

**Public Policy and Nuclear Threats**  
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Perry Chodash  
Michael Cohen  
Matthew Cottee  
Lily Crabtree  
Rebecca Davis Gibbons  
Michael Gregson  
Matthew Harries  
Yun He  
Henrik Hiim  
Bert Jorgensen  
Arnold Kim  
Katarzyna Kubiak

Christine Leah  
William Liou  
Chantell Murphy  
Sitara Noor  
Benoît Pelopidas  
Sarah Poe  
Caroline S. Reilly  
David Santoro  
Sarah Soisson  
David Vielhaber  
Alex C. Walser  
Raymond Wolfgang

**About the Participants**



**Jay Brotz** is a senior systems engineer in the International Nonproliferation System Engineering Department at Sandia National Laboratories. He currently works as the lead systems engineer for the Megaports Initiative of the Second Line of Defense program, a nuclear nonproliferation program under the National Nuclear Security Administration of the Department of Energy. The Megaports Initiative seeks to detect, deter, and interdict the smuggling of nuclear and radiological materials through global container shipping. In support of that goal, he leads the systems engineering for several radiation-detection-system projects at container terminals at seaports around the world. Through this work, he has gained valuable experience in not only the technical aspects of radiation detection, but in the international attitudes about nuclear safety and security, by collaborating with foreign customs and radiation protection organizations. Previously, Brotz worked on system and component engineering projects for nuclear weapon programs at Sandia. Brotz received his M.S. in electrical and computer engineering in 2004 from Carnegie Mellon University and his B.S. in computer engineering in 2002 from Rose-Hulman Institute of Technology.



**Perry Chodash** is a Ph.D. student in nuclear engineering at UC Berkeley. He received his B.S. in engineering physics from the University of Illinois at Urbana-Champaign. This past spring he obtained his M.S. in nuclear engineering for his work on measuring cross sections for the production of  $^{99m}\text{Tc}$ , a medical isotope. He is spending his summer at Lawrence Livermore National Laboratory working on an experiment in the area of nuclear-atomic coupling in  $^{235}\text{U}$  under various plasma conditions. He is interested in nuclear physics with applications to nonproliferation technologies.



**Michael Cohen** is a 5th-year Ph.D. candidate in the Department of Political Science at the University of British Columbia. His dissertation addresses the relationship between nuclear proliferation, war, and time. Specifically, he addresses why weak and revisionist states are war prone after developing nuclear weapons but become pacified over time. His research has been published in *International Security* and will appear in a forthcoming Stanford University Press edited volume. He has been funded by numerous UBC fellowships, the Simons Foundation, and the Lyndon Baines Johnson Foundation.



**Matthew Cottee** is a first-year Ph.D. candidate at King's College London (KCL), working in the fields of nuclear terrorism, threat perception, and the evolution of nuclear security. His research focuses on U.S. and U.K. responses to the threat of nuclear terrorism since the inception of nuclear power. Cottee is also a visiting fellow at the Norwegian Institute for Defense Studies, looking at issues of nuclear supply and export controls in Asia. Prior to starting his Ph.D., Cottee worked in a research capacity at the Center for Science and Security Studies and the International Center for Security Analysis, both at KCL, focusing specifically on nuclear security, nonproliferation, and the regional development of nuclear energy. Cottee received an M.A. from the Department of War Studies at KCL, and graduated with B.A. First Class Honors from University College London in 2007.



**Lily Crabtree** is an M.S. candidate in nuclear engineering at the University of Tennessee. Her current research involves mapping high-lying states of  $U^{235}$  to see if nuclear resonance fluorescent (NRF) states are accessible using a light-ion induced reaction. Tagging NRF states in isotopes is relevant to proliferation concerns and nuclear forensic science applications. She loves to visit local elementary schools to get students excited about science. She is excited to graduate and can't wait to be part of the co-dependent process between scientists and policymakers; she hopes that she can help improve the historically ineffective communication that persists between them.



**Rebecca Davis Gibbons** is a second-year government Ph.D. student at Georgetown University with a concentration in international relations. Her current research focuses on nuclear deterrence, the nuclear taboo, and nonproliferation. Before matriculating at Georgetown, Gibbons worked full-time providing contractor support for the Air Force's International Treaties and Agreements Branch where she focused on nuclear-related treaties. She currently maintains this position on a part-time basis. Gibbons received her M.A. in security studies from Georgetown University and her B.A. in psychological and brain sciences from Dartmouth College. After college she spent a year living and teaching within the Bikini community in the Republic of the Marshall Islands.



**Michael Gregson** is a technical staff member at Sandia National Laboratories where his work is focused on studies of the nuclear weapons complex, force composition, and strategic deterrence. He transitioned into this role while previously working at Sandia's nuclear facilities as a reactor engineer helping support modeling and experimentation for radiation effects on components of interest. Gregson holds a B.S. in mechanical engineering, an M.S. in nuclear engineering, and a Ph.D. in nuclear engineering where his research was focused on the stochastic behavior of neutrons in prompt critical systems under weak source conditions.



**Matthew Harries** is a Ph.D. candidate in the Department of War Studies at King's College London. His doctoral research examines the role of Article VI in debates about the Non-Proliferation Treaty, and is funded by an ESRC project-linked studentship, forming one strand of Professor Sir Lawrence Freedman's Global Uncertainties fellowship, "Strategic Scripts for the 21st Century." Harries previously worked as a research assistant and project coordinator at the International Institute for Strategic Studies. He is a member of the 2011 Nuclear Scholars Initiative at the Center for Strategic and International Studies in Washington, D.C., and an associate of the Center for Science and Security Studies at King's. Harries holds a first class degree in Modern History and Politics from the University of Oxford (Christ Church).



**Henrik Hiim** is a fellow at the Norwegian Institute for Defense Studies. He will begin his Ph.D. studies at Oslo University in the spring of 2011. His main areas of interests are China's foreign policy, East Asian security, and nonproliferation and arms control. His current research focuses on China's arms control policies and its nuclear modernization. His Ph.D. project will address China's nuclear diplomacy, with special emphasis on Beijing's non-proliferation policies vis-à-vis North Korea and Iran. Hiim holds a Master of Political Science from the University of Oslo. He has also studied Chinese language at Renmin University and Huazhong Normal University, as well as international relations at Renmin University.



**Yun He** is a Ph.D. student of international relations at Tsinghua University. Her research focuses on arms control and international security. She received her M.A. and B.A. in law from Tsinghua University and studied at Sydney University with an Australian Government Grant. She did internships in the Chinese Foreign Ministry, State Council Law Sub-Committee, and Ministry of Commerce. She also worked as a research assistant at the Lowy Institute of International Policy. Her current research includes North Korean nuclear development, extended deterrence in northeast Asia, and strategic arms control. In September, she will attend Cambridge University's Sydney Sussex College as the first Tsinghua-Cambridge Scholar.



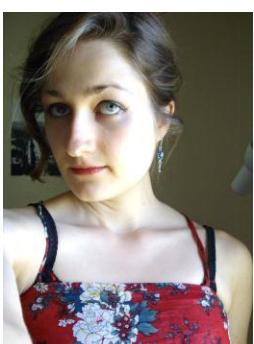
**Dr. Bert Jorgensen** is an engineer at Lawrence Livermore National Laboratory. For the past year, Jorgensen served as an advisor to Senator Jon Kyl on nuclear weapon-related issues, including stockpile modernization, New START, and the Comprehensive Test Ban Treaty. He recently completed a three-year assignment at the Pentagon in the Office of the Deputy Assistant to the Secretary of Defense for Nuclear Matters. In that role, Jorgensen was actively involved in DoD and NNSA program coordination, including assistance with the Nuclear Posture Review creation and with efforts to initiate life extension studies for the B61 and W78. Jorgensen was previously the W87 system manager and the Air Force Reentry Systems group leader. In this role, he was responsible for the certification of the W87 nuclear explosive package on Minuteman III. He also participated in the development of the W87 Life Extension Program. He is a structural analyst specializing in shock and vibration. Jorgensen has a Ph.D. in mechanical engineering from Purdue University and a B.S. and M.S. in mechanical engineering from Utah State University.



**Arnold Kim** is a graduate of the University of Chicago, where he majored in history. He is now a Ph.D. candidate at Temple University. His primary research interests are the nuclear stability-instability paradox and the use of nuclear threats during conventional war.



**Katarzyna Kubiak** is a first-year Ph.D. student in political science at the University of Hamburg (Germany). In 2010 she graduated from the Master of Peace and Security program at the Institute for Peace Research and Security Policy at the University of Hamburg (IFSH), where she has been involved in research on nuclear nonproliferation, mainly focusing on the CTBT. She also received her Master in International Economic Relations from the University of Lodz (Poland) and the Technical University Dresden (Germany) in 2008. Prior to starting her Ph.D. she worked as research assistant at the Berlin Office of Jan van Aken, Member of the German Bundestag, where she conducted a project assessing the defense industry in the Hamburg region. She also worked as intern for the Interdisciplinary Research Group on Disarmament, Arms Control, and Risk Technologies at IFSH as well as at The Carl Friedrich von Weizsäcker Center for Science and Peace Research. She is a member of the Polish Forum of Young Diplomats, where she contributes articles to the magazine *Kurier Dyplomatyczny*. Her research interests include extended deterrence, nuclear nonproliferation, and disarmament.



**Christine Leah** is a doctoral candidate at the Strategic and Defense Studies Center at the Australian National University. Her research interests include, but are not limited to, nuclear weapons strategy and proliferation, extended nuclear deterrence, Asia-Pacific security, and historical and contemporary Australian interest in nuclear weapons. She has published in the *Australian Strategic Policy Institute* (ASPI) and the *Australian Journal of International Affairs*. Previously she was a research assistant at the International Insti-

tute for Strategic Studies (IISS) (London) and ASPI, and an intern at the French Ministry of Defense and IISS Singapore. She has presented at CSIS, and was selected to participate in the 2011 Woodrow Wilson Center for International Scholars Nuclear Bootcamp. In June she will join the RAND Corporation as a summer research associate.



**William Liou** is a systems engineer in the Weapons and Complex Integration Directorate at Lawrence Livermore National Laboratory. His primary assignment is with the Enterprise Modeling Program, which is responsible for developing tools to help analyze various aspects of the U.S. nuclear weapons program, including stockpile requirements, available infrastructure, and human capital management. Liou also serves on the executive committee of the Enterprise Modeling Consortium, a multi-site group established by the Department of Energy's National Nuclear Security Administration to integrate and coordinate decision support tools, data, and analysis. In prior assignments, Liou was a principal investigator for a set of nuclear safety experiments that evaluated the sensitivity of high explosives to electrostatic discharge and was also a detonator surveillance engineer for the Initiation Systems Group in the Nuclear Weapons Engineering Program. Liou received his B.S. and M.S., both in electrical engineering, from Stanford University and joined LLNL in 2006.



**Chantell Murphy** has a B.S. in physics from Florida State University, a M.S. in health physics and nuclear nonproliferation from Georgetown University, and this fall will begin a Ph.D. in nuclear engineering at the University of New Mexico. While at Georgetown, Murphy interned at the Center for Strategic and International Studies (CSIS) and became the assistant coordinator for the Project on Nuclear Issues (PONI). After CSIS, she worked as assistant to the Deterrent Force Posture Expert Working Group for the Congressional Commission on the Strategic Posture of the United States. Currently, she is supporting the Next Generation Safeguards Initiative (NGSI) as a graduate research associate in the nuclear nonproliferation division at Los Alamos National Laboratory (LANL) working on a variety of projects involving safeguards, arms control, nonproliferation, and nuclear fuel cycles. She will continue working at LANL as while pursuing her Ph.D.



**Sitara Noor** is working as a researcher. Prior to this, she worked as a lecturer in the Department of International Relations at National University of Modern Languages (NUML), Islamabad, and delivered lectures on defense and strategic studies, conflict resolution, and peace studies, among others. Presently she is associated with NUML as a visiting faculty in the same department. Noor holds an M.Sc. in defense and strategic studies from Quaid-I-Azam University, Islamabad. While at university, she worked as a research assistant with Dr. Nazir Hussain and carried out research on strategic stability in South Asia and the India-Pakistan peace process. Her present work broadly includes the areas of nuclear energy, nuclear safety and security, and nonproliferation issues.

**Dr. Benoît Pelopidas** is a postdoctoral fellow at the James Martin Center for Nonproliferation Studies. He has a Ph. D. in political science from Sciences Po (Paris) and the University of Geneva. In 2010, he won the outstanding student essay prize from the Doreen and Jim McElvany Nonproliferation Essay Competition, and in 2011 he was awarded the “Best Graduate Paper 2010” from the International Security Studies Section of the International Studies Association. Also in 2011, he won the SNIS Award 2010 for the Best Thesis in International Studies from the Swiss Network for International Studies. He is the author of *When Empire Meets Nationalism. Power Politics in the United States and Russia* (with Didier Chaudet and Florent Parmentier; Ashgate 2009) as well as articles in the *Nonproliferation Review*, *Swiss Political Science Review*, and the *French Yearbook of International Relations*. A book based on his dissertation is forthcoming in the fall 2011 in French by Sciences Po University Press.



**Sarah Poe** recently received her M.A. in nuclear nonproliferation and terrorism studies from the Monterey Institute of International Studies. There she focused on issues relating to treaty verification, nuclear energy, safeguards, and U.S.-Russia relations. While at Monterey, Poe also worked as a graduate research assistant at the Office of International Organizations in Nonproliferation at the James Martin Center for Nonproliferation Studies. Last summer, Poe interned at Lawrence Livermore National Laboratory where she researched safeguards-related issues as part of the Department of Energy’s Next Generation Safeguards Initiative. Afterwards, she spent several months interning in the Office of Public Information at the International Atomic Energy Agency in Vienna, Austria. In May 2008, Poe graduated from Middlebury College in Vermont with degrees in both international politics and economics and Russian language.



**Caroline S. Reilly** will be a second-year Ph.D. candidate at the Woodrow Wilson School of Public and International Affairs at Princeton University. She received her undergraduate degree in aerospace engineering from MIT in 2006 and subsequently completed a master’s degree from the War Studies Department at King’s College London, where her thesis focused on the technical consequences of conflict in space. Prior to coming to Princeton, Reilly was a research assistant with the RAND Corporation, involved mostly with strategic force planning issues. Reilly is also a member of two programs sponsored by the Project on Nuclear Issues at the Center for Strategic and International Studies: the Next Generation Working Group on U.S.-Russian Arms Control and the 2011 Nuclear Scholars Initiative.



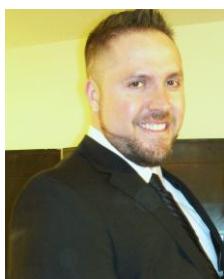
**Dr. David Santoro** is a research associate at the International Institute for Strategic Studies (IISS), under the Stanton Nuclear Security Fellowship Program. He is also a research affiliate at the Paris-based Center for International Security and Arms Control (CESIM) and a participant in numerous Track Two diplomatic dialogues in the Asia-Pacific. Previously, he held research positions in France, Australia, Canada, and the United States. His main research interests are centered on nuclear issues against the backdrop of major power relations. He is currently working on three projects: the P-5 and nuclear non-compliance; current nuclear disarmament dynamics; and Asian-Pacific perspectives on U.S.-China nuclear

relations. He has published widely on nuclear issues, notably *Treating Weapons Proliferation: An Oncological Approach to the Spread of Nuclear, Biological, and Chemical Technology* (Palgrave Macmillan, 2010) and *Slaying the Nuclear Dragon: Twenty-First Century Disarmament Dynamics* (ed., with Tanya Ogilvie-White), forthcoming from the University of Georgia Press.

**Sarah Soisson** is a senior member of the technical staff in the International Nonproliferation and Arms Control Department at Sandia National Laboratories. Her current work focuses on the usage of radiation detection technology for treaty monitoring. She also serves as a deputy program manager for the growing radiological source replacement program which provides technical solutions to replacing high risk radiological sources which may be used in radiological dispersion devices. Previously, she was a Nonproliferation Graduate Fellow within the National Nuclear Security Administration's Office of Nonproliferation and Verification Research and Development participating in technical program management activities. Soisson received her Ph.D. in chemistry from Texas A&M, where her research focused in radiation detection and isotope production.



**David Vielhaber** is a second-year graduate student in the nonproliferation & terrorism studies program at the Monterey Institute of International Studies. He also works as a graduate research assistant at the James Martin Center for Nonproliferation Studies. His research interests include security and nonproliferation issues in the Middle East, WMD terrorism, and counter-proliferation. He recently completed his Masters thesis on the effectiveness of covert action in counter-proliferation. In the fall of 2010, he served as a junior political officer in the WMD branch at the United Nations Office for Disarmament Affairs in New York. Originally from Germany, Vielhaber earned his B.A. First Class Honors in international relations and security studies from the University of Bradford, United Kingdom, in 2009.



**Alex C. Walser** is a second-year graduate student at the Josef Korbel School of International Studies at the University of Denver. His research interests are in nuclear/biological/ chemical weapons nonproliferation, with an emphasis on rogue state and terrorist group weapons procurement. His Master's thesis will cover the implications of instability and power struggles in the Central Asian Republics in relation to possible WMD procurement by both state and non-state actors. Walser received a Graduate Certificate in biosecurity and disaster preparedness studies from the School of Public Health at Saint Louis University. He specialized in WMD terrorism prevention and response. He also had an emphasis in infectious disease, especially viral hemorrhagic fevers. Prior to his graduate-level work, Walser was enlisted in the United States Army for 6 years. He deployed with the 82nd Airborne Division to southern Afghanistan in 2005, where he served as a machine-gun team leader. He deployed with a Joint Task Force to Iraq in 2006 where he served as an infantry squad leader. His unit specialized in High Value Target capture and counterterrorism. His squad was central in finding and destroying the largest CBRNE weapons factories and labs found since the beginning of Operation Iraqi Freedom. Walser received two B.A.s (molecular, cellular and developmental biology and environmental, organismal and population biology) from the University of Colorado-Boulder. He had an emphasis in virology and human physiology.



**Raymond Wolfgang** currently lives in Albuquerque, New Mexico, and is originally from the Philadelphia area. As a youth he earned the Eagle Scout award from the Boy Scouts of America. He has a B.S. in electrical engineering and masters in mechanical engineering from Penn State University (1993). Later he earned an M.S. in electrical engineering from Purdue (2002), specializing in signal and image processing, multimedia security, and digital watermarking. From Purdue he joined the Space and Naval Warfare (SPAWAR) Systems Center, located in San Diego, California, where he acted as a systems engineer on software and information assurance projects. In 2006 he worked in SPAWAR's Program Management Office 160, part of the Program Executive Office for Command, Control, Communications, Computers and Intelligence (PEO/C4I). There he managed programmatic risk with regard to C4I installations. After a brief period supporting software architecture compliance inspections, Wolfgang joined Sandia National Laboratories as a video engineer in the second half of 2007. Certifications include: Certified Information Systems Security Professional (CISSP), Project Management Professional (PMP), and most recently the Global Information Assurance Certification's (GIAC) Security Essentials Certification (GSEC). A Distinguished Toastmaster (DTM) since 2010, Wolfgang most recently served as Treasurer for Toastmasters International District 23, which covers New Mexico and parts of West Texas and Oklahoma. At Sandia he currently contributes to U.S. Department of Energy and U.S. Department of Defense systems as a lead surety engineer.