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CENTER FOR STRATEGIC &
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Project on

Nuclear Issues

2011 SUMMER CONFERENCE
JULY 7-8, 2011

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**CENTER FOR STRATEGIC &
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Welcome to the PONI Summer Conference

Welcome to the Project on Nuclear Issues 2011 Summer Conference. For those of you who have been to a PONI conference before, we're glad to have you back. For those who are joining us for the first time, we hope that you enjoy the event and join us again in the future. PONI conferences bring together hundreds of people from across the nuclear enterprise each year to discuss current issues and some of the new ideas presented by the field's up-and-coming experts. The yearly series consists of three regional conferences and a culminating capstone event at U.S. Strategic Command that features a selection of some of the best presentations from the preceding three conferences.

The conference series, like all PONI activities, seeks to provide a forum for intergenerational and interdisciplinary knowledge transfer. We are therefore grateful for the involvement of senior experts, including our keynote speakers and panel moderators, as their knowledge and insight constitute a vital resource to the broader nuclear community. We are likewise appreciative of the participation of experts representing the hard sciences, as their perspective is important to making sure the Washington discussion on matters of strategy and policy are grounded in technical realities. We would also like to thank our speakers for making considerable investments of time and energy in order to advance discussion at this conference and beyond. Finally, we would like to thank our sponsors, who have been true partners of PONI from the very beginning.

The agenda covers a wide range of topics and hopefully has something for everyone. In addition to delivering stimulating substantive debate, we hope that the event provides a useful and enjoyable networking opportunity for everyone involved. We look forward to collecting your feedback after the conference regarding aspects you enjoyed the most and also about the elements that you wish had been done differently or simply done better.

Finally, please remember that all proceedings at the conference are off-the-record. Therefore, if you are a member of the media or otherwise intend on authoring an article that draws from discussion here, then please ask all relevant parties for their permission before you quote them or reference their work. Your consideration in abiding by this rule is very much appreciated by PONI and all the speakers.

Thank you again for joining us. Enjoy the conference!

The PONI Team

DAY ONE

Thursday, July 7, 2011

8:00 CONFERENCE CHECK-IN AND BREAKFAST

8:50 CONFERENCE WELCOME

Clark Murdock, Senior Adviser and PONI Director, Center for Strategic and International Studies

9:00 STATE CALCULATIONS ON ACQUIRING NUCLEAR WEAPONS

Moderator: Barry Blechman, Co-Founder and Distinguished Fellow, Henry L. Stimson Center

Red Lines in Coercive Nonproliferation

Daniel Altman, PhD Candidate, Political Science, Massachusetts Institute of Technology

Military Tradeoffs as a Constraint on Nuclear Acquisition

Gene Gerzhoy, PhD Candidate, University of Chicago

Japan's Nuclear Hedging

Jithin George, Research Associate, National Maritime Foundation

Iran's Nuclear Strategy: Understanding Tehran's Acquisition Pathway

Patrick Disney, MA Candidate, International Relations, Yale University

10:30 BREAK

10:45 U.S.-RUSSIA ENGAGEMENT ON NUCLEAR POLICY

Moderator: Edward Ifft, Adjunct Professor, Security Studies Program, Georgetown University

Contextualizing and Engaging Russian Nuclear Policy

Alejandro Sueldo, JD Candidate, University of California at Berkeley

Challenges in U.S.-Russia Nonproliferation and Disarmament Initiatives

Kate Svyatets, PhD Candidate, International Relations, University of Southern California

From START to Finish?

Houston John Goodell, Captain, US Army Judge Advocate General; LLM Candidate,
Georgetown University

12:05 LUNCH AND SPEAKER

Michael Elliott, SES, Deputy Director for Strategic Stability, Strategic Plans and Policy Directorate (J5), Joint Chiefs of Staff

1:15 STRATEGIC STABILITY 1: KEY ISSUES FOR U.S. POLICYMAKERS

Moderator: Clark Murdock, Senior Adviser and PONI Director, Center for Strategic and International Studies

U.S. Extended Deterrence to South Korea and North Korea’s Unusual Belligerence
Sungmin Cho, James Kelly Korean Studies Fellow, Pacific Forum, Center for Strategic and International Studies

Revisiting the Security/Insecurity Paradox in a Sino-American Context:
The Challenge of a Bilateral Dialog on Strategic Stability
Jean-Loup Samaan, Lecturer, International Security, Sciences Po

Why We Should Study Developing Nuclear Earth Penetrators – And Why They are Actually Stabilizing
Elbridge Colby, Research Analyst, Center for Naval Analyses

2:45 BREAK

3:00 STRATEGIC STABILITY 2: SOUTH ASIA DYNAMICS

Moderator: Jeffrey Lewis, Director, East Asia Nonproliferation Program, James Martin Center for Nonproliferation Studies

Stability in South Asia: The Nuclear-Conventional Intersection
Vipin Narang, Assistant Professor, Political Science, Massachusetts Institute of Technology

China, India, and Cruise Missiles
Kalyan M. Kemburi, MA Candidate, Monterey institute of International Studies

4:15 TABLE DISCUSSIONS: MANAGING THE PROBLEMS POSED BY IRAN’S NUCLEAR PROGRAM

5:00 END OF TABLE DISCUSSIONS

5:30 RECEPTION

Hudson Restaurant and Lounge
2030 M Street, NW

6:00 DINNER AND KEYNOTE ADDRESS

The Honorable Rose Gottemoeller, Assistant Secretary of State for Arms Control, Verification and Compliance

8:00 END OF DAY ONE

DAY TWO
Friday, July 8, 2011

8:30 COFFEE AND BREAKFAST

9:00 EXAMINING THE LEGAL INSTRUMENTS OF NONPROLIFERATION
AND ARMS CONTROL

Moderator: Chris Bidwell, Acting Director of the Middle East Desk, Regional Engagement Division, Defense Threat Reduction Agency

Superpower Collusion and the Nuclear Nonproliferation Treaty
Jane Vaynman, PhD Candidate, International Relations, Harvard University

Disarmament Under the NPT: Article VI in the 21st Century
Paul Kiernan, LLM Candidate, Energy & Environmental Law, The George Washington University

Negotiating Divorce: Withdrawing from Arms Control Treaties
Thomas Schafbuch, JD/MPA Candidate, Syracuse University

10:30 BREAK

10:50 PREVENTING PROLIFERATION WHILE MEETING NUCLEAR ENERGY DEMANDS

Moderator: Sharon Squassoni, Director, Proliferation Prevention Program, Center for Strategic and International Studies

The Next Generation of 123 Agreements
Laura Berzak, Congressional Fellow, Office of U.S. Senator Kent Conrad

Transnational Networks and Nonproliferation: Strengthening the Multilateral Nuclear Export Control Regime
Michael M. Lieberman, Associate, International Department, Steptoe & Johnson LLP; Fellow, Truman National Security Project

Countering Proliferation Finance: An Essential but Undervalued Component of the Nonproliferation Regime
Javier Serrat, Scoville Fellow, James Martin Center for Nonproliferation Studies, Washington, DC

12:20 LUNCH AND SPEAKER

Sino-U.S. Nuclear Relations
Linton Brooks, Senior Adviser, Center for Strategic and International Studies

1:30 TABLE DISCUSSION RECAP

2:00 BREAK

2:15 NEW TOOLS AND METHODS FOR ARMS CONTROL AND NONPROLIFERATION

Moderator: Bryan Fearey, Office Director, National Security Program,
Los Alamos National Laboratory

Nuclear Ionization Quenching Measurement in a Dual-Phase Argon Detector
Michael Foxe, PhD Candidate, Nuclear Engineering, Pennsylvania State University

Institutionalizing Commitment Tracking in the Nuclear Security Summit Process
Sarah Williams, Project Coordinator, Center for Science, Technology and Security Policy,
American Association for the Advancement of Science

A Proof-of-Concept Game Theoretic Model for Optimal Inspection Strategy Determination
Rebecca Ward, PhD Candidate, Nuclear Engineering and Radiation,
University of Texas at Austin

3:45 END OF CONFERENCE

4:00 HAPPY HOUR

Cities
919 19th Street, NW

SPEAKER BIOGRAPHIES

CONFERENCE WELCOME

Dr. Clark Murdock, Senior Adviser and PONI Director, Center for Strategic and International Studies

Clark Murdock is the senior adviser for the U.S .Defense and National Security Group at CSIS and the director of the Project on Nuclear Issues (PONI), Joining CSIS in January 2001, Murdock has completed studies on a wide range of defense and national security issues, including strategic planning, defense policy and governance, and U.S. nuclear weapons strategy and policy, He directed 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. Murdock is currently leading the U.S.-UK-France trilateral track-2 nuclear dialogue and has recently completed studies on methodological approaches to building force planning constructs and on nuclear posture implications of U.S. extended deterrence and assurance. He is the principal author of *Improving the Practice of National Security Strategy: A New Approach for the Post–Cold War World* (CSIS, 2004) and *The Department of Defense and the Nuclear Mission in the 21st Century* (CSIS, 2008). Murdock coauthored *Revitalizing the U.S. Nuclear Deterrent* (CSIS, 2002) and *Nuclear Weapons in 21st Century U.S. National Security* (AAAS, 2008).

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 ONE: STATE CALCULATIONS ON ACQUIRING NUCLEAR WEAPONS

Dr. Barry Blechman, Co-Founder and Distinguished Fellow, Henry L. Stimson Center

Dr. Barry M. Blechman is the co-founder of the Stimson Center, and a distinguished fellow focused on nuclear disarmament. He was chair of Stimson's board from 1989 to 2007. Blechman has nearly fifty years of distinguished service in national security, in both the public and private sectors. He is an expert on political and military policies, military strategy, and defense budgets and industries. Blechman has worked in the Departments of State and Defense, and at the Office of Management and Budget. Among other boards and commissions, Blechman served on the Commission to Assess the Ballistic Missile Threat to the United States (1998-99), the Defense Policy Board (2002-06), the mayor's Bioterrorism Preparedness and Response Program Advisory Committee in the District of Columbia (2004-06), and the Department of State Advi-

sory Committee on Transformational Diplomacy (2005-08). Blechman founded DFI International Inc., a research consultancy, in 1984 and served as its CEO until 2007. Blechman holds a PhD in international relations from Georgetown University, has taught at several universities, and has written extensively on national security issues. His most recent publications are *Elements of a Nuclear Disarmament Treaty and National Perspectives on Nuclear Disarmament*. Both volumes, which he co-edited with Alexander Bollfrass, were published by Stimson in 2010.

Daniel Altman, PhD Candidate, Political Science, Massachusetts Institute of Technology

Daniel Altman is a doctoral candidate in the MIT Political Science Department, and a member of the MIT Security Studies program. His dissertation, *The Battle over Red Lines: A Theory of Bargaining, Coercion, and Crisis among Nations*, offers a theory of red lines in interstate coercive bargaining, focusing on a set of five widely neglected characteristics of red lines (demands) other than how much is demanded. Crises such as the Cuban Missile Crises and Berlin Crises can be understood as competitions to exploit and outmaneuver the adversary's red lines using strategies that exploit these five characteristics of red lines. Further research areas include: false optimism as a cause of war, treaty compliance, preventive force and nuclear proliferation, the strategic logic of information, and coercive strategy.

Gene Gerzhoy, PhD Candidate, International Relations, University of Chicago

Gene Gerzhoy is a Doctoral Student in International Relations at the University of Chicago. His doctoral research explores the underlying causes of nuclear weapons proliferation and non-proliferation. Gerzhoy's other research investigates authoritarian politics in the Middle East, civil-military relations, the sources of biased decision-making in foreign policy, and U.S. grand strategy. He has researched nuclear proliferation at SAIC, ballistic missile defense at the Jewish Institute for National Security Affairs, and U.S.-NATO relations at Georgetown University's Center for the Study of Diplomacy, where he was a Junior Fellow. Gerzhoy has lived and studied in England, Egypt, and the Soviet Union, and he is fluent in Russian and conversant in Arabic. He received his B.S. from Georgetown University's School of Foreign Service, and his M.A. from the University of Chicago's Department of Political Science.

Jithin George, Research Associate, National Maritime Foundation

Jithin S George is a Research Associate with the National Maritime Foundation. His research areas are security and defence of Japan and the Korean peninsula. He is also pursuing MPhil in Japanese Studies from Jawaharlal Nehru University, New Delhi. He has written commentaries on What can Japan gain from Indo-US nuclear deal, Ramifications of the ROK-US joint military exercise (published during artillery shelling at Yeonpyeong Island, 2010) and Relation between Football and International Relations (published during 2010 FIFA World Cup). His maiden paper – Japan's Nuclear Hedging, was well received by the strategic community in New Delhi. He holds an MPhil from Jawaharlal Nehru University, New Delhi, a M.A. in International Relations from Pondicherry University and a B.A (H) in Political Science from Delhi University.

Patrick Disney, MA Candidate, International Relations, Yale University

Patrick Disney is currently pursuing an M.A. in international relations at Yale University, focusing on Iran and nuclear nonproliferation. Previously, he was the Assistant Policy Director at the National Iranian American Council, the largest nation-wide grassroots organization representing the Iranian-American community, and coordinator of the Campaign for a New American Policy on Iran, a coalition of national advocacy organizations promoting a diplomatic solution to the US-Iran conflict. He has written for *The Huffington Post*, *PBS Frontline's "Tehran Bureau,"* and *Foreign Policy's "Middle East Channel."* This summer, thanks to a research grant from Yale's Jackson Institute for Global Affairs, he will publish a series of articles on Iran's nuclear program for *The Atlantic*.

SESSION TWO: U.S. - RUSSIA ENGAGEMENT ON NUCLEAR POLICY

Dr. Edward Ifft, Adjunct Professor, Security Studies Program, Georgetown University

Edward Ifft is an Adjunct Professor in the Security Studies Program at Georgetown University. He is a retired member of the Senior Executive Service and was formerly a Foreign Affairs Officer at the State Department. He has served on the U.S. delegations to the SALT, TTBT, START and CTBT negotiations, was the Senior State Representative to both the START and CTBT negotiations, and served as Deputy U.S. Negotiator to START. Dr. Ifft has served as Deputy Director of the On-Site Inspection Agency and Senior Advisor to the Defense Threat Reduction Agency. He served for three years as Executive Secretary of the U.S.-USSR Space Cooperation Agreement. He was U.S. Commissioner (Acting) for the ABM Treaty for two years. He has authored numerous journal articles and chapters in two books published by the United Nations. Ifft received his Ph.D. in Physics from The Ohio State University.

Alejandro Sueldo, JD Candidate, University of California at Berkeley

Alejandro Sueldo is a J.D. candidate and Dean's Fellow at the University of California, Berkeley, School of Law (Boalt Hall). Alejandro has experience in foreign policy and international security affairs, and has held policy positions and foreign assignments with an emphasis on U.S. relations with Europe, NATO, Russia, and Central Asia. He also contributed to the activities of the Argentine Government's chairmanship of the Missile Technology Control Regime (MTCR), and has supported democratization efforts in South America. Alejandro received a Master of Science in Foreign Service (MSFS) degree from Georgetown University's School of Foreign Service, has completed graduate studies at Saint-Petersburg State University (Russia), and holds a B.A. from the University of Southern California. Alejandro was a Rotary Foundation Ambassadorial Scholar in Russia, an ATHGO International Scholar, and is a recipient of the Yee Fellowship for public service.

Kate Svyatets, PhD Candidate, International Relations, University of Southern California

Kate Svyatets is a fellow at the Center for International Studies and a Ph.D. candidate in political science and international relations at the University of Southern California (USC). Her dissertation is titled "Energy Security and Cooperation: the Cases of U.S.-Russia, U.S.-Azerbaijan, and Russia-Germany." Ms. Svyatets has conducted field research and participated in conferences in the United States, Azerbaijan, the UK, Canada, and Russia. She received the Edmund S. Muskie Graduate Fellowship from the U.S. Department of State in 2004-2006. Ms. Svyatets holds a B.A. in international management from Vladivostok State University, Russia, and an MA in international relations from USC.

Houston John Goodell, Captain, US Army Judge Advocate General; LLM Candidate, Georgetown University

Captain Houston John Goodell is a United States Army Judge Advocate Recruiting Officer. Prior to this position, he served as an Administrative Law Attorney, Trial Counsel and Special Assistant United States Attorney at Fort Eustis, Virginia. Captain Goodell is a 2004 alumnus of Vanderbilt University. After commissioning through Vanderbilt's Army ROTC Program, he received his J.D. from the University of Wisconsin Law School. Captain Goodell recently received his L.L.M. in National Security Law from the Georgetown University Law Center.

LUNCH SPEAKER

Michael Elliott, SES, Deputy Director for Strategic Stability, Strategic Plans and Policy Directorate (J5), Joint Chiefs of Staff

Michael Elliott is the Deputy Director for Strategic Stability, Strategic Plans and Policy Directorate (J-5), the Joint Staff. In this role, he is responsible for the formulation of Joint Staff positions and recommendations regarding strategic deterrence, nuclear policy, Department of Defense efforts to combat Weapons of Mass Destruction, strategic arms reduction negotiations and agreements, as well as other international negotiations and agreements.

In 2009, Mr Elliott served as the Chairman's representative to the New Strategic Arms Reduction Treaty negotiations with the Russian Federation. He was one of five full members of the United States delegation and represented the military position of the Services and Combatant Commanders. During the negotiations, he was charged with negotiating the Conversion and Elimination protocol as well as the Agreed Statements portion of the new Treaty. He also represented the Joint Staff during the Obama Administration's efforts to seek the advice and consent of the Senate during the ratification process.

From 2003 to 2010, Mr. Elliott served as the senior technical authority to the Director for Plans and Policy and Commander, USSTRATCOM, and was responsible for the shaping and implementation of national security plans and policy as it applied to the Command and the execution of its mission. Mr. Elliott provided leadership and technical guidance for roles and missions issues; the development of joint doctrine for space, IMD, IO, combating WMD, and nuclear operations; and advised the Commander, USSTRATCOM on Congressional and Presidential positions for key space, IMD, IO, combating WMD, and strategic nuclear issues.

Mr. Elliott returned to government service in June 2003, following 7 years with Science Applications International Corporation (SAIC), where he was an Assistant Vice President. Mr. Elliott retired as a Lieutenant Colonel, United States Air Force, in January 1996, following 25 years of service. Mr. Elliott's duties included a distinguished flying career as an evaluator, instructor, and combat crewmember qualified in the B-1B, FB-111, and B-52G. He received a B.A. in Economics from California State University, Sacramento and a M.S. in Human Resources Management from Gonzaga University.

SESSION THREE: STRATEGIC STABILITY 1: KEY ISSUES FOR U.S. POLICYMAKERS

Sungmin Cho, James Kelly Korean Studies Fellow, Pacific Forum CSIS

Sungmin Cho is a 2011 Kelly Fellow at the Pacific Forum CSIS. He received his BA in Political Science at Korea University and spent a year as an exchange student at the University of British Columbia in 2003-2004. In 2005, Mr. Cho joined the Republic of Korea Army and served as an intelligence officer for three years, including a seven-month tour to Iraq in 2006. In 2010, he earned MA in international relations from Peking University with his dissertation on North Korea's nuclear issue and its impact on the Sino-US relations. Sungmin is currently working on the dynamics of the Sino-Korean Peninsula relations in the post cold war era and their strategic implications.

Jean-Loup Samaan, Lecturer, International Security, Sciences Po

Jean-Loup Samaan is an adjunct lecturer in international security at the French Institute for Political Studies, Sciences Po. He is also a policy advisor at the French Ministry of Defense (Directorate for Strategic Affairs) where he is currently assigned to the Long-Range Analysis Unit. A former visiting scholar at the RAND Corporation and Duke University, he holds a PhD in Political Science from the University of Paris. He wrote several articles for various international journals (Orbis, RUSI Journal, Strategic Insights, Politique Etrangère...) on French nuclear deterrence, cyberdefense, maritime security, transatlantic relations. He is the author of *The RAND Corporation: The Reconfiguration of Strategic Studies in the United States*, to be published by Palgrave in 2012.

Elbridge Colby, Research Analyst, Center for Naval Analyses

Elbridge Colby is a research analyst at the Center for Naval Analyses. He served as policy advisor to the Secretary of Defense's Representative to the New START talks, serving both on the delegation in Geneva and then as a point man for the Treaty ratification effort. Previously he served as an expert advisor to the Congressional Strategic Posture Commission and in a number of other government positions including with the Office of the Director of National Intelligence and the President's Silberman-Robb WMD Commission. He has been an adjunct staff member with the RAND Corporation and is a consultant to the Lawrence Livermore National Laboratory, U.S. Strategic Command, and other government bodies. He has written chapters and articles on strategic, proliferation, and intelligence issues in a variety of edited volumes, journals, newspapers, and weblogs, and has spoken at universities and conferences in the U.S., Europe, and Asia. A term member of the Council on Foreign Relations and a member of the IISS, he is a graduate of Harvard College and Yale Law School.

SESSION FOUR: STRATEGIC STABILITY 2: SOUTH ASIA DYNAMICS

Dr. Jeffrey Lewis, Director, East Asia Nonproliferation Program, James Martin Center for Non-proliferation Studies

Before coming to CNS, he was the Director of the Nuclear Strategy and Nonproliferation Initiative at the New America Foundation. Prior to that, Dr. Lewis was Executive Director of the Managing the Atom Project at the Belfer Center for Science and International Affairs, Executive Director of the Association of Professional Schools of International Affairs, a Visiting Fellow at the Center for Strategic and International Studies and a desk officer in the Office of the Undersecretary of Defense for Policy. He is also a Research Scholar at the Center for International and Security Studies at the University of Maryland's School of Public Policy (CISSM). Dr. Lewis received his Ph.D. in Policy Studies (International Security and Economic Policy) from the University of Maryland and his B.A. in Philosophy and Political Science from Augustana College in Rock Island, Ill. Dr. Lewis is the author of *Minimum Means of Reprisal: China's Search for Security in the Nuclear Age* (MIT Press, 2007) and publishes ArmsControlWonk.com, the leading blog on disarmament, arms control and nonproliferation.

Vipin Narang, Assistant Professor, Political Science, Massachusetts Institute of Technology

Vipin Narang joined the MIT faculty this fall as an Assistant Professor of Political Science. He received his Ph.D. from the Department of Government, Harvard University in May 2010. His dissertation project systematically explores the effect of nuclear postures in deterring conflict and develops a theory for their origins in regional nuclear powers; it was awarded Harvard's Edward M. Chase prize. He holds a B.S. and

M.S. in chemical engineering with distinction from Stanford University and an M. Phil with Distinction in international relations from Balliol College, Oxford University, where he studied on a Marshall Scholarship. He has been a fellow at the Olin Institute for Strategic Studies, Harvard University and a predoctoral fellow at the Belfer Center for Science and International Affairs, Harvard University.

Kalyan M. Kemburi , MA Candidate, Monterey institute of International Studies

Kalyan M. Kemburi is a Master’s candidate from the Monterey Institute of International Studies. After graduating next month, he will be joining the S. Rajaratnam School of International Studies (Singapore). His research interests include military modernization in Asia; nuclear energy and nonproliferation of nuclear weapons; and China’s foreign and security policies in South and Southeast Asia. He has published with the Bulletin of the Atomic Scientists and the Nuclear Threat Initiative. Kalyan has previously worked with the James Martin Center for Nonproliferation Studies and the UN Office for Disarmament Affairs.

KEYNOTE ADDRESS

The Honorable Rose Gottemoeller, Assistant Secretary of State for Arms Control, Verification and Compliance

Rose Gottemoeller was sworn in as the Assistant Secretary of State for the Bureau of Arms Control, Verification and Compliance, on April 6, 2009. She was the chief negotiator of the New Strategic Arms Reduction Treaty (New START) with the Russian Federation. Since 2000, she had been with the Carnegie Endowment for International Peace. She most recently was a senior associate in the Carnegie Russia & Eurasia Program in Washington, D.C., where she worked on U.S.–Russian relations and nuclear security and stability. She also served as the director of the Carnegie Moscow Center from January 2006 – December 2008. Formerly Deputy Undersecretary of Energy for Defense Nuclear Nonproliferation and before that, Assistant Secretary for Nonproliferation and National Security, also at the Department of Energy, she was responsible for all nonproliferation cooperation with Russia and the Newly Independent States. She first joined the Department of Energy in November 1997 as director of the Office of Nonproliferation and National Security. Prior to her work at the Department of Energy, Ms. Gottemoeller served for 3 years as Deputy Director of the International Institute for Strategic Studies in London. From 1993 to 1994, she served on the National Security Council in the White House as director for Russia, Ukraine, and Eurasia Affairs, with responsibility for denuclearization in Ukraine, Kazakhstan, and Belarus. Previously, she was a social scientist at RAND and a Council on Foreign Relations International Affairs Fellow. She has taught on Soviet military policy and Russian security at Georgetown University. Ms. Gottemoeller received a B.S. from Georgetown University, and a M.A. from George Washington University. She is fluent in Russian.

SESSION FIVE: EXAMINING THE LEGAL INSTRUMENTS OF NONPROLIFERATION AND ARMS CONTROL

Chris Bidwell, Acting Director of the Middle East Desk, Regional Engagement Division, Defense Threat Reduction Agency

CDR Christopher (Chris) Bidwell is the Acting Director of the Middle East Desk in the Regional Engagement Division at the Defense Threat Reduction Agency (DTRA). He is also the leader of the Washington Program

on Nonproliferation Policy and Law, a unique program that focuses on legal issues associated with WMD. He is also an Adjunct Professor at Georgetown University, where he teaches a master’s level course entitled “Current Issues in Nonproliferation and International Relations.” He has also been a guest lecturer on this topic at several universities around Washington, DC and the country.

Prior to assuming his role in DTRA’s Regional Engagement Division, he was a National Security Counselor in DTRA’s Advanced Systems and Concepts Office (ASCO). Before coming to ASCO, CDR Bidwell served as DTRA’s first liaison to the U.S. Special Operations Command (Fayetteville and Tampa) as well as the U.S. Central Command. He was also instrumental in the creation of DTRA/U.S. Strategic Command’s Center for Combating WMD, serving as its first Situational Awareness Chief. Prior to rejoining the active U.S. Navy in 1999, CDR Bidwell was an attorney in private practice, working out of San Francisco, focused on complex multi-party litigation, insurance, and maritime law. He has successfully tried cases in both Federal and State Courts. His first assignment upon returning to active duty was as Officer in Charge of a Security Assistance Team in Saudi Arabia. He has traveled extensively throughout the Middle East, both in and out of uniform. In his initial Navy tour, he served on the USS OGDEN (Engineering Division Officer) and USS BAGLEY (Navigator), completing two Western Pacific deployments. CDR Bidwell is a qualified Surface Warfare Officer who earned his A.B. in Political Science from San Diego State University and his M.A. in National Security and Strategic Studies from the Naval War College (in residence). He also earned a Juris Doctorate from Thomas Jefferson School of Law and is an active member of the California Bar.

Jane Vaynman, PhD Candidate, International Relations, Harvard University

Jane Vaynman is a PhD candidate at the Department of Government at Harvard University and a fellow with the Program on Global Society and Security at the Weatherhead Center for International Affairs. Previously, she worked at the Carnegie Moscow Center and the Nonproliferation Program at the Carnegie Endowment for International Peace. Her current projects include research on security cooperation agreements, arms control, and the nuclear nonproliferation regime.

Paul Kiernan, LLM Candidate, Energy & Environmental Law, The George Washington University

Paul Kiernan is an LL.M. candidate at George Washington University Law School. Currently studying the international dimensions of energy policy-making, technology, and national security, he has also focused on foreign investment, climate change, and nuclear issues. Prior to GW, Paul worked on energy security issues at the Center for The National Interest, and on domestic regulatory matters at the Federal Energy Regulatory Commission. He graduated from Pomona College with a B.A. in Philosophy, Politics & Economics, and from the Columbus School of Law at Catholic University, with a J.D. in Comparative and International Law. Paul has studied international law at l’Institut d’Études Politiques (Sciences Po) in Paris, and Jagiellonian University in Cracow.

Thomas Schafbuch, JD/MPA Candidate, Syracuse University

Thomas Schafbuch is a rising 3rd year Juris Doctor and Public Administration candidate at Syracuse University College of Law and the Maxwell School. Before entering law school Tom was a journalist in Moscow, Russia. He worked for *The Moscow Times* and *Interfax*. The author received a BA in Slavic Languages and Political Science from Indiana University. The majority of this paper was prepared while working with the Lawyers Alliance for World Security (LAWS) in Washington, DC, in the summer of 2010. Currently, he is interning with the Department of Defense Inspector General in Washington, DC.

SESSION SIX: PREVENTING PROLIFERATION WHILE MEETING NUCLEAR ENERGY DEMANDS

Sharon Squassoni, Director, Proliferation Prevention Program, Center for Strategic and International Studies

Ms. Squassoni serves as director and senior fellow of the Proliferation Prevention Program at CSIS. Prior to joining CSIS, Ms. Squassoni was a senior associate in the Nuclear Nonproliferation Program at the Carnegie Endowment for International Peace. From 2002-2007, Ms. Squassoni advised Congress as a senior specialist in weapons of mass destruction at the Congressional Research Service, Library of Congress. Before joining CRS, she worked briefly as a reporter in the Washington bureau of Newsweek magazine. Ms. Squassoni also served in the executive branch of government from 1992 to 2001. Her last position was Director of Policy Coordination for the Nonproliferation Bureau at the State Department. She also served as a policy planner for the Political-Military Bureau at State. She began her career in the government as a nuclear safeguards expert in the Arms Control and Disarmament Agency. She is the recipient of various service awards and has published widely. She is a frequent commentator for U.S. and international media outlets. Ms. Squassoni received her B.A. in political science from the State University of New York at Albany, a Masters in Public Management from the University of Maryland, and a Masters in National Security Strategy from the National War College.

Laura Berzak, Congressional Fellow, Office of U.S. Senator Kent Conrad

Laura Berzak is currently a scientific advisor for U.S. Senator Kent Conrad, through the American Physical Society (APS)/American Association for the Advancement of Science (AAAS) Congressional Fellowship. Previously, Laura was a legislative science fellow on the Subcommittee on Terrorism, Nonproliferation, and Trade of the U.S. House of Representatives Committee on Foreign Affairs. Her Congressional portfolios have included issues ranging from alternative energy technology to nuclear nonproliferation and arms control. Laura received her Ph.D. in Plasma Physics from Princeton University in 2010.

Michael M. Lieberman, Associate, International Department, Steptoe & Johnson LLP, Washington D.C.; Fellow, Truman National Security Project

Michael Lieberman is an associate in the Washington office of Steptoe & Johnson LLP, where he is a member of the International Department. His practice focuses on export controls, economic sanctions, anti-corruption and international trade. He has written extensively on export control law and regulations, and has presented on illicit procurement networks and nuclear proliferation at the University of Reading (UK) and the Indian Society of International Law. Previous work experience includes the Office of Management and Budget, National Security Division, the Asia Foundation and the U.S. Attorney's Office in the Northern District of California. Michael is also a Fellow at the Truman National Security Project. Michael holds a J.D. from the University of California at Berkeley and an M.A.L.D. from the Fletcher School of Law and Diplomacy.

Javier Serrat, Scoville Fellow, James Martin Center for Nonproliferation Studies, Washington, D.C.

Javier Serrat is a Scoville Fellow with the James Martin Center for Nonproliferation Studies, where he works on the regional impact of developments in Iran's nuclear policy and program, assessing current issues pertaining to IAEA safeguards, and countering proliferation finance. He graduated from Boston

University in 2009, with a BA in International Relations and Musicology and a minor in Russian and Eastern European Studies. He also completed training in international nuclear safeguards policy and analysis at the Monterey Institute of International Studies in 2010, through the Department of Energy's Next Generation Safeguards Initiative, and was a Congress-Bundestag Scholar in Berlin, Germany. Previously, he interned in the Legal Advice Section of the UN High Commissioner for Refugees in Geneva and the IAEA Section of the U.S. Mission in Vienna. A descendant of Catalan émigrés, Javier was born in San Juan, Puerto Rico.

LUNCH SPEAKER

Linton Brooks, Senior Adviser, Center for Strategic and International Studies

Linton F. Brooks served as under secretary of energy for nuclear security and as administrator of the National Nuclear Security Administration (NNSA) from 2003 to 2007. Prior to joining NNSA, he was vice president and assistant to the president for policy analysis at the Center for Naval Analyses, a federally funded research and development organization located in Alexandria, Virginia. His extensive government experience includes service as assistant director of the Arms Control and Disarmament Agency and as chief U.S. negotiator for the Strategic Arms Reduction Treaty (where he earned the title of ambassador). Brooks also served as director of arms control for the National Security Council, where he contributed to the development of the U.S. National Security Strategy and supervised the development of the Nuclear Risk Reduction Center with the Soviet Union. He is the author of several award-winning articles on naval and nuclear strategy. This is in addition to his distinguished career as an officer with the U.S. Navy and his numerous Washington assignments relating to nuclear policy, military strategy, technology, submarine programs, and arms control.

SESSION SEVEN: TECHNOLOGICAL TOOLS SUPPORTING ARMS CONTROL AND NONPROLIFERATION

Dr. Bryan Fearey, Office Director, National Security Program, Los Alamos National Laboratory

Dr. Bryan L. Fearey is Director of the National Security Office (NSO) at Los Alamos National Laboratory, where he has served for nearly 25 years in various roles including Senior National Security Policy Advisor, Program Manager, Project Leader, and Technical Staff Member. He began his career as a Los Alamos Post-doctoral Fellow. He has served as the US Science Advisor for START and INF Treaty negotiations in Geneva, and was the Arms Control R&D Program Manager for the Department of Defense. As the Director of the NSO, his responsibilities include addressing national security technical-policy issues including, inter alia, arms control, verification, transparency, nonproliferation, the nuclear deterrent, and nuclear energy futures. He has received numerous awards including the Department of Defense Exceptional Public Service Award (the highest recognition given to any non-career civilian), two Los Alamos Distinguished Performance Awards, and four NNSA Awards of Excellence. Dr. Fearey received his Ph.D. in Physical Chemistry from Iowa State University in 1986, and has over 100 technical publications. Dr. Fearey lives in Los Alamos with his wife and two daughters. His eldest daughter recently graduated from SUNY-New Paltz with a BS bio psychology, and his other daughter is attending the University of New Hampshire, studying zoology. During his free time, he is an active golfer and an avid fly fisherman.

Michael Foxe, PhD Candidate, Nuclear Engineering, Pennsylvania State University

Michael received his Bachelor of Science in Chemical Engineering and Nuclear Engineering from University of California: Berkeley in 2008. He received his Master of Science in Nuclear Engineering from Purdue University in 2010 and is currently a Nuclear Engineering Ph.D. candidate at The Pennsylvania State University. He has worked at Lawrence Livermore National Laboratory since 2007 in the Advanced Detectors Group. His projects include developing a directional neutron detector, as well as work on an antineutrino detector for nuclear reactor monitoring. He has also worked on the development of a graphene-based neutron and gamma ray detector.

Sarah Williams, Project Coordinator, Center for Science, Technology and Security Policy, American Association for the Advancement of Science

Sarah Williams is currently the Project Coordinator in the Center for Science, Technology and Security Policy (CSTSP) at the American Association for the Advancement of Science, where she manages a grant to build expertise among congressional staff on a variety of nuclear issues. She began her work with CSTSP as a Herbert Scoville Jr. Peace Fellow. She also served as the coordinator of the Fissile Materials Working Group throughout her Scoville Fellowship and co-authored a report on the status of national commitments made at the 2010 Nuclear Security Summit (NSS) in Washington, DC. The report highlighted progress made on securing vulnerable nuclear material around the world and emphasize the importance of the NSS process in the context of the Obama Administration's nuclear security policy. She is also the author of several op-eds on nuclear security and nuclear terrorism, and spoke about the importance of non—governmental organizations in 21st century nuclear security policy at an NGO-hosted conference entitled “South America and the World beyond the NPT” in Santiago, Chile in December, 2010. Williams earned a Masters in Global Policy Studies from the LBJ School of Public Affairs at the University of Texas at Austin in 2010. She specialized in International Development and spent three weeks in Cape Town, South Africa studying governance challenges in the developing world and three months in Iganga, Uganda implementing a rural public health program. In her first year at the LBJ School she researched nuclear detection technology used under the Comprehensive Test Ban Treaty and catalogued prominent political figures' assessments of the CTBT's strength and effectiveness as a non-proliferation regime. She also participated in a year-long Policy Research Project under the Strauss Center for International Security and Law's Climate Change and African Political Stability (CCAPS) grant. The project used mapping software to identify the areas of Africa most vulnerable to climate change and tried to determine what effects climate change will have on U.S. security policy in the region. She graduated Phi Beta Kappa and summa cum laude from the University of Maryland with a BA in Government and Politics in 2007. Sarah will join the Center for Strategic and International Studies as a Research Associate and Project Coordinator in the Office of Mike Wallace this July.

Rebecca Ward, PhD Candidate, Nuclear Engineering and Radiation, University of Texas at Austin

Rebecca Ward is a Ph.D. student in the Nuclear and Radiation Engineering Program at The University of Texas at Austin and is supported by the DHS/DoD Nuclear Forensics Graduate Fellowship. Her Ph D work focuses on game theoretic threat scenario modeling to optimize detection probability for diversion scenarios. Her Masters thesis evaluated the use of a novel radioxenon detector for atmospheric monitoring in support of the Comprehensive Test Ban Treaty verification regime. Rebecca graduated in 2006 from McDaniel College in Maryland with B.A. degrees in Chemistry and Physics.

About CSIS

At a time of new global opportunities and challenges, the Center for Strategic and International Studies (CSIS) provides strategic insights and bipartisan policy solutions to decisionmakers in government, international institutions, the private sector, and civil society. A bipartisan, nonprofit organization headquartered in Washington, DC, CSIS conducts research and analysis and develops policy initiatives that look into the future and anticipate change. Founded by David M. Abshire and Admiral Arleigh Burke at the height of the Cold War, CSIS was dedicated to finding ways for America to sustain its prominence and prosperity as a force for good in the world.

Since 1962, CSIS has grown to become one of the world's preeminent international policy institutions, with more than 220 full-time staff and a large network of affiliated scholars focused on defense and security, regional stability, and transnational challenges ranging from energy and climate to global development and economic integration.

Former U.S. senator Sam Nunn became chairman of the CSIS Board of Trustees in 1999, and John J. Hamre has led CSIS as its president and chief executive officer since April 2000.

About the Project on Nuclear Issues

The role of nuclear weapons in international security has changed since the end of the Cold War, but the need to maintain technical and policy expertise to deal with nuclear challenges remains the same. For a host of reasons, including the declining emphasis on nuclear weapons in the post-Cold War international security environment, expertise on nuclear issues became an acute challenge, particularly among younger generations. For this reason, CSIS launched the Project on Nuclear Issues (PONI) in 2003 to develop the next generation of nuclear experts. Since that time PONI has grown tremendously, from a small club involving a few dozen people to a large, multi-faceted program with over 1,100 members. The project has three primary objectives. First, PONI aims to build and sustain a networked community of young nuclear experts from across the nuclear enterprise, including in the laboratories, military, industry, academia, and policy world. Second, the project seeks to help develop the next generation of leaders with both the necessary subject matter expertise and the professional skills to be effective in shaping and implementing policy. Third, PONI works to mobilize the wide-ranging nuclear expertise within its membership ranks to generate new ideas and advance the public debate on all issues concerning nuclear weapons.

To that end, PONI maintains an enterprise-wide membership base, hosts four major conferences and several smaller events each year, maintains an online blog, holds live debates on critical nuclear weapons issues, runs a six-month academic program for young experts, organizes bilateral exchanges involving young experts from the U.S. and abroad, oversees a working group of top young professionals, and distributes bi-weekly news and event announcements to members. In all that it does, PONI seeks to create forums for knowledge transfer between generations and between sectors, as sustaining these interactions will be crucial to the development and implementation of effective nuclear policy, both now and in the future.



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