

**Spectrum Protection: An Examination of the Policy and Practical Implications**

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Choate Room, Carnegie Endowment for International Peace

1779 Massachusetts Ave NW, Washington, DC 20036

Speaker Biographies

**Dr. Christopher Hegarty:** Director, CNS Engineering and Spectrum, The MITRE Corporation

Dr. Christopher J. Hegarty is the Director for Communications, Navigation, Surveillance (CNS) Engineering and Spectrum with The MITRE Corporation. Amongst other responsibilities, he has been involved in spectrum protection for space systems, especially GPS, for over 20 years. He received B.S. and M.S. degrees in electrical engineering from Worcester Polytechnic Institute and a D.Sc. degree in electrical engineering from The George Washington University. He served as President of the Institute of Navigation (ION) in 2008 and is the co-editor/co-author of the textbook “Understanding GPS: Principles and Applications, 2nd Ed.” He is a Fellow of both the ION and IEEE.

**Mr. James J. Miller:** Deputy Director, Policy and Strategic Communications Division, Space Communications and Navigation Program, NASA Headquarters

Mr. Miller is currently responsible for advising NASA leadership on U.S. and international PNT/GNSS policy and technology issues, and appointed by the NASA Administrator to serve as Executive Director of the National Space-Based PNT Advisory Board. Prior to his NASA assignment, Mr. Miller was the Deputy Director of the Office of Navigation and Spectrum Policy, Office of the Secretary, at the U.S. Department of Transportation.

Prior to Mr. Miller's government service, he was a Program Manager for the Flight Standards and Technology Department at United Airlines, where he assisted in determining airline industry policy on emerging communications, navigation, and surveillance technologies and applications. In this capacity, he was a founding member of the International Air Transport Association's Spectrum Protection Steering Group, Vice-Chairman of the ARINC Aeronautical Frequency Committee, and a flight operations representative on the Air Transport Association's Flight Systems Integration Committee. Prior to working in the corporate sector, Mr. Miller was an academic researcher at the Queensland University of Technology, Space Center for Satellite Navigation, in Brisbane, Australia. He is a commercial pilot with degrees in Aviation Flight, Aviation Management, Master of Public Administration degree from Southern Illinois University and Master of International Policy and Practice from The George Washington University.

**Dr. Scott Pace:** Director**,** Space Policy Institute, George Washington University

Dr. Scott Pace is the Director of the Space Policy Institute and a Professor of the Practice of International Affairs at George Washington University’s Elliott School of International Affairs. He is also a member of the faculty of the Trachtenberg School of Public Policy and Public Administration. His research interests include civil, commercial, and national security space policy, and the management of technical innovation. From 2005-2008, he served as the Associate Administrator for Program Analysis and Evaluation at NASA.

Prior to NASA, Dr. Pace was the Assistant Director for Space and Aeronautics in the White House Office of Science and Technology Policy (OSTP). From 1993-2000, Dr. Pace worked for the RAND Corporation's Science and Technology Policy Institute (STPI). From 1990 to 1993, Dr. Pace served as the Deputy Director and Acting Director of the Office of Space Commerce, in the Office of the Deputy Secretary of the Department of Commerce. He received a Bachelor of Science degree in Physics from Harvey Mudd College in 1980; Master’s degrees in Aeronautics & Astronautics and Technology & Policy from the Massachusetts Institute of Technology in 1982; and a Doctorate in Policy Analysis from the RAND Graduate School in 1989.

Dr. Pace received the NASA Outstanding Leadership Medal in 2008, the U.S. Department of State’s Group Superior Honor Award, *GPS Interagency Team*, in 2005, and the NASA Group Achievement Award, *Columbia Accident Rapid Reaction Team*, in 2004. He has been a member of the US Delegation to the World Radio Communication Conferences in 1997, 2000, 2003, and 2007. He was also a member of the US Delegation to the Asia-Pacific Economic Cooperation Telecommunications Working Group, 1997-2000. More recently, he has served as a member of the U.S. Delegation to the UN Committee on the Peaceful Uses of Outer Space in 2009, and 20011-15. Dr. Pace has been a member of the NOAA Advisory Committee on Commercial Remote Sensing (ACCRES) since 2012. Dr. Pace is a former member of the Board of Trustees, Universities Space Research Association, a Member of the International Academy of Astronautics, an Associate Fellow of the American Institute of Aeronautics and Astronautics, and a member of the Board of Governors of the National Space Society.

**Ms. Jennifer Warren:** Vice President of Technology Policy and Regulation, Washington Operations’ Government and Regulatory Affairs, Lockheed Martin

Ms. Warren is Vice President, of Technology Policy and Regulation, in Lockheed Martin Washington Operations’ Government and Regulatory Affairs. She is responsible for managing the development and implementation of the corporation’s regulatory and associated policy strategies affecting business interests in the areas of spectrum access, commercial space, cybersecurity, ocean minerals, climate change, and emerging technologies. Prior to joining Lockheed Martin in 1996, she served in various capacities at the Federal Communications Commission, including as Senior Legal Advisor, International Bureau and Assistant Chief, Wireless Telecommunications Bureau. In 1990-91, Ms. Warren was a “stagiaire” at the European Commission in Brussels, and prior to that in Washington, DC.

Ms. Warren is a graduate of Georgetown University (B.S.) and Georgetown University Law Center (J.D.). She is an Adjunct Professor at Georgetown University Law Center. Ms. Warren holds leadership positions in several professional and civic organizations. She serves on the Boards of the Satellite Industry Association and the US ITU Association. Ms. Warren also serves on several Federal Advisory Committees – Department of Commerce Spectrum Management Advisory Committee (CSMAC), Department of State Advisory Committee on International Communications and Information Policy (ACICIP), and the Federal Aviation Administration Commercial Space Transportation Advisory Committee (COMSTAC).