Enhancing the Assurance and Nimbleness of Large-Scale Integrated Software-Based Systems

Committee

Steven B. Lipner

Co-Chair

Steven B. Lipner is executive director of SAFECode. Mr. Lipner also serves as chair of the U.S. Information Security and Privacy Advisory Board and as adjunct professor of computer science at Carnegie Mellon University. His expertise is in software security, software vulnerabilities, Internet security, and organization change for security. Previously, Mr. Lipner was partner director of software security at Microsoft Corporation, where he was responsible for the Security Development Lifecycle team that delivered processes, tools and associated guidance and oversight that significantly improved the security of Microsoft's software. Mr. Lipner has over 50 years of experience as a researcher, development manager, and general manger in IT security. Mr. Lipner is the author of numerous professional papers and is named as an inventor on 12 U.S. patents in the field of computer and network security. He is a member of the National Academy of Engineering (2017) and the National Cybersecurity Hall of Fame (2015). He has served on many committees of the National Academies of Sciences, Engineering, and Medicine, most recently as chair of the Committee on the Future of Encryption. Mr. Lipner earned an S.B. and S.M. in civil engineering from the Massachusetts Institute of Technology.

J. Greg Morrisett

Co-Chair

Greg Morrisett is the Jack and Rilla Neafsey Dean and Vice Provost of Cornell Tech and a professor in the Computer Science Department at Cornell University. Prior to joining Cornell Tech, he was Dean of Computing and Information Science (CIS) at Cornell University from 2015-2019. Previously, he held the Allen B. Cutting chair in Computer Science at Harvard University from 2004-2015 where he also served as Associate Dean for Computer Science and Electrical Engineering. Before Harvard, Morrisett spent eight years on the faculty of Cornell's Computer Science Department. Morrisett's research focuses on the application of programming language technology for building secure, reliable, and high-performance software systems. He is a Fellow of the Association of Computing Machinery, and his awards include the Presidential Early Career Award for Scientists and Engineers, an NSF Career Award, Alfred P. Sloan Fellowship, and IBM Faculty Fellowship. He received his bachelor's degree from the University of Richmond and both his master's and doctorate degrees from Carnegie Mellon University.

Jandria S. Alexander

Member

Jandria S. Alexander is a vice president at Booz Allen Hamilton where she leads cybersecurity, research and development, and serves as Chief Technology Officer. She is a subject matter expert on cybersecurity, resilient platform, operational technology, and multidomain mission systems with over twenty years in the field. A nationally recognized cybersecurity expert, Jandria has participated in National Academy of Sciences studies related to cybersecurity research and new aviation technologies. In 2014, she was appointed by former Virginia Governor Terry McAuliffe to serve on the bipartisan Virginia Cyber Security Commission to expand the state's economic footprint in cyber technology and protect critical infrastructure from cyber threats. She led the effort's unmanned systems cybersecurity industry, government, and academia consortium. Over the length of her career, Jandria has provided cybersecurity and digital transformation leadership, market strategy, and solution development for the Department of Defense and the intelligence community as well as many civil and commercial organizations. Before joining Booz Allen in 2017, she was a cybersecurity leader in engineering and technology at a federally funded research and development corporation. She served as the chair of the American Association of Aeronautics and Astronautics' Diversity and Inclusion Working Group from 2017-2021. She has a B.S. in computer science from Brandeis University and an M.S. in technology management from American University.

Timothy Booher

Member

Tim Booher is Senior Vice President of Special Projects at Leidos, where he drives the intersection of defense and technology to deliver war-winning capabilities. Previously, he was Vice President of Autonomy at Boeing, leading the development of autonomous systems across commercial and defense, and Vice President of Strategy & Corporate Development Strategic Initiatives, shaping Boeing's enterprise strategy and portfolio. Before Boeing, Booher was Vice President of Engineering at Lockheed Martin Aeronautics, Managing Director and CTO of Cyber at HSBC, and held senior technology and security leadership roles at Colgate-Palmolive. He served as a DARPA program manager advancing the state of the art in autonomy, formal methods, and complex systems, and continues to serve as a U.S. Air Force Reservist and National Academies panel member. Booher holds a BS in Aeronautical and Astronautical Engineering from MIT, an MS in Operations Research from AFIT, and additional certifications in finance, computer science, and divinity.

Steven W. Boutelle

Member

Steven W. Boutelle (Ret.) is a world-renowned expert in converged voice, data, and imagery over Internet Protocol (IP), particularly in helping large institutions adopt enhanced network infrastructure. As the former chief information officer for the Army, he is prominent in military circles for his pursuit of technology that enhanced productivity and provided technological advantage to the warfighter. He is the former CEO of the Internet Routing in Space (IRIS) initiative and vice president for business development for the Global Government Solutions Group, both components of Cisco Systems. In these roles, Boutelle advised government customers on business practices and technical solutions that address their mission goals. He remains a proponent of moving data using IP and was sought by Cisco after his distinguished military career because of his visionary leadership and critical experience in the technology fields. He studied at Oregon State University before enlisting in the Army and attending officer's candidate school. He was commissioned before moving to the Signal Corps. During his military career, he served in senior Army leadership positions, including Director of Information, Operations, Networks, and Space and Program Executive Officer of Command, Control, and Communications Systems. In 2005, he was named "U.S. Department of Defense Executive of the Year" by Government Computer News; the following year he was named a "Top 100 CIO" by Federal Computer Week. He was selected to the Army's C5ISR (Command, Control, Communications, Computers, Communications, Cyber, Intelligence, Surveillance and Reconnaissance) in 2022 Boutelle served on the Defense Science Board (DSB) Task Force for Interoperability, and DSB for Satellite Communications, and was on the boards of DRS (now Leonardo), PacStar Communications and ThreatMetrix, and previous chairman of the US Entity of Systematic. Boutelle served on the Board for Army Science and Technology of the National Academies of Sciences, Engineering, and Medicine from 2017 to 2019. He holds a bachelor's degree from the University of Puget Sound, an MBA from Marymount University, and a Doctor of Law, Honoris causa, from the University of Puget Sound.

Alexander Gantman

Member

Alex Gantman is a product security executive with over 20 years of experience leading global organizations to deliver secure and reliable products at scale. As Vice President of Engineering for Qualcomm Technologies Inc., Gantman is responsible for making billions of Qualcomm-powered connected products secure and reliable against attacks. He leads a global team designing, implementing, and commercializing security capabilities across dozens of product lines spanning multiple industry verticals, including Mobile, Compute, Automotive, and IoT. Gantman has led the establishment and evolution of a broad-scale product security practice at Qualcomm, covering thousands of products, tens of millions of lines of code, and tens of thousands of engineers across the globe. He is a founding organizer of the Qualcomm Product Security Initiative (2006) and the Qualcomm Product Security Summit -- a premier industry conference focused on security of connected devices. He holds over 50 patents and is a recognized subject matter expert in hardware, software, and systems security across a wide range of domains. Gantman received Bachelor's (1998) and Master's (2001) degrees in Computer Science from the University of California, San Diego.

Helen Gill

Member

Helen Gill is a retired Program Director in the National Science Foundation's CISE directorate. Previously, she was a research program manager with the Defense Advanced Research Program Agency's Information Technology Office, following service directing the NSF's Programming Languages program and the Systems and the Software Engineering program, and as a Principal Scientist with the MITRE Corporation. At DARPA, Dr. Gill led a Software Design and Evolution program component seeking advances in formal methods for highly dependable systems, then initiated and led programs in Software Enabled Control and Program Composition for Embedded Systems. Returning to the NSF, she founded and led the NSF Cyber-Physical Systems program, which continues. From 2000 through 2013, Dr. Gill co-chaired the interagency coordinating committee on High-Confidence Software and Systems, under the auspices of the Office of Science and Technology program on Networking and Information Technology Research and Development (NITRD). She is a member of Phi Beta Kappa, Phi Kappa Phi, ACM, and IEEE. She received the NSF Meritorious Service Award, the NSF Director's Award for Program Management Excellence, the Office of the Secretary of Defense Award for Outstanding Achievement, the IEEE TCRTS Outstanding Service Award, the ACM SIGBED Lifetime Achievement Award, and the 2005 Auburn University Outstanding Alumna Award. Dr. Gill holds Ph. D. and M.S. degrees in Computer Science and the B.A. degree in Mathematics.

Michael Hicks

Member

Michael Hicks is a Senior Principal Scientist at Amazon Web Services, and Professor Emeritus at the University of Maryland (UMD), having retired after 20 years as a professor there. As notable service, he was the first Director of the Maryland Cybersecurity Center (MC2), 2011-2013, and was the elected Chair of Association of Computing Machinery's (ACM) Special Interest Group on Programming Languages (SIGPLAN) from 2015-2018. Hicks' 25-year research career has explored how to apply novel programming languages and program analysis techniques to solve a variety of problems in security, systems, databases, networks, and quantum computing. One sustained area has been the exploration of practical means to enforce memory safety in low-level programs, through programming language design, program analysis and transformation, and automated testing. At AWS he co-leads the development of Cedar, the new authorization policy language underpinning the Amazon Verified Permissions authorization service. He is a two-time winner of NSA's Best Scientific Cybersecurity paper competition and several other distinguished research paper awards. In 2022 he received the ACM SIGPLAN Distinguished Service Award and in 2023 he was made a Fellow of the ACM. Hicks earned his BS (1993) in Computer Science at Penn State, his MS (1996), and Ph.D. (2001) in Computer and Information Science at the University of Pennsylvania.

John Launchbury

Member

John Launchbury is the Chief Scientist at Galois, collaborating with government and industry leaders to fundamentally improve the security of software and cyber-physical systems though applied formal mathematical techniques. Prior to rejoining Galois in 2017, John was the Director of the Information Innovation Office (I2O) at DARPA, where he led nation-scale investments in cybersecurity and artificial intelligence. Before founding Galois in 1999, Dr. Launchbury was a full professor in Computer Science, and he is internationally recognized for his work on the analysis and semantics of functional programming languages. John received First Class Honors in Mathematics from Oxford University in 1985. He holds a Ph.D. in Computing Science from University of Glasgow and won the British Computer Society's distinguished dissertation prize. In 2010, John was inducted as a fellow of the Association for Computing Machinery (ACM).

Dawn C. Meyerriecks

Member

Dawn Meyerriecks is currently a senior visiting fellow at the MITRE Corporation. She was the former deputy director of the CIA for Science and Technology. As an independent director and board member, and government and commercial technical powerhouse leader, Dawn brings more than 40 years of experience pioneering new products and services and leading transformation for iconic brands around the world, including CIA, AOL, and DoD. She is a recognized expert in delivering entrepreneurial technical capabilities and processes to international markets, leveraging unparalleled stakeholder acumen into strategy, development, integration, and operations. Ms. Meyerriecks received her MS in Computer Science from Loyola Marymount University.

Richard Ward

Member

Richard Ward is a Technical Fellow at Microsoft Corporation, where he specializes in cyber security and security assurance. Mr. Ward is currently overseeing security assurance and design for a variety of Microsoft products, including Windows and related systems. At Microsoft since 1989, Mr. Ward has been involved in systems engineering, security engineering, forty patents, and has held roles from individual architect to engineering manager. Mr. Ward graduated from Williams College with a B.A. in Computer Science.