Verification and Validation Summit 2017

September 13-14, 2017

Speaker Biographies

Philip Bassett is currently the Program Manager for NextGen Space Vehicle Operations (SVO) and Vertical Conformance Verification (VCV) as part of the Technology Development & Prototyping Division, ANG-C5. Mr. Bassett has been involved in Air Traffic Control Research since 1999, with a 1-year detail at the WJHTC as a Subject Matter Expert on numerous projects i.e. TRACON, Tower and ARTCC including, but not limited to: Program Manager for Integrated Arrival Departure Control Service (IADCS) (formally known as "Big Airspace"). Current work involves practical application of the research at the Atlanta Hartsfield Metroplex; Program Manager for the ORC (Optimized Route Coordinator) multi-year project dealing with determining appropriate equipment, methods and procedures for integration of a NextGen route/airspace/procedure decision support function. This research Tech Transferred to NASA for implementation in ATD-3 (2020) FAA UAS Steering Group.

Mr. Bassett began his ATC career as a USAF Radar Approach Controller and VFR Tower (Dual Rated ATC Controller and Supervisor) 1980-1986. He has been with the FAA from 1986 working at multiple facilities as a Controller (Salt Lake ARTCC (ZLC)); Front Line Manager; Operations Manager; Supervisor Traffic Manager; Traffic Management Officer (Jacksonville ARTCC (ZJX)); TMU Supervisor (Orlando TRACON (F11)); FAA Headquarters NextGen. His last Operational position in the field was Traffic Management Officer (TMO) at Jacksonville ARTCC (ZJX).

Mr. Bassett has a Bachelors in Aerospace Engineering from Embry Riddle Aeronautical University, Daytona Beach FL.

Timothy K. Brady has over 30 years of experience at NASA. He has worked in the NASA Engineering and Safety Center's (NESC) Systems Engineering Office at JSC since December 2007. In this assignment, he provides NESC support to the International Space Station and Orion Multi-Purpose Crewed Vehicle Programs. He also participates in NASA initiatives to advance systems engineering capability within the agency.

Prior to this assignment, Mr. Brady worked in the NASA Headquarters Office of the Chief Engineer. During this year-long assignment, his primary focus was supporting improvement of Systems Engineering development at NASA. Mr. Brady has also worked in the Space Shuttle Orbiter Project Office as the Project Manager responsible for developing flight hardware to perform on-orbit tile repair on the Space Shuttle. Mr. Brady has extensive experience related to the development of extravehicular activity (EVA) flight equipment.

Mr. Brady earned a Bachelor of Science degree from the University of Notre Dame and Master of Science degrees from Massachusetts Institute of Technology and the University of Kentucky.

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Biographies are in Alphabetical Order.

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Ryan C. Chartrand is currently working in the Crew Systems and Aviation Operations Branch at NASA's Langley Research Center. For the past thirteen years he has primarily been conducting research in support of the ADS-B In-Trail Procedure. His involvement has included concept and simulation development, planning and execution of Human In The Loop and batch experiments, and analysis of data from the FAA/United Airlines operational evaluation. He has also been part of teams developing Pairwise Trajectory Management, Interval Management, and Trajectory Based Operations. He is the lead on the TMX simulation at Langley, which is used to support multiple research efforts within NASA.

Mr. Chartrand graduated from Syracuse University with a Bachelor's degree in Aerospace Engineering.

Jason Coon is a project manager for the FAA with sixteen years of aviation experience. Previously, as Project Manager, Jason was working to transform the National Airspace System (NAS) to enable the integration of frequent space launch and re-entry operations on a regular basis, utilizing new technologies and procedures. This will enable commercial operators to "file and fly", just as airlines do today, with minimal advance notice and significantly reduced NAS impact. As Program Manager for NextGen Space Vehicle Operations (SVO), Jason lead development of concepts, procedures, and technologies for tracking, communications, debris threat management, and 4D Trajectory management for launch and reentry operations.

Prior to working with the SVO program, Jason was the co-lead for a $150 Million dollar cross-organizational project, with a 9-year schedule. Metroplex is the nation's largest airspace redesign underway in the nation.

Jason currently works for ANG-E2 and is the FAA Program Manager for the Technology Transfer Office.

Mark DeNicuolo serves as the Director for Policy and Performance and the acting Director for Safety in the Federal Aviation Administration (FAA) Safety and Technical Training service unit.

As the acting Director for Safety, he provides executive guidance and oversight of air traffic safety matters. This includes establishing the FAA Air Traffic Organization's (ATO) policies on movement of traffic, runway safety, Safety Management Systems, voluntary safety reporting programs, safety promotion, quality assurance and quality control. Under his leadership, the directorate converts safety and quality data into actionable information to identify trends and risks in the airspace system; provides high-level oversight of investigations; and establishes policy on independent verification and validation of safety issues and incidents. In this role, Mark also serves as a key FAA

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representative on air traffic safety issues with global safety organizations, national emergency response groups, interagency/industry committees and employee unions.

As the Director for Policy and Performance, Mark serves as the steward of the ATO's safety data and Safety Management System (SMS). Under his leadership, the directorate ensures national safety management policies are clearly defined, communicated and followed. The directorate conducts audits and operational assessments of air traffic operations, Technical Operations, National Airspace System (NAS) changes and new technologies; and also provides safety analyses and data management capabilities. Additionally, the directorate serves as the ATO's international focal point for safety activities related to Air Navigation Service provision as well as for safety analyses related to new entrants into the NAS, such as commercial space launches and unmanned aircraft systems.

Mark has been with the FAA for 24 years and holds a Bachelor of Science Degree in Electrical Engineering from Drexel University.

Wilson N. Felder, Ph.D. is an Industry Professor, and Director of the Systems Engineering Research Center's Doctoral Fellows Program at Stevens Institute of Technology. From 2006 to 2012 he served as the Director of the FAA's William J. Hughes Technical Center, in Atlantic City, NJ, the Nation's principal Federal Laboratory for engineering, research, development, test, and evaluation of air transportation systems. As the FAA's Director of Research, Development, Test, and Evaluation, he co-chaired the Aeronautics subcommittee of the National Science and Technology Council. He is also a retired U.S. Navy Commander and a former TRW Inc executive. An instrument rated private pilot, Dr. Felder is a Fellow of the American Institute of Aeronautics and Astronautics, and served on the board of AIAA for ten years, first as Director of the Aircraft Group, and later as Vice President, Standards. He is currently the Secretary of the Board of the International Test and Evaluation Association (ITEA). He holds Bachelor's, Master's and PhD degrees from the University of Virginia. His research interests include the theory of complex systems; heuristics for the design, development, and operation of complex systems; and strategies for complex system test and evaluation.

Jaime Figueroa is the Deputy Director of the Federal Aviation Administration's William J. Hughes Technical Center (WJHTC) – the nation's premier federal laboratory for air transportation system research, development, test and evaluation. Mr. Figueroa was appointed to the FAA Executive Service in September 2016. In his role he provides leadership and direction to a diverse technical and professional staff supporting innovation, modernization and sustainment of the aviation system. His responsibilities include management of wide ranging strategic initiatives aimed at growing the Center's capabilities and capacity to innovate and advance new aviation and air traffic management technologies. Strategic focus on WJHTC workforce development/engagement,

laboratory/technology evolution and new partnership development are some of Mr. Figueroa's leadership pursuits in his current role.

In his previous assignment, Mr. Figueroa led the Research and Development Management Division and in that role worked across FAA business units to shape, coordinate and communicate the agency's R&D investment portfolio. Prior to that, he directed the NextGen Management Services Office and in that capacity led a multidisciplinary federal staff in providing the FAA's NextGen Office wide ranging mission support services including budget, procurement, and human capital management.

During his 25 years with the FAA, Mr. Figueroa has led a wide array of air traffic management and mission support research and acquisition programs. His past assignments include leadership of the Aviation Weather Research organization and the Runway Incursion Reduction Program (RIRP) Technology Development Group. His work on the RIRP led to the development of new runway safety technologies some of which have been operationally deployed in the NAS and adopted internationally.

Mr. Figueroa began his civil service career in 1984 with the Department of Defense where he performed as a test engineer on aircraft weapon system programs. He also served as a system engineer responsible for developing simulation models to support surface ship combat system engineering and performance analyses.

Mr. Figueroa holds a Bachelor's degree in Electrical Engineering from the University of Puerto Rico and a Master degree in Information Technology from the University of Maryland University College. He successfully completed the Advanced Management Program and obtained a Chief Information Officer certification from the National Defense University, Information Resource Management College.

John Frederick is a graduate from Drexel University (Philadelphia) with a BS in Computer Systems Management. Mr. Frederick has over 30 years of T&E experience with Federal Aviation Administration (FAA) systems. In the early part of his career, as both a support contractor and FAA employee, Mr. Frederick has worked as a National Airspace System (NAS) programmer, test engineer, simulations developer, and Operational Test and Evaluation (OT&E) lead on Air Traffic Control automation systems. Mr. Frederick has supported or led T&E efforts on over 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 Air Traffic Control (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 Test and Evaluation (T&E), and provided T&E guidance and consultation to many other FAA T&E

programs. In the past 11 years, he has served as the Test Standards Board Chairman to establish test standards and provide quality T&E oversight for the FAA. Mr. Frederick is currently leading the way for quality verification and validation methods in the FAA as the Manager for the Verification and Validation Strategies and Practices Branch at the FAA William J. Hughes Technical Center. He is also the International Test and Evaluation Association (ITEA) South Jersey Chapter President and serves as the T&E representative for the FAA William J. Hughes Technical Center on the FAA Acquisition System Advisory Group.

Kimberly Gill is currently the Division Manager for the NAS Enterprise Architecture & Requirements Services Division (ANG-B1). Her division has three branches providing Enterprise SE Services across FAA organizations in the areas of Requirements, Enterprise Architecture, Information/Data Management and Systems Engineering guidance. Among other notable endeavors, her division maintains the FAA's Systems Engineering Manual (SEM) and leads the Systems Engineering Forum, providing networking opportunities for FAA Systems Engineering organizations.

Ms. Gill has a total of 30 years of systems engineering experience. She joined the FAA in 1991 testing and fielding Air Traffic Control radar equipment at over 400 locations across the country. She then took on the roles of program manager and systems engineering manager replacing technologically obsolete surveillance and weather equipment for several FAA programs with budgets exceeding $1B.

Prior to joining the FAA, Ms. Gill worked supporting the Office of Naval Intelligence, Department of Interior and Martin Marietta.

Originally from the north eastern suburbs of Baltimore, Ms. Gill is an INCOSE Certified Systems Engineering Professional (CSEP), holds a B.S. in Electrical Engineering from University of Maryland and a M.S. in Technical Management, specializing in Program Management & Systems Engineering, from Johns Hopkins University.

Adam Colin Greco entered on duty as an Air Traffic Controller in July, 1975, at New York Air Route Traffic Control Center after graduating the SUNY at Stony Brook, New York, earning a B.S. in Economics. Mr. Greco is also a graduate from the Naval Post Graduate School in Monterey, California. After being promoted to Supervisor, Mr. Greco was promoted to Operation Specialist at Eastern Region Air Traffic Division (ATD) where he served as liaison between the Eastern Region Air Traffic Division and the New York Metropolitan air traffic facilities. After leaving New York ATD, Mr. Greco served as a facility manager and then promoted to Hub manager. Mr. Greco transferred to the William J. Hughes Technical Center in 1996, as a Branch Manager, Acting Division Manager, Air Traffic Domain Director and member of the Strategic Planning Group and

presently serves in Center Operations. Mr. Greco completed two projects for the Smithsonian National Air and Space Museum (NASM) and the Smithsonian's NASM at Steven Udvar-Hazy Center at Dulles Airport. Mr. Greco has been detailed to projects at both NASA's Ames Research Center in Mountain View, California and NASA Langley Research Center in Virginia. Mr. Greco has received 27 Special Achievement Awards in his career as well as agency and industry awards and recognitions. Mr. Greco is the Lead Instructor for "Introduction to the National Airspace System" which is a certified orientation course in the FAA taught to incumbent employee and contractors. Mr. Greco also teaches "Introduction to the NAS" and "Introduction to Unmanned Aviation Systems", at two local colleges and has lectured on Unmanned Aviation Systems at several local colleges and other venues throughout New Jersey and the greater Philadelphia Area.

Carla A. Hackworth, Ph.D. serves as the Aerospace Human Factors Research Division Manager (AAM-500). She is responsible for a program of applied human factors research of field and laboratory investigations within aviation work environments. This research is accomplished within two research laboratories, the Flight Deck Human Factors Research Laboratory (AAM-510) and the National Airspace System (NAS) Human Factors Safety Research Laboratory (AAM-520). Dr. Hackworth leads assessments of organizational effectiveness, general aviation testing issues, weather-related general aviation incidents, and human factors in aviation maintenance. She has authored and co-authored over 30 publications examining aviation human factors.

Eric Hoover serves as a Lead Test Director in the Aeronautical & Weather Services Verification Branch, part of the Enterprise Services Test & Evaluation Division of the FAA William J. Hughes Technical Center. His role and responsibility is to lead the Test & Evaluation efforts for the NextGen Weather Processor (NWP) program, a significant component to enhancing the FAA's Aviation Weather capabilities. Mr. Hoover has over 20 years of FAA experience in leading T&E efforts in the areas of Flight Services, Weather, and Aeronautical Information systems. Eric's undergraduate work at Wichita State University culminated in a Bachelor of Science Degree in Electrical Engineering. Subsequent education includes Certifications in two areas of study from Stevens Institute of Technology, in Systems Engineering and Architecting, and in Systems and Supportability Engineering.

William C. Redmond, a member of the Senior Executive Service, is the Executive Director, Air Force Operational Test and Evaluation Center, Kirtland Air Force Base, New Mexico. He is responsible for providing direction in the operational test and evaluation planning, execution and reporting of more than 76 major programs valued at more than $650 billion being assessed at 12 different locations. Mr. Redmond assists the AFOTEC commander as the senior interface between AFOTEC and major commands, other services, agencies, allied partners, industry and the scientific community.

Mr. Redmond was born in Nashville, Tennessee. He entered the Air Force in 1977 as a crew chief and was commissioned in 1980. He has more than 3,200 hours in the F-4C/D/E/G, F-15E, F-16D and B-1B, and more than 350 combat hours to include combat weapons employment in the F-4G, F-15E, and B-1B as a weapons system officer. He is a graduate of the USAF Fighter Weapons School, and a distinguished graduate of the Marine Corps Command and Staff College, Marine Corps School of Advanced Warfighting and the National War College.

Mr. Redmond served tours in Europe, Korea and throughout the Middle East. He has commanded an operational fighter squadron and operational bomber group. He also served as the Vice Commander of the Air Force Command and Control, Intelligence, Surveillance and Reconnaissance Center and the 7th Bomb Wing. His staff tours include U.S. Forces Korea as Chief, Strategy and Policy, and on the Air Staff as Chief Electronic Combat Programs, Air Force Test and Evaluation. He retired from the Air Force in 2005. Mr. Redmond then entered civil service where he served as Director of the Commander's Advisory Group at U.S. Joint Forces Command and NATO Allied Command Transformation, Deputy Chief of Safety and Executive Director of the Air Force Safety Center and Director of Staff for Air Force Reserve Command until assuming his current position. Mr. Redmond joined the Senior Executive Service in 2007.

Sarah Sheard, Ph.D. is a Senior Engineer, Systems Engineering at CMU's Software Engineering Institute. She has over 20 years of experience in systems engineering, software and systems process improvement, and complexity science. A Founder's Award winner and Fellow of INCOSE*, she wrote several well-known papers on systems and software engineering including, "Principles of complex systems for systems engineering" (2009), "Evolution of the frameworks quagmire" (2001), and "Twelve systems engineering roles" (1996). Since her 2012 dissertation on complexity and systems engineering, she has been researching complexity and safety, systems and software engineering during sustainment. She was the lead on an FAA project to determine when a system is too complex to be able to assure its safety (2015-2016).

*INCOSE is the International Council on Systems Engineering.

Pamela Whitley, as the Deputy Assistant Administrator for NextGen, is responsible for championing the evolution of the National Airspace System (NAS). She has been involved with the Next Generation Air Transportation System (NextGen) from its planning stage. In her current role, she has responsibility for providing strategic direction, as well as executive oversight for more than 900 federal employees and an approximately $2 billion federal budget.

Her career with the FAA began in 1993 as an electronics engineer, responsible for the development of standards for airport electrical equipment and lighting. She has held positions in the Airway Support Facilities Division, the Office of Technology Development, and the NextGen Integration

and Implementation Office. Ms. Whitley has extensive experience working with the Department of Transportation, the Office of Management and Budget, and Congress. Her early contributions to NextGen helped sustain a long-term funding profile for NAS Modernization. As a result, the FAA has continued to invest in key programs and research activities that are modernizing today's NAS.

While Ms. Whitley has spent most of her career with the FAA, she has completed detail assignment at both Federal Motor Carrier Safety Administration and at the Pipeline and Hazardous Material Administration. Her ability to provide strategic direction proved to be valued during both detail assignments.

Ms. Whitley is regarded as a dynamic leader, and throughout her career she has demonstrated the ability to lead large scale, complex initiatives. When asked how she was able to achieve so much, she credits her ability to combine technical knowledge, with an understanding of strategic financial management, in addition to her ability to work with the talented people at the FAA.

A graduate of Southern University in Baton Rouge, La., Ms. Whitley earned a Bachelor of Science Degree in Electrical Engineering. Her professional career as an electrical engineer began with the Tennessee Valley Authority; and later, she served as an engineering consultant to the Washington Suburban Sanitary Commission.

In her spare time, she enjoys traveling, spending time at the beach, listening to "real" jazz music, and watching sports - more specifically the New Orleans Saints and Southern University Jaguar football.

Robert X. Williams, PMP, is an experienced Program Manager and Air Traffic Control specialist with roughly 20 years of operational Air Traffic Control (ATC) experience. He has overseen and managed many programs for the Federal Aviation Administration over the past 13 years. Specializing in developing, implementing, and integrating software-intensive, advanced air traffic control automation systems, tools, and procedures, Mr. Williams has played a key role in the concept maturation and requirements management of the Unmanned Aircraft System (UAS) Integration into the National Airspace System for the ATO's Mission Support Office. During this effort, Mr. Williams was vital in the facilitation and collaboration between FAA and industry stakeholders, which included union organizations (NATCA & PASS), Service Centers, Service Areas, Operational Field Management, commercial aviation, and the Department of Defense (DOD).

He began his career as an Air Traffic Control Specialist for the US Marine Corp from 1983 to 1991, when he began his service as a controller for the FAA at Burbank ATC Tower. In 1993, he transitioned from the tower to TRACON where he advanced his career to Front Line Manager at SoCal TRACON in 2002. He then moved on to serve as the Air Traffic Lead for the Traffic Management Advisor Program Office in Washington DC. During this time, he completed and

received his Project Management Professional (PMP) certification in 2003; established a TMA Memorandum of Understanding among FAA unions; and developed and implemented a 'Train the Trainer' concept for TMA personnel. Over the next few years within TMA, Rob progressed to the Program Manager position and oversaw the development, deployment, implementation, and integration of the Traffic Management Advisor (TMA) air traffic control decision support tool; a $500M software development program. After leaving TMA, Mr. Williams proceeded to manage the Operations and Integration Support Group from 2006 to 2012 where he oversaw the implementation of the ERAM Operational Implementation Plan. In 2012, he moved on from the PMO to Mission Support to lead concept maturation and development of operational requirements for new ATM capabilities.

After leaving Federal Government service in March 2017, he has led the development of Veracity Engineering's people, processes, and tools to support a comprehensive Operational Implementation, Integration, and Analysis capability for the FAA and other aviation industry clientele.

Shelley J. Yak is the Director of the FAA William J. Hughes Technical Center, within the NextGen Organization. Ms. Yak serves as principal advisor and is responsible for managing, operating, and maintaining world class aviation laboratories; planning and coordinating FAA's research and development program; conducting applied research and development; testing, evaluating, verifying, and validating current national airspace system and future next generation air transportation systems; providing facility maintenance, engineering support, support services for all properties located at the William J. Hughes Technical Center.

Ms. Yak has extensive operational experience in leading organizations through change, building cross-organizational teams, leveraging strong project management and leadership capabilities to build effective business processes and deliver technology solutions. Her prior positions within the FAA included Deputy Director of the Technical Center, supporting the previous director in making the Technical Center the nation's premier aviation and air traffic management federal laboratory. Ms. Yak was also the Division Manager of the Center Operations team where she was responsible for the operation, maintenance, and sustainment of the Technical Center facilities, which provide support and technical services. During her tenure in this position, she also acted in the position of Director of NextGen Performance and Reporting and was responsible for defining and establishing this newly formed organization and Director of Operational Evolution Partnership Planning. Previously, Ms. Yak held the position of Division Manager of Information Technology (IT) responsible for the management and security of the Technical Center IT network and telecommunications infrastructure, help desk and desktop support services, and software application development and support.

Prior to joining the FAA in 1997, Ms. Yak was the Superintendent of Power Delivery Dispatch and Support for Atlantic City Electric where she oversaw the dispatch of personnel responsible for the investigation and restoration of power during normal and emergency conditions and the technical staff responsible for maintaining, operating and supporting the Energy Management and Power Distribution Management computer systems.

Ms. Yak holds a Bachelor of Science degree in Information and System Science from Stockton University and a Masters in Engineering Management from Rowan University. She has received numerous internal and industry leadership and excellence awards throughout her career.

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