

2010 PONI Spring Conference

April 8 – 9, 2010

Washington, DC

Speaker Biographies

KEYNOTE SPEAKER

Dr. Brad Roberts

Deputy Assistant Secretary of Defense for Nuclear and Missile Defense Policy

Dr. Roberts was appointed to Deputy Assistant Secretary for Nuclear and Missile Defense Policy in August 2009. In this capacity he is responsible for providing policy advice and support to the Secretary of Defense and other senior Department of Defense (DoD) leaders by formulating, recommending, integrating, and implementing policies and strategies to improve United States strategic and conventional strike capabilities, defenses, arms control and related matters. This encompasses DoD policy relating to requirements, capability development, operations, declaratory policy, employment, and international cooperation or agreements (including arms control agreements) in the areas of missile defense, nuclear forces and global strike. In this capacity, the DASD directs the 2009 review of the U.S. nuclear posture and a parallel review of ballistic missile defense policy and posture. From 1995 until his appointment to the DoD, he served as a member of the research staff at the Institute for Defense Analyses in Alexandria, Virginia. Dr. Roberts is currently on leave from his appointment as an associate professorial lecturer at George Washington University. He also served from 2003 to 2009 as a member of DoD's Threat Reduction Advisory Committee and as chair of its panel on DoD implementation of the National Strategy to Combat WMD. He has also served as special advisor to the STRATCOM Strategic Advisory Group, as vice chairman of the board of the U.S. Committee of the Council for Security Cooperation in the Asia-Pacific, as chairman of the research advisory council of the Chemical and Biological Arms Control Institute, and as member and founding chairman of the Threat Reduction Program Review Committee of Los Alamos National Laboratories. From 1986 to 1996 Dr. Roberts was editor of *The Washington Quarterly* and a research fellow at the Center for Strategic and International Studies (CSIS). His publications include articles in *Foreign Affairs*, *International Security*, and other leading journals. His most recent IDA publication is: *Asia's Major Powers and the Emerging Challenges to Nuclear Stability among Them*. Dr. Roberts holds a bachelor's degree from Stanford University, a master's degree from the London School of Economics and Political Science, and a doctorate from Erasmus University, Rotterdam.

CONFERENCE WELCOME

Dr. Clark Murdock**Senior Adviser and Project on Nuclear Issues Director, Center for Strategic and International Studies**

Clark Murdock, a senior adviser in the CSIS International Security Program, specializes in strategic planning, defense policy, and national security affairs. Joining CSIS in January 2001, Murdock coauthored the report *Revitalizing the U.S. Nuclear Deterrent* (CSIS, 2002). He currently directs the Project on Nuclear Issues and the four-phase study on Defense Department reform, “Beyond Goldwater-Nichols: USG and Defense Reform for a New Strategic Era,” which released reports in March 2004, July 2005, and July 2006 and released several reports in 2008. He is the principal author of *Improving the Practice of National Security Strategy: A New Approach for the Post–Cold War World* (CSIS, 2004). In 2000, Murdock taught military strategy, the national security process, and military innovation at the National War College. From 1995 to 2000, he was deputy director of the Air Force’s headquarters planning function. As deputy special assistant to the chief for long-range planning, he helped define a coherent strategic vision for the 2020 Air Force and institutionalize a new long-range planning process. As deputy director for strategic planning, he helped implement the new planning process and led the development of several new planning products. Before joining the Air Force, he headed the Policy Planning Staff in the Office of the Under Secretary of Defense for Policy. Murdock has served in many roles in the defense world, including as a senior policy adviser to House Armed Services Committee chairman Les Aspin, as an analyst and Africa issues manager in the CIA, and in the Office of the Secretary of Defense. He also taught for 10 years at the State University of New York at Buffalo. He is an honors graduate of Swarthmore College and holds a Ph.D. in political science from the University of Wisconsin at Madison.

SESSION 1: THE FUTURE OF THE NPT AND THE NONPROLIFERATION REGIME

Moderator: Jenifer Mackby, Fellow, Center for Strategic and International Studies

Jenifer Mackby is a fellow in the International Security Program of CSIS. She has worked in France for the CSIS Strengthening the Global Partnership project, for a Russian-European project on bioterrorism, for U.S. force reductions in Europe, and as rapporteur for numerous international conferences. In Washington, she works on nuclear and nonproliferation issues for the CSIS International Security Program. Previously, Ms. Mackby served as a senior political affairs officer for the Conference on Disarmament in Geneva, Switzerland, where she worked on the negotiations of the Nuclear Test Ban Treaty, as well as the group of scientific experts that designed the verification system. She then worked for the Comprehensive Nuclear Test-Ban Treaty Organization Preparatory Commission in Vienna, Austria, where she served as secretary of the work on verification. She also worked in the United Nations as a political affairs officer for outer space and disarmament issues, notably the Special Commission on Iraq, a government experts study on nuclear weapons, the Nuclear Non-Proliferation Treaty review conference, the disarmament commission subcommittees on nuclear weapons and South Africa’s nuclear capability, and the international conference on outer space. She was a contributor to *The Nuclear Tipping Point: Why States Reconsider their Nuclear Choices* (Brookings, 2004) and *The Final Test: A History of the Nuclear Test Ban Treaty Negotiations* (Preparatory Commission, 2003) and coeditor of *U.S.-UK Nuclear Cooperation After 50 Years* (CSIS, 2008). She has also written articles for the

New York Times, *Newsweek*, the *Bulletin of the Atomic Scientists*, publications of the National Defense University and the European Union Joint Research Center.

Deepti Choubey

Deputy Director, Nuclear Policy Program, Carnegie Endowment for International Peace

Deepti Choubey is the deputy director of the Nuclear Policy Program at the Carnegie Endowment. Choubey is responsible for establishing strategic priorities for the Program, conducting research and generating policy analysis, and leading the Carnegie International Nuclear Policy Conference (formerly known as the Carnegie International Nonproliferation Conference). Particularly, areas of interest for her research include the calculations of non-nuclear-weapon states, U.S. nonproliferation and disarmament policies, U.S. nuclear security spending, Iran's nuclear ambitions, the U.S.–India civilian nuclear cooperation deal, and the comprehensive test ban treaty. She has provided commentary for CNN, MSNBC, National Public Radio, BBC, and CBS Radio, and has written for the *Washington Post*, *Los Angeles Times*, and *U.S. News and World Report*, among others. Prior to joining the Carnegie Endowment in 2006, Choubey was director of the Peace and Security Initiative (PSI) for the Ploughshares Fund. The PSI is a network of more than 160 think tanks, advocacy organizations, grassroots groups, and funders that work together to increase their capacity to influence U.S. national security policies. Before joining Ploughshares and after several years in the private sector, Choubey worked for Ambassador Nancy Soderberg in the New York office of the International Crisis Group. Choubey earned her Masters of International Affairs, with a focus on South Asia security policy, from Columbia University's School of International and Public Affairs. She earned her undergraduate degree in Government from Harvard University.

Sanhita Ambast

M.A. Candidate, Fletcher School of Law and Diplomacy, Tufts University and LLM Candidate, Harvard Law School

Sanhita Ambast is a joint degree student, completing a Master of Arts in Law and Diplomacy [MALD] at the Fletcher School, Tufts University and a Master of Laws [LL.M] at the Harvard Law School, Harvard University. She studies Public International Law and International Organizations, and is interested in the role of non-state actors in regime building and global governance. Before graduate school, she worked with several South Asian non-governmental organizations and the Government of India on promoting the implementation and practice of child rights, anti-discrimination laws, gender empowerment and democratization.

Natalia V. Saraeva

Graduate Student, Master of Science in Foreign Service Program, Edmund A. Walsh school of Foreign Service, Georgetown University

Natalia V. Saraeva is a 2nd year graduate student at School of Foreign Service at Georgetown University. She is also currently a research intern with the Energy Security Initiative at the Brookings Institution. Before coming to Georgetown she worked for the Department for Nuclear Nonproliferation at Russian Research Centre Kurchatov Institute (Moscow, Russia) where she was involved in implementation of a number of projects under the frames of CTR and MNEPR. In particular, she was a deputy project

manager for upgrading of physical protection of RADONS and was deeply involved in the project on rehabilitation of post naval base Gremikha. She already holds a dual Master's degree in nuclear security and economics that she earned from Moscow Engineering Physics Institute in 2005. She presented at a number of International conferences and represented the Russian Federation at the panel discussion "Young Generation" at the IAEA Conference on Knowledge Management in Nuclear Facilities, in 2007 in Vienna. In 2006 she took part in World Nuclear University Summer Institute in Stockholm, Sweden. Her personal interviews were published at ROSATOM Web-site and at the magazine *Nuclear Strategy*.

Gareth Stevens**Nuclear and Strategic Deterrent Office, British Defence Staff, British Embassy, Washington DC**

Gareth Stevens graduated from the University of Southampton with a Masters Degree in Mechanical Engineering, focussing on sustainable energy technologies, in July 2008. He joined the UK Ministry of Defence engineering graduate scheme in August 2008 and upon assignment to the nuclear weapons engineering stream, has undertaken a variety of short-term appointments covering acquisition and equipment support, policy and future deterrence requirements. Through his current and final graduate posting, to the Nuclear Strategic Deterrent Office in the British Embassy, Washington DC, Gareth is experiencing international collaboration in a unique setting and is undertaking a fast-paced, reactive programme of both policy and technical work. He returns to the UK at the end of April to commence upon promotion, his first professional role; in Defence Intelligence as an exports control desk officer in the counter-proliferation branch.

SESSION 2: ARMS CONTROL AND NONPROLIFERATION IN SOUTH ASIA

Sébastien Miraglia Yossen**Research fellow, Department of Civil-Military relations, Norwegian Institute for Defense Studies**

Sébastien Miraglia is a research fellow at the Norwegian Institute for Defence Studies (IFS). He has joined IFS's department of Civil-Military relations in 2009, where he is writing about nuclear policy, arms control and nuclear technology. His current area of research includes nuclear security in South Asia and the impact of civil-military relations on Pakistan's nuclear doctrine. Previously, Mr. Miraglia has studied the development of ballistic missile technology within the US Navy, and the tactical operation of shipborne air defence systems. In addition, he has served as a technological advisor for independent studies analysing the Rafale jet-fighter bid for the Indian MRCA competition. Mr. Miraglia received his master's degree from the University of Oslo (Norway), and his bachelor's degree from the University of Lyon (France).

Rizwan Ladha**M.A. Candidate, The Fletcher School of Law and Diplomacy, Tufts University**

Rizwan Ladha is a master's degree candidate at the Fletcher School of Law and Diplomacy at Tufts University, where he is focusing on nuclear security issues and the role of the US in advancing the global nonproliferation and disarmament agendas. He also serves as the Online Communications Coordinator for the International Physicians for the Prevention of Nuclear War (IPPNW), a non-partisan global

federation of concerned citizens who share the common goal of creating a more peaceful and secure world freed from the threat of nuclear annihilation.

Saurabh Dutta Chowdhury

M.A. Candidate in Nonproliferation and Terrorism, Monterey Institute of International Studies

Saurabh Dutta Chowdhury is a Masters Degree candidate in Terrorism and Nonproliferation studies at Monterey Institute of International Studies. He expects to graduate in December, 2010. He has been involved in semiconductor device and plasma processing for fifteen years and continues to work at a Silicon Valley based Analog Chip maker Maxim Integrated Products while pursuing his Masters at MIIS. His passion lies in the intersection of international affairs and business affairs resulting in an assignment in 2008 to set up Maxim's India Wafer Fabrication Support Center in Gandhinagar. While doing so he interacted with the Institute of Plasma Research (Department of Atomic Energy, India). During this interaction at IPR he found valuable technical resources in India were isolated from participating in industrial applications. This interaction gave him the impetus to pursue Nonproliferation studies at MIIS. He wants to tie knot between commercial industry and high energy physicists as means to encourage nonproliferation. Saurabh also holds a Masters in Microelectronics engineering from Rochester Institute of Technology specializing in Microlithography and a MBA from Santa Clara University. Saurabh was sponsored by his employer to attend the Program for Leadership Development at Harvard Business School in 2006. He did his Bachelors degree (Cum Laude) from The University of the South at Sewanee, TN.

Philip Johnson

Senior Research Fellow and M.A. Candidate, Georgetown University Department of Government

Philip Johnson is a Senior Research Fellow in the Georgetown University Institute for Law, Science and Global Security. In this capacity he supports the Institute's participation in a Defense Threat Reduction Agency sponsored project on Nonproliferation Policy and Law, which seeks to identify innovative legal means to combat WMD proliferation. Prior to joining the Institute, Johnson was a research assistant at the James Martin Center for Nonproliferation Studies in Washington, DC, where he studied nuclear proliferation networks. His research in this area was included in a conference on nuclear smuggling held at Wilton Park in October 2009. Johnson holds a B.S., *magna cum laude*, from the Georgetown University School of Foreign Service and will complete an M.A. in International Law at Georgetown in May 2010.

TECHNICAL TALK: DEVELOPING AND MAINTAINING WEAPON DESIGN EXPERTISE IN A CTBT ERA

Dr. James H. Cooley

Physicist, X-4 Division, Los Alamos National Laboratory

James Cooley studied Physics at the University of Texas at Austin. He then served in the Navy at Naval Reactors where he ended as a lead engineer in the area of primary components and steam generator chemistry. He left Naval Reactors to continue his studies of Physics at the University of Maryland at College Park in plasma physics. He joined the technical staff at Los Alamos National Laboratory as a

physicist in the Applied Physics, Thermonuclear Application group. Since being at Los Alamos he has extended his technical areas to include Low Energy Density Physics and Post Detonation Technical Nuclear Forensics.

SESSION 4: ARMS CONTROL AND NONPROLIFERATION IN EAST ASIA

Moderator: Franklin Miller, Senior Counselor, The Cohen Group

Frank Miller joined The Cohen Group in March 2005 from the White House, where he had served since January 2001 as a Special Assistant to President George W. Bush and as Senior Director for Defense Policy and Arms Control on the National Security Council staff. At the White House he was responsible for a wide range of Presidential policy initiatives in the fields of nuclear deterrence policy, strategic arms reductions, national space policy, defense trade reform, land-mines, and transforming the American and NATO militaries. His White House assignment capped a 31 year career in the U.S. Government which included two years at the Department of State and twenty two years serving under seven Secretaries in a series of progressively senior positions in the Department of Defense. He was the senior career civilian official in the Department of Defense under Secretary William Cohen. During his career, he had unusual influence on the evolution of national deterrence and nuclear targeting policy, on the START 1 and START 2 treaties, and was instrumental in forging critically important new relationships with the British Ministry of Defence. He was deeply involved in improving U.S. capabilities to counter, defend against, and defeat biological and chemical weapons, in enhancing U.S. defense relations with Russia, Ukraine, and Uzbekistan, in building the basis for U.S. and NATO strategic and tactical missile defense programs, in national reconnaissance and space policy and in submarine operations policy. He also served as the chair of NATO's nuclear policy committee ("the High Level Group") from September 1996 to January 2001 and of NATO's counterproliferation policy committee ("the Defense Group on Proliferation") from September 1996 to December 1997. Mr. Miller currently serves on the Defense Policy Board, the U.S.-European Command Advisory Board, and the U.S. Strategic Command Advisory Group. Additionally, he is a Senior Advisor at the Center for Strategic and International Studies' International Security Program and a Distinguished Fellow at the Center for Naval Analyses. He is a member of the Council on Foreign Relations. He serves on the Board of Directors of EADS-North America, the Charles Stark Draper Laboratory, and History Associates Incorporated. Mr. Miller served from 1972 to 1975 as a Surface Warfare Officer aboard the USS Joseph Hewes, a Knox-class frigate, with deployments in the Mediterranean, the Indian Ocean, and the Atlantic. He served in the naval reserve from 1975 to 1980. Mr. Miller received his BA (Phi Beta Kappa) from Williams College in 1972. He received an MPA from Princeton University's Woodrow Wilson School in 1977.

Nikita Perfilyev

Fulbright Scholar and M.A. Candidate, Monterey Institute of International Studies

Nikita Perfilyev is a Fulbright fellow at Monterey Institute of International Studies, where he is working towards an M.A. in International Policy Studies and a Certificate in Nonproliferation Studies while also serving as a Research Assistant at the James Martin Center for Nonproliferation Studies. In 2007 and 2008 he worked for PIR Center for Policy Studies in Moscow, Russia, where published the weekly electronic bulletin "Yaderny Kontrol," coordinated a project on Strategic Risks and Challenges in Central

Asia, and edited the quarterly “Security Index” journal. During the fall of 2006, he was a Washington Group International sponsored intern at the Center for Strategic and International Studies in Washington, DC. He graduated with distinction from Tomsk State University in Russia and his research interests include China’s non-proliferation and nuclear policy, US-Russia-China strategic relations, and Russia’s energy policy.

Tong Zhao**Ph.D. Candidate, Sam Nunn School of International Affairs, Georgia Institute of Technology**

Tong Zhao is currently enrolled in the PhD Program of International Security, Technology, and Policy in the Sam Nunn School of International Affairs at Georgia Tech. Before coming to the U.S., he spent six years in Tsinghua University in China, and received his B.S. in physics from the Department of Physics and M.A. in international affairs from the Institute of International Studies. He had experience of working for the Office of Foreign Affairs in the People’s Government of Beijing Municipality. His area of interest in general is arms control and disarmament. His scientific background as well as the educational experience as a student in political science provides him with opportunities of looking into policy debates around arms control and disarmament through lenses of both science & technology and international politics. He joined the Sam Nunn Fellowship group on Science, Technology and International Security, and was a fellow of the Nuclear Threats Summer Fellowship (PPNT) program organized by the Institute of Global Conflict and Cooperation (IGCC) at University of California. He has worked on issues and published papers relating to missile defense, missile proliferation, regional strategic stability, and China’s security policy. As a second year PhD student, he is currently working on issues of nuclear disarmament, nuclear nonproliferation, and China’s nuclear strategy. He is interested in understanding the strategic stability in the process of global nuclear disarmament and exploring possible approaches that China could take to participate in the global movement.

Sico van der Meer**Research Fellow, Netherlands Institute of International Relations 'Clingendael'**

Mr. Sico van der Meer is a Research Fellow at the Netherlands Institute of International Relations 'Clingendael', where his main research topic is the proliferation of Weapons of Mass Destruction. He graduated in History at the University of Nijmegen, The Netherlands, in 1999. Before joining the Clingendael Institute in 2006, he worked as a journalist and as a Fellow of a research institute on civil-military relations. In 2009 he also started a part time PhD research project on nuclear weapons proliferation at the Erasmus University in Rotterdam.

Togzhan Kassenova**Senior Research Associate, Center for International Trade and Security**

Togzhan Kassenova is a Senior Research Associate at the Washington DC office of the Center for International Trade and Security (The University of Georgia). In 2007-2008 she was a postdoctoral fellow at James Martin Center for Nonproliferation Studies in Monterey, California. She holds a PhD in Politics from the University of Leeds (United Kingdom). Her primary areas of research are WMD nonproliferation and strategic trade controls. For several years Togzhan worked as a journalist and later as a university

professor. Her first book *From Antagonism to Partnership: the Uneasy Path of the U.S.-Russian Cooperative Threat Reduction* (ibidem-Verlag/Stuttgart) was published in 2007.

SESSION 5: REFINING APPROACHES TO NUCLEAR STRATEGY AND DETERRENCE

Moderator: Hans Kristensen, Director, Nuclear Information Project, Federation of American Scientists

Hans M. Kristensen is Director of the Nuclear Information Project at the Federation of American Scientists in Washington, D.C. He is co-author of the bi-monthly Nuclear Notebook column in the *Bulletin of the Atomic Scientists* and the World Nuclear Forces overview in the *SIPRI Yearbook*. He is a frequent advisor to the news media and institutes on the status of nuclear forces and policy.

David Palkki

Research Associate, Institute for Defense Analyses

David Palkki is a PhD candidate in political science at UCLA, where he is writing a dissertation on deterring Saddam's Iraq. He has also spent the past few years working as an Adjunct Research Associate at the Institute for Defense Analyses (IDA), where he researches Iraqi decision-making under Saddam Hussein.

Polina Sinovets

National Strategic Studies Institute, the Department of the Middle East and Black Sea Studies, Odessa Branch

Polina Sinovets graduated from the IR Department of Odessa National I.I. Mechnikov University in 2000. In 2004, she defended her *Ph.D. thesis*: "Nuclear Deterrence in the Policies of the USA and Russia in the Post-Bipolar Period" (Candidate dissertation, *The Institute of World Economy and International Relations, Kyiv, Ukraine*). In 2006, she participated in the CNS-NIS Visiting Fellowship Program of the James Martin Center for Nonproliferation Studies, Monterey Institute for International Studies, (Monterey, CA, USA). Since 2003 she has been the Senior Research Associate of the Department of Middle East and Black Sea Studies, National Institute of Strategic Studies, Odessa Branch. At the same time she occupies the position of Senior Lecturer of the Department of International Relations, Odessa National I.I. Mechnikov University. Author of the 35 publications, among which there is a monograph "Double -Faced Yanus or Nuclear Deterrence Theory in the 21st century".

Thomas Young

Research Associate, James Martin Center for Nonproliferation Studies, Monterey Institute of International Studies

Tom Young is a Research Associate at the James Martin Center for Nonproliferation Studies where he focuses on nuclear and missile developments in Russia, as well as the political and strategic implications of missile defense systems. Prior to joining CNS, Tom was an intern in the Nuclear Policy Directorate at NATO headquarters where he worked on the Alliance's nonproliferation policies and nuclear deterrence

posture. He was also a Research Assistant for the International Centre for Security Analysis at King's College London and an intern at the International Institute for Strategic Studies.

Michael Mayer

Visiting Fellow, CSIS and Doctoral Fellow, Norwegian Institute for Defence Studies

Michael Mayer is a doctoral fellow at the Norwegian Institute for Defense Studies in Oslo. Currently a visiting fellow at the Center for Strategic and International Studies (CSIS) in Washington DC, Mayer is researching the strategic implications of ballistic missile defense and its contribution to US grand strategy. Previous work has focused on US foreign policy in Central Asia, the strategic implications of climate change, and other aspects of US grand strategy.

SESSION 6: TECHNICAL METHODS FOR NUCLEAR MATERIAL DETECTION AND ANALYSIS

Moderator: Dr. G. Peter Nanos, Jr., National Security Studies Fellow, The Johns Hopkins University Applied Physics Laboratory

Dr. G. Peter Nanos Jr., is a National Security Studies Fellow at The Johns Hopkins University Applied Physics Laboratory (JHU/APL). Prior to his move to JHU/APL, Dr. Nanos was the associate director, Research and Development at the Defense Threat Reduction Agency (DTRA). Previously, Dr. Nanos served as director of Los Alamos National Laboratory, New Mexico. Dr. Nanos is a retired United States Navy vice admiral, and a 1967 graduate of the U.S. Naval Academy. Dr. Nanos was a Trident Scholar at the U.S. Naval Academy, receiving a bachelor's degree in engineering in 1967. He received a doctorate in physics from Princeton University in 1974. A native of Bedford, New Hampshire, his awards and decorations include the Navy Distinguished Service Medal, the Legion of Merit with a gold star, the Meritorious Service Medal with four gold stars, and the Navy Achievement Medal.

Richard Hagar

Policy Analyst, Domestic Nuclear Detection Office, Department of Homeland Security

Richard Hagar is a Department of Homeland Security Honors Fellow. He is presently detailed as a policy analyst to the Domestic Nuclear Detection Office's National Technical Nuclear Forensics Center (NTNFC). His work at NTNFC has primarily centered on international relations within the nuclear forensics field. During his Fellowship, he was also detailed to the Department of Homeland Security's Office of Policy and with Customs and Border Protection's Investment Management Office. His time as a Fellow has given him experience with a variety of analytical tools including strategic communications, risk-based analyses, and acquisition cycles; across such varied fields as nuclear security, foreign investment and trade, and program management. Prior to joining the Fellowship, he graduated from University of California, Los Angeles (UCLA) School of Law. During his time at UCLA Law, Richard worked with the Honorable William Q. Hayes of the San Diego Federal District Court, and with the Office of the General Counsel within the Department of Defense (DoD). While at DoD, Richard was part of the Cooperative Threat Reduction Office on concluding international agreements with Soviet Successor states to prevent the proliferation of biological, chemical, and nuclear weapons. As an undergraduate, Richard majored in both Political Science and American History at the University of California, San Diego.

Lindsay Cox
R&D Scientist, Atomic Weapons Establishment

Lindsay Cox is a Research and Development Scientist in the National Nuclear Security Division at AWE Aldermaston in the UK, and is currently leading the effort on muon scattering tomography there. Lindsay started on the AWE graduate scheme in 2005 having just completed her physics degree and has since completed a part-time MSc in Radiation and Environmental Protection. Previous projects include airborne gamma detection system trials, a secondment to the Ministry of Defence and participation in a CTBTO On-Site Inspection exercise in Chernobyl. Lindsay is an active member of the Nuclear Weapons Policy Discussion Programme at AWE, which provides a forum for young scientists to discuss and debate matters concerning nuclear weapons and policy and to develop opinions on issues relating to the broader nuclear scene.

Alexander Plionis
Senior Scientist, Remote Sensing Laboratory, Andrews AFB

Alexander Plionis received his doctorate in Nuclear Engineering from the University of Texas at Austin, where he specialized in nuclear and radiochemistry. He worked with the Los Alamos National Laboratory for six years in the Chemistry Division, including a two year postdoctoral research appointment. During this time, he conducted research for the Department of Energy's Office of Non-Proliferation Research and Development and the Department of Homeland Security to develop novel ultra-high resolution alpha spectrometers for improved detection of special nuclear material. In addition, he served as analyst on the National Technical Nuclear Forensics deployment team. As a member of this emergency response team, Dr. Plionis participated in several full field exercises where his duties included high grade and triage operations. He is currently a senior scientist at the Remote Sensing Laboratory, where he is a member of the Aerial Measurements team and the Nuclear/Radiological Advisory team. Dr. Plionis continues to be involved in emergency response operations, applied research, and program development in the field of nuclear forensics.

Theodore Nichols
Post-doctoral Fellow, Savannah River National Laboratory

Theodore Nichols earned a B.S. in Physics (2002), a M.S. in Nuclear Engineering (2005) and a Ph. D. in Nuclear engineering (2009) from the University of Tennessee. His research areas were using artificial intelligence and locally weighted regression techniques to forecast the dose received from a solar particle event. Some of the methods he worked to invent are being tested for implementation by NASA to provide an early warning system for mission control. Currently he is working as a post doctoral fellow at Savannah River National Laboratory (SRNL). At SRNL he is currently researching modeling nuclear reactors for technical nuclear forensics applications.