

PUBLIC POLICY
AND
NUCLEAR THREATS

TRAINING THE NEXT GENERATION

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About the Participants

Amir Manuel Abdmishani is an international relations specialist with the Security Cooperation Branch at the Defense Threat Reduction Agency (DTRA). His portfolio includes combating terrorism and the proliferation of weapons of mass destruction in Latin America, Europe, and Africa. His work includes supporting the Global Initiative to Combat Nuclear Terrorism (GI) and developing events for DTRA's Regional Combating Weapons of Mass Destruction Programs (RCP). He is a veteran of Operation Enduring Freedom, having served in Djibouti, Africa, with the 4th Marine Expeditionary Brigade (Anti-Terrorism), 2nd Provisional Security Company. He holds a J.D. from the University of Miami School of Law and is a Florida Bar certified attorney. He received his B.A. in international studies—Latin America from Willamette University. Abdmishani was also a 2006 Presidential Management Fellow.

Trevor Albertson is a doctoral candidate at UC Merced, where he studies U.S. political-diplomatic history. Albertson's dissertation research investigates the nature of American nuclear policy during the early Cold War and the role played by General Curtis LeMay in shaping this policy. -He is a member of Norwich's outstanding class of 2002, and was commissioned an Air Force 2nd Lieutenant upon graduation. In May 2004, Albertson received an M.A. in international affairs from the Catholic University of America and was promoted to 1st Lieutenant two weeks later. Very shortly thereafter he was given orders to the U.S. Air Force Academy, teaching in the department of political science for the next two years. At age 26, Albertson was promoted to Captain, left active military service, and returned to school, where he still hangs his hat. In his spare time, Albertson is a part-time staffer for the local congressman in Merced, in addition to serving as a reserve officer on the staff at U.S. Strategic Command.

Heather Lee Arnold is a Ph.D. candidate in political science at UC Santa Barbara. With an emphasis in international political economy (IPE) and global studies, her dissertation research examines the current "renaissance" of nuclear energy in the shadow of climate change and energy security issues. Prior to her Ph.D. studies, Arnold received an M.B.A. at Golden Gate University in San Francisco, and a B.A. in mass communications at UC Berkeley. In August, she will be a teaching associate for an IPE course at UC Santa Barbara, and this September, she will be getting married to the most wonderful man in the world.

Brien Beattie is a recent graduate of the School of International Relations and Pacific Studies at UC San Diego, where he studied international security, foreign policy, and the rise of China. Prior to attending graduate school he worked for four years at the Government Reform Committee in the U.S. House of Representatives on issues relating to classification and clearance policy, visa policy, and U.S. economic competitiveness.

Philipp C. Bleek is a nonresident fellow with the Center for a New American Security (CNAS) and a Ph.D. candidate in international relations in the Department of Government at Georgetown University. His research interests include the causes, consequences, and amelioration of nuclear, biological, chemical, and radiological weapons proliferation to state and non-state actors. At Georgetown, he recently taught an advanced undergraduate seminar on nuclear weapons in international politics. At CNAS (and previously as a visiting fellow at the Center for Strategic and International Studies), he works with Richard Danzig, former Secretary of the Navy, on U.S. bioterrorism policy.

Professor Chan Choi has been a faculty member specializing in thermonuclear fusion in the Department of Nuclear Engineering at the University of Illinois at Urbana-Champaign and presently at Purdue University School of Nuclear Engineering, serving since 1983. Besides teaching undergraduate and graduate students, he is currently involved with the Monte Carlo-assisted nuclear material sensing systems to identify dangerous nuclear materials. This project is sponsored by the National Science Foundation. His research interests extend to nuclear power and non-proliferation as well. He has been actively consulting with researchers in applied physics/thermonuclear fusion in the Los Alamos National Laboratory over the last twenty-five years. Choi has a B.S. in physics from Sogang Jesuit College in Korea, and a Ph.D. in physics from Southern Illinois University.

As an active duty Air Force officer from 1987 to 2007, **Paul Clarke** held both academic and intelligence positions. He served on the staff of the National Security Council at the White House and was an analyst on the Joint Staff at the Pentagon. He taught at the Air Command and Staff College and was the associate dean of the Asian Language School at the Defense Language Institute in Monterey, California. His overseas duty includes Korea, Colombia, Mexico, and Qatar. His final assignment was as chief of the intelligence section of the deployable unit within US Northern Command. He currently teaches political science at Dominican University of California and is an adjunct instructor at the Air Command and Staff College.

Shaheen Dewji is a Ph.D. student in nuclear and radiological engineering at the Georgia Institute of Technology with an interest in radiation detection and homeland security applications, as well as nuclear security policy. She received her B.Sc. in physics from the University of British Columbia in Vancouver, Canada, and has participated in the Education Abroad Program at UC Berkeley. As part of her M.Sc., she has recently completed research for the Centers for Disease Control and Prevention regarding assaying internal contamination using handheld radiation detectors in the event of a radiological dispersion device. She has also worked with Defense Research and Development Canada, analyzing simulated dirty-bomb materials for the Counterterrorism Task Centre, and more recently in landmine detection with the

Explosives Detection Group. Dewji has been accepted to participate as a fellow this fall with the Sam Nunn Security Program at the Georgia Institute of Technology, as part of the MacArthur Foundation.

Daniel Dietrich received his Ph.D. from the State University of New York in 1975. He joined the Lawrence Livermore National Laboratory in 1979 following postdoctoral appointments at the University of Arizona and UC Berkeley. During the past five years he has been chief scientist for the Radiological/Nuclear Countermeasures Division, the associate program leader for R&D for the Response Technology and Operations Program, and is currently the project leader for both a DNDO funded project and for a DOE funded effort supporting the Nuclear Counter Terrorism (NCT) Program. In addition, he has line management responsibilities as the Group Leader for the Radiation Technology Group.

Captain Christopher Diller originates from Hereford, Texas, and is stationed at Vance AFB, Oklahoma, where he serves as a primary instructor pilot in the T-6A aircraft. He is a graduate of the United States Air Force Academy where he majored in political science. While there he participated in the Military Academic Research Associates (MARA) program at Lawrence Livermore National Labs, where he researched the political implications and military necessities of updating the U.S. nuclear arsenal. Capt. Diller has received multiple research grants from the U.S. Air Force Institute for National Security Studies to expand on this topic; he has a certificate in advanced international affairs from the George Bush School of Government and is pursuing a Master's degree in national security studies. He is currently awaiting his next assignment to one of the USAF's fighter or bomber aircraft.

Michaela Eddy is pursuing her Ph.D. in nuclear engineering and radiological sciences as well as Masters in Public Policy at the University of Michigan. In engineering, Eddy is interested in the amorphization of zeolites as applicable to nuclear waste management. In policy, she focuses on international energy policy and global nuclear fuel cycles with special interest in the use of nuclear energy in developing countries. Originally from California, Eddy received her B.S. in chemistry with a minor in nuclear engineering from UC Berkeley.

Sarah Estabrooks is a nuclear non-proliferation officer at the Canadian Nuclear Safety Commission where she works in the Non-Proliferation and Export Controls Division. Her responsibilities include licensing of nuclear and dual-use goods for import and export and administration of Canada's bilateral nuclear cooperation agreements. Her policy specialty is the multilateral nonproliferation regime and for the past two years, she acted as a policy advisor on the Canadian delegation to the Treaty on the Non-Proliferation of Nuclear Weapons Preparatory Committee meetings. Prior to joining the CNSC, she worked as a researcher for a Canadian NGO on non-proliferation and disarmament issues. She has an M.A. in political science from Wilfrid Laurier University in Waterloo, Ontario, and an M.A. in history from the University of Toronto.

Rob Forrest is a fourth-year Ph.D. student of high energy physics at UC Davis. His research includes searches for new physics beyond the standard model, specifically looking for super-symmetry produced in high energy particle collisions at the Fermi National Accelerator Laboratory in Batavia, Illinois. Before starting graduate school, he worked at the Stanford Linear Accelerator Center in the Klystron Depart-

ment studying high power RF sources. Forrest received his B.S. in physics from UC San Diego, where he worked for three years with NASA EarthKAM on a payload for both the international space station and shuttle missions.

Filippo Genco is a Ph.D. student in nuclear engineering at Purdue University in Indiana. He received a B.S. and M.S. in mechanical engineering in Italy in 2002 and later in 2005 received a M.S. in aeronautics and astronautics from Purdue University. He is interested in fusion technologies and their applicability in many fields as space propulsion. Currently he is working with the Purdue University IMASS project (Intelligent Model Assisted Sensing System) that is developing a new nuclear detection approach using advanced modeling and simulation of detector response in realistic environment based on nuclear resonance fluorescence and real time Monte Carlo. He has covered positions as teaching assistant in various departments at Purdue as well as research assistant.

Craig Gerardi is a fourth-year Ph.D. student in the Department of Nuclear Science and Engineering at MIT. He received his M.S. in nuclear science and engineering in 2006 from MIT. He obtained a B.S. in mechanical engineering and B.S. nuclear engineering at the University of Maryland, College Park in 2004. His research interests at MIT have been multi-phase flow, heat transfer, and reactor thermal hydraulic and structural analysis.

William (Bill) Hanson is a Ph.D. candidate and instructor in political science at the University of Oklahoma, where he teaches analytical methods and international relations. A 28-year Air Force veteran, his assignments included duties as a pilot, tactician, operations analyst, strategy and policy planner, and diplomat; his significant projects range from writing the first tactics manual for the B-1B bomber, to developing U.S. Strategic Command's first long-range strategic plan, to producing the first post-Cold War nuclear weapons employment guidance. He was the Joint Chiefs of Staff representative to the Conference on Disarmament in Geneva, where he was the senior military advisor to the U.S. delegation that successfully concluded the Comprehensive Test Ban Treaty. He was also the JCS representative on a variety of negotiations to control nuclear weapons and fissile material in the Former Soviet Union.

Prior to coming to the University of Oklahoma, Hanson served as Chief, Long Range Plans Division, Headquarters Air Force, where he was responsible for producing the Air Force Strategic Plan. He is a graduate of the U.S. Air Force Academy, has an M.S. in operations research from the Air Force Institute of Technology, and an M.S. in national security strategy from the National War College. His dissertation research is developing a cognitively-based simulation model of decision making as an alternative to rational choice approaches, and is anticipated to be completed in the fall of 2008.

Anne Harrington is a Ph.D. candidate in the Department of Political Science at the University of Chicago. Her research interests include nuclear deterrence and critical theory.

Igor Jovanovic received his B.S. in electrical engineering/computer science from the University of Zagreb in 1997, and his Ph.D. in nuclear engineering from UC Berkeley in 2001. He was at Lawrence Livermore National Laboratory 2002-2007 as a staff physicist, where he made contributions to the field of ultrahigh

intensity lasers, inertial confinement fusion, and active nuclear interrogation via nuclear resonance fluorescence. He joined the School of Nuclear Engineering at Purdue University as an assistant professor in 2007. His current research activities include directional neutron detectors, the use of antineutrinos for cooperative nuclear monitoring, development of novel quantum optical sensors, and the ultra-intense laser technology. In 2008 he received the DARPA Young Faculty Award and the Young Scholar Award from Purdue University.

Tenzing Joshi was born and raised in South Bend, Indiana. After graduating from Mishawaka Marian High School in 2003, he decided to remain near home and entered the first-year engineering honors program at Purdue. At the end of his freshman year, Joshi joined the School of Nuclear Engineering, focusing on fusion and fission power engineering. During the spring of 2006, he left Purdue for a semester to study abroad at the University of Canterbury in New Zealand. While at Purdue, Joshi worked with several research groups including Dr. Igor Jovanovic's Nuclear Engineering Intense Laser Laboratory (NEILL) group. He also gained research experience working at LLNL as an AX-division technical scholar during the summer of 2007. Joshi graduated with distinction in May of 2008 and will begin to pursue his graduate degrees in UC Berkeley's Department of Nuclear Engineering in the fall of 2008.

Scott Kemp is a Ph.D. candidate in Princeton's Woodrow Wilson School of Public and International Affairs where he currently studies the technical aspects of gas centrifuges. He was previously a Fulbright Fellow at the International Policy Institute in London (2003–2004) and research associate for science and national security studies at the Council on Foreign Relations in New York (2002–2003).

Jina Kim is a Ph.D. candidate in international relations at Fletcher School of Law and Diplomacy. She received her B.A. in political science and diplomacy at Busan National University and her M.A. in international studies at Yonsei University, and has worked at the Korea Institute for Defense Analyses, UNESCO-APCEIU, British Broadcasting Corporation, National Assembly of Republic of Korea, and Alliances for North Korean Human Rights. Published journal titles include "An Endless Game: North Korea's Psychological Warfare," "Prospects of International Security Environment in 2005," "Implications of the North Korean Human Rights Act 2004," "Foreign Policy of the Second Bush Administration and its Policy Toward North Korea," and "Scenarios to Solve North Korean Nuclear Crisis after the Second Six-Party Talk."

Tiberius Moran-Lopez attained dual Bachelor's degrees in nuclear engineering and physics with a minor in mathematics from Texas A & M University in 2004. In 2007 he completed his Master's degree with the Department of Nuclear Engineering and Radiological Sciences (NERS) at the University of Michigan, where he is presently conducting his doctoral investigations. Research endeavors are primarily focused towards high-energy-density physics, radiation hydrodynamics, and astrophysics with related concentration on the evolution of turbulent phenomena in such fields. Moran-Lopez is also a member of the Center for Radiative Shock Hydrodynamics (CRASH), whose objective is to develop predictive science techniques with radiative shocks as the central application. Additional current partnerships with Lawrence Livermore National Laboratory (LLNL) encompass turbulent and non-turbulent shock wave phenomena.

K. P. O'Reilly is a doctoral candidate (ABD) in the Department of Political Science at the University of South Carolina. His fields of research include international security and conflict, U.S. foreign policy, and foreign policy decision making. His dissertation project explores the "proliferation puzzle" by applying operational code analysis to examine the world views and strategic preferences of state leaders to determine how leaders may be predisposed towards or against proliferation. His research also examines the phenomenon of rogue states, including the role of U.S. policymakers' perceptions of rogue states (Foreign Policy Analysis 3: 295-315). O'Reilly holds a B.A. in government from Lawrence University, a M.A. in international affairs from Marquette University, and a J.D. from the Emory University School of Law.

Meghan Redmond is currently working as an operational policy planner at the Defense Threat Reduction Agency (DTRA). In this capacity she provides support for DTRA's inputs to several policy-making bodies, such as the Nuclear Command and Control Systems (NCCS) Committee of Principals and the Nuclear Weapons Council. Prior to her position at DTRA, Redmond attended the School of International and Public Affairs (SIPA) at Columbia University in New York. She earned a Masters in International Affairs, with a concentration in international security policy. While at SIPA she served as the ISP Program Assistant and co-chair for the Conflict Resolution Working Group. Redmond also completed an internship at the Council on Foreign Relations, conducting research for President Emeritus Leslie Gelb. In addition, she was part of a research team at the United Nations looking at UN peacebuilding efforts for the Office of the Deputy Secretary General. Previous work experience includes working as a recruiter for the Peace Corps in its New York regional office. She also served as an NGO development volunteer in the Peace Corps from 2000 to 2002 in the Slovak Republic. While in this position she worked with a national human rights organization on projects dealing with the Roma minority and legal rights for mental health patients. She received a B.A. in history from the College of the Holy Cross in 1999. Redmond is the recipient of several awards and fellowships, including the Presidential Management Fellowship for 2007–2009.

Patrice Stevens is the acting director of the National Security Office at Los Alamos National Laboratory, with more than eighteen years' experience in the nuclear weapons program. She first joined LANL in 1989 as a graduate research assistant. She moved to Nuclear Material Technology Division in 1991. Stevens began working with the pit surveillance project as the team leader and project leader in 1993. She has since been involved in the surveillance of nuclear components and has served as the W76 warhead program manager and the surety director within the Nuclear Weapons Program Directorate. Stevens was the program director for Navy systems for two years and served as the principal LANL management interface for the Trident SSBN submarine nuclear warheads, the W76 and W88 warheads, component surveillance, and SFI activities. She has received three LANL Outstanding Performance Awards during her tenure; the first for the GenBank DNA/RNA Sequence Database, second for the Pit Surveillance Project, and third for the W76 Octave Experiment. She is a professional member of American Society of Metals (ASM), Minerals, Metals, and Materials Society (TMS), and Project Management Institute (PMI). Stevens earned her Ph.D. in psychological foundations from the University of New Mexico.

Benjamin Tang is a fourth-year political science Ph.D. student at UC San Diego. His general research interests are in international relations theory, international organizations and cooperation, and issues of authority and sovereignty. He received his B.S. in bioengineering at UC San Diego.

Kimberly Van Dyke is half-way through her Ph.D. in international studies at Old Dominion University in Norfolk, Virginia. In 2003, Van Dyke received her B.S. from Rensselaer Polytechnic Institute. She has worked in nuclear safeguards at the International Atomic Energy Agency and at Los Alamos National Laboratory. During the summer of 2007 she was a student associate with Harvard's Managing the Atom Project. She is currently the communications officer for the journal *International Topics*.

Jessica C. Varnum is completing an M.A. in international policy studies with a certificate in nonproliferation studies at the Monterey Institute of International Studies (expected August 2008). For the past two years, she has worked at the James Martin Center for Nonproliferation Studies (CNS). Her primary research areas include Nunn-Lugar and related cooperative threat reduction programs, nuclear proliferation forecasting, and European politics and security. At CNS, she is contributing a book chapter on Turkey to a project forecasting twenty-first century nuclear proliferation developments. She received the award for "Most Outstanding Paper" at the 2007 Women in International Security Summer Symposium in Washington, D.C., and has published articles in *The Nonproliferation Review* and *The International Herald Tribune*. Varnum also interned for the Center for Strategic and International Studies through the support of the Anne Armstrong Leadership Award, at the Atlantic Council of the United States, and with U.S. Senators Susan M. Collins and Olympia J. Snowe. She graduated summa cum laude from Colby College in 2006 with a B.A. in government and international studies, where her honors thesis on the politics of nuclear threat reduction won the award for the best written work in political science. She is fluent in French.

Drew Walter is a senior member of the technical staff at Sandia National Laboratories, where he assists lab executive leadership in exploring and defining long-term strategies as a member of the Strategic Studies department. His current portfolio includes: facilitating an executive-level exploration of issues, technologies, and policies that reside at the intersections between the nuclear energy, nuclear weapons, and nuclear nonproliferation arenas; assisting in the development of a comprehensive cybersecurity strategy and message; and acting as the staff-level coordinator responsible for integrating strategies and recommendations developed by 10-plus executive-level teams studying various strategic issues facing the nation and the labs. Before joining the department, Walter spent three years with Sandia's Security Systems and Technology Center designing and analyzing security systems for nuclear weapons and other critical national assets, with customers including the Department of Defense, Department of Energy, other government agencies, and private industry.

Prior to joining Sandia, Walter earned a B.S. and M.S. in mechanical engineering (aerospace option) from the Rochester Institute of Technology, where his research interests focused on Micro Air Vehicle aerodynamics and applications.

Wilfred Wan is entering his fourth year in the graduate program at UC Irvine, pursuing a Ph.D. in political science. While his interests continue to fluctuate within the international relations heading, he largely explores issues concerning international organizations, including the nature of delegation, sources of autonomy, and the shape of change. His examination of nuclear threats considers the distinct issues faced by security arrangements, centering on the Non-Proliferation Treaty. Wan earned his Bachelor's degree in political science and history at UCLA, and while he has spent most of his life in Southern California (rooting vociferously for the Angels and Lakers), hails originally from Hong Kong.

Emily Warren is the President's Office Fellow at the William and Flora Hewlett Foundation. Warren joined the William and Flora Hewlett Foundation in December 2007 after working with President Paul Brest and Environment Program Director Hal Harvey on their forthcoming book *Money Well-Spent: A Strategic Guide to Smart Philanthropy*. She now manages the Foundation's trial initiative in nuclear security. Warren graduated with honors and distinction from Stanford University in 2008 with a B.A. in economics.

Albert Wolf is a doctoral student in the Department of Political Science at UC Irvine, and holds bachelor's and master's degrees from The Ohio State University. His research examines the relationship between domestic institutional constraints, domestic constituencies' preferences, and efforts to maintain public commitments. He has been published in the journal *International Security*.