# 2014 NSF Cybersecurity Summit for
# Large Facilities and Cyberinfrastructure
*
# Bios for Speakers, Authors, Program Committee Members,
# Organizers, and Student Awardees

*in alphabetical order by surname*

**Jared Allar** is a Pittsburgh Supercomputer Center information security analyst. His background covers many aspects of information security including vulnerability discovery, vulnerability coordination, security evaluations of information systems, and incident response. He has done information security work in the fields of health insurance, banking, and academia.

*

**Amy Apon** is Chair of the Computer Science Division in the School of Computing at Clemson University. She is the current Past Chair of the Coalition for Academic Scientific Computation (CASC), an organization of nearly 80 U.S. academic institutions who are leaders in computational and data-enabled science and engineering.  Apon does research in high performance computing clusters and infrastructure for collaborative computing and is leading several initiatives to expand graduate education and research, including the CI SEEDS project, funded by NSF, that is increasing the number of domestic Ph.D. students in areas of data-enabled science at Clemson University.   Dr. Apon holds a Ph.D. in Computer Science from Vanderbilt University and Masters and Bachelor's degrees from the University of Missouri - Columbia.

*

**Fahad Arshad** completed his Ph.D. from Purdue University in the Department of Electrical and Computer Engineering. His research interests focus on developing algorithms for software testing, error detection and failure diagnosis in distributed systems. He is particularly interested in data-driven analysis of computer systems. His work has appeared at top dependability conferences - DSN, ISSRE, ICAC, Middleware and SRDS, and he has been awarded grants to attend DSN, ICAC and ICNP. He has also been an active contributor to security research while working as a cybersecurity engineer at NEEScomm IT, Purdue University. He has recently joined a position as a systems engineer in industry.

*

Security Engineer **Justin Azoff** is responsible for implementing security plans; assisting other NCSA groups in hardening and protecting their systems; and developing, administering and utilizing NCSA's state-of-the-art cybersecurity monitoring infrastructure in support of the Center's objective of providing a highly reliable and functional computing environment. Working with other Security Engineers, Azoff identifies and investigates cybersecurity incidents across NCSA networks and systems and responds to these events, interdicting malicious behavior, mitigating security vulnerabilities, remediating compromised systems and adjusting cybersecurity controls as appropriate to ensure similar malicious behavior is prevented in the future. Azoff has been a Bro user since 2009 and became a Bro developer as part of his security engineer role when he joined NCSA in 2012.

*

**Saurabh Bagchi** is a Professor in the School of Electrical and Computer Engineering and the Department of Computer Science (by courtesy) at Purdue University in West Lafayette, Indiana. He is an ACM Distinguished Scientist (2013), a Senior Member of IEEE (2007) and of ACM (2009), a Distinguished Speaker for ACM (2012), an IMPACT Faculty Fellow at Purdue (2013-14), and an Assistant Director of the CERIAS security center at Purdue. He is the Cybersecurity Lead for the NSF Center at Purdue called NEEScomm. His work on fault tolerance in distributed systems has been rewarded with recognition of best papers or runner-up awards at several conferences (Sensys 2011, Supercomputing 2012, 2009, SecureComm 2008, etc.) and through the Seed for Success award at Purdue University twice. He is proudest of the 11 PhD students who have graduated from his research group and have gone on to wonderful careers in industry or academia.

*

**Steve Barnet** has specialized in supporting scientific and academic computing for nearly 20 years. During that time, he has worked in multiple domains including storage, networking, high-throughput computing, and security. He handled his first incident in 1995, a compromised Solaris system providing several important infrastructure services.

Steve is currently works for the IceCube project, a kilometer scale neutrino detector located at the geographic South Pole. He began collaborating with CTSC in 2013 to develop a Cybersecurity plan for the IceCube facility.

*

**William Barnett** oversees the life sciences research IT practice at Indiana University, both for basic research and for health care research including the IU School of Medicine, where he is an adjunct associate professor in Medical and Molecular Genetics.  He is the Co-Director of Translational Informatics at the Indiana Clinical and Translational Sciences Institute (CTSI).  Bill is the Director of the National Center for Genome Analysis Support (ncgas.org), which provides bioinformatics and computational support for genomics research.  He also oversees the Grid Operations Center for the Open Science Grid.  As an Associate Director of the Center for Applied Cybersecurity Research, Bill led the alignment of IU computing and data management systems with HIPAA. He is on the Steering Committee for the Association for American Medical Colleges (AAMC) Group on Information Resources (GIR) and faculty of the AAMC GIR Leadership Institute.

*

**Jim Basney** is a senior research scientist at the National Center for Supercomputing Applications (NCSA) at the University of Illinois at Urbana-Champaign. Jim leads the CILogon project (www.cilogon.org), which enables federated authentication to cyberinfrastructure. Jim is also the security technical lead for XSEDE (www.xsede.org) Software Development and Integration (SD&I), and Jim is the identity management lead for the Software Assurance Marketplace (SWAMP). Jim maintains the MyProxy credential management software, an "exemplar of success in cyberinfrastructure software sustainability" according to the report from the NSF workshop on CyberInfrastructure Software Sustainability and Reusability ( http://hdl.handle.net/2022/6701). Jim is an active participant in The Americas Grid Policy Management Authority and the InCommon Technical Advisory Committee. Jim received his PhD in computer sciences from the University of Wisconsin-Madison where he worked as a graduate research assistant on the Condor project.

\*

**Tony Baylis** of Lawrence Livermore National Laboratory is the Laboratory's Director for the Office of Strategic Diversity and Inclusion Programs. In this position, he is the senior management advocate for diversity and inclusion for the Laboratory. The Office of Strategic Diversity and Inclusion Programs partners with senior management to develop strategies, initiatives, programs, and activities that promote the creation of a diverse and inclusive workforce and work environment. Tony serves as the Laboratory's EEO, AA and Diversity compliance officer as well. In conjunction with these tasks, Tony is responsible for overseeing the laboratory's interactions and successful execution in building, partnering and collaborating with governmental, educational, industrial, community interests and other stakeholders. LLNL has had a long history in working with Minority Serving Institutions, specifically relationships with American Indian Institutions, Hispanic Institutions and Historically Black College and Universities. He represents the Laboratory on the subjects of Diversity and Inclusion, STEM, Outreach Efforts, and Student Programs.

Tony's career represents 26 years of administrative, project, program, technical and organizational management. He has worked in a scientific and technical environment for over 20 years and has worked as an consultant in industry as well. Tony has extensive experience networking with a broad range of academic, industry, government and non-profit organizations that has educated him and helped him in his career. He serves on a number of conference program committees and advisory boards that promote STEM and diversity in science and technical careers. He has been an NSF reviewer and PI/Co-Pi for the Broadening Participation in Computing Program. Tony is also an ACM and ACM SIGGRAPH member, and serves as the Treasurer for ACM SIGGRAPH. He is a graduate of the University of Illinois.

\*

**Gregory Bell** is director of the Scientific Networking Division at Lawrence Berkeley National Laboratory (Berkeley Lab), and director of the Energy Sciences Network (ESnet), the U.S. Department of Energy's high-performance national network - one of the oldest and fastest computer networks in the world.  Previously, Bell served as Chief Technology Architect in Berkeley Lab's IT Division, and prior to that he worked as a network engineer at Berkeley Lab.  His professional interests include advanced networking technologies, cyber-security models for open science, and data-intensive discovery.  Bell earned an AB from Harvard College (English), and a PhD from UC Berkeley, where he wrote an interdisciplinary dissertation on the cultural history of conspiracy belief.  Bell has also managed a non-profit agency serving political refugees, and served as an analyst for Amnesty International.  He lives in Berkeley with his wife Chalon.

\*

**Jasmine Bowers** is a Lawrence Livermore National Laboratory (LLNL) Cyber Defenders summer scholar and a second year M.S. candidate at North Carolina Agricultural and Technical State University (NCAT). She holds two B.S. degrees in mathematics and computer science from Fort Valley State University (FVSU). She will graduate with an M.S. in computer science in May of 2015. This summer, she worked with two LLNL computer scientists on an iOS mobile application for simplifying and securing password-based authentication. This application will alleviate the burden and security risks associated with requiring a user to keep track of several complex passwords for various websites.

Jasmine is also a research assistant in the NCAT Center for Advanced Studies in Identity Science (CASIS) group, directed by the NCAT computer science department chair. She is studying under the information assurance masters track and her research topic is author identification. At the 2013

Richard Tapia Diversity in Computing Conference, she presented "Android vs. iPhone: What's Your Personality", an undergraduate project that analyzed the correlation of users and phone operating system preferences. As an undergraduate, she worked with the Department of Defense as a civilian computer science cooperative education student. At FVSU, she served as treasurer of the ACM chapter, two-term president of the Eta chapter of Delta Sigma Theta Sorority, Inc., personal assistant to the Director of Leadership and Character Development, assistant to the Director of the Cooperative Developmental Energy Program, and teacher assistant. In addition, she served as a mathematics tutor at the local middle school and FVSU tutoring lab.

In her spare time, she provides budget coaching and workshops. She recently presented financial workshops at the FVSU annual iLead Leadership Conference.

*

**Amy Butler** has 15 years of IT experience, with ten in the creation and deployment of solutions protecting information assets and ensuring confidentiality, availability and integrity of a large enterprise environment. Ms. Butler is currently the AVP, Information Security and Compliance at The George Washington University. Previously, she held positions at The Coca Cola Company, Secore, Inc and Peking University. She is a Lecturer at GW's Graduate School of Business as well as its Graduate School of Computer Science. Ms. Butler holds an MBA from The George Washington University and specializes in the development and implementation of enterprise security strategies.

*

**Randal Butler** serves as Deputy Director for CTSC and leads CTSC EOT activities. He is director of the NCSA's Cybersecurity Directorate, Chief Security Officer for NCSA and the Security Officer for the NSF XSEDE project. Previously, he led security efforts for the National Computational Science Alliance and was the NCSA PI of the NSF National Middleware Initiative GRIDS Center.

*

**Michael Corn** is the Deputy CIO and CISO for Brandeis University. His areas of interest include privacy, identity management, and cloud services. He has been an active speaker and author on security and privacy and has participated in numerous Educause and Internet2 initiatives. He is a member of the Internet2 Netplus Product Advisory Board and until recently was also a member of the Box.com and Splunk Product Advisory Boards, as well as the Kuali Ready Product Board.

Prior to joining Brandeis he was the CISO and Chief Privacy and Security Officer of the University of Illinois at Urbana-Champaign. He is a graduate of the University of Colorado at Boulder and the University of Illinois at Urbana-Champaign.

*

**Joel Cutcher-Gershenfeld** is a Professor and former Dean in the School of Labor and Employment Relations (LER) at the University of Illinois. He is also a Senior Research Scientist with the National Center for Super Computing Applications (NCSA) and holds a courtesy appointment in Industrial and Enterprise Systems Engineering (IESE) at the University of Illinois. Joel also serves as a visiting Professor in Work and Organizations at the University of Sydney, Australia.

He is an award-winning author who has co-authored or co-edited eleven books, including *Ford-UAW Pivots: Transforming Work and Relationships to Deliver Results* (MIT Press, 2015 forthcoming),

*Multinational Human Resource Management and the Law* (Edward Elgar, 2013), *Valuable Disconnects in Organizational Learning Systems* (Oxford University Press, 2005), *Lean Enterprise Value* (Palgrave, 2002), *Knowledge-Driven Work* (Oxford University Press, 1998), and *Strategic Negotiations* (Harvard Business School Press, 1994), and over eighty five articles on high performance work systems, transformation in labor-management relations, negotiations and conflict resolution, economic development, and engineering systems. His current research centers on stakeholder alignment in complex systems – a foundation for 21$^{st}$ Century institutions. Along with his co-inventors, he has a patent pending on a new visualization method designed to help see points of alignment and misalignment among stakeholders.

Joel was the 2009 President of the Labor and Employment Relations Association (LERA). Prior to coming to the University of Illinois, Joel served as a Senior Research Scientist and Executive Director of the Engineering Systems Learning Center, with a joint appointment in MIT's Sloan School of Management and MIT's Engineering Systems Division, as well as a Visiting Associate Professor at Babson College, and an Associate Professor at Michigan State University.

Joel has extensive experience leading large-scale systems change initiatives with public and private stakeholders in Australia, Bermuda, Canada, Denmark, England, Iceland, Italy, Jamaica, Mexico, New Zealand, Panama, Poland, Spain, South Africa, and the United States. He holds a Ph.D. in Industrial Relations from MIT and a B.S. in Industrial and Labor Relations from Cornell University.

*

**Kyle Chard** is a Senior Research Project Professional at the Computation Institute, a joint venture between The University of Chicago and Argonne National Laboratory. He received a PhD degree in Computer Science from Victoria University of Wellington in 2011. His research focuses on applying cloud-based techniques to large scale research data management as part of the Globus project. His research interests also include distributed meta-scheduling, Grid and Cloud computing, economic resource allocation and social computing.

*

**Patrick Duda** is a member of NCSA's Cybersecurity directorate and is currently assigned to work on CTSC. His responsibilities are to aid in the EOT efforts under the direction of Randy Butler. Most of this work is aimed at developing training programs to disseminate security information to NSF funded CI projects. Prior to joining NCSA Patrick worked with several software development companies. At NCSA he has worked on GRID computing and various other science projects.

*

**Jeremy Epstein** is lead program director for NSF's Secure and Trustworthy Cyberspace (SaTC) program, NSF's flagship cybersecurity research program. He is on loan to NSF from SRI International, where his research areas including voting system security and software assurance. Jeremy has spent 25 years in the security field as a researcher, product developer, consultant, and program manager. He is associate editor in chief of IEEE Security & Privacy Magazine, and founder of the ACSA Scholarships for Women Studying Information Security (SWSIS) program. He holds an MS from Purdue University in Computer Sciences, and is ABD from George Mason University.

*

**Barbara Fossum** is the Deputy Director for the George E. Brown, Jr. Network for Earthquake Engineering Simulations (NEES), at Purdue University in Lafayette, Indiana.  In this capacity, Barbara directs the day-to-day operation and the development of cyberinfrastructure to support the $105 million NSF distributed network of 14 earthquake engineering research centers. Barbara comes to Purdue from the NSF where she was a Program Manager from 2001 to 2004, for the Information Technology Research initiative within the Office of Cyberinfrastructure Research.  While currently devoting her time to Large Facility operations and management, she continues to be engaged in supercomputing activities and scientific visualization.

\*

**Ian Foster** is Director of the Computation Institute, a joint institute of the University of Chicago and Argonne National Laboratory. He is also an Argonne Senior Scientist and Distinguished Fellow and the Arthur Holly Compton Distinguished Service Professor of Computer Science.

Ian received a BSc (Hons I) degree from the University of Canterbury, New Zealand, and a PhD from Imperial College, United Kingdom, both in computer science. His research deals with distributed, parallel, and data-intensive computing technologies, and innovative applications of those technologies to scientific problems in such domains as climate change and biomedicine. Methods and software developed under his leadership underpin many large national and international cyberinfrastructures.

Dr. Foster is a fellow of the American Association for the Advancement of Science, the Association for Computing Machinery, and the British Computer Society. His awards include the Global Information Infrastructure (GII) Next Generation award, the British Computer Society's Lovelace Medal, R&D Magazine's Innovator of the Year, and an honorary doctorate from the University of Canterbury, New Zealand. He was a co-founder of Univa UD, Inc., a company established to deliver grid and cloud computing solutions.

\*

**Kelly Gaither**, Director of Visualization, Texas Advanced Computing Center

\*

**Bret Goodrich** is the Software Manager for the Daniel K. Inouye Solar Telescope (DKIST). He is responsible for the High Level Software and Controls group, including the software development for the telescope, instrument cameras, data handling, observatory control, and architectural framework. In addition, he is responsible for the computing assets of the facility, including their specification, performance, security, and operational procedures. He has worked for over 30 years on telescope software and information technology at Kitt Peak National Observatory, Gemini Observatory, and the National Solar Observatory. He has participated in the design and development of numerous telescope projects and is an active member of the telescope software community.

\*

**Christopher Gullo** is a growing software developer contributing to LLNL's research initiatives in cyber security situational awareness.  During the summer of 2014, Chris will expand his computer science skill set working on existing projects with the Lawrence Livermore National Laboratory Cyber Defenders Program that will be influential for years to come.

Chris enjoys spending time outdoors (hiking, biking, running, camping, sports), traveling, flying, following technological innovations, and more. Chris is a rising senior studying Computer Science at Rochester Institute of Technology where he has been honored to lead several class team projects. He participates in Air Force ROTC and plans to both graduate and commission in the United States Air Force in May 2016. His goal is to be a Pilot or Cyberspace Officer in the Air Force.

*

**David M. Halstead**, Head of IT, CIO, National Radio Astronomy Observatory

*Highest Degree*:  Ph.D., Computational Quantum Surface Chemistry, University of Liverpool, 1990

*Experience*:  20+ years of experience with HPC systems and high speed storage/network solutions for both research and industry. Extensive knowledge of communications technologies and data intensive systems (genomics, chemistry and astronomy). Operations support for large infrastructure initiatives.

*Bio Highlights*
1985-92 Doctoral and Post-doctoral research with 10+ peer reviewed journal articles exploring molecular interactions with metal surfaces.
1992 Moved into HPC research at the Scalable Computing Laboratory of Ames Lab, DOE, implementing commodity parallel processing cluster solutions to benefit research in surface science, chemistry, physics and biology. ESNet representative for Lab.
2002 Hired by Celera Genomics to drive the Strategic Platform Initiative; transitioning away from the ~$20M leased computer systems used to sequence the human genome, to scalable HPC systems supporting proteomics and therapeutics research.
2004 Moved to into corporate Applera to manage a team of ~12 Communications Services staff at ~6 locations around the US coordinating special IT projects including multiple $100M+ Mergers & Acquisitions events.
2008 hired as NRAO CIO in support of North American ALMA and NRAO-wide IT and Science Computing services. Now manage 26 staff under Business Office and Data Management & Software at 3 main US locations, supporting 15 sites and interfacing with the Joint ALMA Observatory in Chile.

*Community Service*
Organizing Committee for Super Computing Conference series: SC94, SC99, SC05, SC10; SC13; SC14. Reviewer for multiple NSF HPC programs/awards. Founding member of new ACM's SIG HPC for Education.

*

**Ardoth Hassler** is Associate Vice President of University Information Services & Executive Director, Office of Assessment and Decision Support at Georgetown University. Her work focuses on policy, planning and research, including being the PI for an NSF CC-NIE award. She also supports institutional research, business intelligence, data warehousing and reporting. She was on loan to the National Science Foundation 2007-2011 where she served as Senior Information Technology Advisor in the Office of the Chief Information Officer in the NSF Office of Information and Resource Management, Division of Information Systems. Her activities included work related to cybersecurity best practices for large research facilities, working on technology policy for the Foundation and large research facilities, assisting NSF in joining the InCommon Federation and introducing concepts of single-sign-on logon to Research.gov, leading the SSN Be Gone project to remove SSNs from FastLane and other systems where there was no business need, working on NSF's Got Green initiative, etc.

She has prior experience serving on the program committees of the NSF Cybersecurity Summit, EDUCAUSE Annual Conferences, etc.. She has a BS in Math (CS minor) from Oklahoma State University and an MS in Biostatistics from the University of Oklahoma.

\*

**Elisa Heymann** is an Associate Professor in the Computer Architecture and Operating Systems Department at the Autonomous University of Barcelona. She co-directs the MIST software vulnerability assessment project in collaboration with her colleagues at the University of Wisconsin.

She is also in charge of the Grid security group at the UAB, and participates in two major Grid European Projects: EGI-InSPIRE and European Middleware Initiative (EMI). Heymann's research interests include security and resource management for Grid and Cloud environments. Her research is supported by the Spanish government, the European Commission, and NATO.

Heymann received her M.S. and Ph.D. degrees in Computer Science from the Autonomous University of Barcelona (Spain) in 1995 and 2001 respectively.

\*

**Craig Jackson** is Senior Policy Analyst at Indiana University's Center for Applied Cybersecurity Research (CACR), where his research interests include risk management, security, and identity management. He serves as the project manager for the Center for Trustworthy Scientific Cyberinfrastructure (CTSC); is part of the security team for the DHS-funded Software Assurance Marketplace (SWAMP); and is part of the DOE-funded XSIM (Extreme Scale Identity Management) project. He is a graduate of the IU Maurer School of Law (J.D.'10) and IU School of Education (M.S.'04). As a member of the Indiana bar, Mr. Jackson has litigated in federal and state court, primarily representing government and corporate clients in constitutional and tort claims. His research, design, and project management background includes work at IU School of Education's Center for Research on Learning and Technology and Washington University in St. Louis School of Medicine. He is a member of Phi Beta Kappa, and was a Lien Honorary Scholar at Washington University in St. Louis. He is married with 2 kids and 2 dogs. In his free time, he crashes BMX bikes and writes indie movie scores.

\*

Dr. **Clifford A. Jacobs** worked for the National Science Foundation (NSF) for 30 years and for 25 years of that time provided oversight to the National Center for Atmospheric Research (NCAR) and its managing organization University Corporation for Atmospheric Research (UCAR). His oversight responsibilities cover a wide range of topics, such as acquisition of supercomputers, the development of world-class climate and weather models, the initiation and maturation of cyberinfrastructure necessary to delivery environmental data observations and products through the Unidata program, coordinated collaborative activities among Federal agencies, participation in the working group to develop NSF clarification of its data policy, the development of requirement for a data management plan, and chaired an internal group of cyberinfrastructure for NSF-sponsored large facilities.

Dr. Jacobs has represented the geosciences in a variety of NSF studies and initiatives related to high performance computing and information technology, observing facilities, and best practices in the operation and management of facilities. In addition, he assisted with the oversight, planning and execution of several complex agency activities, including the operation and management of major

facilities and the EarthCube endeavor.  Dr. Jacobs co-chairs an internal Directorate working group on Geoinformatics and data and serves a member of GEO facilities working group.  While serving in the Division of Advanced Cyberinfrastructure, he continue his efforts to engage the NSF staff and the community in a dialog about cybersecurity for NSF-sponsored large facilities.

Currently, Dr. Jacobs is consulting through Clifford A. Jacobs Consulting, LLC.

*

**William T.C. Kramer** is Director and Principle Investigator of the Blue Waters Project and is the Director of the UIUC/NCSA @Scale Program office. Bill is responsible for leading all aspects of the Blue Waters project, a National Science Foundation-funded project at NCSA.  Blue Waters the most powerful general purpose computational and data analytics available to open science, system available.  It is one of the most powerful resources for the nation's researchers. It is the only public Top-5 systems in the world that chose not to list on the Top-500 list.

Previously Bill was the general manager of the NERSC at Lawrence Berkeley National Laboratory (LBNL) was responsible for all aspects of operations and customer service for NASA's Numerical Aerodynamic Simulator (NAS) supercomputer center.  He also served as the CSO in those organizaions.  Blue Waters is the 20th supercomputer Kramer deployed and/or manages, deployed and managed large clusters of workstations, five extremely large data repositories, some of the world's most intense networks.  He has also been involved with the design, creation and commissioning of six "best of class" HPC facilities.

He holds a BS and MS in computer science from Purdue University, an ME in electrical engineering from the University of Delaware, a PhD in computer science at UC Berkeley.

Kramer's research interests include large-scale system performance evaluation, systems and resource management, job  scheduling, fault detection and resiliency, and cyber protection.  Kramer has taught classes and tutorials on large scale system management, computer architectures, cyber-protection and visualization.

*

**Lee Liming** is a Technical Communications Manager at the Computation Institute, a joint venture between The University of Chicago and Argonne National Laboratory. He has spent fourteen years working with scientists from many fields of study to build computing systems capable of supporting their ever-growing data and computing needs. Past collaborations have included civil engineers, space scientists and astronomers, climate scientists, high-energy physicists, energy scientists, cosmologists, social scientists and librarians, neuroscientists, cancer researchers, and, of course, computer scientists. Prior to working at the University of Chicago and Argonne, Lee was a Sr. Product Manager and Principal Engineer at ProQuest Information and Learning and an information technology manager at the University of Michigan. Lee received a B.S.E degree in Computer Engineering at the University of Michigan.

*

**Paul Lordier** a Senior at California State University Sacramento where he is pursuing a B.S. in Computer Science with a concentration in information assurance / cyber security, and a minor in Geographic Information Systems. His expected graduation date is Spring 2015. Paul is a recipient of the Cybercorps Scholarship for Service, a program sponsored by the National Science Foundation that

funds students pursing cyber security related programs with a goal of placing them in government cyber security jobs. Paul recently completed a summer internship in the Cyber Defenders program at Lawrence Livermore National Laboratory.

*

As the Information Security Officer of the Pittsburgh Supercomputing Center, **James A. Marsteller, Jr.** (CISSP) is responsible for ensuring the availability and integrity of the PSC's high performance computing assets. Jim has over 12 years experience in the information security field and greater than 17 years of professional experience in the field of technology. Prior to working at PSC, he was a program manager for the Carnegie Mellon Research Institute that provided information security consulting services for government agencies and Fortune 500 companies. Jim leads the XSEDE Incident Response team and is XSEDE's security officer.  He is a Co-PI for the Center for Trustworthy Scientific Cyberinfrastructure (CTSC).  Jim chaired the program committee for the three most recent past summits, 2008, 2009, and 2013.

*

**Celeste Matarrazzo** is a data science expert with more than 27 years of service to the Lawrence Livermore National Laboratory's (LLNL) Computation Directorate. Celeste is presently the Associate Program Leader for Network Exploitation within the Global Security Principal Associate Directorate and currently the Principal Investigator for a large LLNL funded strategic initiative research project in cyber security situational awareness called Continuous Network Cartography following on from a successful research effort she led from November 2008 through September 2011. She is also the program manager for LLNL's Cyber Defenders Summer Intern Program. Celeste was previously a division leader who provided oversight and technical leadership for computer scientists and technicians addressing global security issues. Celeste also was the project leader for the Advanced Simulation and Computing Program's Scientific Data Management effort. Celeste has a B.S. in Mathematics and Computer Science from Adelphi University and pursued her graduate studies at the University of Wisconsin- Madison.
*

**Michael McLennan** is a Senior Research Scientist at Purdue University and Director of the HUBzero Platform for Scientific Collaboration. He created the Rappture toolkit as part of that platform. He has more than 20 years of software development experience in both academic and corporate environments, with an emphasis on computer-aided design tools and user interface design.

Dr. McLennan received a Ph.D. in 1990 from Purdue University for his dissertation on dissipative quantum mechanical electron transport in semiconductor heterostructure devices. He became a Tcl enthusiast when he joined Bell Labs in 1992 to work on tools for semiconductor device and process simulation. He is co-author of "Effective Tcl/Tk Programming" (published by Addison-Wesley) and "Tcl/Tk Tools" (published by O'Reilly and Associates). He also developed [incr Tcl], an object-oriented extension of Tcl, which is now used by thousands of developers worldwide, on projects ranging from the TiVo digital video recorder to the Mars Pathfinder.

*

**Pascal Meunier** is the head of security and operations at HUBzero.  He has 15 years of experience working in computer security, starting at Purdue University CERIAS and continuing at HUBzero.  He has been an editor for MITRE's CVE since its early days and contributed to related efforts.  He created and taught secure programming classes at Purdue and maintains an active CISSP certification.

*

**Kim Milford** became Executive Director of REN-ISAC in April 2014. As Executive Director, Ms. Milford works with members, partners, sponsors and advisory committees to direct strategic objectives in support of member institutions, providing services and information that allows them to better defend local technical environments while overseeing administration and operations. She joined Indiana University in June 2007 and served in several different roles leading IT, information policy, and university privacy initiatives during her tenure. Most recently, Ms. Milford served as Chief Privacy Officer, coordinating privacy-related efforts, serving on IU's Assurance Council, chairing the Committee of Data Stewards, and directing the work of the University Information Policy Office, which includes IU's IT incident response team. Prior to joining Indiana University, Ms. Milford served as the Information Security Officer at the University of Rochester, where she successfully incorporated security plans and operations into strategic IT initiatives. In that role, she developed and led an information security program that included disaster recovery planning, identity management, incident response and user awareness. As Information Security Manager at UW-Madison's Department of Information Technology from 1998 - 2004, she assisted in the establishment of the university's information security department and co-led in the development of an annual security conference. Ms. Milford has provided presentations on information technology at various national conferences and seminars and participated in the authorship of articles and courseware. Ms. Milford has a B.S. in Accounting from Saint Louis University in St. Louis, Missouri and a J.D. from John Marshall Law School in Chicago, Illinois.

*

**Barton Miller** is Professor of Computer Sciences at the University of Wisconsin. He is Chief Scientist for the DHS Software Assurance Marketplace research facility.  He co-directs the MIST software vulnerability assessment project in collaboration with his colleagues at the Autonomous University of Barcelona. He also leads Paradyn Parallel Performance Tool project, which is investigating performance and instrumentation technologies for parallel and distributed applications and systems. His research interests include systems security, binary
and malicious code analysis and instrumentation extreme scale systems, parallel and distributed program measurement and debugging, and mobile computing. Miller's research is supported by the U.S. Department of Homeland Security, U.S. Department of Energy, National Science Foundation, NATO, and various corporations.

In 1988, Miller founded the field of Fuzz random software testing, which is the foundation of many security and software engineering disciplines. In 1992, Miller (working with his then-student, Prof. Jeffrey Hollingsworth, founded the field of dynamic binary code instrumentation and coined the term "dynamic instrumentation". Dynamic instrumentation forms the basis for his current efforts in malware analysis and instrumentation.

Miller was the chair of the IDA Center for Computing Sciences Program Review Committee, a member of the Los Alamos National Laboratory Computing, Communications and Networking Division Review Committee, and has been on the U.S. Secret Service
Electronic Crimes Task Force (Chicago Area), the Advisory Committee for Tuskegee University's High Performance Computing Program, and the Advisory Board for the International Summer Institute on Parallel Computer Architectures, Languages, and
Algorithms in Prague. Miller is an active participant in the European Union APART performance tools initiative.

Miller received his Ph.D. degree in Computer Science from the University of California, Berkeley in 1984. He is a Fellow of the ACM.

*

**Pascal Meunier** is the head of security and operations at HUBzero. He has 15 years of experience working in computer security, starting at Purdue University CERIAS and continuing at HUBzero. He has been an editor for MITRE's CVE since its early days and contributed to related efforts. He created and taught secure programming classes at Purdue and maintains an active CISSP certification.

*

**Gaspar Modelo-Howard** is a Senior Researcher at Narus, a big data analytics for cybersecurity company and wholly owned subsidiary of the Boeing Company. He is also the Director for the ARGUS Information Security and Networking Lab at the Technological University of Panama. Gaspar has worked for over 14 years as a cyber-security consultant and engineer and as a college professor. He has a PhD in Computer Engineering from Purdue University and a MSc in Information Security from Royal Holloway, University of London. His current research interests lie at the intersection between machine learning and system security, particularly in the areas of malware detection, signature generation and web security. Gaspar is a Member of USENIX and ACM, and a Senior Member of IEEE.

*

**William "Clay" Moody** is a Computer Science Ph.D. Candidate at Clemson University, Clemson, SC. Clay is an active duty U.S. Army Major and will join the faculty of the Electrical Engineering and Computer Science Department at the United States Military Academy at West Point upon the completion of his doctoral studies. His research is focused on designing, modeling, and building applications that introduce the military concept of maneuver allowing parallel and distributed systems to be provisioned, optimized and secured. Clay is a founding member of the United States Cyber Command at Fort Meade, MD and a former Cyber Battle Captain in the Joint Operations Center. He holds a M.S. in Computer Networking from North Carolina State University.

*

**Anita Nikolich** is Program Director for Cybersecurity in the Division of Advanced Cyberinfrastructure at the National Science Foundation (NSF). Prior to her work at the NSF she served as the Executive Director of Infrastructure at the University of Chicago. Past assignments include Director of Global Data Networking at Aon and Director of Security for Worldcom. She has explored how information technology and secure networking can best support the creation and sharing of scientific knowledge in virtual, mobile and physical contexts. She holds a Master of Science from The University of Pennsylvania and a Bachelor of Arts from the University of Chicago.

*

**Amy Northcutt** was appointed Chief Information Officer of the National Science Foundation in January 2012. In this capacity, she is responsible for NSF's information technology investments, governance, policy, and planning. Prior to this appointment, Ms. Northcutt served as Deputy General Counsel of the Foundation from 2001 - 2012. Ms. Northcutt holds a J.D., *magna cum laude*, from Boston College Law School, an A.M.R.S. from the University of Chicago; and a B.A. from Smith College.

*

**Rodney Petersen** is the interim Executive Director of the Research and Education Community Security Collaborative, previously known as SecuriCORE. It is a new joint project between EDUCAUSE, Internet2, and Indiana University to establish a service organization to help improve cybersecurity at colleges and universities. Recently, he was the Managing Director of the EDUCAUSE Washington Office and a Senior Government Relations Officer. He also previously directed the EDUCAUSE Cybersecurity Initiative and was the lead staff liaison for the Higher Education Information Security Council. Prior to joining EDUCAUSE, he served as the Director of IT Policy and Planning in the Office of the Vice President and Chief Information Officer at the University of Maryland. He previously held the position of Campus Compliance Officer in the Office of the President at the University of Maryland where he mediated disputes and handled grievances under the Human Relations Code, including claims of discrimination or harassment that increasingly involved misuse of the Internet. He also completed one year of service as an Instructor in the Academy for Community Service for AmeriCorps National Civilian Community Corps where he taught alternative dispute resolution and facilitated service learning projects. He began his professional career in higher education as the Resident Student Life Director at Michigan State University. He is the co-editor of a book in the EDUCAUSE Leadership Strategy Series entitled "Computer and Network Security in Higher Education". He is also a founding member of the Association of College and University Policy Administrators and the author of "A Primer on Policy Development for Institutions of Higher Education" and "A Framework for IT Policy Development". He writes and speaks regularly on topics related to higher education cyber law and policy. He received his law degree from Wake Forest University. He also received a certificate as an Advanced Graduate Specialist in Education Policy, Planning, and Administration from the University of Maryland.

*

**Irene M. Qualters** is currently Division Director of Advanced Cyberinfrastructure (ACI) at the National Science Foundation (NSF).  ACI is responsible for programs with a total annual budget in FY2013 of over $200 million. These programs support the acquisition, development, and provisioning of state-of-the-art cyberinfrastructure resources, tools, and services essential to the conduct of 21st century science and engineering research and education.   ACI is also responsible for the NSF-wide vision, strategy, planning and coordination for research cyberinfrastructure.  She joined NSF as a Program Director in December 2009, participating in multidisciplinary, interagency and international activities as well as overseeing several major computational projects within the division's portfolio, including the Blue Waters project at NCSA/UIUC and the Stampede project at TACC/UT at Austin. Irene has a Master's degree in Computer Science.  Prior to beginning her NSF responsibilities, she had a distinguished 30-year career in industry, with executive leadership positions for research and development organizations within the technology sector.  During her twenty years at Cray Research, in increasingly larger leadership roles, she participated in the development of the first commercially successful vectorizing compiler, the first multiprocessor version of Unix and Cray's landmark massively parallel computer, the T3E.  Subsequently, for six years, as Vice President, she led the Research Information Systems for Merck Research Labs (MRL).  She is expert in parallel computer system architectures and in a wide variety of software from scientific applications to compilers to file systems and operating systems.

*

**Warren Raquel** has been the Head of Operational Security and Incident Response and the National Center for Supercomputing Applications (NCSA) at the University of Illinois Urbana-Champaign (UIUC) for the last year where he leads a Security Operations team that provides network security for NCSA and associated projects like Blue Waters and XSEDE. Prior to that he was a Security Analyst for the Office of Privacy and Information Assurance for UIUC where he did Incident Response and Digital Forensics. Warren has been a highly active member of the Higher Education security community for over a decade.

*

LTC **David Raymond** is an Armor Officer in the U.S. Army and is currently serving as Director of Research in the Army Cyber Center at West Point. He holds Bachelor's and Master's Degrees in Computer Science from the United States Military Academy and Duke University, and a Ph.D. in Computer Engineering from Virginia Tech. LTC Raymond has significant operational experience as an Armor officer, to include serving as a tank platoon leader during Operation Desert Storm and as a tank battalion executive officer during Operation Iraqi Freedom. He is a CISSP, Certified Ethical Hacker (CEH) and holds Global Information Assurance (GIAC) Certifications in Incident Handling, Intrusion Detection, Unix/Linux Security Administration, and Penetration Testing. LTC Raymond teaches senior-level computer networking and cyber security courses at West Point and conducts research on information assurance, network security, and online privacy.

*

**Matthew Rosenquist** joined Intel Corp in 1996 and benefits from 20 years in the field of security. Mr. Rosenquist specializes in security strategy, measuring value, and developing cost effective capabilities which deliver the optimal level of security. Currently, a cybersecurity strategist for the Intel Security Group, he helped in the formation of this global organization which brings together security across hardware, firmware, software and services. Previously, he managed the security playbook for Intel's PC strategy planning group, encompassing all security features landing in the PC. Mr. Rosenquist built and managed Intel's first global 24x7 Security Operations Center, oversaw several internal platform security products and services, deployed the enterprise intrusion detection program, and was the first Incident Commander for Intel's worldwide IT emergency response team. He has conducted hundreds of security investigations leading to arrests and successful prosecutions in defense of corporate assets. He ran security for Intel's multi-billion dollar worldwide mergers and acquisitions activities and justified the security strategy protecting Intel's global manufacturing capability.

Mr. Rosenquist is active in the industry, speaks at conferences, consults with industry partners, and has published acclaimed white papers, blogs, videos and audio-casts on a wide range of information security topics. He is very passionate about security and information technology, his chosen career path, and strives to blend practical risk mitigation practices and information technology capabilities to achieve an optimal level of security.

Mr. Rosenquist is active in the industry, speaks at conferences, consults with industry partners, and has published acclaimed white papers, blogs, videos and audio-casts on a wide range of information security topics. He is very passionate about security and information technology, his chosen career path, and strives to blend practical risk mitigation practices and information technology capabilities to achieve an optimal level of security.

*

**Stephen Schwab** is a Senior Computer Scientist with the University of Southern California's Information Sciences Institute, where his research draws broadly from the systems, networking, computer architecture, and information security communities. He is a long-time contributor to the DETER Cyber Security testbed project, focusing on modeling of experimental phenomena and testbed architecture. He currently leads the DARPA SAFERLab project, focused on assessing technology for anonymous and non-blockable Internet communication through the definition and testbed realization of forward-looking motivating scenarios. He also leads the DARPA-sponsored Quasar Vetting project, investigating how to detect tampered (malicious) firmware pre-installed on devices within the commercial supply chain. In the larger community, Schwab has held from 2008 to the present time the role of Security Architect for NSF's Global Environment for Network Innovations (GENI) initiative, aimed at deploying national-scale research infrastructure for the networking and distributed systems communities.

*

Dr. **Phyllis Schneck** serves as the Deputy Under Secretary for Cybersecurity for the National Protection and Programs Directorate within the Department of Homeland Security (DHS).  Dr. Schneck is the chief cybersecurity official for DHS and supports its mission of strengthening the security and resilience of the nation's critical infrastructure.

Dr. Schneck came to DHS from McAfee, Inc., where she was Chief Technology Officer for Global Public Sector. Dr. Schneck served eight years as chairman of the National Board of Directors of the FBI's InfraGard program and founding president of InfraGard Atlanta.

Before joining McAfee, Dr. Schneck was Vice President of Research Integration for Secure Computing. She also worked as the Vice President of Enterprise Services for eCommSecurity; served as Vice President of Corporate Strategy for SecureWorks, Inc.; and, was Founder and Chief Executive Officer of Avalon Communications.

Dr. Schneck earned her Ph.D. in Computer Science from Georgia Tech.

*

**Mark Servilla** is Lead Scientist, Network Information System at LTER Network Office (LNO). At LNO, Mr. Servilla's primary responsibility is the implementation of the LTER Network Information System—a system of standards and applications that support the interoperability of distributed LTER research sites, thus enabling synthetic science at the Network level and beyond. To achieve a successful Network Information System, he will rely on his skills as a computer scientist to use the latest computing technologies for maximum effectiveness within the NIS, while utilizing his experience as an earth scientist to better serve the needs and understand the requirements of LTER, associated scientists, and the field of Ecology in general. Prior to his current position at LNO, Mark's most recent role in the private sector at Photon Research Associates (PRA), Inc. was as architect of a web-based application (GeoServer TM) that provided the discovery, management, and exploitation of geospatial data, including Earth observation imagery and GIS vector objects. Mark holds graduate degrees in Earth and Planetary Sciences (Volcanology) and Computer Science, both from the University of New Mexico.

*

**Anurag Shankar** oversees HIPAA and other regulatory compliance activities at the University Information Technology Services (UITS) at Indiana University (IU).  He spearheaded the technical

effort that led to the HIPAA alignment of UITS systems in 2008. He is a computational astrophysicist by training and has a Ph.D. in Astronomy from the University of Illinois at Urbana-Champaign. After postdoctoral work in Astronomy at the University of Arizona and IU, he switched professions to IT in 1995. He started his IT career as a senior Unix systems programmer at Brown University and then moved back to IU in 1997. He has spent the past seventeen years with the Research Technologies division of UITS at IU, playing a variety of roles that include managing Unix support, massive data storage, and the national Teragrid project, and supporting the research mission of the IU School of Medicine. He has been responsible for building several of IU's large data storage environments, for establishing research computing services for IU's Indiana Genomics Initiative and other life sciences efforts, and for co-building an information infrastructure and technology solutions for the Indiana Clinical and Translational Sciences Institute (CTSI).

*

**Nigel Sharp** is the Program Director for the Large Synoptic Survey Telescope project, in the Division of Astronomical Sciences (AST) in the Directorate for Mathematical and Physical Sciences (MPS) of the National Science Foundation (NSF). He has just worked LSST through the process of federal funding for major projects. He has some additional programmatic responsibilities, too minor to mention. After three degrees in physics, mathematics, and astrophysics at the University of Cambridge (the real one), Nigel moved to Texas and had a varied career in astronomy theory and observation, including instrumentation and telescope management. His service work has included supercomputer access and numerical methods consulting, and systems management, networking and security at an NSF FFRDC. After all that, it made sense to join NSF and continue to work on service to the community from the funding end of things. He has been involved in NSF's cyberinfrastructure initiatives, was part of the working group for interdisciplinary research, and helped to define and to implement NSF's data management plan requirement.

*

**Abe Singer**, Chief Security Officer, LIGO

*

**Robin Sommer** is a Senior Researcher at the International Computer Science Institute, Berkeley, and he is also a member of the cyber-security team at the Lawrence Berkeley National Laboratory. Robin Sommer's research focuses on network security and privacy, with a particular emphasis on high-performance network monitoring in operational settings. He is leading the development of the open-source Bro network security monitor, and he is a co-founder of Broala, a recent start-up offering professional Bro services to corporations and government.

*

**Susan Sons** serves as a Senior Systems Analyst at Indiana University's Center for Applied Cybersecurity Research. Susan comes to CACR and CTSC from a background in abuse management and web application development. She's a founding member of the Internet Civil Engineering Institute (ICEI), and is a co-author of The Definitive Guide to Drupal 7. Her interests include penetration testing, vulnerability management, security-conscious development practices, historical cryptography, and open source security tool sets.

*

**Steven Tuecke** is Deputy Director of the Computation Institute (CI) at The University of Chicago and Argonne National Laboratory, and co-leads the Globus project ([www.globus.org](www.globus.org)) with Dr. Ian Foster. His focus is on the development of sustainable, cloud-based, software-as-a-service data management solutions to accelerate research. Prior to CI, Steven was co-founder, CEO and CTO of Univa Corporation from 2004-2008, providing open source and proprietary software for the high-performance computing and cloud computing markets.  Before that, he spent 14 years at Argonne as research staff. Tuecke graduated summa cum laude with a B.A in mathematics and computer science from St. Olaf College.

*

**Heidi L. Wachs** is a Research Director on the Gartner for Technical Professionals Identity & Privacy Strategies Team where she publishes, presents, and advises clients on best practices for data privacy, information classification, and identity and access governance.

Prior to joining Gartner, Heidi was the Chief Privacy Officer & Director of IT Policy for Georgetown University. She combined her professional background in technology policy and public relations to develop and implement sound policy to preserve the privacy and integrity of those who use Georgetown University information systems and their data.  Before Georgetown, Heidi worked in government relations and advocacy focusing on intellectual property and technology policy issues. Earlier in her career she worked in public relations representing technology-focused clients.

Heidi graduated cum laude with a BA in Journalism from Lehigh University and earned her JD with a concentration in Intellectual Property from the Benjamin N. Cardozo School of Law.  She is a Certified Information Privacy Professional, and a member of the District of Columbia Bar and the United States Supreme Court Bar.

*

**Von Welch** is the director of Indiana University's Center for Applied Cybersecurity Research (CACR) and PI for the Center for Trustworthy Scientific Cyberinfrastructure, a project dedicated to helping NSF science projects with their cybersecurity needs. His expertise lies in applied research and practice of cybersecurity for distributed systems. Other roles include serving as CSO of the Software Assurance Market Place, a DHS-funded facility to foster software assurance and software assurance research, PI on a Department of Energy funded grant focused on identity management for extreme-scale scientific collaboration, and serving the Open Science Grid as an identity management expert. Previously he has worked with a range of high-visibility projects to provide cybersecurity to the broader scientific and engineering community, including TeraGrid, Open Science Grid, Ocean Observatory Infrastructure, and GENI. His work in software and standards includes authoring two IETF RFCS and the contributing to the creation of the well-known CILogon and MyProxy projects.

*

**John Wroclawski** is director of the University of Southern California's Information Sciences Institute's Internet and Networked Systems division, with responsibility for the strategic direction of this 40-member research organization. The division holds a historic and continuing role in the development of the Internet, and today maintains active programs of research in areas such as Internet protocols and architecture, network and distributed system security, sensing and sensor nets, network measurement and characterization, cyberphysical systems, and the Smart Grid. Wroclawski's immediate technical interests include the architecture, technology and protocols of large, decentralized communication systems such as the Internet, architectural aspects of

cyberphysical systems, and the core principles of self-organizing and self-structuring architectures. His contributions to the development of large-scale cyberinfrastructure for the networking and cybersecurity communities include an ongoing role as chief scientist of the DHS-supported DETER Cybersecurity testbed and service in the planning and early development stages of NSF's GENI project.