



SPEAKER BIOGRAPHIES



Maj Gen James Armor

Major General Jim Armor retired from the U.S. Air Force in January 2008, where his last position was as Director of the National Security Space Office (NSSO) in the Office of the Under Secretary of the Air Force, at the Pentagon. His 34-year AF space career included assignments as Director, Signals Intelligence (SIGINT) Systems Acquisition and Operations at the National Reconnaissance Office (NRO), Vice Commander of the Warner Robins Air Logistics Center at Robins AFB, GA, and Program Director of the NAVSTAR Global Positioning System (GPS) at Los Angeles Air Force Base, CA. He served in a variety of space staff and program management positions, including being qualified as a DoD Space Shuttle payload specialist. He is currently CEO of the Armor Group, LLC, VA, a consultancy for space systems, where he supports several space industry contractors and is a consultant to Sandia National Laboratory, Senior Advisor to Applied Physics Laboratory, and a Visiting Scientist for the Software Engineering Institute. Additionally, he is an Independent Director on the Boards of Integral Systems, Inc., MD, and NAVSYS Corporation, CO, and serves on two National Research Council Committees: the US Civil Space Program, and the Air Force STEM (Scientific, Technical, Engineering, and Math) Workforce.

Mr. Richard Buenneke

Richard H. Buenneke is the deputy director for space policy in the Office of Missile Defense and Space Policy, Bureau of International Security and Nonproliferation at the United States Department of State in Washington, D.C. In his current position, Mr. Buenneke leads the planning and implementation of diplomatic and public diplomacy activities relating to U.S. national security space policy. Before joining the State Department in March 2007, Mr. Buenneke was a senior policy analyst at The Aerospace Corporation, where he served as lead analyst for the National Security Space Office's work on commercial satellite protection. Mr. Buenneke has nearly 25 years of professional experience in field of national security space policy. He holds bachelors degrees in economics and systems engineering from the Wharton and Engineering schools of the University of Pennsylvania. Mr. Buenneke also holds masters' degrees in policy analysis from George Washington University's Elliott School of International Affairs and the Pardee RAND Graduate School.

Mr. Dean Cheng

Dean Cheng has spent nearly two decades studying Chinese and Asian security and economic issues. He is currently a Senior Asia Analyst at CNA, a not-for-profit think-tank, where he specializes in Chinese military issues, with an emphasis on China's space program. Prior to joining CNA, he was a senior analyst with SAIC. He began developing his expertise on the Chinese defense industrial complex while working at the US Congress' Office of Technology Assessment. He has spoken at the National Defense University, RAND, the



SPEAKER BIOGRAPHIES



Center for Strategic and International Studies, and the US Air Force Academy's Eisenhower Center for Space and Defense Studies, and has written on Chinese joint doctrine, the military and technological implications of the Chinese space program, and the dual-use nature of Chinese industrial and scientific infrastructure.

Ambassador Roger Harrison

Ambassador Roger G. Harrison is the Allan & Malcolm Lockheed and Glenn L. Martin Professor in Political Science and Director of the Eisenhower Center for Space and Defense Studies at the United States Air Force Academy. He was a career Foreign Service Officer who was Ambassador to Jordan from 1990 to 1993. He had previously been Deputy Assistant Secretary for Political Military Affairs, Political Counselor at the U.S. Embassy in Tel Aviv and Deputy Political Counselor of U.S. Embassy London. Ambassador Harrison also served at the White House as Deputy Director for Planning of the National Security Council Staff under President Ford. Other overseas assignments for the State Department included Manila and Warsaw. He was Associate Professor of Political Science at the Air Force Academy on detail from the Department of State from 1977 to 1979. Following his retirement from the State Department, he was John M. Olin Professor of National Security at the Academy from 1993-4. Immediately prior to his designation as Director, Center for Space and Defense Studies, Ambassador Harrison was Dean of the Near East South Asia Center for Strategic Studies of the National Defense University. A 1965 graduate of San Jose State College, he holds a Ph.D. in Government from Claremont Graduate School and also studied at Pembroke College, Oxford and the Free University of Berlin.

Dr. Peter Hays

Peter L. Hays is a retired Air Force Lieutenant Colonel who has been analyzing national security space issues for more than 20 years and wrote a dissertation on the evolution of U.S. Military Space Doctrine during the Cold War. Since September 2004, he has served as a Senior Scientist with Science Applications International Corporation supporting the Policy and Strategy division of the National Security Space Office in the Pentagon, an Associate Director for the Eisenhower Center for Space and Defense Studies at the USAF Academy, and an Associate Visiting Professor with the Space Policy Institute at George Washington University. He has assisted in the development of products such as the Space Posture Review, 05 Quadrennial Defense Review, National Security Space Strategy, Space Situational Awareness Strategy and Roadmap, National Defense University Spacepower Theory Study, and National Military Strategy for Space. He holds a Ph.D. from the Fletcher School of Law and Diplomacy, an M.A. from the University of Southern California, and was a 1979 honor graduate of the USAF Academy. During his Air Force career he served internships at the White House Office of Science and Technology Policy and National Space Council and taught space policy courses at the USAF Academy, School of Advanced



SPEAKER BIOGRAPHIES



Airpower Studies, and National Defense University. He currently teaches the Space and National Security seminar at George Washington University. Major publications include: *Spacepower for a New Millennium* (McGraw-Hill, 2000), “Going Boldly—Where?” (*Aerospace Power Journal*, Spring 2001); and *United States Military Space* (Air University Press, 2002).

Dr. James Lewis

James Andrew Lewis is a senior fellow and program director at CSIS where he writes on technology, national security and the international economy. Before joining CSIS, he worked in the Federal government as a Foreign Service Officer and as a member of the Senior Executive Service. His assignments involved Asian regional security, military intervention and insurgency, conventional arms negotiations, technology transfer, sanctions, internet policy, and military space programs. Lewis received his PH.D. from the University of Chicago. Lewis has authored more than forty publications on a range of topics since coming to CSIS, including: “Assessing the Risks of Cyber Terror and Cyber War,” “Strengthening Law Enforcement Capabilities for Counter-Terrorism;” “Globalization and National Security,” “The Limits of Arms Transfer Restraint,” “China as a Military Space Competitor,” “Foreign Investment and Sovereign Wealth,” “Intellectual Property and Development,” “Critical Infrastructure Protection and Cyber Terrorism: Mass Destruction or Mass Annoyance?” “Foreign Influence on Software,” and “Waiting for Sputnik: Basic Research and Strategic Competition.” His most recent work was as Project Director for the CSIS Cybersecurity Commission and its report, “Securing Cyberspace for the 44th Presidency.”

Dr. Martin Libicki

Martin Libicki (Ph.D., U.C. Berkeley) has been a senior management scientist at RAND since 1998, focusing on the impacts of information technology on domestic and national security. This work is documented in commercially published books, *Conquest in Cyberspace: National Security and Information Warfare*, and *Information Technology Standards: Quest for the Common Byte* as well as in numerous monographs, notably *Cyber-Deterrence and Cyber-War*, *What is Information Warfare*, *The Mesh and the Net: Speculations on Armed Conflict in a Time of Free Silicon*, and *Who Runs What in the Global Information Grid*. He was also the editor of the RAND textbook, *New Challenges New Tools for Defense Decisionmaking*. His most recent assignments were on the subjects of organizing the Air Force for cyber-war, exploiting cell phones in counter-insurgency, developing a post-9/11 information technology strategy for the U.S. Department of Justice, using biometrics for identity management, assessing DARPA’s Terrorist Information Awareness program, conducting information security analysis for the FBI, and evaluating In-Q-Tel. Prior employment includes 12 years at the National Defense University, three years



SPEAKER BIOGRAPHIES



on the Navy Staff as program sponsor for industrial preparedness, and three years as a policy analyst for the GAO's Energy and Minerals Division. He has also received a master's degree in city planning from U.C. Berkeley (1974).

Mr. Bruce MacDonald

Mr. MacDonald is an independent contractor serving as Senior Director to the U.S. Strategic Posture Review Commission, a bipartisan body headed by former Defense Secretaries William Perry and James Schlesinger. He was project leader for the Council on Foreign Relations' study of China, Space Weapons, and U.S. Security, which the Council published in 2008. He was Assistant Director for National Security at the White House Office of Science and Technology Policy from 1995-1999 and previously was a professional staff member at the House Armed Services Committee, where he worked on Air Force acquisition, space, and missile defense issues, and earlier was senior national security adviser to Senator Dale Bumpers of Arkansas. He worked at the State Department in the Bureau of Politico-Military Affairs, where he served on and chaired the Interagency START Policy Working Group and served on the U.S. START delegation in Geneva. He started his career as a staff scientist at a consulting firm where he supported the OSD SALT Task Force and worked on advanced missile defense concepts. Mr. MacDonald graduated with honors in aerospace engineering from Princeton University and received two masters degrees from Princeton, one in aerospace engineering with a specialty in rocket propulsion, and the second in public and international affairs from the Woodrow Wilson School. Mr. MacDonald is a member of the Council on Foreign Relations and the American Institute of Aeronautics and Astronautics.

Dr. Andrew May

Dr. Andrew May is an analyst in the Office of Net Assessment (ONA). He has worked in ONA for the past eight years, initially as a contractor and since 2005 as a government employee. His principal areas of responsibility include the OSD/NA Summer Study, the nature and scope of future net assessments, and assorted projects related to strategy and strategic planning. He has also been at work on a preliminary net assessment focused on the military exploitation of space. Before coming to ONA Dr. May worked at SAIC (1998-2005) where he supported ONA, DTRA, and other DoD customers. Dr. May received his PhD in History from Emory University in 1998.

Colonel Sean McClung

Colonel Sean D. McClung is Director of the National Space Studies Center at Air University, Maxwell, AFB, Alabama, where he leads space research programs for all colleges, institutions, organizations and centers at Maxwell AFB and conducts cooperative efforts with universities and centers nationwide in order to develop and communicate



SPEAKER BIOGRAPHIES



innovative, space-focused ideas that contribute to national and global security and foster maturity of thought on space and the profession of arms. He also serves as a member of the faculty and staff in the Joint Warfighting Department of Air War College. Col McClung is a career joint space and information operations professional with 26 years in space, missile warning & defense, command and control and information operations at US Strategic Command, US Northern Command, US Special Operations Command, the Missile Defense Agency, US Space Command, HQ Strike Command United Kingdom, North American Aerospace Defense Command, AF Space Command, Strategic Air Command and other organizations. He holds a Bachelor of Science degree from Warrington College at the University of Florida, and a Master of Arts from International University London, England. His professional military education includes Squadron Officer School, Air Command and Staff College, Air University's Air War College, and numerous specialty courses including the Space Applications Advanced Course, Radar Operations, Space Object Identification, national and theater warning operations and others. Col McClung has authored and co-authored numerous articles and publications in subjects including Chinese Air and Space capabilities, Public Diplomacy, Missile Track File Correlation and Data Fusion, and National Missile Defense. He is the recipient of the Master Space Operations Badge with decorations including the Defense Meritorious Service Medal (5), the Meritorious Service Medal (1), the Joint Service Commendation Medal (2); the Combat Readiness Medal (3), the Air Force Expeditionary Service Medal (2) and the Global War on Terrorism Service Medal.

Mr. Philip Meek

Mr. Phil Meek has a general law practice in Austin, Texas, including space law and policy matters. Prior to moving to Austin in September 2008, Mr Meek was an Associate General Counsel (International Affairs), Department of the Air Force, the Pentagon, for 13 years. His primary portfolio consisted of space law and policy, space arms control, information warfare, and the law of armed conflict. Before accepting his position with the Air Force General Counsel, Mr Meek served as an Air Force Judge Advocate for 25 years, with senior JAG assignments including Director of International and Operations Law, HQ USAF, the Pentagon, and a "triple-hatted" position as Staff Judge Advocate for three commands concurrently, specifically, Air Force Space Command, United States Space Command, and North American Aerospace Defense Command, Peterson AFB, CO. He retired with the rank of colonel.

Dr. Karl Mueller

Dr. Karl P. Mueller is a Senior Political Scientist in the Washington office of the RAND Corporation, where he specializes in strategy-related research sponsored by the U.S. Air Force and Army. Before joining RAND in 2001 he was a professor of comparative military studies at the USAF's School of Advanced Air and Space Studies (SAASS). Dr. Mueller



SPEAKER BIOGRAPHIES



has written and lectured on a wide variety of national security subjects, including deterrence and coercion, grand strategy, economic sanctions, airpower theory, nuclear proliferation, space weaponization, and counter-terrorism policy. His most recent RAND publications are *Striking First: Preemptive and Preventive Attack in U.S. National Security Policy*, *Air Power in the New Counterinsurgency Era*, and *Dangerous Thresholds: Managing Escalation in the 21st Century*.

Mr. Martin Oetting

Mr Oetting has spent over two decades in the Aerospace industry, acquiring a broad spectrum of expertise in Defense, Intelligence, and Commercial space systems. He has focused on such diverse areas as space operations, missile defense, tactical exploitation of national capabilities, and space protection and defense. He is currently supporting the Space Protection Program, which was jointly established one year ago by the Commander of Air Force Space Command and the Director of the National Reconnaissance Office. The mission of the Space Protection Program is to preserve national security space effects through an integrated strategy to articulate vulnerabilities, assess threat impacts, identify options and recommend solutions leading to comprehensive space protection capabilities.

Dr. Scott Pace

Scott Pace is the Director of the Space Policy Institute and a Professor of Practice in International Affairs at George Washington University's Elliott School of International Affairs. 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; Masters 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. Roger Pajak

Dr. Roger F. Pajak is Senior Intelligence Adviser with General Dynamics Advanced Information Systems. He was formerly the National Counterintelligence Officer for Russia and the Middle East in the Office of the National Counterintelligence Executive (NCIX). Prior to joining NCIX, Dr. Pajak was Director, National Security Group, Orion Scientific Systems, Inc., serving at the National Drug Intelligence Center as senior adviser on National



SPEAKER BIOGRAPHIES



Intelligence and Russian Organized Crime and lecturer on Intelligence writing and analysis. While with the U.S. Government, Dr. Pajak served as National Intelligence Adviser for Russia, Central Europe, and the Middle East and Senior Adviser for Counterterrorism to the U.S. Secretary of Treasury. There he served as a principal adviser to the Secretary on Russian and Middle East affairs, as well as on Counterterrorism, International Organized Crime, and Critical Infrastructure Protection. An authority on Russian and Middle East affairs, Dr. Pajak spent 1988-89 as Visiting Professor of Strategy at the Naval War College. He is an Adjunct Fellow with the Center for Strategic and International Studies, an Adjunct Professor at the University of Virginia, and Visiting Lecturer at the Defense Intelligence College. Dr. Pajak is a widely published and recognized authority on Russian and Middle East politics and foreign policy, the international arms trade, and nuclear proliferation. He has lectured widely overseas on behalf of the U.S. Department of State and in the U.S. at the Senior Military Colleges, the Foreign Service Institute, and the FBI Academy. He received a Bachelor's degree in International Relations from Michigan State University, a Master's degree in Russian Area Studies from Harvard University, and a doctorate in International Relations and Russian Area Studies from American University. Dr. Pajak is a Fulbright Scholar and a Colonel (Ret.) in Military Intelligence in the U.S. Army Reserve.

Brig. Gen. Jay Santee

Brig. Gen. Jay G. Santee is Principal Director, Office of the Deputy Assistant Secretary of Defense (Strategic Capabilities); Office of the Assistant Secretary of Defense (Special Operations/Low-Intensity Conflict and Interdependent Capabilities); Office of the Under Secretary of Defense for Policy, the Pentagon, Washington, D.C. He is responsible for providing policy advice and support to the Secretary of Defense and other senior Department of Defense leaders by formulating, recommending, integrating, and implementing policies and strategies to improve United States strategic capabilities. This encompasses DOD policy relating to requirements, capability development, operations, declaratory policy, employment, and international cooperation or agreements in the areas of missile defense; nuclear forces; global strike; space; and information operations, including computer network operations. General Santee entered the Air Force as a distinguished graduate of the U.S. Air Force Academy. He has served on the Pentagon staffs of the Assistant Secretary of the Air Force (Acquisition) and the Department of the Navy (Research, Development and Acquisition). The general has also served as Vice Commander of the 14th Air Force, Air Forces Strategic, and as an operations division chief in U.S. Space Command. His commands include a space warning squadron, space operations group and a space wing. During Operation Iraqi Freedom, he was Director of the 14th Air Force Air and Space Operations Center where he planned, tasked and directed joint space forces in support of worldwide military operations. In 2004, he served as the Director of Space Forces at the 1st Air Force Combined Air and Space Operations Center at Tyndall AFB, Fla., throughout relief and recovery operations resulting from hurricanes Katrina and Rita. General Santee



SPEAKER BIOGRAPHIES



has more than 1,800 flying hours in the F-111 and EF-111, including more than 120 combat hours during Operation Desert Storm.

Dr. Ronald Sega

Dr. Ronald M. Sega holds a B.S. in math and physics from the U.S. Air Force Academy in Colorado Springs, an M.S. in physics from Ohio State University and a Ph.D. in electrical engineering from the University of Colorado. Dr. Sega is the Woodward professor of systems engineering at Colorado State University and is the vice president for energy, environment and applied research with Colorado State University Research Foundation. He also serves as special advisor to the Colorado State University president for energy and the environment. Dr. Sega was a faculty member in the College of Engineering and Applied Science at CU-Colorado Springs, also serving as dean from 1996-2001. He served as technical director of the Laser and Aerospace Mechanics Directorate at F.J. Seiler Research Laboratory at the U.S. Air Force Academy, and as assistant director of the Space Vacuum Epitaxy Center at University of Houston. He was director, defense research and engineering, and the chief technology officer for the Department of Defense, from 2001-2005. He retired from the Air Force Reserve in 2005 after 31 years in the Air Force as a command pilot, having served at Air Force Space Command and as reserve assistant to the chairman of the joint chiefs of staff. He most recently was the under secretary of the Air Force from 2005-2007. Dr. Sega has authored or co-authored more than 100 technical publications, has served on numerous local, regional and national advisory and governance boards, and is a Fellow of the American Institute of Aeronautics and Astronautics (AIAA) and the Institute of Electrical and Electronics Engineers (IEEE). A former astronaut, he flew aboard Space Shuttles Discovery (1994) and Atlantis (1996). He also led the Air Force team that won the overall Presidential Award for Leadership in Federal Energy Management in 2007.

Colonel M.V. "Coyote" Smith

Colonel M.V. Smith is a PhD student of strategic studies at the University of Reading in the United Kingdom. Most recently he served as the Chief of "Dream Works," which is the Future Concepts shop in the Pentagon's National Security Space Office. Dream Works explores, develops, advocates, and links future concepts, capabilities, and promising technologies to advance the art of space faring across the security sector. He was the director of the Space-Based Solar Power Study, and served as a Visiting Military Fellow at National Defense University. He has served in various space and missile positions and as an instructor at the USAF Weapons School. He was Commander of the 321st Missile Squadron at F.E. Warren Air Force Base in Cheyenne Wyoming, where his unit was recognized as the "Best ICBM Squadron in Air Force Space Command." During Operation ALLIED FORCE he served in the Combined Forces Air Component Commander's Strategy Cell and on the Guidance, Apportionment, and Targeting Team. During Operation



SPEAKER BIOGRAPHIES



ENDURING FREEDOM, he served at USCENTCOM Headquarters as a strategist on General Tommy Frank's staff and in the Space and Information Operations Element. He later served as the chief air and space power strategist in the Pentagon's Strategic Planning Council during Operation IRAQI FREEDOM.

Ms. Marcia Smith

Marcia Smith is President of Space and Technology Policy Group, specializing in news, information and analysis of civil, military and commercial space activities and other technology areas. From 2006-2009, she was Director of the National Research Council's (NRC's) Space Studies Board and from 2007-2009 additionally was Director of the NRC's Aeronautics and Space Engineering Board. For 31 years prior to joining the NRC, Ms. Smith was a specialist in aerospace and telecommunications policy for the Congressional Research Service (CRS) at the Library of Congress, Washington, D.C. She had been with CRS since 1975, serving as a policy analyst for the members and committees of the U.S. Congress on matters concerning U.S. and foreign military and civilian space activities, and on telecommunications issues including the Internet (and formerly on nuclear energy). From 1985-1986, Ms. Smith took a leave of absence to serve as executive director of the U.S. National Commission on Space. Among her many professional activities, Ms. Smith is a Fellow of the American Institute of Aeronautics and Astronautics, a Fellow of the American Astronautical Society (AAS), and the North American Editor of the quarterly journal Space Policy. A graduate of Syracuse University, Ms. Smith is the author or co-author of more than 220 reports and articles on space, nuclear energy, and telecommunications and Internet issues.

Maj. Gen. Richard Webber

Maj Gen Richard E. Webber is the Assistant Deputy Chief for Operations, Plans and Requirements, Headquarters U.S. Air Force, Washington, D.C. General Webber is responsible to the Secretary of the Air Force and the Chief of Staff for formulating policy supporting air, space, counterproliferation, homeland security, weather and cyber operations. General Webber was commissioned a second lieutenant upon graduation from the U.S. Air Force Academy in 1975. He has commanded a missile squadron, support group, missile operations group, and missile wing equivalent and two space wings. His staff assignments include Headquarters North Atlantic Treaty Organization International Military Staff, the Air Staff, Headquarters Strategic Air Command, Headquarters Air Force Space Command, and Vice Commander of the Aerospace Command and Control & Intelligence, Surveillance and Reconnaissance Center. General Webber is a command space and missile operator with qualifications in the Minuteman II, Minuteman III, Global Positioning Satellite and Counter Communications System weapon systems. Prior to his current assignment, he served as Director of Installations and Mission Support, Headquarters Air Force Space Command.



SPEAKER BIOGRAPHIES



Mr. Brian Weeden

Brian Weeden is a consultant with the Secure World Foundation on space security and sustainability issues. His current research focuses on enabling global space situational awareness, development of the technical architecture for space traffic management, and strategies for protecting space assets. Brian spent nine years as an officer in the U.S. Air Force working in space and ICBM operations. From 2004 through 2007 he was part of US Strategic Command's Joint Space Operations Center where he directed the orbital analyst training program and developed tactics, techniques and procedures for space situational awareness. Brian has a B.S. in Electrical Engineering from Clarkson University, M.S. in Space Studies from the University of North Dakota and is a graduate of the International Space University Space Studies Program (2007, Beijing).

Dr. Simon Worden

Dr. Simon P. "Pete" Worden (Brig. Gen., USAF, ret.) is the Director of the NASA Ames Research Center. Prior positions for Dr. Worden include: Research Professor of Astronomy, Optical Sciences and Planetary Sciences at the University of Arizona; Director of Development and Transformation, Space and Missile Systems Center, Air Force Space Command; Consultant to the Defense Advanced Research Projects Agency (DARPA) on space related issues; Congressional Fellow with the Office of Senator Sam Brownback as advisor on NASA and space issues; Staff officer for the President's National Space Council. Dr. Worden spearheaded efforts to revitalize U.S. civil space exploration and earth monitoring systems. He has authored or co-authored more than 150 scientific technical papers in astrophysics, space sciences, and strategic studies, served as a scientific co-investigator for two NASA space science missions and is a recognized expert on space issues – both civil and military. Dr. Worden retired in 2004 after 29 years of active service in the United States Air Force.