

2015 PONI SUMMER CONFERENCE AGENDA

Research Park
Los Alamos National Laboratory
Los Alamos, NM

Day One: Tuesday, June 23

- 7:30 SHUTTLE DEPARTS FROM DRURY PLAZA HOTEL TO LANL**
- 8:15 CONFERENCE CHECK-IN & BREAKFAST**
- 8:45 CONFERENCE WELCOME**
Rebecca Hersman, Director, Project on Nuclear Issues and Senior Adviser, International Security Program, Center for Strategic and International Studies
- 8:50 OPENING REMARKS**
Bryan Fearey, Director, National Security Office, Los Alamos National Laboratory
- 9:00 THE ROLE OF NUCLEAR WEAPONS AND MISSILE DEFENSE IN EAST ASIA**
Moderator: Rebecca Hersman, Director, Project on Nuclear Issues and Senior Adviser, International Security Program, Center for Strategic and International Studies
- China's Neutron Bomb Program: History and Implications**
Jonathan Ray, Research Associate, Defense Group Inc.
- Playing Defense? Examining China's Intentions Regarding Ballistic Missile Defense**
Denise Der, Master's Candidate, Georgetown University
- Deterring North Korea: An Examination of the East Asian Missile Defense Architecture**
Jaganath Sankaran, Post-Doctoral Research Associate, Los Alamos National Laboratory
- Shift in Deterrence Dynamics on the Korean Peninsula: The U.S.-ROK Response**
Diane Stevenson, M.A. Candidate, George Washington University
- 10:20 BREAK**
- 10:30 A BRIEF HISTORY OF LOS ALAMOS NATIONAL LABORATORY**
Alan Carr, Lab Historian, Los Alamos National Laboratory
- 11:00 TOOLS AND VERIFICATION FOR THE 21ST CENTURY**
Moderator: Vayl Oxford, National Security Executive Policy Advisor, Pacific Northwest National Laboratory

Developing the "Next START" Verification System, A Stepping Stone to a Weapons-Centric Verification System

Dustin LeClair, National Nuclear Security Analyst, SAIC

Shifting Dynamics of the Middle East: Turkey's Pursuit of Nuclear Energy and the Future of the BOO Model

Jamelee Bal, Research Assistant, Nuclear Security Working Group

Economic Sanctions, Statecraft, and Nuclear Nonproliferation

Graham Flaspoebler, Research Intern, Center for Strategic and International Studies

Beyond the Grand Bargain: A legal-political analysis of the NPT in light of the 2015 Revcon

Tom Coppen, PhD Candidate, Utrecht University

Sanctions as a Nonproliferation Tool: Lessons from Libya

Miriam Barnum, Undergraduate Research Assistant, Los Alamos National Laboratory

12:30 LUNCH & LOOKING TO THE FUTURE OF PONI**2:00 BREAK-OUT DISCUSSION: THE DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA****4:00 BREAK****4:20 DISCUSSION AND SUMMARY OF BREAK-OUT**

Moderator: Rebecca Hersman, Director, Project on Nuclear Issues and Senior Adviser, International Security Program, Center for Strategic and International Studies

5:00 SHUTTLE DEPARTS FOR DRURY PLAZA HOTEL**6:00 RECEPTION**

Drury Hotel

7:00 DINNER & EVENING KEYNOTE ADDRESS

Dr. Steven Aoki, Associate Administrator and Deputy Under Secretary for Counterterrorism and Counterproliferation, Department of Energy

8:30 END OF DAY ONE

Day Two: Wednesday, June 24**8:00 SHUTTLE DEPARTS FROM DRURY PLAZA HOTEL TO LANL****8:45 BREAKFAST****9:00 READINESS, DECISIONMAKING, AND THE NUCLEAR ENTERPRISE**

Moderator: Alex Montgomery, Department Chair and Associate Professor of Political Science, Reed College

Spinning Yarns and Tying Hands: A Framework for Understanding Prestige Motivations in Nuclear Decision Making

Brian Radzinsky, PhD Candidate, George Washington University

Component Diversity and Minimizing Multiple Failures

Andrew Mastin, Postdoctoral Research Staff Member, Lawrence Livermore National Laboratory

Universal Social Media: Bringing the Public into Nuclear Use Decision Making

Oliver Tonkin, Recent Graduate, University of Nebraska-Lincoln

The 91st Maintenance Group: Culture of Compliance and Combat Capability

Captain James Gutierrez, 91st Maintenance Group, Minot AFB, ND, USAF

10:20 BREAK**10:30 TECHNICAL TALK: STOCKPILE STEWARDSHIP**

Dr. Charlie Nakhleh, Division Leader of the X-Theoretical Design Division, Los Alamos National Laboratory

11:15 BREAK**11:30 TECHNOLOGICAL THREATS & THE MODERN NUCLEAR ENVIRONMENT**

Moderator: Dr. Andrew L. Ross, Professor, George H.W. Bush School of Government & Public Service, Texas A&M University

Securing Nuclear Command and Control Systems: The Emerging Cyber Threat

Michelle Nalabandian, Program Associate, Scientific and Technical Affairs, Nuclear Threat Initiative

Hitting the 'Snooze' Button on Nuclear Security: Stuxnet and the Wake-Up Call it Should Have Been

Alexandra Van Dine, Program Associate, Scientific and Technical Affairs, Nuclear Threat Initiative

Role of Cyber in Strategic Stability

Grant Schneider, Foreign Affairs Officer, U.S. Department of State

12:45 LUNCH**2:00 DEPART FOR OPTIONAL TOURS**

4:00 SHUTTLE DEPARTS FOR DRURY HOTEL

6:30 DINNER FOR REMAINING GUESTS

The Shed Santa Fe

113 ½ East Palace Avenue Santa Fe, NM 87501

Speakers Biographies

CONFERENCE WELCOME

Rebecca Hersman, *Director, Project on Nuclear Issues and Senior Adviser, International Security Program, Center for Strategic and International Studies*

Rebecca Hersman is director of the Project on Nuclear Issues and senior adviser for the International Security Program. Ms. Hersman joined CSIS in April 2015 from the Department of Defense, where she served as deputy assistant secretary of defense for countering weapons of mass destruction (WMD) since 2009. In this capacity, she led DoD policy and strategy to prevent WMD proliferation and use, reduce and eliminate WMD risks and respond to WMD dangers. Ms. Hersman was a key leader on issues ranging from the nuclear security summit to the elimination of Syria's chemical weapons to the global health security agenda. She served as DoD's principal policy advocate on issues pertaining to the Biological Weapons Convention, Chemical Weapons Convention, Nuclear Non-Proliferation Treaty and Cooperative Threat Reduction Program. Prior to joining the Department of Defense, Ms. Hersman was a senior research fellow with the Center for the Study of Weapons of Mass Destruction at the National Defense University from 1998-2009. Her primary projects focused on the role of the Department of Defense in mitigating the effects of chemical and biological weapons attack, concepts and strategies for eliminating an adversary's WMD programs, as well as proliferation issues facing the United States. Ms. Hersman also founded and directed the WMD Center's Program for Emerging Leaders, an initiative designed to shape and support the next generation of leaders from across the U.S. government with interest in countering weapons of mass destruction. Ms. Hersman previously held positions as an international affairs fellow at the Council on Foreign Relations, a special assistant to the undersecretary of defense for policy, and a member of the House Armed Services Committee professional staff. She holds an M.A. in Arab Studies from Georgetown University and a B.A. from Duke University.

OPENING REMARKS

Bryan Fearey, *Director, National Security Office, Los Alamos National Laboratory*

Bryan Fearey is Director of the National Security Office at Los Alamos National Laboratory. He has served at Los Alamos for over 25 years in a variety of roles including Senior National Security Science Advisor. He also served as Arms Control R&D Program Manager for the Department of Defense (DOD) and as U.S. Science Advisor for START and INF Treaty negotiations in Geneva. His current responsibilities include addressing national security technical-policy issues including, inter alia, arms control (CTBT, FMCT, new START, etc.), verification, transparency, nonproliferation, the nuclear deterrent (e.g., NPR), and nuclear energy futures. He has received numerous awards including two Distinguished Performance Awards and three NNSA Awards of Excellence, as well as the highest non-career DOD award for Exceptional Public Service.

PANEL 1: THE ROLE OF NUCLEAR WEAPONS AND MISSILE DEFENSE IN EAST ASIA

Moderator: Rebecca Hersman, *Director, Project on Nuclear Issues and Senior Adviser, International Security Program, Center for Strategic and International Studies*

Jonathan Ray, *Research Associate, Defense Group Inc.*

Jonathan Ray is a research associate at Defense Group Inc., where he conducts research and analysis using Chinese-language sources on foreign policy, national security, and science and technology issues. Ray has conducted research on China and nonproliferation issues for National Defense University (NDU), the Center for Nonproliferation Studies, Pacific Northwest National Laboratory, the Naval Postgraduate School, and Global Commercial Insights, LLC. NDU recently published his monograph *Red China's "Capitalist Bomb": Inside the Chinese Neutron Bomb Program*, which examines the history and drivers behind China's neutron bomb program. He received a BA in China Asia Pacific studies from Cornell University, completed advanced Mandarin training at Brigham Young University, and received an MA in nonproliferation and terrorism studies from the Monterey Institute of International Studies.

Denise Der, *Master's Candidate, Georgetown University*

Denise Der is an MA candidate in the Georgetown Security Studies Program concentrating in international security. Her research focuses on China's military modernization, U.S.-China military-to-military relations and China-India relations. This summer, she is interning with Strategy and Force Planning in the Office of the Under Secretary of Defense for Policy before she starts as an analyst at Scitor, an SAIC company in September. Ms. Der recently worked as an independent contractor at the Center for the Study of Chinese Military Affairs at the National Defense University. She served in the Peace Corps in the Philippines from 2010-2012 and received her BA in political science from Boston College.

Jaganath Sankaran, *Post-Doctoral Research Associate, Los Alamos National Laboratory*

Jaganath Sankaran is a research associate at Los Alamos National Laboratory. His primary interests include nuclear weapons posture, deterrence strategy, missile defense, space security, and conventional balance of power. Sankaran received his PhD from the Maryland School of Public Policy in 2012, where he worked on space security issues. Before coming to the University of Maryland for his MA in engineering and public policy, Sankaran worked for three years with the Indian Missile R&D establishment in the areas of missile astrodynamics and modeling. He was also involved in the development of a ballistic missile defense system architecture. Sankaran has previously held fellowships at the RAND Corporation and Harvard University. He is also a research scholar at the Center for International and Security Studies at the Maryland School of Public Policy.

Diane Stevenson, *Master's Candidate, George Washington University*

Diane Stevenson is a second-year MA student in the Security Policy Studies program at the George Washington University concentrating on weapons of mass destruction and transnational security issues. She is currently studying the effect of North Korean nuclear weapons on crisis escalation through the CSIS Nuclear Scholars Initiative. Stevenson most recently worked as a senior intern at the Korea Economic Institute of America. She will also be presenting a project on nuclear material self-protection at the 56th annual meeting of the Institute of Nuclear Materials Management (INMM) in July 2015.

A BRIEF HISTORY OF LOS ALAMOS NATIONAL LABORATORY

Alan Carr, *Lab Historian, Los Alamos National Laboratory*

Alan B. Carr currently serves as an historian for Los Alamos National Laboratory. During his tenure as Laboratory Historian, Carr has produced several publications pertaining to the Manhattan Project, early nuclear weapons design, and nuclear testing history. He has also lectured for numerous professional organizations and been featured as a guest on many local, national and international radio and television programs. Before coming to Los Alamos, Carr completed his graduate studies at Texas Tech University in Lubbock. His thesis, *The Long Road to Kursk: The Development, Abandonment, and Relearning of Soviet*

Military Strategy, traces Soviet operational art from its roots in the early 1920s through its employment in the first half of World War II.

PANEL 2: TOOLS AND VERIFICATION FOR THE 21ST CENTURY

Panel Moderator: Vayl Oxford, *National Security Executive Policy Advisor, Pacific Northwest National Laboratory*

Vayl S. Oxford is the National Security Executive Policy Advisor at the Pacific Northwest National Laboratory (PNNL) where he is responsible for working with the National Security Directorate (NSD) and PNNL leadership to guide the strategic direction and vision for National Security issues. Specifically, he works with the NSD Sector, Project Management Office, Division, and Account leads to help focus NSD initiatives based on national-level priorities, and to create opportunities for NSD to provide thought leadership at the national-level. His career highlights include serving at the Department of Homeland Security (DHS) from October 2003 to January 2009, where he held the positions of Policy Advisor to the Under Secretary of Science & Technology, Acting Director of the Homeland Security Advanced Research Projects Agency, and as the first Director of the Domestic Nuclear Detection Office (DNDO). As the DNDO Director, he led the development of the National Strategy to Combat Nuclear Terrorism. Prior to his appointment to DHS, Mr. Oxford served as the Director for Counterproliferation at the National Security Council, where he supported the development of the President's National Strategy to Combat Weapons of Mass Destruction (WMD), the policy and strategy for WMD interdiction, and represented the NSC in the development of the National Biodefense Strategy. He chaired the interagency working group for Operation Iraqi Freedom to develop policies for combating WMD in Iraq, to include developing the initial concept for WMD exploitation and elimination, and the plan for foreign consequence management to protect civilian populations from potential Iraqi use of WMD. From 1987 to January 2002, Mr. Oxford held several positions within the Defense Threat Reduction Agency. As the Director for Counterproliferation, he led DoD's counterforce efforts to identify, characterize and defeat WMD facilities to include oversight of two Advanced Concept Technology Demonstrations that delivered advanced conventional weapons, hard target defeat fuzes and advanced mission planning systems for WMD facility defeat to USEUCOM. He is a graduate of the U.S. Military Academy and earned his Masters of Aeronautical Engineering from the Air Force Institute of Technology.

Dustin LeClair, *National Nuclear Security Analyst, SAIC*

Dustin LeClair currently works as an analyst for SAIC in support of the deputy assistant secretary for defense, Office of Nuclear Matters. Previously with SAIC, he supported HQ USAF assistant chief of staff for nuclear deterrence and nuclear integration, strategic stability and CWMD division (AF/A10-S) in its arms control and nonproliferation agreement compliance and implementation mission. Prior to joining SAIC, LeClair worked as an energy policy analyst for the George C. Marshall Institute, an operator for Duke Energy's Oconee Nuclear Station, and a reactor supervisor for Texas A&M University's research and test reactor. LeClair holds a BS in nuclear engineering from Texas A&M, an MS in defense and strategic studies from Missouri State, and a senior reactor operator's license from the U.S. Nuclear Regulatory Commission.

Jamelee Bal, *Research Assistant, Nuclear Security Working Group*

Jamelee Bal is research assistant at the Nuclear Security Working Group and graduate student of the Elliott School of International Affairs at the George Washington University. She is pursuing her master's in Middle East Studies with specialization in international security, and her Capstone project focuses on the transnational risks posed by Turkey's nuclear energy initiative. She holds a B.S. in Diplomacy and Military Studies from Hawaii Pacific University.

Graham Flaspoebler, *Research Intern, Center for Strategic and International Studies*

Graham Flaspoebler is a research intern for the Project on Nuclear Issues (PONI) at the Center for Strategic and International Studies. He received a BSFS in international political economy in 2015 from the School of Foreign Service at Georgetown University. His research interests include Iran and the broader Middle East as well as the intersection of politics and economics in the global environment, particularly the ways in which economic statecraft can be used as part of a strategy of coercive diplomacy to combat proliferation and other threats to U.S. and international security.

Tom Coppen, *PhD Candidate, Utrecht University*

Tom Coppen is currently finalizing his PhD dissertation on international law and the nuclear non-proliferation regime at Utrecht University in the Netherlands. He has published various articles related to the role of international law in this area, focusing on issues such as the NPT, safeguards, and trade controls. As a researcher, he is part of the Centre for Conflict and Security Law and has served as a special advisor to the Netherlands' delegations at NPT Review Conferences, PrepComs, and IAEA meetings since 2010.

Miriam Barnum, *Undergraduate Research Assistant, Los Alamos National Laboratory*

Miriam Barnum is a research assistant in the National Security Office at Los Alamos National Laboratory. Her research focuses on sanctions and nonproliferation negotiations, as well as U.S. assurance and alliance relationships in the changing Asia-Pacific security environment. She expects to graduate from Harvard University in May 2016, with a BA in social studies, with a focus on international security, institutions, and technology.

KEYNOTE ADDRESS**Dr. Steven Aoki**, *Associate Administrator and Deputy Under Secretary for Counterterrorism and Counterproliferation, Department of Energy*

Steven Aoki is the Associate Administrator and Deputy Under Secretary for Counterterrorism and Counterproliferation. In this position, Dr. Aoki is responsible for coordinating counterterrorism policy throughout the U.S. Department of Energy. Much of the focus of the department's counterterrorism efforts centers on the nuclear security enterprise, but also cuts across many organizations in the DOE. A career member of the Senior Executive Service, from 2000-2004 he was Senior Advisor for International Affairs to the Administrator of Department of Energy's National Nuclear Security Administration. Before joining DOE, he served at the U.S. Department of State as the Director of the Office of Proliferation Threat Reduction. During 1993-1996, he was on the staff of the National Security Council, with responsibility for nonproliferation and export control policies. Prior to that, he served as Special Assistant to the Under Secretary of State for International Security Affairs and in several positions in the Bureaus of Politico-Military Affairs and Near East-South Asian Affairs at the State Department, specializing in nonproliferation, regional security, and counter-terrorism activities. From 1978-1984 he was a scientific staff member and program manager at the Lawrence Livermore National Laboratory. He holds a Ph.D. in physics from the University of Chicago.

PANEL 3: READINESS, DECISIONMAKING, AND THE NUCLEAR ENTERPRISE**Panel Moderator: Alex Montgomery**, *Department Chair and Associate Professor of Political Science, Reed College*

Alexander H. Montgomery is the Department Chair and Associate Professor of Political Science at Reed College. He has published articles on dismantling proliferation networks and on the effects of social networks

of international organizations on interstate conflict. His research interests include political organizations, social networks, weapons of mass disruption and destruction, social studies of technology, and interstate social relations. Most recently, he has been a Residential Fellow at the Woodrow Wilson International Center for Scholars; prior to that he was a Council on Foreign Relations International Affairs Fellow in Nuclear Security with a placement in the US Office of the Secretary of Defense (Policy) working for the Deputy Assistant Secretary of Defense for Countering Weapons of Mass Destruction. His portfolio included writing a new Department of Defense Strategy for Countering Weapons of Mass Destruction.

Brian Radzinsky, *PhD Candidate, George Washington University*

Brian Radzinsky is a PhD student in political science at the George Washington University, focusing on international relations. His research interests include the domestic sources of nuclear policy, particularly the role of military and scientific establishments in shaping force posture decisions. Prior to attending GW, Radzinsky was a research analyst and project coordinator in the nuclear policy program at the Carnegie Endowment for International Peace, where he managed the negotiation, launch, and implementation of a code of conduct for nuclear reactor vendors. He received a BA in political science from Reed College.

Andrew Mastin, *Postdoctoral Research Staff Member, Lawrence Livermore National Laboratory*

Andrew Mastin is a postdoctoral research staff member in the computational engineering division at Lawrence Livermore National Laboratory. His research interests span topics relevant to both computer science and operations research, including robust optimization, approximation algorithms, Markov decision processes, random graphs, and game theory. Mastin received his PhD in electrical engineering and computer science from MIT in 2015. He also holds an MS in electrical engineering and computer science from MIT and a BS in electrical engineering from the University of Arizona.

Oliver Tonkin, *Recent Graduate, University of Nebraska-Lincoln*

Oliver Tonkin graduated in December 2014 from the University of Nebraska-Lincoln with a BA in political science, global studies, and Latin American studies and minors in national security studies and Spanish. Tonkin was an Intelligence Community Scholar at UNL, one of the fourteen IC Centers for Academic Excellence. He co-authored the paper “Universal Social Media: Bringing the Public into Nuclear Use Decision Making” with fellow students Valerie Eckrich, Taylor Christensen, John Dowd, Kseniya Ruzanova, Elizabeth Williams, and faculty advisor Marc Warburton.

Captain James Gutierrez, *91st Maintenance Group, Minot AFB, ND, United States Air Force*

Captain James Gutierrez is the chief of quality assurance for the 91st Maintenance Group, Minot AFB ND (USAF), responsible to the group commander for all inspections and evaluations and leads the group’s primary technical advisory agency. Captain Gutierrez has served in a variety of ICBM and nuclear maintenance positions along with ICBM Test and Evaluation. Prior to his current position, he was the maintenance operations officer for the 91st Missile Maintenance Squadron responsible for a 220-person squadron that executed daily maintenance for 150 ICBM launch facilities and 15 launch control centers. Capt Gutierrez served as a munitions accountable systems officer, responsible for nuclear weapon accountability of all W62/W87/W78 munitions assets and nuclear ordnance commodities and also as the facilities flight commander responsible for all ICBM corrosion control, Hardened Intersite Cable System, power and environmental control maintenance across a 9,600-square mile missile complex. At his last base, he served as the chief ICBM flight test management, responsible for planning, executing and reporting activities for Minuteman III operational test launches in concert with Department of Energy National Laboratories, defense contractors, and unit personnel to conduct four ICBM test launches each year.

TECHNICAL TALK: STOCKPILE STEWARDSHIP

Charlie Nakhleh, *Division Leader of the X-Theoretical Design Division, Los Alamos National Laboratory*

Charles W. Nakhleh is currently the Division Leader of the X-Theoretical Design Division (XTD) at Los Alamos National Laboratory. His responsibilities include leading nuclear weapon design, physics, and certification efforts at Los Alamos. Previously, he managed the Inertial Confinement Fusion (ICF) Target Design Department in the Pulsed Power Sciences Center at Sandia National Laboratories, where he supervised theoretical design and analysis efforts for magnetically-driven ICF targets for the Z pulsed-power facility and indirect-drive experiments for the National Ignition Campaign (NIC). He joined Sandia National Laboratories in December 2007, focusing on the physics and design of ICF and radiation-effects targets. Before joining Sandia, he was the Group Leader (acting) and Deputy Group Leader for the Thermonuclear Applications Group (X-2) of the Los Alamos National Laboratory, where, among other tasks, he oversaw the W88 and Reliable Replacement Warhead efforts. He spent nearly a decade before that as a staff member in X-2, serving as the Project Leader for the Quantification of Margins and Uncertainties (QMU) Tools and Methods project, as a weapon system point-of-contact, and worked on a wide variety of weapons-physics and design issues. He is a graduate of the Theoretical Institute of Thermonuclear and Nuclear Studies (TITANS) program at Los Alamos. He was a member of study teams that received Department of Energy Awards of Excellence in 1999, 2000, 2005, 2007, and 2010. He has served on a wide variety of advisory panels, including as a founding member of the NNSA's Predictive Science Panel, the Los Alamos Director's advisory panel on weapons certification, a consultant to the 2009 JASON study on warhead Life Extension Programs, an adviser to the Undersecretary of Energy on the NIC, and as an adviser to the NNSA on a variety of weapons physics issues. His research interests span a wide range of nuclear weapons design and physics issues, ICF, radiation effects, and other applications of high-energy-density physics, and applications of Bayesian inference techniques. He received his PhD in Physics from Cornell University in 1996.

PANEL 4: TECHNOLOGICAL THREATS & THE MODERN NUCLEAR ENVIRONMENT

Moderator: Dr. Andrew Ross, *Professor, George H.W. Bush School of Government & Public Service, Texas A&M University*

Dr. Andrew L. Ross joined the Bush School faculty as a professor in the Department of International Affairs in 2014. His previous appointment was at the University of New Mexico (UNM), where he served as director of the Center for Science, Technology, and Policy; director of Special Science, Engineering, and Policy Research Initiatives in the Office of the Vice President for Research; and professor of political science. He led UNM's University Strategic Partnership with the Defense Threat Reduction Agency and served as the program manager for UNM's Educational Partnership Agreement with the Air Force Research Laboratory. Dr. Ross was also the founder and chair of the New Mexico Nuclear Study Group.

Prior to his appointment at UNM in 2005, Ross spent sixteen years at the U.S. Naval War College, where he served as a research professor in the Strategic Research Department (SRD) of the College's Center for Naval Warfare Studies; director of studies, SRD; director of the College's project entitled "Military Transformation and the Defense Industry After Next"; acting director of the Advanced Research Program; co-lead of the post-9/11 Strategy Task Group; professor in the National Security Affairs Department; and Secretary of the Navy Senior Research Fellow. He received the Department of the Navy Meritorious Civilian Service Award in 2002. The principal investigator and leader of several major federally-funded research initiatives, Professor Ross' work on US grand strategy, national security and defense planning, regional security, weapons proliferation, and security and economics has appeared in numerous journals and books. His current work

focuses on the US grand strategy debate; military innovation; and nuclear policy, strategy, and force structure. He earned his MA and PhD at Cornell University and his BA, summa cum laude, at American University and has held fellowships at Cornell, Princeton, Harvard, and the University of Illinois.

Michelle Nalabandian, *Program Associate, Scientific and Technical Affairs, Nuclear Threats Initiative*

Michelle Nalabandian joined the Nuclear Threat Initiative in 2009 and serves as Program Associate for the Scientific and Technical Affairs Program. In this role, she is responsible for managing operational elements of the program in support of projects that strengthen nuclear materials security globally, with particular emphasis on Russia and China. Nalabandian also focuses on matters relating to biosecurity threats and cyber security as it relates to nuclear facilities. Previously, Nalabandian worked in finance for asset management firms Global Environment Fund and Sciens Capital Management. She holds a bachelor's degree in biology from George Mason University and received a certificate of mastery from the John F. Kennedy School of Government at Harvard University in 'Central Challenges of American National Security, Strategy, and the Press'. Nalabandian is a member of the 2015 class of PONI's Nuclear Scholars Initiative and a Fellow in the 2015 class of the Emerging Leaders in Biosecurity Initiative. She is also a member of Women in International Security and is currently pursuing a master's degree in forensic science.

Alexandra Van Dine, *Program Associate, Scientific and Technical Affairs, Nuclear Threats Initiative*

Alexandra Van Dine is a program associate with the scientific and technical affairs team at NTI, where she works primarily on the NTI Nuclear Materials Security Index and on projects related to the intersection of cyber and nuclear security. Prior to her current position, Van Dine was a Herbert Scoville Jr. Peace Fellow at NTI. Van Dine has previously held positions with the U.S. Department of Defense, Harvard Kennedy School's Belfer Center for Science and International Affairs, U.S. Senators John Kerry and William "Mo" Cowan, and Massachusetts Governor Deval Patrick. She graduated from Georgetown University's Edmund A. Walsh School of Foreign Service in May 2014 with a BS in Foreign Service, majoring in International Politics and Security Studies, with a particular focus on nuclear policy and counterterrorism. She is the recipient of the 2014 J. Raymond Trainor Award for outstanding academic achievement in International Politics at Georgetown and earned honors on her thesis, "A.Q. Khan, Munir Khan, and the Choice to Proliferate," which sought a first-image explanation of nuclear proliferation. She is conversant in French and hails from the Boston area.

Grant Schneider, *Foreign Affairs Officer, U.S. Department of State*

Grant Schneider is a foreign affairs officer in the Bureau of Arms Control, Verification and Compliance where he is responsible for supporting the development and implementation of cyber stability and arctic policy. Previously, he led the Bureau's public affairs office where he led the Department's media efforts on the removal and destruction of the Syrian chemical weapons program, as well on numerous nuclear, space and missile defense issues. Schneider has also served as a speechwriter and staff assistant to Under Secretary Rose Gottemoeller. In 2014 he represented the United States as a United Nations Disarmament Fellow. He was also a 2010 Nuclear Scholar at the Project on Nuclear Issues at the Center for Strategic and International Studies. Schneider received his BSFS from Georgetown University and his MA from The George Washington University. He is originally from California.