-1041, 2007.
- F3 Gabrielle Allen and Edward Seidel, *Application Frameworks for High Performance and Grid Computing*, Scientific Computing, [Cover Story], January 2006.
- F4 Gabrielle Allen, Ed Seidel and John Shalf, *Scientific Computing on the Grid*, Byte, Spring, (2002).
- F5 Gabrielle D. Allen, *Numerical Relativists Illuminate Black Hole Collisions*, *Physics World*, **7(1)**, (1994).

Other Publications: Technical Reports, Strategic Planning & Documentation

- G1 Gabrielle Allen, Warren Anderson, Erik Blaufuss, Joshua S. Bloom, Patrick Brady, Sarah Burke-Spolaor, S. Bradley Cenko, Andrew Connolly, Peter Couvares, Derek Fox, Avishay Gal-Yam, Suvi Gezari, Alyssa Goodman, Darren Grant, Paul Groot, James Guillochon, Chad Hanna, David W. Hogg, Kelly Holley-Bockelmann, D. Andrew Howell, David Kaplan, Erik Katsavounidis, Marek Kowalski, Luis Lehner, Daniel Muthukrishna, Gautham Narayan, J.E.G. Peek, Abhijit Saha, Peter Shawhan, Ignacio Taboada, *Multi-Messenger Astrophysics: Harnessing the Data Revolution*, Jul 12, 2018. 20 pp., e-Print: arXiv:1807.04780.
- G2 Heroux, A. M., Allen, G. (2016, September). Computational Science and Engineering Software Sustainability and Productivity (CSESSP) Challenges Workshop Report. Arlington, VA: Networking and Information Technology Research and Development (NITRD) Program. Retrieved from NITRD Website: <https://www.nitrd.gov/PUBS/CSESSPWorkshopReport.pdf>
- G3 Gabrielle Allen, Daniel S. Katz, *Computational Science, Infrastructure and Interdisciplinary Research on University Campuses: Experiences and Lessons from the Center for Computation & Technology*, CCT Technical Report Series, CCT-TR-2010-1, 2010
- G4 Andrei Hutanu, Gabrielle Allen, Dave Semeraro, Jinghua Ge, *Strategies for Remote Visualization on a Dynamically Configurable Testbed: The eaviv Project*, CCT Technical Report Series, CCT-TR-2009-18, 2009.
- G5 Andrei Hutanu, Erik Schnetter, Werner Benger, Eloisa Bentivegna, Alex Clary, Peter Diener, Jinghua Ge, Robert Kooima, Oleg Korobkin, Kexi Liu, Frank Löffler, Ravi Paruchuri, Jian Tao, Cornelius Toole, Adam Yates, Gabrielle Allen, *Large Scale Problem Solving Using Automatic Code Generation and Distributed Visualization*, CCT Technical Report Series, CCT-TR-2009-11, 2009.
- G6 Gabrielle Allen and Erik Schnetter, *The Cactus Framework: Software Sustainability Position Paper*, CCT Technical Report Series, CCT-TR-2009-5, 2009.
- G7 Gabrielle Allen, Charles McMahon, Edward Seidel, Tom Tierney, *The 2003 Louisiana Optical Network Initiative (LONI) Concept Paper*, CCT Technical Report Series, CCT-TR-2009-3, 2009.
- G8 Andrei Hutanu, Jinghua Ge, Cornelius Toole, Ravi Paruchuri, Adam Yates, Gabrielle Allen, The LONI, Internet2 DCN, and CESNET Teams, *Distributed Visualization Using Optical Networks: Demonstration at Supercomputing 2008*, CCT Technical Report Series, CCT-TR-2008-10, (2008).
- G9 Q.J. Chen, C. Eksilsson, M. Tyagi, and G. Allen, *Coastal & Ocean Modeling Infrastructure (COMI): Development of an Integrated Modeling Framework for Simulations of Coastal Processes in Deltaic Environments Using High-Performance Computing*, CCT-TR-2008-8, (2008).
- G10 Daniel S. Katz, Gabrielle Allen, Ricardo Cortez, Carolina Cruz-Neira, Raju Gottumukkala, Zeno D. Greenwood, Les Guice, Shantenu Jha, Ramesh Kolluru, Tevfik Kosar, Lonnie Leger, Honggao Liu, Charlie McMahon, Jarek Nabrzyski, Bety Rodriguez-Milla, Ed Seidel, Greg Speyrer, Michael Stubblefield, Brian Voss, Scott Whittenburg, *Louisiana: A Model for Advancing Regional e-Science through Cyberinfrastructure*, CCT-TR-2008-7, (2008)
- G11 Gabrielle Allen et al, *Community Infrastructure for General Relativistic MHD*, CCT Technical Report Series, CCT-TR-2008-6, (2008).
- G12 Jian Tao, Gabrielle Allen, Ian Hinder, Erik Schnetter, Yosef Zlochower, *XIREL: Standard Benchmarks for Numerical Relativity Codes*, CCT-TR-2008-5, (2008).
- G13 HPC Application Software Consortium Summit Concept Paper, Prepared for HPC Application Software Consortium Summit, March 25th-26th, 2008, National Center for Supercomputing Applications.
- G14 Alpaca: Cactus Tools for Application Level Performance and Correctness Analysis, Erik Schnetter, Gabrielle Allen, Tom Goodale, Tyagi Mayank. CCT Technical Report Series, CCT-TR-2008-2.

- G15 Edward Seidel, Charles McMahon, Gabrielle Allen, Daniel S. Katz, *Cyberservices Training and Application Development (CyTAD) for LONI Members to Advance Research, Education, and Industry in Louisiana*, Whitepaper for the Post-Katrina Support Fund Initiative (P-KSFI), (2006).
- G16 Edward Seidel, Gabrielle Allen, Robert Twilley, *Mississippi River Basin and Gulf Coastal Modeling Initiative*, Whitepaper for the Post-Katrina Support Fund Initiative (P-KSFI), (2006).
- G17 Edward Seidel, Gabrielle Allen, Stephen Beck, Rudy Hirschheim, Jorge Pullin, Joel Tohline, Joel Williams, *CCT Faculty Plan*, (2006).
<http://www.cct.lsu.edu/~gallen/Reports/FacultyPlan.pdf>
- G18 Gabrielle Allen, Tom Goodale, Gerd Lanfermann, Thomas Radke, David Rideout, Jonathan Thornburg, *Cactus Users Guide*, (2006). [173 Pages]
http://www.cct.lsu.edu/~gallen/Reports/Cactus_UsersGuide.pdf
- G19 Gabrielle Allen, et al, *Cactus Thorn Guide*, (2006). [788 Pages]
http://www.cct.lsu.edu/~gallen/Reports/Cactus_ThornGuide.pdf
- G20 Gabrielle Allen, Tom Goodale, Gerd Lanfermann, Thomas Radke, David Rideout, Jonathan Thornburg, *Cactus Reference Manual*, (2006). [311 Pages]
http://www.cct.lsu.edu/~gallen/Reports/Cactus_ReferenceGuide.pdf
- G21 John Shalf, Erik Schnetter, Gabrielle Allen, Ed Seidel, *Common Computational Frameworks as Benchmarking Platforms, Report for NSF Benchmarking Committee*, (2005).
<http://www.cct.lsu.edu/~gallen/Reports/CommonFrameworks.pdf>
- G22 Gabrielle Allen, Ed Seidel, John Towns, *LSU CAPITAL: Immediate Plans*, (May, 2003).
- G23 Gabrielle Allen, Jarek Nabryski, Ed Seidel, *Expression of Intent for a European Distributed Supercomputer Network*, (2002).
http://www.cct.lsu.edu/~gallen/Reports/EDSN_EoI.pdf
- G24 Craig Lee, Satoshi Matsuoka, D. Talia, Alan Sussman, M. Mueller, Gabrielle Allen, J. Saltz, *A Grid Programming Primer*, Advanced Programming Models Research Group, Global Grid Forum, (2001).
<http://www.cct.lsu.edu/~gallen/Reports/GridProgrammingPrimer.pdf>

Abstracts

- H1 Gerd Lanfermann, Gabrielle Allen, Thomas Radke and Ed Seidel, *Nomadic Migration: Fault Tolerance in a Disruptive Grid Environment*, in Proceedings of the Second IEEE/ACM International Symposium on Cluster Computing and the Grid, Pages 280–281, (2002).
- H2 Gerd Lanfermann, Gabrielle Allen, Thomas Radke, Ed Seidel, *Nomadic Migration: A New Tool for Dynamic Grid Computing*, Proceedings of Tenth IEEE International Symposium on High Performance Distributed Computing, HPDC-10, San Francisco, IEEE Press, Pages 435–436, (2001).
- H3 Thomas Dramlitsch, Gabrielle Allen and Ed Seidel, *Efficient Techniques for Distributed Computing*, Proceedings of Tenth IEEE International Symposium on High Performance Distributed Computing, HPDC-10, San Francisco, IEEE Press, Pages 435-436, (2001).

Journals and Conference Proceedings (non-refereed)

- I1 Gabrielle Allen, Building a Dynamic Data Driven Application System for Hurricane Forecasting, Proceedings of ICCS 2007, Y. Shi et al. (Eds.): ICCS 2007, Part I, LNCS 4487, pp. 1034-1041, 2007.
- I2 Chokchai Box Leangsuksun, Leslie Guice, Chris Womack, Stacey Simmons, Ravi Paruchuri, Andrei Hutanu, Gabrielle Allen, Ed Seidel, Thomas Sterling, Petr Holub, *The Next Generation Distributed Learning Environment: The Experiences*, Proceedings of e-Learning International Conference 2006: "Learning Theories vs Technologies?", 14-16 December 2006, Bangkok, Thailand.

- I3 Philip Bogden, Gabrielle Allen, Greg Stone, Jon MacLaren, Gerald Creager, Larry Flournoy, Wei Zhao, Hans Graber, Sara Graves, Helen Conover, Rick Luettich, Will Perrie, Lavanya Ramakrishnan, Dan Reed, Peter Sheng, Harry Wang, *The SURA Coastal Ocean Observing and Prediction Program (SCOOP) Service-Oriented Architecture*, Proceedings of IEEE/MTS Oceans 2006, Boston, MA, September 18-21, 2006.
- I4 Philip Bogden, Wei Zhao, Sara Graves, Hans Graber, Harry Wang, Rick Luettich, Gabrielle Allen, Greg Stone, Peter Sheng, *The SURA Coastal Ocean Observing and Prediction Program (SCOOP): Integrating Marine Science and Information Technology*, Proceedings of IEEE/MTS Oceans 2005, Washington DC, September 18-23, 2005.
- I5 Gabrielle Allen, Tom Goodale, Gerd Lanfermann, Thomas Radke, Ed Seidel, *The Cactus Code for the Grid*, Proceedings of the 1st EGrid Meeting, Poznan, (2000).
- I6 Gabrielle Allen, Thomas Dramlitsch, Ian Foster, Tom Goodale, N. Karonis, Matei Ripeanu, Ed Seidel, and Brian Toonen, *Cactus-G: Enabling High-Performance Simulation in Heterogeneous Distributed Computing Environments*, Proceedings of Fourth Globus Retreat, July 30-August 1 2000, Pittsburgh, (2000).
- I7 Gabrielle Allen, Karen Camarda, and Ed Seidel, *Evolution of Distorted Black Holes: A Perturbative Approach*, *Physical Review D*, (gr-qc/9806014), (submitted).
- I8 Gabrielle Allen, Karen Camarda, and Ed Seidel, *Black Hole Spectroscopy: Determining Waveforms from 3D Excited Black Holes*, *Physical Review D*, (gr-qc/9806036), (submitted).
- I9 Lee A. Wild, Miguel Alcubierre, Gabrielle Allen and Bernard Schutz, *Interface Behaviour in an Adaptive Mesh for Hyperbolic Equations*, in Proceedings of the 7th Marcel Grossmann Meeting on General Relativity, Stanford 24-30 July 1994, Ed: R. Jantzen, World Scientific, Singapore, p.651-653, (1996).
- I10 Gabrielle Allen, Miguel Alcubierre, Simon Farrar, Bernard F. Schutz and Lee A. Wild, *Modeling Moving Black Holes*, Proceedings of the 7th Marcel Grossmann Meeting on General Relativity, Stanford 24-30 July 1994, Ed: R. Jantzen, World Scientific, Singapore, p.615-618, (1996).
- I11 Gabrielle Allen, *Finite Differencing Near 3-D Black Holes*, The Proceedings of the Computational Relativity Black Hole Conference, October 7-9 1992, Syracuse, (1992).
- I12 Gabrielle D. Allen, *Implicit Schemes for Wave Propagation*, The Proceedings of the Texas Symposium on 3D Numerical Relativity, Ed: R. Matzner, (1990).

Posters

- J1 Zhifeng Yun, Zhou Lei, Gabrielle Allen, Daniel Katz, Tevfik Kosar, Shantenu Jha and Jagannathan Ramanujam, *An Innovative Application Execution Toolkit for Multicluster Grids*, Cluster Computing 2009.
- J2 Lei Jiang, Qi Fan, Gabrielle Allen, Qin Chen, Towards an Integrated Problem-Solving Environment for Hybrid Numerical Models with Statistical Learning Components, TeraGrid 2009.
- J3 S.-H. Ko and G. Allen S. Jha E. Schnetter M. Tyagi P. Kalghatgi, S. Acharya. Use of the cactus framework for multi-block cfd applications. Poster at the 9th International Conference on Computational Science, Baton Rouge, 2009.
- J4 J. Tao, E. Schnetter, G. Allen, A. Hutanu, E. Bentivegna, J. Ge, P. Diener, C. Toole, R. Paruchuri, W. Benger, K. Liu, R. Kooima, O. Korobkin, and A. Yates. Automatic code generation and distributed visualization for solving large scale scientific problems. Poster at the 9th International Conference on Computational Science, Baton Rouge, 2009.
- J5 Harsha Bhagawaty, Lei Jiang, Kelin Hu, Gabrielle Allen, Nathan Brenner, Q. Jim Chen, S. Sitharama Iyengar, Erik Schnetter, A Simulated Hurricane Database for New Modes of Analysis and Prediction. Poster at the 9th International Conference on Computational Science, Baton Rouge, 2009.

- J6 Harsha Bhagawaty, Pradeep Chowriappa, Kelin Hu, Lei Jiang, Gabrielle Allen, Nathan Brenner, Q. Jim Chen, Sumeet Dua, S.S. Iyengar, Erik Schnetter, A Simulated Hurricane Database for New Modes of Prediction and Analysis, Louisiana RII CyberTools and Science Drives Symposium, May 2009.
- J7 Prasad Kalghatgi, Jerina Pillert, Bharadhwaj Thalakkokkula, Sumanta Acharya, Gabrielle Allen, Peter Diener, Archit Kulshreshtha, Sirish Tummala, Design And Implementation of Application Portal for CyberTools Science Drivers, Louisiana RII CyberTools and Science Drives Symposium, May 2009.
- J8 Nagelberg, A., Kaiser, C., Kaiser, H., and Allen, G. 2008. Near realtime visualization of coastal modelling results with WMS and Google Maps. In Proceedings of the 15th ACM Mardi Gras Conference: From Lightweight Mash-Ups To Lambda Grids: Understanding the Spectrum of Distributed Computing Requirements, Applications, Tools, infrastructures, interoperability, and the incremental Adoption of Key Capabilities (Baton Rouge, Louisiana, January 29 - February 03, 2008). MG '08. ACM, New York, NY, 1-1. DOI=<http://doi.acm.org/10.1145/1341811.1341840>.
- J9 Stamou, K., Akunuri, P. V., Allen, G., Kulshreshtha, A., and Katz, D. S. 2008. Feature rich, enhanced grid portal for LONI. In Proceedings of the 15th ACM Mardi Gras Conference: From Lightweight Mash-Ups To Lambda Grids: Understanding the Spectrum of Distributed Computing Requirements, Applications, Tools, infrastructures, interoperability, and the incremental Adoption of Key Capabilities (Baton Rouge, Louisiana, January 29 - February 03, 2008). MG '08. ACM, New York, NY, 1-1. DOI=<http://doi.acm.org/10.1145/1341811.1341842>.
- J10 Wu, Y., Tugurlan, M. C., and Allen, G. 2008. Advance reservations: a theoretical and practical comparison of GUR & HARC. In Proceedings of the 15th ACM Mardi Gras Conference: From Lightweight Mash-Ups To Lambda Grids: Understanding the Spectrum of Distributed Computing Requirements, Applications, Tools, infrastructures, interoperability, and the incremental Adoption of Key Capabilities (Baton Rouge, Louisiana, January 29 - February 03, 2008). MG '08. ACM, New York, NY, 1-1. DOI=<http://doi.acm.org/10.1145/1341811.1341847>.
- J11 Alpaca: Cactus Tools for Application Level Profiling and Correctness Analysis, Erik Schnetter, Gabrielle Allen, Tom Goodale, Mayank Tyagi, NSF Workshop "Building PetaScale Applications and Software Environments on TeraGrid" held at Arizona State University, December 11-12, 2007.
- J12 XiRel: Next Generation Infrastructure for Numerical Relativity, Gabrielle Allen, Manuela Campanelli, Pablo Laguna, Carlos Lousto, Deidre Shoemaker, Erik Schnetter, Ed Seidel, NSF Workshop "Building PetaScale Applications and Software Environments on TeraGrid" held at Arizona State University, December 11-12, 2007.
- J13 A Collaborative High Performance and Grid Computing Portal, Prathyusha Akunuri-Venkata, Daniel S. Katz, Gabrielle Allen, Grid 2007, Austin, September 2007.
- J14 Utilizing Grid Computing for Advanced Reservoir Studies, Z. Lei, G. Allen, P. Chakraborty, D. Huang, H. Kaiser, A. Kulshreshtha, J. Lewis, X. Li, J. Smith, C. White, in SC '06: Proceedings of the 2006 ACM/IEEE conference on Supercomputing, ACM, 2006, DOI=<http://doi.acm.org/10.1145/1188455.1188612>.
- J15 Building an Application Portal for Geoscience, John Lewis, Promita Chakraborty, Dr. Zhou Lei, Xin Li, Chongjie Zhang, Dr. Chris White, Dr. Gabrielle Allen, Poster at the LSU Summer Undergraduate Research Forum (SURF), 2006.