Aeronautics Research and Technology Roundtable (ARTR)

Committee

John S. Langford

Chair

JOHN S. LANGFORD, III (NAE) is CEO and founder of Electra.aero Inc. and former president of the American Institute of Aeronautics and Astronautics (AIAA). Formerly, he was the chairman and CEO of Aurora Flight Sciences Corporation, which he founded. Prior to Aurora, Langford worked for the Institute for Defense Analyses in Alexandria, Virginia, for the Lockheed Corporation as an engineer on the development of the F-117 stealth fighter, and as an intern at the White House Office of Science and Technology Policy. In 2014, the National Aeronautics Association (NAA) awarded Langford the Cliff Henderson Trophy for “significant and lasting contributions to the promotion and advancement of aviation and aerospace in the United States”. He has also received the DeFlorez Prize from MIT, the Kremer Speed Prize from the Royal Aeronautical Society, the Young Engineer of the Year award from the AIAA National Capital Section, the National Tibbets Award for outstanding contributions to the SBIR Program, the Barry M. Goldwater Educator Award from the AIAA, Virginia’s Outstanding Industrialist award from the Commonwealth of Virginia, and the President’s Award for Exceptional Service and the Howard Galloway Award from the National Association of Rocketry. Langford is a Fellow of AIAA and has served as the organization’s president. He is also a Fellow in the Royal Aeronautical Society (RAeS), and has served on academic advisory boards at MIT, the University of Maryland, and Mississippi State University. He has served on the board of directors of the NAA, the Executive Committee of the Aerospace Industries Association (AIA), and the Institute Development Committee (IDC) of the AIAA. Langford served on the NASA Advisory Council (NAC) and chaired its Subcommittee on Unmanned Air Systems. He has served on several study committees for the National Research Council. He has been named by the Governor of Virginia to chair the Virginia Commission on Unmanned Systems. Dr. Langford earned his Ph.D. in aeronautics and public policy from the Massachusetts Institute of Technology. He has participated in several National Academies projects, including the Committee to Assess NASA's Aeronautics Flight Research Capabilities and the Committee on Autonomous Vehicles in Support of Naval Operations.

Juan J. Alonso

Member

JUAN J. ALONSO is the Vance D. and Arlene C. Coffman Professor of Aeronautics and Astronautics at Stanford University and the co-founder and chief technology officer of Luminary Cloud, Inc., a startup focused on cloud-based computational analysis and design. Previously, Alonso was the director of the NASA Fundamental Aeronautics Program, assuming responsibility for the entire portfolio of aerospace vehicle and vehicle technology research in the subsonic rotary wing, subsonic fixed wing, supersonic, and hypersonic regimes. Alonso's portfolio emphasized energy and fuel efficiency and sufficiency of the aviation enterprise and reducing its environmental impact. Alonso specializes in the development of high-fidelity computational design methodologies to enable the creation of realizable and efficient aerospace systems. Alonso is a three-consecutive-time recipient of the American Institute of Aeronautics and Astronautics Best Paper Award in Multi-Disciplinary Optimization and has also received the NASA Aeronautics Research Mission Directorate Associate Administrator Award and the NASA Exceptional Public Service Medal. Alonso serves or has served on the NASA Advisory Council, the FAA Research, Engineering and Development Advisory Committee, the Secretary of Transportation's Future of Aviation Advisory Council, and the FAA Administrator's Management Advisory Council. Alonso earned a Ph.D. in mechanical and aerospace engineering from Princeton University.

Michael Berube

Member

MICHAEL BERUBE is the deputy assistant secretary for sustainable transportation in the Office of Energy Efficiency and Renewable Energy at the Department of Energy (DOE). Berube leads the DOE' transportation research, development, demonstration, and deployment team that is focused on decarbonizing the transportation sector, from cars to heavy trucks to aviation. This includes vehicles, batteries, hydrogen fuel cells, and bioenergy as well as how electric vehicles and hydrogen can help support the transition to a clean energy grid. Berube created the DOE's mobility research program that is focused on new mobility solutions, including connected and automated vehicles, transit, ecommerce, and ride-sharing. Berube has extensive experience as a senior executive in the automobile industry and has worked closely across the government with the Department of Transportation and the Environmental Protection Agency. Berube earned an M.S. in technology policy and an M.B.A. from the Massachusetts Institute of Technology.

Roberto I. Guerrero

Member

ROBERTO I. GUERRERO is a member of the U.S. Air Force Senior Executive Service and currently serves as the deputy assistant secretary for operational energy. In this role, Guerrero is responsible for developing technologies that increase efficiency in Air Force mission planning and execution processes, improve aircraft propulsion performance, and reduce aircraft drag in order to optimize the Air Force's $5B+ operational energy budget. Guerrero is a retired Air Force colonel and previously served as the executive director of the Air Force Safety Center and the director of operations and commander of the 961st Airborne Air Control Squadron based in Okinawa, Japan. Guerrero was awarded the Legion of Merit for military service and the Air Force Meritorious Civilian Service Award for service as a senior executive. Guerrero is a board member of the Royal Air Force Museum American Foundation and a graduate of Air War College and Air Command and Staff College. Guerrero was awarded a certificate in defense energy from the Naval Postgraduate School and holds a commercial pilot's license for both fixed- and rotary-wing aircraft. Guerrero earned a B.S. in aeronautical engineering from California Poly State University, San Luis Obispo.

Peter Shannon

Member

PETER F. SHANNON is the founder and managing director of Radius Capital and an investor focused on advanced aerial mobility and its application toward positive impact for transportation across the economy. Shannon is active in the aviation community around regulatory and technology issues critical to enabling high-scale adoption of aerial mobility systems. Finally, Shannon sits on committees developing standards for unmanned air traffic management, vehicle certification, and advanced air mobility. Earlier, Shannon was at Firelake Capital and Atlas Venture, investing in transportation and sustainability technologies. Shannon started flying at age 19 and actively maintains a private pilot certificate with instrument rating. Shannon earned an M.B.A from the University of Chicago's Booth School of Business. Shannon was a member of the National Academies Committee on Urban Air Mobility Research and Technology.

Karen A. Thole

Member

KAREN A. THOLE is the Robert J. Vlasic Dean of Engineering at the University of Michigan. Previously, she served as a distinguished professor and head in the Department of Mechanical Engineering at The Pennsylvania State University. Thole's expertise is in gas turbine heat transfer, additive manufacturing, and instrumentation development. At Penn State, Thole founded the Steady Thermal Aero Research Lab, which focuses on detailed experimental and computational studies to advance aviation sustainability and power generation through highly efficient turbines. Thole currently serves as a member of the U.S. Air Force Scientific Advisory Board. She is a Fellow of the American Society of Mechanical Engineers (ASME), the American Institute of Aeronautics and Astronautics (AIAA), and the Royal Aeronautical Society. For her contributions, she has been awarded the ASME George Westinghouse Gold Medal, the ASME Edwin F. Church Medal in Engineering Education, the ASME R. Tom Sawyer Award, the ASME Heat Transfer Memorial Award, the AIAA Air Breathing Propulsion Award, and the AIAA Thermophysics Award. Thole earned a Ph.D. in mechanical engineering from the University of Texas at Austin. Thole has served on two National Academies study committees, one related to low carbon aviation and the other on advancing gas turbines.

Alejandra Uranga

Member

ALEJANDRA URANGA is a Gabilan Assistant Professor in the Department of Aerospace and Mechanical Engineering at the University of Southern California (USC). Uranga leads the USC Aerodynamic Design and Research Laboratory, whose mission is to develop environmentally sustainable aviation solutions using integrative air vehicle configurations and methodologies. Previously, Uranga was a postdoctoral associate and then a research engineer in the Department of Aeronautics and Astronautics at the Massachusetts Institute of Technology (MIT). While at MIT, Uranga was the Technology Lead and Principal Investigator of the MIT-led NASA N+3 program that developed the D8 Double-Bubble advanced aircraft. Uranga also directed the tests at NASA Langley's 14-by-22 Subsonic Wind Tunnel that first demonstrated the aerodynamic benefit of boundary layer ingestion for a realistic transport aircraft. Uranga's expertise is in the areas of aerodynamics, novel aircraft design, and integrated and electrified propulsion systems. Uranga is a senior member of the American Institute of Aeronautics and Astronautics and has received the USC Provost's Assistant Professor Fellowship. Uranga earned a Ph.D. in aeronautics and astronautics from the Massachusetts Institute of Technology.

Robert A. Pearce

Ex Officio Member

ROBERT A. PEARCE is the associate administrator of the Aeronautics Research Mission Directorate (ARMD) at NASA. Pearce manages the agency's aeronautics research portfolio and guides its strategic direction, including research in quiet supersonic flight over land, urban air mobility, autonomy, highly efficient advanced air vehicle concepts, electrified aircraft propulsion, advanced materials, airspace operations and safety, integration and flight demonstrations of aviation systems, and the nurturing and development of transformative concepts for aviation. Pearce was previously deputy associate administrator for strategy in ARMD, leading aeronautics research mission strategic planning to guide the content, strategic progress, and relevance of ARMD's research portfolio. Pearce also led review and evaluation of ARMD's budget and approval process. Pearce's first position in ARMD was as director for strategy, architecture and analysis, where Pearce established a strategic systems analysis capability focused on understanding the system-level impacts of NASA's programs, the potential for integrated solutions, and the development of high-leverage options for new investment and partnership. Pearce has led the development of key national policy documents, including the National Science and Technology Council's Goals for a National Partnership in Aeronautics Research and Technology and Transportation Science and Technology Strategy, which provided a substantial basis for NASA's expanded investment in aviation safety and airspace systems. Pearce earned an M.S. in technology and policy from the Massachusetts Institute of Technology.