

Roundtable for the Department of the Air Force's Research Institute for Tactical Autonomy University Affiliated Research Center

Committee

Lester L. Lyles

Chair

General Lester L. Lyles (NAE) is an independent consultant. He retired from the U.S. Air Force (USAF) in 2003 as commander of the Air Force Material Command at Wright-Patterson Air Force Base (AFB). General Lyles entered the USAF in 1968 as a distinguished graduate of the Air Force ROTC program. He served in various positions, including program element monitor of the Short- Range Attack Missile at USAF Headquarters (USAF/HQ), special assistant and aide-de- camp to the commander of Air Force Systems Command (AFSC), chief of the Avionics Division in the F-16 Systems Program Office, director of Tactical Aircraft Systems at AFSC headquarters, and as director of the Medium-Launch Vehicles Program and Space-Launch Systems offices. General Lyles became the AFSC headquarters assistant deputy chief of staff for requirements in 1989 and deputy chief of staff for requirements in 1990. In 1992, he became vice commander of the Ogden Air Logistics Center at Hill AFB. He served as commander of the center until 1994, when he was assigned to command the Space and Missile Systems Center at Los Angeles AFB. In 1996, General Lyles became the director of the Ballistic Missile Defense Organization. In 1999, he was assigned as vice chief of staff at USAF/HQ. He served on the NASA Advisory Council. His numerous awards include the Defense Distinguished Service Medal, the Astronautics Engineer of the Year from the National Space Club, the National Black Engineer of the Year Award, Honorary Doctor of Laws from New Mexico State University, and from Urbana University ; NASA's Distinguished Public Service Medal for serving on the President's Commission on Implementing the U.S. Space Exploration Policy. In 2009, General Lyles served on the Augustine Space Committee for developing the agenda for NASA's human spaceflight missions. He served on the President's Intelligence Advisory Board in the White House from 2009-2013, and , the State Department's International Security Advisory Board from 2013-2017. Gen. Lyles currently chairs the NASA Advisory Council. He received his B.S. in mechanical engineering from Howard University and his M.S. in mechanical engineering from the Air Force Institute of Technology Program at New Mexico State University.

Susan Davenport

Ex Officio Member

Ms. Susan K. Davenport is the Chief Data and Artificial Intelligence Officer for the Department of the Air Force. Previously, she served as Senior Advisor for Defense Innovation in the Concepts, Development and Management Office, and held various leadership roles at the National Reconnaissance Office. Ms. Davenport has extensive expertise in data management, analytics, digital transformation, artificial intelligence, intelligence, acquisitions, cyber operations, and advanced space technologies. Her experience spans both military and civilian roles, with a focus on driving innovation and optimizing performance within the Department of Defense and Intelligence Community. Ms. Davenport has a report published with the Harvard Belfer Center "Creating Intelligence as a Community." Ms. Davenport is a two-time NRO Director's Circle Award winner, CDO Magazine's top 100 Leading Influencers, MeriTalk 2025 AI Honors Award winner, member of the Program Management Institute (PMI), and an elected member of the Harvard HKS Alumni Board. Ms. Davenport has a Master of Science Degree in Telecommunications from George Mason, Fairfax VA, a Graduate Certificate in Technology Management from Virginia Tech, holds an Expert level (LvL3) Program Management certification from Defense Acquisition University, and served as a Harvard National Security Fellow.

Steven K. Rogers

Ex Officio Member

Dr. Steve 'Cap' Rogers is Senior Scientist for Artificial Intelligence (AI) and AI enabled Autonomy for the Air Force. He founded and provides technical leadership to the Autonomy Capability Team 3 (ACT3) whose mission is the rapid advancement of R&D to operationalize AI at scale for the Air and Space Forces. Dr. Rogers' personal research focuses on Qualia Exploitation of Sensing Technology (QuEST); building intelligent autonomous systems by replicating the engineering characteristics of consciousness. Dr. Rogers holds a PhD in Electrical Engineering and his career spans both government service and civilian industry. He retired after 20 years of active-duty Air Force service and then served as a professor at the Air Force Institute of Technology (AFIT) where he directed research efforts in identification of targets in a variety of sensors and natural language understanding. Dr. Rogers also did ground-breaking work in learning algorithms. As Founder, President, CEO and Chief Scientist of Qualia Computing, Inc., he introduced intelligent information processing to women's healthcare. Qualia became the leader in mammography computer-aided detection (CAD) and developed a multi-modality CAD platform to facilitate efficient application of the technology to many medical detection problems.

Dr. Rogers' recent work was recognized with two Presidential Rank Awards.

Sonya T. Smith

Ex Officio Member

Sonya T. Smith, Ph.D., is the Executive Director of the Research Institute on Tactical Autonomy, University Affiliated Research Center (RITA UARC). She joined the Howard University faculty in 1995. Dr. Smith obtained her Ph.D. in Mechanical and Aerospace Engineering from The University of Virginia (UVA) in 1995. At Howard University, she established the Applied Fluids-Thermal Research Laboratory (@FTERLab), an interdisciplinary theoretical and computational research group. Her research has received support from various organizations, including NSF, NIH, NASA, DOD, and private industry. In 2021, Dr. Smith was honored as a Fellow of the American Academy of Arts and Sciences. Additionally, she holds prestigious positions in various organizations. She was elected as the president of Sigma Xi: The Scientific Research Honor Society in FY21, and she is a Fellow of the American Society of Mechanical Engineers (ASME) and an Associate Fellow of the American Institute of Aeronautics and Astronautics (AIAA). Dr. Smith's professional affiliations also include membership in the American Physical Society (APS), the American Society of Engineering Education (ASEE), the Society of Women Engineers (SWE), and the National Society of Black Engineers (NSBE). Furthermore, she actively serves on the U.S. National Committee on Theoretical and Applied Mechanics (USNC/TAM) and the Space Technology Industry-Government-University Roundtable at the National Academies. Notably, in 2021, she was selected as an MLK Visiting Faculty Member in the Department of Aeronautics and Astronautics at the Massachusetts Institute of Technology.

Hyrum Anderson

Member

Dr. Hyrum Anderson is Director of AI & Security at Cisco, via an acquisition of Robust Intelligence where he served as Chief Technology Officer. Much of his career has been focused on defense and security, having directed research projects at MIT Lincoln Laboratory, Sandia National Laboratories, Mandiant, as Chief Scientist at Endgame (acquired by Elastic), and Principal Architect of Trustworthy Machine Learning at Microsoft. While at Microsoft, he was the architect for Microsoft's AI Red Team inaugural work on production AI systems as chair of the AI Red Team governing board. Hyrum co-founded the Conference on Applied Machine Learning in Information Security (CAMLIS), was appointed to serve on the 2024 National Academies study on Cyber Hard Problems, and has been an advisor to the US and UK governments on AI Safety and Security. He has spoken at numerous academic and industry conferences at the intersection of security and machine learning, including RSA, BlackHat and DEFCON. He has authored over 60 peer-reviewed academic publications, and co-authored the book *Not With a Bug, But With a Sticker: Attacks on Machine Learning Systems and What To Do About Them*. He received his PhD in Electrical Engineering from University of Washington, with an emphasis on signal processing and machine learning, and BS and MS degrees in Electrical Engineering from Brigham Young University.

Robert D. Braun

Member

Dr. Robert (Bobby) D. Braun is the Head of the Space Exploration Sector at the Johns Hopkins Applied Physics Laboratory where he is responsible for all aspects of the Lab's civil and national security space efforts. He formerly served as Director for Planetary Science at the Jet Propulsion Laboratory, and as a Professor of Aerospace Engineering at the California Institute of Technology, the University of Colorado Boulder, and the Georgia Institute of Technology. He was the NASA chief technologist in 2010-2011, serving as the principle advisor and advocate for agency-wide technology policy and programs. Formerly, he was a faculty member in the Daniel Guggenheim School of Aerospace Engineering at the Georgia Institute of Technology (Georgia Tech) where he led a research and education program focused on the design of advanced flight systems and technologies for planetary exploration. Prior to joining the Georgia Tech faculty, Dr. Braun worked for sixteen years at the NASA Langley Research Center. While at NASA, he contributed to the design and flight operations of multiple spaceflight projects including the Mars Pathfinder mission. Dr. Braun is a fellow of the American Institute of Aeronautics and Astronautics and the American Astronautical Society, and the author or co-author of more than 300 technical publications in the fields of atmospheric flight dynamics, planetary exploration systems, multidisciplinary design optimization, and systems engineering.

Alison K. Brown

Member

Dr. Alison Brown (NAE) is the President and Chief Executive Officer of NAVSYS Corporation, which she founded in 1986. NAVSYS Corporation specializes in developing next generation Global Positioning System (GPS) technology. Dr. Brown has a Ph.D. in Mechanics, Aerospace, and Nuclear Engineering from UCLA, an M.S. in Aeronautics and Astronautics from MIT, and an M.A. and B.A. in Engineering from Cambridge University. She is a member of the National Academy of Engineering, an honorary fellow of Sidney Sussex College, Cambridge, and a fellow of the Institute of Navigation. She previously served as a member on the Air Force Scientific Advisory Board from 2016 - 2019 and 1994-2003. She served as a member of the Government-Industry Advisory Panel for Section 813, FY16 NDAA Rights in Technical Data; the 2014-2015, Chair, Region VIII Small Business Regulatory Fairness Board; the Small Business Technology Council; the Mountain States Employer Council; the Rocky Mountain Chapter of the National Defense Industrial Association (NDIA); and is a Member of NDIA's Board of Trustees and Small Business Executive Committee. She is a member of the International Women's Forum, the Cosmos Club and the GPS World Advisory Board. She has three times chaired the District 13 Rhodes Scholar selection board. Dr. Brown has been selected as Entrepreneur of the Year by Colorado's Celebrate Technology, and as a Women of Distinction by the Girl Scouts Mile-Hi Council. She has also been appointed as chair of the Region VIII Regulatory Fairness Board of the Small Business Administration for 2014-2015.

Balaguruna Chidambaram

Member

Dr. Bala Chidambaram is the Director and Chief Engineer of the Autonomy Capabilities Team in the Office of the Chief Technology Officer (CTO). In this role, he is responsible for defining and executing Boeing's autonomy strategy across a variety of commercial and military programs. In his 28-year career at Boeing, Bala has held leadership roles in diverse areas, including artificial intelligence applications, modeling and simulation, electro-hydraulic actuation systems, software standards for vehicle health management, and secure connectivity solutions. His teams have supported platforms that include the C-17 Globemaster III, the CH-47 Chinook, the V-22 Osprey, the International Space Station, the 787 Dreamliner, the 777X, and various Unmanned Aircraft Systems, including the MQ-28 GhostBat and the MQ-25 Stingray. Bala has a Bachelor's degree from the Indian Institute of Technology, Madras; a Master's degree from the University of Houston, Houston, and a Ph.D. from the University of California at Berkeley, all in Engineering.

Victoria Coleman

Member

Dr. Victoria Coleman is the CEO of Acubed, Airbus' Silicon Valley research and innovation center, and Airbus' Head of Research & Technology for North America. With 35 years of diverse experience spanning cybersecurity, computer science, emerging platforms, and software engineering, Dr. Coleman is a recognized leader in her field. Before joining Acubed, Dr. Coleman served as the 37th Chief Scientist of the U.S. Air Force, where she led the creation of this UARC, advised top leadership on critical scientific and technical issues and identified innovative solutions for departmental challenges. Prior to that, she was the 22nd Director of the Defense Advanced Research Projects Agency (DARPA), overseeing a large suite of disruptive and innovative programs. Dr. Coleman has a strong connection to academia through her service as a Visiting Professor in Electrical Engineering & Computer Sciences at UC Berkeley since 2016 and earlier post as a tenured professor in Computer Science at the University of London. Dr. Coleman is an active member of the Pacific Northwest National Laboratory Advisory Committee and in 2025, she was inducted into the National Academy of Engineering for her innovations in software operations related to national security, cybersecurity, and consumer electronics.

Mary L. Cummings

Member

Dr. Mary (Missy) Cummings is a professor in the George Mason University College of Engineering and Computing and is the director of the Mason Autonomy and Robotics Center. A naval officer and military pilot from 1988-1999, she was one of the U.S. Navy's first female fighter pilots. She is an American Institute of Aeronautics and Astronautics and Royal Aeronautical Society Fellow, and is a Commissioner for the Global Commission on Responsible Artificial Intelligence in the Military Domain. Her research interests include the application of artificial intelligence in safety-critical systems, assured autonomy, human-systems engineering, and the ethical and social impact of technology. She received her B.S. in Mathematics from the US Naval Academy, her M.S. in Space Systems Engineering from the Naval Postgraduate School, and her Ph.D. in Systems Engineering from the University of Virginia.

Bonnie J. Dunbar

Member

Dr. Bonnie J. Dunbar (NAE) is a retired NASA astronaut, engineer, researcher, and educator. She is a professor in the Department of Aerospace Engineering at Texas A&M University, where she performs research related to human systems integration into space systems and two-phase fluid physics in partial gravity environments. Dr. Dunbar previously worked for Rockwell International, where she served on the team responsible for building the Space Shuttle Columbia. Her expertise is on thermal protection systems and previously worked for 27 years at NASA as a flight controller, an astronaut (five flights), and in the NASA Senior Executive Service (SES). Her SES assignments included leadership for university research; Deputy Director for Flight Crew Operations; Associate Director for ISS Mission Operations, and NASA headquarters' deputy associate administrator for the Office of Life and Microgravity Sciences and Applications. Dr. Dunbar is a member of the National Academy of Engineering and Fellow of the American Ceramic Society, the American Institute of Aeronautics and Astronautics, and the Royal Aeronautical Society. She has been awarded the NASA Space Flight Medal, the NASA Exceptional Leadership Medal, the NASA Distinguished Service Medal, and recently received the Sigma Xi McGovern Medal. She holds B.S. and M.S. in ceramic engineering from the University of Washington and a Ph.D. in mechanical engineering from the University of Houston.

Todd Huntley

Member

Todd Huntley is the Director of the National Security Law Program and a Lecturer in Law at Georgetown University Law Center. Todd retired from the U.S. Navy in 2020 after serving more than 23 years on active duty as a Judge Advocate General where he advised senior military and civilian leaders on national security and international law matters. Todd has extensive national security law experience supporting the Special Operations community and deployed twice to Afghanistan with a Joint Special Operations Task Force conducting counter-terrorism operations. In these roles Todd advised on all aspects of operations to include targeting, intelligence, detention, and cyber operations. Todd has a B.A. in International Affairs and a J.D. from the University of Cincinnati, as well as an M.A. in International Relations from the Fletcher School of Law and Diplomacy, Tufts University, and an LL.M. from Harvard Law School.

Jeffrey Isaacson

Member

Dr. Jeffrey A. Isaacson is CEO Emeritus of Universities Space Research Association (USRA), which operates in partnership with over 120 research universities worldwide in the areas of science, technology, workforce development, and facility management. He served as USRA's seventh President and Chief Executive Officer from 2014 through 2024. In prior years, he held executive positions at Sandia National Laboratories, RAND Corporation, and Lockheed Martin Space Systems Company, where he developed expertise in systems engineering, ballistic missile defense, space systems, and defense analysis. Isaacson served 25 years in the U.S. Navy Reserve, retiring as Captain. He is a veteran of Operation Enduring Freedom in Afghanistan and a former member of the Army Science Board, serving as Chair in 2020. He is also a Presidential appointee to the National Science Board, the governing body of the National Science Foundation. Isaacson earned degrees at Columbia University, Princeton University, and the Massachusetts Institute of Technology, where he received his Ph.D. in physics.

Ellen M. Pawlikowski

Member

General (Ret.) Ellen M. Pawlikowski, USAF (NAE) is an independent consultant providing expertise to industry and academia on strategic planning, program management, acquisition and logistics, and research and development. She is a retired general from the United States Air Force. Her interest and expertise lies in the leadership and management of large technical programs and organizations successfully transitioning technology for applications in national security. She serves on the public boards of the Raytheon Company, RPM International, Inc., and Velo3D, and the nonprofit board of Stanford Research Institute (SRI) International. In her last military assignment, she served as commander of Air Force Materiel Command (AFMC) at the Wright-Patterson Air Force Base in Ohio. The command employs some 80,000 people and manages \$60 billion annually, executing the critical mission of warfighter support through research and development, life cycle systems management, test and evaluation, installation support, depot maintenance and supply chain management. General Pawlikowski's career has spanned a wide variety of technical management, leadership and staff positions. She commanded five times as a general officer, commanding the Military Satellite Communications Systems Directorate (MILSATCOM) Systems Wing, the Air Force element of the National Reconnaissance Office, Air Force Research Laboratory, the Space and Missile Systems Center, and AFMC. She also served as the program director and program executive officer for several multibillion-dollar weapon system acquisitions. General Pawlikowski is nationally recognized for her leadership and technical management acumen. She is a fellow of the American Institute of Aeronautics and Astronautics and a member of the National Academy of Engineering. She remains active in the science and technology community. She has a Ph.D. in chemical engineering from the University of California, Berkeley and a B.S. in chemical engineering from the New Jersey Institute of Technology, Newark.