Verification and Validation Summit 2022

September 21–22, 2022

Speaker Biographies

Jonathan Elliott is Chief of Test and Evaluation (T&E) for the Department of Defense (DoD) Chief Digital and Artificial Intelligence Office (CDAO). He has more than a decade of T&E experience with unmanned, autonomous, and Artificial Intelligence (AI) systems. Previously, Mr. Elliott was a Principle Project Lead and Group Lead at MITRE. He led the Federally Funded Research and Development Center's (FFRDC's) efforts to develop AI Assurance methodologies and has worked to stand up the Joint Artificial Intelligence Center (JAIC) since 2019. In addition, he served as the Chief Engineer for Autonomy, Artificial Intelligence Test (AAIT) Technology at the Test Resource Management Center (TRMC). In that role, he oversaw development of new Science and Technology (S&T) tools for AI and autonomy. He led multiple large T&E efforts for AI and autonomy programs and helped design the T&E of AI Framework currently implemented at the JAIC.

Robyn Erkelens is Head of Verizon's New Business Incubation Team of Subject Matter Experts, working with customers to plan, design, and adopt solutions that drive intelligent automation and orchestration. Ms. Erkelens takes a consultative, design-oriented approach in solving customers' business challenges to drive efficiency, create new revenue streams, and de-risk organizations in their roadmap to Industry 4.0. Applying Artificial Intelligence (AI) and Machine Learning (ML)-driven technologies such as computer vision, sensor fusion, location technology, robotics, and digital twins, she delivers on business objectives, de-risks transformation, and speeds time-to-value.

With more than 25 years in business, technology, design thinking and strategy, Ms. Erkelens has a track record designing and deploying innovations that bridge the physical and digital worlds to deliver digital transformation with measurable business value for customers such as Adobe, Microsoft, Blue Yonder, Avaya, Coca-Cola, and Verizon.

Paul Fontaine is Assistant Administrator for NextGen (acting) responsible for championing the evolution of the National Airspace System (NAS). He provides strategic direction and executive oversight to more than 800 federal employees in the Office of NextGen (ANG) and is responsible for implementing air transportation system modernization, executing the aviation research portfolio, and delivering results to support the overall advancement of aviation. Mr. Fontaine has experience harmonizing the implementation of aviation technologies with stakeholder priorities and ensuring risks are collaboratively addressed to facilitate delivery of Next Generation Air Transportation System (NextGen) capabilities and benefits.

Previously, Mr. Fontaine was the director of ANG Portfolio Management and Technology Development. He led the FAA Enterprise Planning effort in collaboration with aviation stakeholders; identified strategies; developed integrated solutions; coordinated investments to evolve and sustain a world-class aviation system; and established NextGen integration goals, strategies, budgets, and priorities. Mr. Fontaine was also responsible for the formulation, management, and coordination of the agency's research and advanced technology development program in human factors, communications, navigation, surveillance, and air traffic management.

As the former manager of the Safe Flight 21 Program, his work led to the current nationwide deployment of the Automatic Dependent Surveillance – Broadcast (ADS-B) program.

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Modifications to the biographies were intentionally kept to a minimum.
Biographies are in Alphabetical Order.

Mr. Fontaine has more than 30 years of FAA and Department of Defense (DoD) program management experience. He earned his commission as a Distinguished Graduate of the Air Force Reserve Officer Training Corps program. He holds an MBA in finance from Marymount University and a BS in managerial economics from Rhode Island College.

John Frederick is Manager of the Verification and Validation (V&V) Strategies and Practices Branch at the FAA's William J. Hughes Technical Center (WJHTC), where he is responsible for establishing quality V&V methods and standards in the FAA. He has more than 36 years of Test and Evaluation (T&E) experience with FAA systems. Since starting the annual V&V Summit in 2006, Mr. Frederick has gathered speakers and participants from across the FAA, other government organizations, industry, and academia to address innovative methods for complex problems and promote a quality V&V culture.

In the early part of his career, as both a support contractor and FAA employee, Mr. Frederick worked as a National Airspace System (NAS) programmer, test engineer, simulations developer, and Operational Test and Evaluation (OT&E) lead on Air Traffic Control (ATC) automation systems. He has supported and led T&E efforts on more than 12 major FAA automation programs. A large portion of his career in the FAA was dedicated to working as an FAA Test Director and Test Program Manager on major FAA acquisitions of En Route ATC automation systems. As Chief Test Engineer and Subject Matter Expert (SME), Mr. Frederick has consulted with the Department of Defense (DoD) and international agencies on T&E and provided guidance on FAA investment programs. He has served as the Test Standards Board (TSB) Chairman to establish test standards in the FAA and provide quality T&E oversight for the agency. He is also the International Test and Evaluation Association (ITEA) South Jersey Chapter President and serves as the T&E representative for the FAA on the Acquisition System Advisory Group (ASAG) and Joint Resources Council (JRC).

Mr. Frederick is a graduate of Drexel University (Philadelphia) with a Bachelor of Science in Computer Systems Management. He is also a graduate of the Federal Executives Institute with a Certificate of Mastery in Leadership for a Democratic Society.

William Hayes is a Principal Engineer at the Carnegie Mellon University Software Engineering Institute (CMU/SEI) where he leads the Agile Transformation Team. In this role, he leads a team of senior engineering and research staff who work to transform agile implementation concepts for diverse and novel applications in military, government, and highly restrictive contexts. Helping ambitious organizations do critically important work, Mr. Hayes draws from 30 years of experience at the SEI where he works with software development organizations around the world.

Mr. Hayes' current focus is on the acquisition, development, and sustainment of large-scale embedded weapons systems. The ambition of the Department of Defense (DoD) to achieve goals for rapid incremental delivery — at scale — is his primary mission. His 2016 congressional testimony touched on lessons from extensive research on agile approaches in highly regulated settings, informing lawmakers about the needed change in oversight perspectives. Working in support of several operational United States Air Force (USAF) platforms, Mr. Hayes helps large DoD programs align personnel across communities of government oversight and industrial providers.

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Mr. Hayes' past work includes a collaboration with the National Aeronautics and Space Administration's (NASA) Independent Verification and Validation (IV&V) organization, where he was called on to help adapt the discipline of IV&V to the new incremental development approach used for software delivered to NASA. This collaboration yielded an agile approach to performing V&V for the Orion Multi-Purpose Crew Vehicle. The "Agile Assurance" approach resulting from this project enabled incremental delivery of focused V&V to reduce risk and add confidence to the mission. Learning from this type of collaboration continues today, as the SEI's Agile Transformation Team works with strategically important programs in the military and intelligence communities.

Philip Holmer is Chief Engineer/Director at Science Applications International Corporation (SAIC). Mr. Holmer's 38 years of experience in Engineering, Research and Development (R&D), Test and Evaluation (T&E), Concept Exploration, and Program/Project management includes 30 years on aviation programs at the William J. Hughes Technical Center (WJHTC). Mr. Holmer has worked on all phases of systems development, including acquisition test requirements, test and integration, simulation and test tools, manufacturing, DevOps, and flight test data collection. His engineering and test skills span multi-disciplinary domains: Navigation (Global Positioning System [GPS]/Positioning, Navigation and Timing [PNT]), Avionics, Unmanned Aircraft Systems (UAS), Air Traffic Control (ATC)/Air Traffic Management (ATM) systems, FAA simulation laboratories, weather systems, military command and control systems (e.g., Airborne Warning and Control System [AWACS]), data analytics, and cybersecurity. Mr. Holmer has a BS in Electrical Engineering, a BS in Business Administration-Accounting, and a Masters in Aeronautical Science. He has a Project Management Professional (PMP) certification, is an active member of the engineering profession, and has recognitions that include Institute of Electrical and Electronic Engineers (IEEE)-USA National Chair of Technology Policy Committee for Transportation and Aerospace; IEEE-USA 2004 National Award for "Leadership in Technology Policy to the U.S. Congress"; IEEE and American Institute of Aeronautics and Astronautics (AIAA) New Jersey "Engineer of the Year 1997," presented by Congressman Frank LoBiondo; and MITRE Director's Award for ATC Test and Simulation.

Colonel Daniel Javorsek is Commander of Detachment 6, Air Force Operational Test and Evaluation Center (AFOTEC), Nellis Air Force Base (AFB), Nev., and Director, F-35 U.S. Operational Test Team. AFOTEC's Detachment 6 plans, conducts, and reports on realistic, objective, and impartial operational test and evaluation of fighter aircraft. The detachment evaluates the operational effectiveness, suitability, and mission capability of the A-10, F-15C/E/EX, F-16, F-22, and F-35, and reports results in support of major acquisition program milestone decisions and combatant command fielding decisions.

Prior to assuming his current role, Colonel Javorsek was a program manager in the Defense Advanced Research Projects Agency (DARPA) Strategic Technology Office. His research and development programs were tied to the development of key technologies required to realize Mosaic Warfare and Joint All-Domain Command and Control with an emphasis on Artificial Intelligence and Machine Learning (AI/ML) applied to combat systems. In a previous command role, he served as a squadron commander and director of a combined test force conducting high-priority next-generation air dominance flight tests of unique experimental aircraft.

Speaker Biographies

Colonel Javorsek received his commission from Purdue University Reserve Officer Training Corps in 1999, where he was a distinguished graduate, earning a bachelor's degree in aeronautical engineering summa cum laude. He holds several science and engineering graduate degrees, including a PhD in physics. He is a command pilot with more than 2,000 flying hours and is a distinguished graduate of the U.S. Air Force Test Pilot School, Class 07B. His prior operational and flight test assignments include service in the 523rd Fighter Squadron at Cannon AFB, N.M.; 445th Flight Test Squadron, Edwards AFB, Calif.; 416th Flight Test Squadron, Edwards AFB, Calif.; 411th Flight Test Squadron, Edwards AFB, Calif.; and tours as a director of operations and wing chief of safety.

Aleksei (Alex) Kac is Head of Engineering for Verizon's New Business Incubation team and leads the innovation group's engineers in the areas of Artificial Intelligence and Machine Learning (AI/ML)-based autonomy, Robotic/Internet of Things (IoT) multi-agent orchestration, Information Technology (IT) infrastructure, and Digital Twins. Most recently, Mr. Kac led a team delivering an end-to-end Digital Twin utilizing a process simulation connected to IT and Operational Technology (OT) data systems to support a digital transformation of Verizon's reverse logistics program, giving process engineers the ability to develop physical processes in a virtual world and de-risk changes through simulation. The project incorporates complex systems of integration; data governance and processing; scalable simulations handling hundreds of thousands of variables and objects; a what-if scenario builder to support no-code user-controllable process simulations; and a rich, context presentable Digital Twin to consume and inform decision-making. In prior roles at Verizon, Mr. Kac led teams building Platform as a Service (PaaS) systems and exploring a wide range of subjects around the use of 5G communication technology to drive innovation with goals toward improving robotics onboarding, automation and security footprints, supply chain efficiency and security, and localizations.

Mr. Kac joined Verizon in 2017 in its Location Technology group and has led teams in both the innovation and product development groups. He has generated two patents around integrating multi-sourced data. Prior to joining Verizon, Mr. Kac was a founding member of an AI/ML research-focused startup, and a founder/owner for 20 years of an award-winning professional software company. With 25 years of experience building and scaling businesses, he has worked with many of the largest and influential businesses in the world, including Hewlett-Packard, Fujitsu Siemens, Microsoft, and Samsung.

Nackieb Kamin is Program Manager for the Science, Technology and Research Directorate of the United States Space Force (USSF) at its headquarters in Washington, D.C. Mr. Kamin is responsible for strategic planning and execution of space technologies. In this role, he shepherds collaborative partnerships with the Department of Defense (DoD), national laboratories, and academic research institutions. He also advises the USSF Chief Technology and Innovation Officer in space research and development strategies.

Mr. Kamin joined the Space and Naval Warfare Systems Center as a research scientist in 1997. During the last 25 years, Mr. Kamin has held a number of positions in management and execution of research and development, information technology, systems engineering, acquisition programs, business development, and in supervisory and management roles. He has also served as technical advisor to Indo-Pacific Command subcomponents. Prior to his current position, he served as a Technical Manager at the Joint

Artificial Intelligence Center, Office of the Department of Defense Chief Information Officer; and as a Program Officer at the Office of Naval Research where he was responsible for managing Artificial Intelligence (AI) research and development programs.

Ian Levitt is a Principal Engineer within the National Aeronautics and Space Administration's (NASA) Advanced Air Mobility (AAM) mission, focused on the research of complex enterprise systems that enable a high operational tempo for future Urban Air Mobility (UAM) airspace users, operating safely and cooperatively within shared airspace. Prior to joining NASA in 2020, he worked with the FAA Office of NextGen's Portfolio Management and Technology Development Office (ANG-C) at the William J. Hughes Technical Center (WJHTC). Early in his more than 15-year career at the FAA, Dr. Levitt led international research, standards, and certification efforts in the area of Automatic Dependent Surveillance – Broadcast (ADS-B) technologies and applications. Involvement in this early work led to further research and collaboration across multiple disciplines in what came to be defined as Trajectory-Based Operations (TBO) in the National Airspace System (NAS).

As investments in TBO concepts and technologies were made in the public and private domains, the global aviation community recognized the need to dismantle stovepipes across the TBO enterprise if there was any hope to transform the global Air Traffic Management (ATM) system. During this time, Dr. Levitt was one of a few founders of the TBO Performance Assessment Team (TPAT), a partnership of aerospace researchers across multiple U.S. federal organizations (FAA, NASA, MITRE, Massachusetts Institute of Technology Lincoln Laboratory, Johns Hopkins University Applied Physics Laboratory) who openly exchange ideas and information to bridge integration gaps between the people, processes, and technologies involved in making the NAS work today and into the future.

In his last 4 years with the FAA, Dr. Levitt supported NextGen's TBO Integrated Workplan by closing gaps in the FAA's ability to conduct the integrated Research, Development, Test, and Evaluation (RDT&E) that is required to operationalize the FAA's TBO investments starting with research, through acquisition, and into the field. His contributions culminated in leadership of the TBO Integrated Test Environment Live Flight Test (TITE LiFT) event in 2019, which brought multiple organizations and their TBO capabilities together to execute six experimental operations in flight and under Air Traffic Control (ATC) onboard the Boeing 777-200 ecoDemonstrator.

Dr. Levitt's mission is to accelerate innovation and advance the interests of the entire aerospace community by helping more people integrate their work through communication, open collaboration, and recognizing that all good ideas and insights can be used to promote a healthy and continuous transformation of the NAS.

William (Bill) D. Miller is an adjunct professor at the School of Systems and Enterprises, Stevens Institute of Technology, where he teaches courses in Fundamentals of Systems Engineering, System Architecture and Design, Systems Integration, and Advanced System and Software Architecture Modeling and Assessment. He is an occasional researcher with the Systems Engineering Research Center (SERC), a University Affiliated Research Center (UARC) operated by Stevens Institute for the Department of Defense (DoD). Mr. Miller is a member of the Institute of Electrical and Electronic Engineers (IEEE) and the past technical director of the International Council on Systems Engineering (INCOSE), a nonprofit membership

organization that promotes international collaboration in systems practice, education, and research. He received the INCOSE Founders Award in 2017. He is also editor-in-chief of INCOSE *INSIGHT* practitioners' magazine, and is leading the systems community initiative in the Future of Systems Engineering (FuSE) to realize the Systems Engineering Vision 2035.

Mr. Miller has more than 40 years of professional experience in systems engineering, systems integration, product management, and program management for commercial telecommunications services and government systems. He has managed systems integration projects at Bell Labs and for a defense contractor. He is co-author of *The Engineering Design of Systems: Models and Methods*, 3rd edition, and *Trade-off Analytics*, both published in 2016. He presented the June 2013 INCOSE Webinar on "The Need for More Engagement of Systems Engineering with Integration & Test" and "V&V of Cyber-Physical, Autonomous, Artificial Intelligence, and Deep Learning Systems" at the 2018 FAA V&V Summit. Mr. Miller holds BS and MS degrees in electrical engineering from the Pennsylvania State University.

Angela Moore is an internationally certified Lean/Six Sigma Master Black Belt (LSSMBB) — a quality sensei — as well as a United States Department of Agriculture (USDA)-credentialed Government Auditor with more than 25 years of financial and process auditing experience supporting the FAA. She was integral to the team that conducted internal audits resulting in the FAA's removal from the Government Accountability Office (GAO) High Risk List and led subsequent Sarbanes-Oxley oversight audits for the FAA's Internal Controls Division. Her team was instrumental in updating the FAA's Performance and Accountability Report, resulting in the FAA receiving the Certificate of Excellence in Accountability Reporting (CEAR) award from the Association of Government Accountants and the U.S. Office of Management and Budget (OMB). Leveraging her knowledge in International Organization for Standardization (ISO) and Capability Maturity Model™, she was matrixed to the team that standardized the FAA's Continuous Improvement process nationwide. Locally, her audits have positively affected the sustainment of ISO certificates at the William J. Hughes Technical Center (WJHTC). Her current work includes cradle-to-grave analysis and reengineering support of the processes and policies affecting the National Airspace System (NAS). She supports the Verification and Validation (V&V) Summit's host organization in its mission to strategically promote and implement robust V&V practices.

Beginning her career supporting the FAA as a software-development contractor (En Route, Terminal, and Host), Ms. Moore has gained experience in acquisition systems development as well as many supporting disciplines such as Systems Engineering, Metrics, National Industrial Security Program, Data/Information Management, Supply Chain, and Knowledge Management. A natural teacher, she shares her knowledge through adjunct teaching, authorship, mentorship, and has even trademarked her technical editing method. Ms. Moore has been published in *CM Crossroads*, a trade publication for Configuration Management (CM) and DevOps. Ms. Moore carries the CM Professional (CCMP) credential.

Her former career in entertainment as Angela Harris included work as a cable television producer, a writer, a media personality, and a news director for a middle-market radio station. She enjoys world travel, language, the arts, puzzles, and civic volunteerism. Ms. Moore is a proud Duke University alumna (AB,

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English) and postgraduate of Villanova University. However, she is most proud of her teen twins, Alexander and Jacqueline.

Eric Neiderman is Deputy Director of the FAA William J. Hughes Technical Center (WJHTC) for the Office of NextGen. As Deputy Director, Dr. Neiderman provides executive leadership and direction for technical and administrative functions performed at the WJHTC. Dr. Neiderman serves as a key advisor and authority on the formulation, validation, execution, and performance review of WJHTC research, development, test and evaluation, and NextGen programs. As the Deputy Director, he evaluates program performance in support of NextGen policies and operations to continually improve safety, efficiency, and sustainability of the National Airspace System (NAS).

Dr. Neiderman has more than 27 years of experience in the FAA, Transportation Security Administration (TSA), and Department of Homeland Security (DHS). He is an internationally recognized expert in research and development, test and evaluation, aviation safety, transportation security, security technologies and systems, and human performance enhancement. He has extensive experience in public speaking and technical presentations and has held several positions at the WJHTC.

Dr. Neiderman began his career as a Human Factors Engineer supporting the FAA and joined the FAA in 1995 as an Engineering Research Psychologist. His management experience includes Division Manager for the Science & Technology Directorate at the TSA, FAA Branch Manager for Human Factors, Division Manager of the Aviation Research Division, and most recently as Acting Deputy Director for the WJHTC until he was permanetly appointed to the position on July 17, 2022. His career experience is built on research, development, test and evaluation of current and future air transportation challenges, and he has far reaching ties and relationships with industry, academia, and international partners.

Dr. Neiderman holds a bachelor's degree in Industrial Psychology from La Salle University, a master's degree in Public Administration from the University of Pennsylvania, and a master's degree and Ph.D. in Human Factors from George Mason University. He is also a certified Project Management Professional and a 2013 graduate of the Federal Executive Institute's Leadership for a Democratic Society.

Huntley Parker is a Solutions Architect and Lean-Agile coach with more than 20 years of experience in multiple Information Technology (IT) disciplines, including systems and network administration, software development, project management, and sales. While working for several Silicon Valley startups, Mr. Parker's experiences with passionate teams delivering amazing products led him to embrace and internalize the values of Agile, Lean, and DevOps. He has worked for the past 10 years with the Science Applications International Corporation (SAIC) to bring those values to federal government clients in the Department of Defense (DoD), national security, and federal civilian markets, starting with the United States Department of Agriculture (USDA) where he was Agile Practice Lead for the Risk Management Agency (RMA) from 2015 to 2018.

Mr. Parker currently divides his time between coaching teams in Agile, Lean, and DevOps and developing solutions in response to government solicitations. He has a BA from Centre College, MBA from Virginia Tech, and professional certifications for Scaled Agile Framework (SAFe) Program Consultant, Project

Management Institute Agile Certified Practitioner (PMI-ACP), DevOps Foundation, Certified Scrum Master (CSM), and Information Technology Infrastructure Library (ITIL 4).

Brian Rushforth is Manager of the FAA Innovation Division within the Office of Commercial Space Transportation (AST). This division is responsible for all learning and development, training, Information Technology (IT) tool development, and research and development activities within AST. Mr. Rushforth was also Chief of Staff for AST, and has worked in the FAA since 2001. He has worked in various positions within the Office of Airports, Aviation Safety, as well as the Office of Chief Financial Officer.

Prior to joining the FAA, Mr. Rushforth worked in a management consulting firm in Washington, D.C., leading competitive intelligence and strategy projects and staff for Fortune 500 clients in a variety of industries. He also worked in marketing development for Blue Cross Blue Shield of North Carolina. He is a former U.S. Army aviation logistics officer and UH-60 Blackhawk pilot.

Nathan Tash has been with the federal government for more than 25 years in various positions. He started his career as a procurement law staff attorney in the FAA's Office of the Chief Counsel. From there, he moved to the Office of Management and Budget's (OMB) Office of Federal Procurement Policy (OFPP). At OFPP, Mr. Tash worked on projects such as the Federal Acquisition Regulation (FAR) Part 15 rewrite (for which he received the Vice-President's Hammer award) and the Federal Acquisition Streamlining Act. Prior to leaving OFPP, Mr. Tash was appointed Deputy Associate Administrator for Procurement Innovation. Upon returning to the FAA, Mr. Tash has worked in a number of positions and offices as both a certified Program Manager and a Contracting Officer with an unlimited warrant. He has served as a manager on the Advanced Technologies and Oceanic Procedures (ATOP), En Route Automation Modernization (ERAM), Air Traffic Control Optimum Training Solution (ATCOTS), and Technical Training programs. Prior to his current position, Mr. Tash was Assistant Chief Counsel for Acquisition and Fiscal Law in the Chief Counsel's Office. Currently, Mr. Tash serves as the FAA's Deputy Assistant Administrator for Acquisition and Business Services and is the FAA's Acquisition Executive.

Mr. Tash received his undergraduate degree, with general honors, from the University of Maryland and his law degree, with honors, from the National Law Center at George Washington University.