

# PUBLIC POLICY AND NUCLEAR THREATS

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# BOOT CAMP 2016

# PARTICIPANTS



As you progress through the boot camp we hope that you build strong connections with your peers. Getting to know them is a great place to start.

Listed below is the 2016 Cohort for the Public Policy and Nuclear Threats Boot Camp. Coming from a variety of backgrounds and research fields, this year's cohort builds upon the rich tradition of bringing together students and professionals for a meaningful and educational experience here at PPNT.

## TOMI AKINDELE

Tomi Akindele is a PhD student in the Nuclear Engineering Department at the University of California, Berkeley. She previously received her BS in the same field from Texas A&M University in 2013. Her research interests include nuclear policy and the use of basic physics for nonproliferation applications. Currently, she is working with Dr. Erik Norman and Dr. Jason Burke on surrogate (n,2n) cross section measurements of actinides through the direct detection of emitted neutrons.



## RIZWAN ASGHAR

Rizwan Asghar is currently a graduate student at the University of New Mexico pursuing a PhD in political science with an emphasis on nuclear nonproliferation & international law. His research focuses on nuclear security, disarmament, and global nonproliferation regimes. Previously, he was a research fellow at the Monterey Institute of International Studies, California, and Sandia National Labs, New Mexico. Asghar is also a journalist and has published in Pakistan's leading English newspapers the *News International*, *Daily Times*, and the *Nation*.





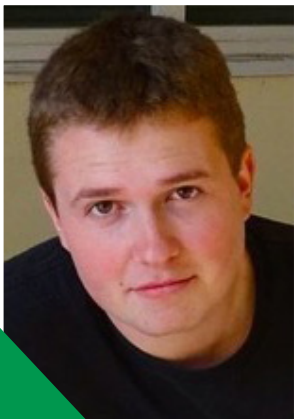
# KRISTIN BRUUSGAARD

Kristin Ven Bruusgaard is a research fellow at the Norwegian Institute for Defense Studies (IFS) and a PhD candidate in defense studies at King's College London. Her work focuses on Russian strategic thought, nuclear strategy and deterrence, and civil-military relations in Russia. Prior to joining IFS, Bruusgaard worked as senior advisor on Russian security and defense policy with the Norwegian Armed Forces, as a researcher with the Norwegian Defense Research Establishment, and interned with the Congressional Research Service in Washington, D.C., with the Norwegian Delegation to the EU in Brussels, and at NATO HQ. She has an MA in security studies with a diploma in Russian, Eurasian, and Eastern European Studies from Georgetown University, a BA (Hons) in politics and international studies from Warwick University, and officer training from the Norwegian Army.



# CHARLOTTE CARR

Charlotte Carr is the program manager of the Nuclear Science and Security Consortium at UC Berkeley. She holds a BA from the University of Maryland, as well as a MPA from the Middlebury Institute of International Studies at Monterey, where she focused in international development and nonprofit management.



# JACOB CUTTER

Jacob Cutter is a second-year physics PhD student at the University of California, Davis, working on the LUX and LZ dark matter experiments under Professor Mani Tripathi. As an undergraduate, he primarily focused on optimizing data processing capabilities and developing waveform analysis software for LUX. Currently, he is helping to improve position reconstruction algorithms for the ongoing LUX analysis, as well as contributing to the development of DAX, a testbed xenon system at UC Davis. This system is being used to perform R&D for future dark matter searches, including the development of new detector technologies and characterization of common low-energy background signals in xenon.

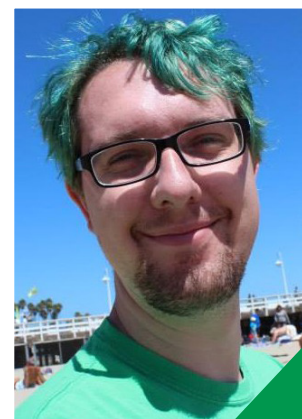
# WILLIAM GAIECK

William Gaieck was born and raised in San Diego, California. After attending Southwestern Community College, he transferred to UC San Diego where he earned a BS in chemistry, with studies in chemical education. He took a year off to research and volunteer in a cell biology lab before enrolling as a materials science and engineering graduate student at UC Irvine, where he is currently working toward a PhD. His research interests include surface/interface dynamics, computational modeling, and spectroscopy as they relate to the investigation of energy-capture, conversion, and storage devices. Currently, his research involves the synthesis and photoelectrochemical characterization of particles, cocatalysts, and redox shuttles in novel particle suspension reactors for solar water splitting. He has been honored and recognized as a California Alliance for Minority Participation Scholar, American Chemical Society Scholar, and McNair Scholar.



# JOSHUA GEARHART

Joshua Gearhart is a 4th-year nuclear physics graduate student at UC Davis. Originally working on the CMS experiment at CERN, he now works with the Neutron Induced Fission Fragment Tracking Experiment (NIFFTE) collaboration in determining the  $^{235}\text{U}$  and  $^{239}\text{Pu}$  neutron-induced fission cross sections to <1% accuracy. Gearhart's research involves determining the incident neutron energy dependence on fission fragment mass distributions.



# ARIYA HAGH

Ariya Hagh is a PhD candidate in the Department of Government at Georgetown University, where he specializes in international relations, formal and quantitative methods, and the Middle East. His research examines the evolution of autocratic regimes, with a substantive focus on succession dynamics, alliances, and deterrence. He has conducted research on the determinants of nuclear proliferation, using Bayesian modeling techniques to account for misspecification with respect to rare events. Hagh holds an AB from Harvard University (2013), and has worked with Article 19 on issues related to human rights and freedom of expression in Iran.





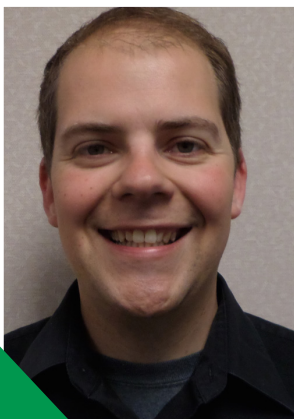
# ELZABETH HECKMAIER

Elizabeth Heckmaier is a PhD student in nuclear/particle physics at UC Irvine. She received a BA in physics from UC Berkeley in 2009. After graduating, she continued her undergraduate work as a post-baccalaureate researcher at Lawrence Berkeley National Laboratory's Accelerator and Fusion Research Division. As a graduate student, Heckmaier's research has included detector simulation and analysis for upcoming experiments at Fermilab to search for charged lepton flavor violation near the intensity frontier. Her dissertation research focuses on the development of a new detector array at Argonne National Laboratory to probe the reactor antineutrino anomaly by measuring first-forbidden beta-decay transitions and spectra of major fission fragments.



# STEPHEN HERZOG

Stephen Herzog is a PhD student in political science at Yale University and a fellow of the Yale Program on Japanese Politics and Diplomacy. His research focuses on nuclear arms control and proliferation. Herzog was previously a program manager at the National Nuclear Security Administration responsible for international scientific engagement efforts to support Comprehensive Nuclear Test Ban Treaty monitoring and geophysical hazard mitigation. He is a former research associate with the Federation of American Scientists, and an alumnus of National Nuclear Security Administration's Nonproliferation Graduate Fellowship Program and the Center for Strategic and International Studies' Nuclear Scholars Initiative. Herzog holds an MA in political science from Yale, an MA in security studies from Georgetown University, and a BA in international relations from Knox College. Herzog has worked, researched, and traveled in more than 70 countries.



# JOSHUA KALLMAN

Dr. Joshua Kallman is a secondary design physicist in the Design Physics Division, working for the Weapons and Complex Integration Directorate at Lawrence Livermore National Laboratory. His current research focuses on radiation flow problems to support secondary design options for the current and future US nuclear stockpile. This work encompasses both experimental and computational components, and draws on his background as a plasma physicist. His other research interests include applying machine learning to improve workflow issues in high performance computing simulations. Kallman received his PhD in astrophysics from the Plasma Physics Program at Princeton University. His graduate work involved high temperature Langmuir probe diagnostics for the National Spherical Torus Experiment at Princeton Plasma Physics Laboratory.



# LAMI KIM

Lami Kim is a PhD candidate at the Fletcher School of Law and Diplomacy, Tufts University, and a lecturer in the international studies program at Boston College. Her dissertation examines the effect of the multilateral nuclear export control regime on proliferation risk involving civil nuclear assistance. Starting this July, she will be a research fellow in the International Security Program and Project on Managing the Atom at Harvard University's Belfer Center for Science and International Affairs. Prior to moving to Boston, she served as a foreign service officer at the South Korean Ministry of Foreign Affairs. She holds a masters in law and diplomacy in international affairs from Fletcher and a masters in Middle Eastern studies from Harvard University.



# REBECCA KRENTZ-WEE

Rebecca Krentz-Wee is a graduate student in the Nuclear Engineering Department at UC Berkeley, with an emphasis in nuclear nonproliferation and radiation detection. She received her BS in nuclear science and engineering from MIT in 2012. Prior to graduate school, Krentz-Wee worked as a nuclear criticality safety analyst at Los Alamos National Laboratory.



# SARAH LADERMAN

Sarah Laderman just completed her first year of graduate studies at UC Berkeley pursuing an MS in nuclear engineering and a masters of public policy. She received her BS in nuclear science and engineering and political science from MIT in 2012. Between schools, Laderman worked as a contractor in the Pentagon for the Deputy Assistant Secretary of Defense for Nuclear Matters, where she worked on nuclear stockpile management, coordination of weapon modernization programs, and nuclear survivability of DoD systems. Under her current fellowship with the Nuclear Science and Security Consortium, Laderman is researching topics of interest at the nexus of nuclear weapons technology and policy, specifically focusing on issues in nonproliferation.





## EMILY LINDEN

Emily Linden is a senior at Michigan State University in James Madison College. She is studying international relations with a minor in science, technology, environment, and public policy as well as Portuguese.



## NATHANIEL MAHOWALD

Nathaniel Mahowald is a first-year undergraduate student at UC Berkeley studying physics and computer science. He specializes in computational modeling and design. He has a deep interest in international politics that he developed during his high school debate career.



## PUPAK MOHEBALI

Pupak Mohebali is a PhD Candidate in international security and teaching assistant in the Department of Politics, University of York, UK. She earned her MA in international relations at Allameh Tabatabaei University, Iran. Currently, she is conducting a doctoral research on the impact of Iranian élite conceptions of national identity on decisions affecting Iran's nuclear program and P5+1 nuclear negotiations. She was a boot camper at the 2015 Nuclear History Boot Camp with Wilson Center NPIHP in Rome, Italy. Mohebali's interests include: nuclear non-proliferation and disarmament, foreign policy analysis, security studies, Iran's nuclear program, global nuclear order, and theories of international relations. Her contributions and commentaries appeared in the *Lobellog*, *BASIC*, and *Iran Wire*.

# MICHAEL O'HARA

Commander Michael O'Hara, US Navy is a permanent military professor in the Department of Strategy and Policy at the US Naval War College and a national security fellow at Brown University's Watson Institute for International and Public Affairs. His operational experience includes carrier-jet aviation (S-3B Viking NFO) and naval intelligence with flying and staff deployments in three aircraft carriers and in Kabul, Afghanistan. His research interests include coercion, diplomatic communication and signaling, and decision making. He holds a PhD in political science from Columbia University, an MA in national security and strategic studies from the Naval War College, and an MA in English from the University of Rhode Island. He is a 1995 graduate of the US Naval Academy.



# ALFONSE PHAM

Alfonse N. Pham is a postdoctoral scholar at the Michigan State University National Superconducting Cyclotron Laboratory. He received his MS and PhD in Physics from Indiana University, Bloomington where he worked on the design and construction of a compact electron storage ring for extreme environment radiation effects experiments for the US Navy. He received his BS in physics at the University of California, Los Angeles. His current research focuses on the design of an electron cyclotron resonance ion source for production of CW heavy ion beams for the Re-Accelerator Facility. His research interests also include the application of particle accelerator technology for material sciences, particle therapy, subcritical reactors, and accelerator-driven systems.



# JAYITA SARKAR

Jayita Sarkar is a postdoctoral research fellow at Harvard Kennedy School's Belfer Center for Science and International Affairs, where she was previously a Stanton Nuclear Security Fellow. Beginning in summer 2016, she will be associate director of the Program in Arms Control and Domestic and International Security at the University of Illinois at Urbana-Champaign. Sarkar's single-authored peer-reviewed articles have been published in Cold War History, International History Review, Critique Internationale, and elsewhere. She has held visiting research appointments at Yale University's Macmillan Center and Columbia University's Saltzman Institute of War and Peace Studies. Currently, she is completing a book manuscript on Franco-Indian nuclear cooperation and the evolution of the nonproliferation regime. She is working on her second project on nuclear commerce and US nonproliferation policy towards supplier states. Sarkar received her PhD in international history and politics with summa cum laude from the Graduate Institute Geneva in Switzerland.







## ANGELA SCHLATER

Angela Schlater is a program officer at the John D. & Catherine T. MacArthur Foundation, working in the Nuclear Challenges grant-making area, with a special focus on grants for education and training. Schlater returned to the MacArthur Foundation in 2015. From 1996-2004, she had been a program associate for research and writing grants in the International Peace and Security program. Angela holds a BA in English literature and history from Miami University, an MA in history from DePaul University and a PhD in history from Loyola University Chicago.



## KRYSTIN STIEFEL

Krystin Stiefel is a nuclear chemistry graduate student at Michigan State University (MSU). Her dissertation work is focused on using heavy-ion collisions to probe the symmetry energy in the nuclear equation of state. This research is performed at the National Superconducting Cyclotron Laboratory at MSU with the MoNA (Modular Neutron Array) Collaboration. Stiefel received her BS in chemistry from Adrian College. Previously, she worked at the Fermi 2 nuclear energy facility in plant support engineering. She is an active member of the Younger Chemists Committee, Women and Minorities in the Physical Sciences, and the Nuclear Policy Working Group at MSU.



## ADRIANA URECHE

Adriana Ureche is currently a second-year graduate student in the Department of Nuclear Engineering at UC Berkeley. She earned her BS in nuclear engineering at UC Berkeley, where her research focused on low energy nuclear properties and nuclear data. Ureche is interested in fundamental nuclear physics, numerical simulations, and nuclear policy.

# TERRA WHITE

Terra White is a PhD candidate in neurobiology and behavior at UC Irvine. She studies cellular mechanisms of learning and memory with current focus on how inflammation alters molecular and neural circuit dynamics involved in contextual memory. Before coming to UC Irvine, she graduated in 2012 with a BS in neuroscience and cell and molecular biology from Tulane University. Along with neurobiology, White has long had an interest in topics such as international relations and science policy. She joined UC Irvine's Nuclear Policy Working Group as a way to enhance and broaden her graduate experience and has enjoyed learning about the world of nuclear policy. She looks forward to participating in the NPPT Boot Camp as a means to explore alternative career paths that can potentially combine her neuroscience background with her interests in global affairs.



# RACHEL WIENER

Rachel Wiener is a program management and technical analyst for the Department of Energy/ National Nuclear Security Administration Office of Defense Programs supporting advanced research and development for nuclear weapon survivability in hostile environments. Her portfolio in the Office of Research, Development, Test, and Evaluation includes radiation effects, high-energy density sciences, and trusted supply chain design and fabrication for select microsystems. Wiener holds an MPP in national security and intelligence from the George Mason University School of Policy, Government, and International Affairs and a BA in political science from the University of California, Los Angeles, where she conducted post-graduate research in nuclear proliferation issues. Wiener was recently named 2016 Nuclear Scholar by the Center for Strategic and International Studies Project on Nuclear Issues. Prior to joining DOE/NNSA, Wiener served as an antiterrorism threat analyst at the Department of Homeland Security Office of Infrastructure Protection.



# SHUXI YIN

Simon Yin is a post-doctoral fellow at Hefei University in China, where he teaches both undergraduate and graduate students and does research independently and in cooperation with other scholars and practitioners. He has been a visiting research fellow at universities worldwide and an adviser to government agencies. His major research topic is the international nonproliferation regime, with broadly institutional and historical orientation. Yin received his bachelor's degree from Peking University in China, master's degree from Harvard University, and PhD from the University of Tuebingen in Germany.

