

## **Government-University-Industry Research Roundtable July 2023 Webinar**

### **Sustainable Electrification of Transportation Systems**

#### **Abstract**

The Government-University-Industry Research Roundtable, in collaboration with the [American Institute of Aeronautics and Astronautics](#), will convene a webinar to discuss the future of electrification in automotive and aviation sectors. During this webinar, expert panelists (below) will discuss systems design, integration, and optimization of electrified aircraft and automotives. The speakers will also highlight the ways in which these forms of transportation have evolved to make electrification possible, and how electrification contributes to sustainable transportation solutions.

#### **Expert Panelists:**

- Dr. Gökçin Çınar, Assistant Professor of Aerospace Engineering and Principal Investigator of Integrated Design of Environmentally-friendly Aerospace Systems (IDEAS) Lab at the University of Michigan
- Dr. Burak Ozpineci, Corporate Fellow and Section Head for the Vehicle and Mobility Systems Research Section at Oak Ridge National Laboratory
- Mr. Matt Jones, Executive Director of Global Technology Strategy, Research & Advanced Engineering at Ford Motor Company

#### **Guest Moderator:**

- Dr. Ashira Beutler-Greene, Senior Manager of Content and Product Strategy at American Institute of Aeronautics and Astronautics

#### **Speaker/Moderator Biographies:**



**Ashira Beutler-Greene** is responsible for the management of initiatives related to sustainable aviation and advanced air mobility at the American Institute of Aeronautics and Astronautics (AIAA). She enjoys providing opportunities for cross-industry stakeholders to share their perspectives on common areas of concern. Prior to her role at AIAA, she managed educational media programming for the Annual Meeting of the American Association for the Advancement of Science. Ashira holds degrees from University College London, Carnegie Mellon University, and Wellesley College.



**Gökçin Çınar** is an assistant professor of aerospace engineering at the University of Michigan. She is the Principal Investigator of Integrated Design of Environmentally-friendly Aerospace Systems (IDEAS) Lab. Her research interests include aerospace systems design, integration, and optimization with a special focus on electrified aircraft concepts and sustainable aviation. In her research, she utilizes model-based engineering along with probabilistic and statistical methods to analyze, understand and design the complex system behavior of an aerospace vehicle.

Prof. Çınar is a member of the American Institute of Aeronautics and Astronautics (AIAA). She serves as the Publications and Policy Chair of AIAA's Electrified Aircraft Technical Committee. She is also an active member of the Organizing Committee for the AIAA/IEEE Electric Aircraft Technologies Symposium (EATS).

Prior to her appointment at the University of Michigan, Prof. Çınar worked as a Research Engineer Aerospace Systems Design Lab at Georgia Institute of Technology. At Georgia Tech, she has contributed to various research projects funded by the government and industry on future aircraft technologies, sustainable aviation concepts, electrified propulsion system architectures, and model-based systems engineering. As part of her doctoral work, she developed the parametric, physics-based aircraft sizing and synthesis software called "Electrified Propulsion Architecture Sizing and Synthesis (E-PASS)". E-PASS enables conceptual design and performance evaluation of advanced aircraft concepts with any type of propulsion architecture, including non-electrified systems. E-PASS has been used in various research projects funded by the government and industry, such as NASA, AFRL, and Boeing.



**Matt Jones**, executive director of global technology strategy and research and advanced engineering, oversees technology strategy and embedded experience across a wide portfolio. He also leads research activities in electrification, controls, automated systems, robotics, intelligent embedded systems, sustainability, materials and manufacturing.

Previously, Jones led the delivery of safety-critical connected intelligent systems as Wind River's corporate vice president of global engineering, accelerating the digital transformation across verticals from aerospace to industrial, defense to medical, and networking to automotive.

Jones also serves on the AUTOSAR executive board and as the president of COVESA, the alliance previously known as the GENIVI. COVESA brings together like-minded organizations from around the globe with the shared goal of developing open standards and innovative technologies for connected vehicle systems, including in-vehicle, on-edge and in-cloud services, interfaces and data exchange.

Jones was previously at Virgin Hyperloop One. As senior vice president he led the software and embedded hardware engineering teams, tasked with providing all the systems needed to manage, control, and operate an autonomous hyperloop system. This included embedded software and electronics, networking, cloud data and services, as well as customer-facing applications. Prior to Virgin Hyperloop One, he was chief product officer at moovel Group, Daimler's mobility solutions company. Before moovel, he was director of future technology at Jaguar Land Rover. Jones holds a master's of engineering degree in electronics and electrical engineering from the University of Birmingham. He is a Fellow of the Institution of Mechanical Engineers and a Chartered Engineer within the Institution of Engineering & Technology (IET).



**Burak Ozpineci** received the B.S. degree in electrical engineering from Orta Dogu Technical University, Ankara, Turkey, in 1994, and the M.S. and Ph.D. degrees in electrical engineering from The University of Tennessee, Knoxville, TN, USA, in 1998 and 2002, respectively. In 2001, he joined the Post-Master's Program with Power Electronics and Electric Machinery Group, Oak Ridge National Laboratory (ORNL), Knoxville, TN, USA. He became a Full Time Research and Development Staff Member in 2002, the Group Leader of the Power and Energy Systems Group in 2008, and Power Electronics and Electric Machinery Group in 2011. Presently, he is a Corporate Fellow at ORNL serving as the Section Head for the Vehicle and Mobility System Research Section. He is also a Joint Faculty with the Bredesen Center, The University of Tennessee. Dr. Ozpineci is a Fellow of IEEE and AAIA.