

An aerial photograph showing a rocket launch. A thick, white plume of smoke and fire trails from the launch site on the ground, extending diagonally upwards into a clear blue sky. In the lower right quadrant, a fighter jet is flying horizontally. The ground below shows a mix of green fields and grey infrastructure.

CSIS-PSSI CONFERENCE

**SPACE SECURITY:
ISSUES FOR THE NEW
U.S. ADMINISTRATION**

MARCH 22, 2017 | WASHINGTON, DC

CSIS | CENTER FOR STRATEGIC &
INTERNATIONAL STUDIES



Prague Security
Studies Institute



PURPOSE

The past several years have witnessed a troubling acceleration of challenges to space security, both natural and man-made. The sharp rise in the number of space actors and assets has complicated multilateral governance and led to competition over limited orbital slots, the electromagnetic spectrum, and norms of behavior in space. As General John Hyten, commander of U.S. Strategic Command, has noted, terrestrial conflicts can quickly extend into space.

To bolster the European-Japanese-U.S. dialogue on space security and to expand allied collaboration in this area, the Prague Security Studies Institute (PSSI) has convened four high-level conferences since 2011. The goal of this conference series has been to help identify the most pressing man-made threats to a safe and secure space environment and to identify potential solutions or threat-mitigation measures. A special emphasis has been placed on the interrelation of maritime security and space security.

Past conferences were co-organized with the European Space Agency (ESA), the Office of National Space Policy of the Japanese Prime Minister's Cabinet Office, and the Secure World Foundation (SWF). This year's conference is being co-hosted with the Center for Strategic and International Studies (CSIS). These events bring together leading policy-makers, senior military officers, industry and

academic experts, distinguished NGO representatives, and private sector representatives from Europe, Japan, and the United States.

This 2017 conference seeks to discuss the highest priority space security issues facing the Trump Administration. U.S. space security strategy has transformed over the past decade following the Chinese anti-satellite (ASAT) test in 2007 and a series of more recent incidents ranging from the demonstration of a potential ASAT weapon launched to near-GEO orbit by China and Russian rendezvous and proximity operations in both LEO and GEO. Major themes of this transformation in U.S. space strategy have been improving the resiliency of satellites and associated ground infrastructure and strengthening deterrence in space. The United States has also continued to upgrade its Space Situational Awareness (SSA) architecture to better detect and attribute malign activities.

In 2016, the European Union (EU) and the European Space Agency (ESA) released several documents that elevated space security to a higher position in the overall European security portfolio. These included the European Commission's 2016 Space Strategy for Europe and its European Defence Action Plan, the EU Global Strategy, the EU-ESA joint statement on shared vision and goals for the future of Europe in space and the conclusions of the ESA Council meeting at ministerial level. These documents highlighted the critical importance of space in Europe's security and defense architecture and the need to protect sensitive space assets.

After decades of its space policy being constrained by its constitution, Japan has now, as a result of a series of new Basic Plans for Space Policy, configured a more security-oriented space program that recognizes space as an integral component of its broader national security

planning. Japan's progress in this domain has been most impressive in a relatively short period.

The purpose of the 2017 PSSI-CSIS Space Security Conference is to raise awareness and understanding of space security issues. The conference will explore the implications of growing threats to a safe and secure space environment, escalation and deterrence dynamics in space, and the readiness of allied forces for conflicts that extend into the space domain. The conference will also consider opportunities for expanded allied cooperation in space-based missile warning and missile defense, space launch, and space situational awareness. By bringing together government officials and outside experts from Europe, Japan, and the United States, this event aims to facilitate discussion and cooperation that will strengthen deterrence and stability in space for the benefit of all.



AGENDA

WEDNESDAY, 22 MARCH 2017

Center for Strategic and International Studies
1616 Rhode Island Avenue NW, Washington, D.C.

8:30–9:00 **COFFEE AND REGISTRATION**

9:00–9:05 **WELCOME REMARKS**

John J. Hamre

President and CEO, Center for Strategic and International Studies (CSIS)

Roger W. Robinson Jr.

Chairman and Co-Founder,
Prague Security Studies Institute (PSSI)

9:05–9:45 **OPENING KEYNOTE**

Vice Admiral Charles A. Richard

Deputy Commander, U.S. Strategic Command (USSTRATCOM)

Moderator | **Thomas Karako**

Senior Fellow and Director,
Missile Defense Project, CSIS

9:45–10:00 **BREAK**

10:00–11:00 **PANEL 1 | SPACE CRISIS DYNAMICS**

Moderator | **Jana Robinson**

Director, Space Security Program, PSSI

Todd Harrison

Senior Fellow and Director, Aerospace Security Project, CSIS

Zack Cooper

Fellow, CSIS

Victoria Samson

Washington Office Director, Secure World Foundation (SWF)

Brian Weeden

Director of Program Planning, Secure World Foundation (SWF)

11:00–11:40 **KEYNOTE ADDRESS**

Rep. Jim Bridenstine

Oklahoma's First Congressional District

Moderator | **Todd Harrison**

Senior Fellow and Director, Aerospace Security Project, CSIS

11:40–12:15 **BREAK TO SERVE LUNCH**

Moderator | **Todd Harrison**

12:15–13:35 **PANEL 2 | COOPERATION IN SPACE AND MISSILE DEFENSE**

Moderator | **Thomas Karako**

Senior Fellow and Director, Missile Defense Project, CSIS

Peter L. Hays

Space Policy Institute, George Washington University

Rear Admiral Jon Hill

Deputy Director, Missile Defense Agency

Shuji Maeda

Counselor, Embassy of Japan

13:15–13:25 **BREAK**

13:25–14:25 **PANEL 3 | THE FUTURE OF SPACE LAUNCH**

Moderator | **Todd Harrison**

Senior Fellow and Director, Aerospace Security Project, CSIS

Andrew Hunter

Senior Fellow and Director,
Defense-Industrial Initiatives Group, CSIS

Brett Alexander

Director, Business Development and Strategy, Blue Origin

William LaPlante

Vice President, Intelligence Portfolio,
National Security Engineer Center, MITRE

John Schumacher

Vice President, Washington Operations, Aerojet Rocketdyne

14:25–15:35 **PANEL 4 | SPACE SITUATIONAL AWARENESS AND SPACE TRAFFIC MANAGEMENT**

Moderator | **Scott Pace**

Director, Space Policy Institute

Travis Langster

Vice President, Analytical Graphics, Inc. (AGI)

Kazuto Suzuki

Professor of International Political Economy,
Public Policy School, Hokkaido University, Japan

Bhavya Lal

Research Staff Member,
IDA Science and Technology Policy Institute

Col. Géraud Laborie

Air Attaché, Embassy of France

Claes Hansen

European Space Agency

15:35–16:00 **CLOSING KEYNOTE**

C. Robert Kehler

Gen (USAF, ret.) Former Commander, U.S. Strategic Command (USSTRATCOM)

Introduced by | **Thomas Karako**

Senior Fellow and Director, Missile Defense Project, CSIS



SPEAKERS

BRETT ALEXANDER

Brett Alexander is the Director of Business Development and Strategy for Blue Origin, LLC, a developer of vehicles and technologies to enable human space transportation. From October 2009 to October 2011, he was a member of the NASA Advisory Council (NAC), serving as the chair of the Commercial Space Committee, assessing NASA's partnership with industry to develop commercial crew and cargo capabilities to support the International Space Station and private spaceflight.

Mr. Alexander previously served as a senior policy analyst for space issues in the White House Office of Science and Technology Policy where he served both Presidents Bush and Clinton. While at the White House, he played a central role in development of the Vision for Space Exploration, announced in January 2004. From December 2006 to May 2011, he served as President of the Commercial Spaceflight Federation, the industry association of businesses and organizations working to make commercial human spaceflight a reality. From 2008 to 2011, he was also a consultant in the space industry, providing strategy and business development advice to launch service providers and vehicle developers, as well as assessment of international space activities to NASA.

Mr. Alexander holds Master and Bachelor of Science degrees in aerospace engineering from the University of Virginia in Charlottesville, Virginia.

REPRESENTATIVE JIM BRIDENSTINE

Congressman Jim Bridenstine was elected in 2012 to represent Oklahoma's First Congressional District. He serves on the House Armed Services Committee and the Science, Space and Technology Committee, where he was selected to serve as Chairman of the House Environment Subcommittee.

Bridenstine began his Naval aviation career flying the E-2C Hawkeye off the USS Abraham Lincoln aircraft carrier. It was there that he flew combat missions in Iraq and Afghanistan and gathered most of his 1,900 flight hours and 333 carrier-arrested landings. While on active duty, he transitioned to the F-18 Hornet and flew at the Naval Strike and Air Warfare Center, the parent command to TOPGUN.

Bridenstine promoted to the rank of Lieutenant Commander in the U.S. Navy Reserve in 2012 flying missions in Central and South America in support of America's war on drugs and most recently transitioned to the 137th Air Refueling Wing of the Oklahoma Air National Guard, where he will fly with an MC-12 squadron stationed at Will Rogers World Airport in Oklahoma City.

After leaving active duty, Bridenstine returned to Tulsa to be the Executive Director of the Tulsa Air and Space Museum & Planetarium. Bridenstine's background includes a triple major at Rice University, a MBA from Cornell University, 9 years active duty in the United States Navy, and business experience in real estate, ranching, aerospace, and defense contracting.

ZACK COOPER

Zack Cooper is a fellow with the Japan Chair at the Center for Strategic and International Studies (CSIS). Dr. Cooper focuses on Asian security issues and has coauthored or coedited numerous studies, including *Asia-Pacific Rebalance 2025: Capabilities, Presence, and Partnerships* (CSIS, 2016); *The ANZUS Alliance in an Ascending Asia* (Australian National University, 2015); *Federated Defense in Asia* (CSIS, 2014); *Assessing the Asia-Pacific Rebalance* (CSIS, 2014); and *Strategic Japan: New Approaches to Foreign Policy and the U.S.-Japan Alliance* (CSIS, 2014). His research has also appeared in *Security Studies*, the *Washington Quarterly*, the *National Interest*, and *International Security*, and he works closely with the CSIS Asia Maritime Transparency Initiative.

Prior to joining CSIS, Dr. Cooper worked as a research fellow at the Center for Strategic and Budgetary Assessments. He previously served on the White House staff as assistant to the deputy national security adviser for combating terrorism. He also worked as a civil servant in the Pentagon, first as a foreign affairs specialist and then as a special assistant to the principal deputy under secretary of defense for policy. He received a B.A. from Stanford University and an M.P.A., M.A., and Ph.D. from Princeton University. His doctoral dissertation, entitled "Tides of Fortune: The Rise and Decline of Great Militaries," explains how changing perceptions of relative power alter national defense policies.

JOHN J. HAMRE

John Hamre was elected president and CEO of CSIS in January 2000. Before joining CSIS, he served as the 26th U.S. deputy secretary of defense. Prior to holding that post, he was the under secretary of defense (comptroller) from 1993 to 1997. As comptroller, Dr. Hamre was the principal assistant to the secretary of defense for the preparation, presentation, and execution of the defense budget and management improvement programs. In 2007, Secretary of Defense Robert Gates appointed Dr. Hamre to serve as chairman of the Defense Policy Board.

Before serving in the Department of Defense, Dr. Hamre worked for 10 years as a professional staff member of the Senate Armed Services Committee. During that time, he was primarily responsible for the oversight and evaluation of procurement, research, and development programs, defense budget issues, and relations with the Senate Appropriations Committee. From 1978 to 1984, Dr. Hamre served in the Congressional Budget Office, where he became its deputy assistant director for national security and international affairs. In that position, he oversaw analysis and other support for committees in both the House of Representatives and the Senate. Dr. Hamre received his Ph.D., with distinction, in 1978 from the School of Advanced International Studies at Johns Hopkins University in Washington, D.C., where his studies focused on international politics and economics and U.S. foreign policy. In 1972, he received his B.A., with high distinction, from Augustana College in Sioux Falls, South Dakota, emphasizing political science and economics. The following year he studied as a Rockefeller fellow at the Harvard Divinity School in Cambridge, Massachusetts.

CLAES HANSEN

Claes Hansen works in the legal department of the European Space Agency (ESA). In his role, he is a legal advisor to the ESA security committee. Mr Hansen began his professional career in 1985 in the Royal Swedish Navy and served as a principal warfare officer on surface ships. He still serves in the naval reserve. From 1998, he worked in programme management for the Swedish Space Corporation. After joining ESA in 2002, Mr Hansen mainly worked in the space segment of the Galileo programme, and for some time with the ESA SSA programme. He is in the legal department since 2012. Mr Hansen is an alumni of the European Security and Defence College, High-level Course 2012-2013. Mr Hansen earned an LL.M. in maritime law from the University of Stockholm and the University of Oslo.

TODD HARRISON

Todd Harrison is the director of the Aerospace Security Project and the director of Defense Budget Analysis at CSIS. As a senior fellow in the International Security Program, he leads the Center's efforts to provide in-depth, nonpartisan research and analysis of space security, air power, and defense funding issues. Mr. Harrison joined CSIS from the Center for Strategic and Budgetary Assessments, where he was a senior fellow for defense budget studies. He previously worked at Booz Allen Hamilton where he consulted for the Air Force on satellite communications systems and supported a variety of other clients evaluating the performance of acquisition programs. Prior to Booz Allen, he worked for a small startup (AeroAstro Inc.) developing advanced space technologies and as a management consultant at Diamond Cluster International. He is a graduate of the Massachusetts Institute of Technology with both a B.S. and an M.S. in aeronautics and astronautics.

PETER L. HAYS

Dr. Peter L. Hays is a Senior Space Policy Analyst with Falcon Research supporting the Principal Department of Defense Space Advisor Staff where he helps to develop and implement space policy and strategy ini-

tiatives. In addition to being an Associate Director for Studies for the Eisenhower Center for Space and Defense Studies at the USAF Academy and founding Editor of its Space and Defense journal, Dr. Hays is a professor of Space Policy and International Affairs at George Washington University's Center for International Science and Technology Policy and Space Policy Institute. Dr. Hays was selected as a member of the World Economic Forum's Global Agenda Council on Space Security, 2010-2014, the Space Security Index Governance Group, 2010-present, and a Member of Editorial Board for Space and Defense, *Astropolitics: The International Journal of Space Power and Policy*, and *Handbook of Space Security - Policies, Applications, Programs and Technologies*.

Dr. Hays holds a Ph.D. from the Fletcher School and was an honor graduate of the United States Air Force Academy. He served internships at the White House Office of Science and Technology Policy and National Space Council. Hays previously taught space policy courses at the United States Air Force Academy School of Advanced Airpower Studies and National Defense University. His major publications include *Handbook of Space Security*, *Space and Security*, and *Toward a Theory of Spacepower*.

REAR ADMIRAL JON A. HILL

Rear Admiral Jon Hill is the Deputy Director of the Missile Defense Agency as of November 2016. He advises the director, MDA, in fielding the Ballistic Missile Defense System (BMDS) and manages MDA support to BMDS operational programs. Hill supports the development and implementation of BMDS policy, capabilities, priorities, and resources and serves as the operational interface with the Services, Combatant Commands, Joint Staff and allies.

RDML Hill was commissioned as a surface warfare officer designated as an engineering duty officer, and his first flag officer tour was program executive officer for Integrated Warfare Systems (PEO IWS). In this role, he was accountable for developing, delivering and sustaining all surface ship combat control systems, radars, missiles, launchers, electronic warfare, naval gunnery systems and surface and subsurface anti-submarine warfare mission capabilities.

Other leadership and acquisition engineering positions include: AEGIS Shipbuilding (PMS 400), Naval Surface Warfare Center (NSWC) Dahlgren Division and Port Hueneme Division, Program Executive Office Theater Surface Combatants and on the Assistant Secretary of the Navy staff for Research, Development and Acquisition (ASN RDA). He also served on the Joint Staff (J-6), U.S. Army Staff for Missile Systems and as a senior fellow on the Chief of Naval Operations Strategic Studies Group (CNO SSG XXVII). He served in the Missile Defense Agency (MDA) as technical director for AEGIS Ballistic Missile Defense then as AEGIS Combat Systems major program manager (MPM) where he delivered Naval Integrated Fire Control and Counter Air (NIFC-CA) and Integrated Air and Missile Defense (IAMD) capabilities to forces afloat.

RDML is a graduate of Saint Mary's University and earned a Master of Science in Applied Physics and Ordnance Engineering from Naval Postgraduate School.

ANDREW PHILIP HUNTER

Andrew Hunter is a senior fellow in the International Security Program and director of the Defense-Industrial Initiatives Group at CSIS. He focuses on issues affecting the industrial base, including emerging technologies, sequestration, acquisition policy, and industrial policy. From 2011 to November 2014, Mr. Hunter served as a senior executive in the Department of Defense (DOD). Appointed as director of the Joint Rapid Acquisition Cell in 2013, his duties included fielding solutions to urgent operational needs and leading the work of the Warfighter Senior Integration Group to ensure timely action on critical issues of warfighter support. From 2011 to 2012, he served as chief of staff to Ashton B. Carter and Frank Kendall, while each was serving as under secretary of defense for acquisition, technology, and logistics. Additional duties while at DOD include providing support to the Deputy's Management Action Group and leading a team examining ways to reshape acquisition statutes.

From 2005 to 2011, Mr. Hunter served as a professional staff member of the House Armed Services Committee, leading the committee's policy staff and managing a portfolio focused on acquisition policy, the defense industrial base, technology transfers, and export controls. From 1994 to 2005, he served in a variety of staff positions in the House of Representatives, including as

appropriations associate for Representative Norman D. Dicks, as military legislative assistant and legislative director for Representative John M. Spratt Jr., and as a staff member for the Select Committee on U.S. National Security and Military/Commercial Concerns with the People's Republic of China. Mr. Hunter holds an M.A. degree in applied economics from the Johns Hopkins University and a B.A. degree in social studies from Harvard University.

THOMAS KARAKO

Thomas Karako is a senior fellow with the International Security Program and the director of the Missile Defense Project at the Center for Strategic and International Studies (CSIS), where he arrived in 2014 as a fellow with the Project on Nuclear Issues. His research focuses on national security, U.S. nuclear forces, missile defense, and public law. He is also an assistant professor of political science and director of the Center for the Study of American Democracy at Kenyon College, where he arrived in 2009. For 2010–2011, he was selected to be a American Political Science Association Congressional Fellow, during which time he worked with the professional staff of the House Armed Services Committee on U.S. strategic forces policy, nonproliferation, and NATO.

Karako received his Ph.D. in politics and policy from Claremont Graduate University and his B.A. from the University of Dallas. He previously taught national security policy, American government, and constitutional law at Claremont McKenna College and California State University, San Bernardino. He has also written on executive-congressional relations, the thought of Niccolo Machiavelli, and international executive agreements.

GENERAL C. ROBERT KEHLER

General C. Robert Kehler, U.S. Air Force (Ret.), is the former commander, U.S. Strategic Command (USSTRATCOM). In this role, he was directly responsible to the President and Secretary of Defense for the plans and operations of all U.S. forces conducting strategic deterrence, nuclear alert, and Department of Defense space, cyberspace, and associated operations. Previously, as commander of Air Force Space Command, he was responsible for the development, acquisition, and operation of the Air

Force's space and missile systems. He retired from the Air Force on Jan. 1, 2014, after over 38 years of distinguished service.

Secretary of Defense Chuck Hagel praised Gen. Kehler's uncompromising standards and tireless efforts to "build and maintain the space, cyber, and missile defense capabilities that USSTRATCOM needs for today's security environment" and dedication to maintaining a "safe, secure, ready, and effective nuclear deterrent force."

Over his career, Gen. Kehler served in a variety of important operational and staff assignments and was among the few to command at the squadron, group, wing, major command, and combatant command level. As commander of USSTRATCOM, his forces directly supported combat operations and participated in numerous global contingencies. He also directed the National Security Space Office where he integrated the activities of a number of space organizations on behalf of the Under Secretary of the Air Force and Director, National Reconnaissance Office. He was also assigned to the Secretary of the Air Force Office of Legislative Liaison, where he was point man on Capitol Hill for matters regarding the President's ICBM Modernization Program.

His military career began in the R.O.T.C. program at Pennsylvania State University, where he earned a bachelor's degree in education. In addition to his command and management training, he holds master's degrees in national security and strategic studies from the Naval War College and in public administration from the University of Oklahoma. Gen. Kehler completed the Program for Executives at Carnegie Mellon University, the National Security Leadership Course at the Maxwell School of Citizenship and Public Affairs at Syracuse University and the program for senior executives in National and International Security at the John F. Kennedy School of Government at Harvard University.

Gen. Kehler's numerous awards and decorations include the Defense Distinguished Service Medal, the Distinguished Service Medal with oak leaf cluster, the Defense Superior Service Medal, the Legion of Merit with two oak leaf clusters, the Defense Meritorious Service Medal, the Meritorious Service Medal with three oak leaf clusters, the Air Force Commendation Medal and the French Legion of Honour.

COLONEL GÉRAUD LABORIE

Col Géraud Laborie was commissioned from the French Air Force Academy in 1992. A tactical transport pilot with several deployments overseas, including Chad and Afghanistan, he is also a graduate of the French Test Pilot School and spent six years as an experimental test pilot in the French Flight Test Center, where he took part in the development of major aircraft programs including the Airbus A-400M. Col Laborie completed his professional military education in the USA: he is a distinguished graduate of the Air Command and Staff College, a graduate of the School of Advanced Air and Space Studies and the National War College.

His command tours include two years at the head of the "Touraine" tactical transport squadron, which he led during Operation Unified Protector over Libya.

BHAVYA LAL

Bhavya Lal leads strategy, technology assessment, and policy studies and analyses at STPI for various Federal space-oriented agencies. Her recent work has focused on issues related to space nuclear power, planetary defense, space situational awareness, commercial space, space property rights, small satellites, and global trends in space. Dr. Lal is an active member of the NOAA Advisory Committee on Commercial Remote Sensing and has recently served on two National Academy of Science committees: Space-Based 3D Printing (Aeronautics and Space Engineering Board, 2014), and CubeSats for Science Applications (Space Studies Board, 2016, as Vice-Chair). Before joining STPI, Dr. Lal was president of C-STPS, LLC, a science and technology policy research and consulting firm in Waltham, Massachusetts. Prior to that, she was the Director of the Center for Science and Technology Policy Studies at Abt Associates, Inc., a consulting company in Cambridge, Massachusetts. Dr. Lal holds BS and MS degrees in nuclear engineering from the Massachusetts Institute of Technology (MIT), a second MS from MIT's Technology and Policy Program, and a PhD from George Washington University.

TRAVIS LANGSTER

Travis Langster is AGI's vice president, DoD and Intel Space Business Unit. In this role, he is responsible for strategy and business development within the national security space community. Mr. Langster manages the software solution and services applications of AGI's business which includes space situational awareness and mission assurance. His responsibilities also include supporting and engaging the international community. Mr. Langster has more than 20 years of professional experience in business development, program strategy and capture, strategic planning, corporate initiatives, technical management, systems engineering and operations support. Mr. Langster joined AGI in 1996 as a systems engineer and his most recent position was serving as director of Space Situational Awareness Business Development.

Mr. Langster began his aerospace career in 1992 as an engineer with General Electric Aerospace, where he focused on the launch and on-orbit operations of Air Force satellite systems. From 1994–1996, he was a systems engineer with Lockheed Martin Astro Space. During this time, he performed engineering analysis on satellite subsystems and payloads, mission planning and development of orbit analysis software tools. Mr. Langster is a member of Aerospace Industries of America (AIA) and is a past Space Situational Awareness (SSA) committee chair. He is also a member of the American Institute of Aeronautics and Astronautics (AIAA) and was instrumental in the initial operations of the U.S. Geospatial-Intelligence Foundation (USGIF) while serving on their Strategic Advisory Board. Langster earned a B.S. in aeronautical and astronautical engineering with a minor in mathematics from Purdue University.

WILLIAM LAPLANTE

Dr. William A. LaPlante is vice president of the Intelligence Portfolio in the National Security Engineering Center, a federally funded research and development center that MITRE operates on behalf of the U.S. Department of Defense. In this role, Dr. LaPlante leads key initiatives in support of the nation's intelligence community.

Dr. LaPlante has more than 30 years of experience in defense technology, most recently as assistant secretary of the Air Force for Acquisition. Prior to

entering public service in 2013, he was MITRE's Missile Defense portfolio director. During this time, Dr. LaPlante was appointed to the Defense Science Board (DSB), where he co-chaired a study on enhancing the adaptability of U.S. military forces. He has resumed his participation in the DSB, where he advises top Department of Defense leadership on critical scientific and technological topics related to the effectiveness of the nation's military forces.

Before joining MITRE, he was the department head for Global Engagement at the Johns Hopkins University Applied Physics Laboratory (APL). In that role he was responsible for all of APL's work supporting offensive military capabilities. He was also a member of the APL Executive Council.

He holds a bachelor's degree in engineering physics from the University of Illinois, a master's degree in applied physics from Johns Hopkins University, and a doctorate in mechanical engineering from Catholic University of America.

SHUJI MAEDA

Mr. Shuji Maeda is a Political Counselor at the Embassy of Japan in the United States of America. He covers Japan-U.S. Alliance management and other political-military issues.

He joined the Japanese Ministry of Foreign Affairs in 1998, and served at the Embassy in Washington, DC, for 2001-2003. After returning Tokyo, he worked on such issues as Japan-US security relations (2003–2006), economic treaties (2006–2009), North Korea (2009–2012), and development assistance (2012–2014). He arrived at the current post in August, 2014.

He studied at the University of Tokyo and Amherst College (MA).

SCOTT PACE

Scott Pace is the Director of the Space Policy Institute and Professor of the Practice of International Affairs at the 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.

Dr. Pace currently serves as the Vice-Chair of the National Oceanic and Atmospheric Administration's (NOAA) Advisory Committee on Commer-

cial Remote Sensing (ACCRES). From 2005–2008, Dr. Pace served as the Associate Administrator for Program Analysis and Evaluation at NASA. Prior to NASA, he 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, he was Deputy Director and Acting Director of the Office of Space Commerce, in the Office of the Deputy Secretary of the Department of Commerce. Dr. Pace 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.

VICE ADMIRAL CHARLES A. RICHARD

Richard assumed duties as deputy commander of United States Strategic Command in September 2016. Previously, in addition to several flag and operational assignments, Richard’s recent staff assignments include service as the executive assistant and naval aide to the under secretary of the Navy; chief of staff, Submarine Force Atlantic; and command of Submarine Squadron (SUBRON) 17 in Bangor, Washington. Other staff assignments include director of resources on the staff of the under secretary of defense (policy); squadron engineer on the staff of SUBRON-8 and duty on the deputy chief of naval operations (submarine warfare) staff (OP 213). He has also served as a member of Chief of Naval Operations’ Strategic Studies Group XXVIII, studying the integration of unmanned systems into naval force structure. Additionally, Richard previously served as the director, Undersea Warfare Division (N97) in Washington, D.C., and was responsible for the planning, programming and budgeting for acquisition, operational readiness and modernization of the submarine force and its support.

Charles Richard graduated with honors from the University of Alabama in 1982 and has earned master’s degrees with honors from the Catholic University of America and the Naval War College.

JANA ROBINSON

Dr. Jana Robinson is currently Space Security Program Director at the Prague Security Studies Institute (PSSI). She previously served as a Space Policy Officer at the European External Action Service (EEAS) in Brussels, as well as a Space Security Advisor to the Foreign Ministry of the Czech Republic. From 2009 to 2013, Ms. Robinson worked as Resident Fellow at the European Space Policy Institute (ESPI), seconded from the European Space Agency (ESA), leading the Institute’s Space Security Research Programme.

Prior to joining ESPI, Dr. Robinson served as Development Director at PSSI from 2005 to 2009, and administered its affiliate organization in Washington DC, PSSI Washington. Ms. Robinson is an elected member of the International Institute of Space Law (IISL) and the International Academy of Astronautics (IAA). She is also a member of the Advisory Board of the George C. Marshall Missile Defense Project of the Center for Strategic and International Studies (CSIS) in Washington, D.C. Ms. Robinson holds a PhD from the Charles University’s Faculty of Social Sciences, Institute of Political Studies, in the field of space security. She also holds two Master’s Degrees, from George Washington University’s Elliott School of International Affairs and Palacky University in Olomouc, respectively. She received scholarships to attend the International Space University’s (ISU) 2009 Space Studies Program (SSPO9), the 2008 Summer Training Course at the National Taiwan Normal University in Taipei, and a one-year course of study at Shanghai University 1999–2000.

ROGER W. ROBINSON, JR.

Roger W. Robinson, Jr. has served as President and CEO of RWR Advisory Group, a global security risk management firm, since 1985. He is also the Chairman and Co-Founder of the Prague Security Studies Institute (PSSI), established in 2002. Mr. Robinson served as Chairman and Vice Chairman of the Congressionally-mandated U.S. - China Economic and Security Review Commission from 2001 to 2006. He earlier held the position of Senior Director of International Economic Affairs at the National Security Council (NSC) from March 1982 until September 1985.

Mr. Robinson was a Vice President in the International Department of the Chase Manhattan Bank with responsibility for the bank's loan portfolios in the USSR, Central and Eastern Europe, and Yugoslavia for five years. He has published extensively on security-related risk in the global markets and East-West economic, financial and energy relations and often testified before Senate and House Committees.

VICTORIA SAMSON

Victoria Samson is the Washington Office Director for Secure World Foundation and has nearly twenty years of experience in military space and security issues.

Before joining SWF, Ms. Samson served as a Senior Analyst for the Center for Defense Information (CDI), where she leveraged her expertise in missile defense, nuclear reductions, and space security issues to conduct in-depth analysis and media commentary. Prior to her time at CDI, Ms. Samson was the Senior Policy Associate at the Coalition to Reduce Nuclear Dangers, a consortium of arms control groups in the Washington, D.C. area, where she worked with Congressional staffers, members of the media, embassy officials, citizens, and think-tanks on issues surrounding dealing with national missile defense and nuclear weapons reductions. Before that, she was a researcher at Riverside Research Institute, where she worked on war-gaming scenarios for the Missile Defense Agency's Directorate of Intelligence.

Ms. Samson holds a Bachelor of Arts (B.A.) degree in political science with a specialization in international relations from UCLA and a Master of Arts (M.A.) in international relations from the Johns Hopkins School of Advanced International Studies.

JOHN D. SCHUMACHER

John Schumacher is the vice president of Washington operations for Aerojet Rocketdyne and president of the Aerojet Rocketdyne Foundation. Mr. Schumacher graduated with distinction from the U.S. Naval Academy in 1967, received his Master of Arts from Georgetown University in 1984, and was awarded his Juris Doctor from Columbia University in 1987. His career encompasses a broad range of military, civil, and com-

mercial aerospace experience, with time spent working on strategic and tactical missile programs, missile defense, satellite capabilities, space transportation, geo-information, and telecommunications. This experience includes a period of service as Chief of Staff for NASA (2003–2005) and assignments to the space and electronic warfare directorates of the Joint Chiefs of Staff and Chief of Naval Operations as well as four unit commands during his time in the Navy. Additionally, Mr. Schumacher is a member of the New York Bar, American Bar Association, Surface Warfare Association, U.S. Naval Institute, American Institute of Aeronautics and Astronautics, and the Planetary Society.

KAZUTO SUZUKI

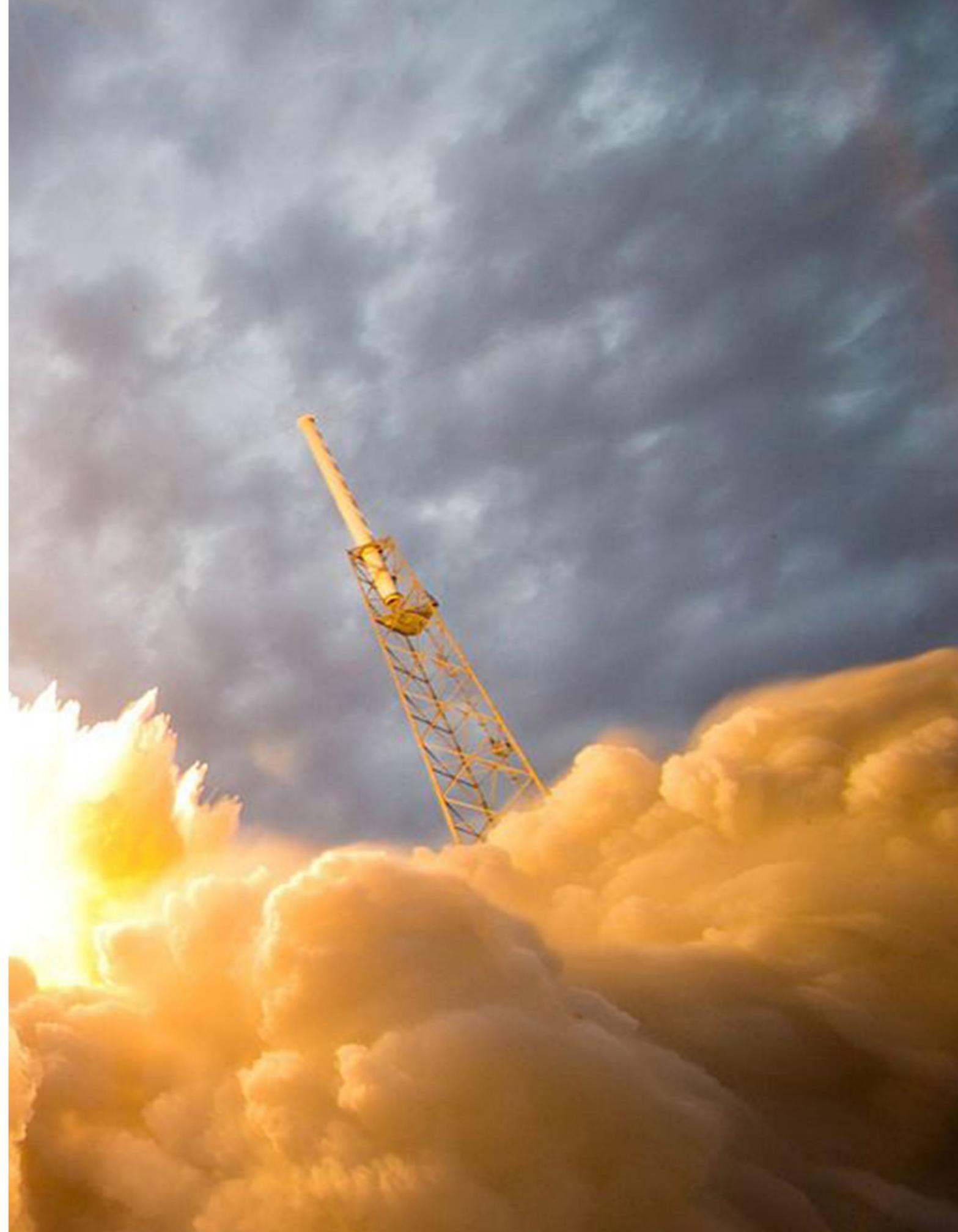
Kazuto Suzuki is a Professor at the Public Policy School of Hokkaido University. Before moving to the current post, Dr. Suzuki worked for the Panel of Experts on Iran sanctions at the United Nations from 2013 to 2015 and at the University of Tsukuba from 2000 to 2008. As an expert of space policy, he is a member of the Space Industry Sub-Committee and Space Security Working Group at the Committee of National Space Policy of Japan, and has worked as an advisor for the Space Development Committee of the Liberal Democratic Party of Japan and as a Senior Policy Researcher for the Japan Aerospace Exploration Agency (JAXA). Dr. Suzuki also has been closely involved in the development of the Japanese space decision-making process, including the establishment of the Basic Law for Space Activities of 2008 and the Mid-term Plan for Space Activities of 2009. He graduated from the Department of International Relations, Ritsumeikan University, and received his Ph.D. from the Sussex European Institute, University of Sussex.

BRIAN WEEDEN

Dr. Brian Weeden is the Director of Program Planning for Secure World Foundation and has 17 years of professional experience in space operations and policy. Dr. Weeden directs strategic planning for future-year projects to meet the Foundation's goals and objectives, and conducts research on space debris, global space situational awareness, space traf-

fic management, protection of space assets, and space governance. Dr. Weeden also organizes national and international workshops to increase awareness of and facilitate dialogue on space security, stability, and sustainability topics. Prior to joining SWF, Dr. Weeden served nine years on active duty as an officer in the United States Air Force working in space and intercontinental ballistic missile (ICBM) operations. As part of U.S. Strategic Command's Joint Space Operations Center (JSpOC), Dr. Weeden directed the orbital analyst training program and developed tactics, techniques and procedures for improving space situational awareness.

Dr. Weeden holds a Bachelor of Science Degree in Electrical Engineering from Clarkson University, a Master of Science Degree in Space Studies from the University of North Dakota, and is also a graduate of the International Space University Space Studies Program (2007, Beijing). He has a PhD in Public Policy and Public Administration from George Washington University in the field of Science and Technology Policy.





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