



Space
Weather
Enterprise
Forum
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Session 8: The Role of Space Weather in Creating a Safe, Stable, and Operationally Sustainable Space Environment

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Mr. Steph Earle is currently the **Acting Deputy Division Chief for the Policy and Innovation Division** within the **Federal Aviation Administration's Office of Commercial Space Transportation**. He is responsible for outreach to industry, international, and interagency stakeholders; space policy, including space traffic management orbital debris; integrating commercial space operations into the National Airspace; enhancing launch collision avoidance effectiveness; and updating and developing commercial space transportation regulation, policies, and advisory circulars. Steph has been the subject expert and lead for the FAA Office of Commercial Space Transportation in numerous national space policy initiatives including space traffic management, orbital safety for launch and reentry vehicles, orbital debris mitigation practices, and national space cyberspace practices.

Steph holds degrees from the Air Force Academy, the University of North Dakota, and the Air Force Institute of Technology. During his Air Force career, he worked as a Missile Combat Crew Commander for the Minuteman ICBM, performed space surveillance and tracked ballistic missiles, space launches, and all low and mid Earth-orbiting satellites at a space surveillance radar facility, and at Cape Canaveral Air Station he served as the lead Air Force launch controller for numerous rocket launches to include missions to Mars and a Global Positioning Satellite. In addition to a number of headquarter assignments, Steph's last active duty assignment was as Chief of the Space Policy Branch on the Joint Staff where he worked countless national level space issues including national strategies, policies, and issues. Steph has engaged in the same national forums as the advocate for commercial space launch activities since joining the FAA in 2011.

Dr. Diane Howard is **Chief Counsel for Space Commerce** at the **U.S. Department of Commerce**. In addition to providing space law expertise to the Office of Space Commerce (OSC) and the Department of Commerce as a whole, she also participates in interagency work and is actively involved in the Office of Space Commerce's implementation of Space Policy Directive-3.

In addition, Diane is a non-resident scholar at UT Austin's Strauss Center for International and Security Studies and an adjunct professor in its School of Law. She is helping to develop Strauss Center's Space Security and Safety program, a trans-disciplinary program offering opportunities to work on solutions to

challenges to the space environment through a combination of law, policy, engineering, and science curricula. Prior to joining UT Austin, Dr. Howard was one of the original architects of a similar multi-disciplinary program at the undergraduate level in Daytona Beach, FL at Embry-Riddle Aeronautical University.

Diane first became involved in space endeavors in 2004, on both the domestic and international levels. She was a citizen advocate for the passing of the Commercial Space Law Amendments Act of 2004, a critical piece of U.S. legislation that made possible the development of innovative technologies and a burgeoning commercial space transportation industry and participated in United Nations Committee on the Peaceful Uses of Outer Space capacity building initiatives in Rio de Janeiro, Brazil, and Kiev, Ukraine. After working as a staff attorney in the Florida Appellate courts for some years, she took the decision to specialize in space law and attended McGill University's Institute of Air and Space Law. Her LLM thesis centered upon private space law issues and her doctoral work focused upon effective spaceport regulation.

Diane participates in numerous legal projects, both domestically (within the U.S.) and internationally. Dr. Howard was chair of the annual Space Traffic Management (STM) conference while at Embry-Riddle, ongoing since 2013 and hosted at UT Austin in 2019 and has been active in the STM community since 2011. She serves as Executive Secretary of the International Institute of Space Law (IISL) and has worked with COMSTAC Working Groups. The U.S. Department of State named her a subject matter expert to work in an Expert Group of the UN COPUOS STSC Long Term Sustainability of Space Activities Working Group. Dr. Howard was legal lead for the International Association for the Advancement of Space Safety Suborbital Safety (IAASS) Technical Committee. She continues to publish her research and speaks at space conferences and events throughout the world. In addition to the IISL and the IAASS, Diane is a member of the AIAA and the Florida Bar.

Dr. Moriba Jah is an **Associate Professor of Aerospace Engineering and Engineering Mechanics** at **The University of Texas at Austin** where he is the holder of the **Mrs. Pearlie Dashiell Henderson Centennial Fellowship in Engineering**. He's the director for Computational Astronautical Sciences and Technologies (CAST), a group within the Oden Institute for Computational Engineering and Sciences as well as the Lead for the Space Security and Safety Program at the Robert Strauss Center for International Security and Law. Moriba came to UT Austin by way of the Air Force Research Laboratory and NASA's Jet Propulsion Laboratory prior to that, where he was a Spacecraft Navigator on a handful of Mars missions. Moriba is a Fellow of multiple organizations: TED, American Institute of Aeronautics and Astronautics (AIAA), American Astronautical Society (AAS), International Association for the Advancement of Space Safety (IAASS), Royal Astronomical Society (RAS), and the Air Force Research Laboratory (AFRL). He has served on the US delegation to the United Nations Committee On Peaceful Uses of Outer Space (UN-COPUOS), is an elected Academician of the International Academy of Astronautics (IAA), and has testified to congress on his work as related to Space Situational Awareness and Space Traffic Management. He's an Associate Editor of the Elsevier Advances in Space Research journal, and serves on multiple committees: IAA Space Debris, AIAA Astrodynamics, IAF Astrodynamics, and IAF Space Security.

Dr. Jeffrey Thayer is the Joseph T. Negler Professor in the Aerospace Engineering Sciences Department at the University of Colorado, Boulder. He is also Chief Technology Officer of the ASTRALiTe, LLC company advancing lidar technologies. Furthermore, he is the Faculty Director of the Space Weather

Technology, Research, and Education Center at CU. He is co-founder of the center whose purpose is to serve as the nation's premiere academic entity for advancing research into space weather phenomena and their impact on technological systems, developing new observing systems and data/model exploration tools, and transitioning those advancements into operations. Dr. Thayer has over 30 years of experience leading research in the near-space environment, advancing remote sensing technologies (US and EU patents), developing strategic plans for NASA and NSF, and publishing over 110 journal articles. His academic area of expertise is in geophysical fluid dynamics, gas and plasma interactions, thermodynamics, and electrodynamics applied to the near-space environment. His research area of expertise combines ground and space-based observations, along with theory and modeling, to advance our understanding of the near-space environment and its impact on space assets. In his past fifteen years as a CU professor, he has supervised 17 PhD students, 11 Masters students, three post-doctoral students, and numerous undergraduates. Prior to arriving at CU, Dr. Thayer was a research physicist at SRI International and most notably PI of a US national radar observatory in Greenland.