

2019 PPNT Participant Bios



Lilly Adams is an independent consultant, specializing in nuclear weapons outreach and policy issues. She currently works with the Union of Concerned Scientists, and previously ran the nuclear weapons program at Washington Physicians for Social Responsibility. Lilly graduated from UC Berkeley with a degree in Society and Environment. She has worked as a community organizer with groups including CALPIRG, Food & Water Watch, Students Against Fracking, and Corporate Accountability International. She completed a year-long training program with Green Corps, the Field School for Environmental Organizing.



Lizamaria Arias is a 2018 Herbert Scoville Jr. Peace fellow at the Center for Strategic and International Studies in Washington, DC. At CSIS her work centers primarily on assessing the impact of emerging technologies on situational awareness during crisis scenarios between nuclear-armed states. She has also worked on projects assessing how the chemical weapons nonproliferation regime has evolved over time and how discursive practices affect the militarization of security discourse in democracies confronting external threats. Prior to joining CSIS she was a 2017 Fulbright grant recipient in Taiwan. She holds a BA in International Relations and Political Science from Wellesley College.



Dr. Tahir Mahmood Azad is a Postdoctoral Fellow at the School of Politics & IR, University of Leicester, UK. Dr. Azad has a PhD from the Department of Strategic & Nuclear Studies, National Defence University (NDU) Islamabad, Pakistan. Previously, he obtained M.Phil. degree with distinction from the same department and M.Sc. in Defence & Strategic Studies from Quaid-i-Azam University, Islamabad, Pakistan. Dr. Azad has worked as a Research Fellow and Programme Coordinator at the Institute of Strategic Studies Islamabad (ISSI) Pakistan. Dr. Azad has also served as a Visiting Faculty Member at Bahria University, Islamabad, Pakistan, where he taught courses on International Security Affairs.

Dr. Azad's areas of interest are Nuclear (Weapon) Security and Terrorism, Cyber Nuclear Security and Artificial Intelligence (AI),

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Nuclear Technology and Nuclear Weapon Modernization. South Asian Nuclear Politics and Nuclear Strategies, Pakistan's Domestic and Regional Politics.



Tucker Boyce is a graduate student in the Master of Public Policy program at the University of Maryland. He is a graduate assistant at the Center for International and Security Studies at Maryland (CISSM) and specializes in international security and economic policy. Before starting graduate school, Tucker worked for a year on a post-bachelor's appointment at Los Alamos National Laboratory in the International Threat Reduction group. His regional focus is on Turkey, and he has completed three State Department-funded scholarships for Turkish language study. He presented research on Turkey and NATO at the 2018 CSIS Project on Nuclear Issues Capstone Conference.



Suon Choi is a P.D. student in International Affairs, Science and Technology Program, Sam Nunn School of International Affairs at Georgia Institute of Technology and an associate research fellow at the Korea Institute for Defense Analyses (KIDA). Her research interests include nuclear proliferation, deterrence, extended deterrence, North Korean nuclear program, and alliance management. Suon completed an MA in Political Science at Yale University and a BA in Economics and International Relations at Seoul National University, summa cum laude.



Erin Connolly is a Research Analyst at the Center for Arms Control and Non-Proliferation and Coordinator for the Fissile Materials Working Group. She works on nuclear security, artificial intelligence, and U.S. nonproliferation policy-related projects, with a special emphasis on youth engagement. Erin has written articles, blogs and an academic paper on nuclear policy issues and has been published in Teen Vogue, the Bulletin of the Atomic Scientists, Inkstick and more. Erin serves on the Board of Advisors for GirlSecurity, an organization that works to educate girls on U.S. national security issues and cultivate the next generation through mentorship.

She graduated from College of the Holy Cross in International Studies with a minor in French and a concentration in Peace and Conflict studies. Erin will be attending the University of Notre Dame's Keough School to pursue a Master's of Global Affairs and International Peace Studies in Fall 2019.



Alan Cummings is a graduate student at The Fletcher School of Law and Diplomacy where he is specializing in international security and international business. His nuclear research interests are focused on how hypersonic weapon technology affects nuclear stability, particularly decisions and perceptions from acquisition through potential employment. Prior to Fletcher, Alan earned an undergraduate degree in physics from Jacksonville University and served over ten years as an active duty naval officer in the surface warfare and intelligence communities.



John R. Emery received his Ph.D. in political science from the University of California, Irvine. His research agenda focuses on the evolution of computing power in warfare from the early Cold War period through AI today, probing the ethical dilemmas of emerging military technologies across time. He is a lecturer of national security, and technology & ethics of war in the Master of Arts in International Studies program at Chapman University. His research on drone warfare, ethics, and counter-terrorism has been published in *Ethics & International Affairs*, *Peace Review*, and book chapters for edited volumes from Georgetown University Press and New York University Press. Dr. Emery's current research focuses on 1950s nuclear war gaming and deterrence theory, based upon archival research conducted at The RAND Corporation in Santa Monica, CA. Here he explores the advent of early nuclear war gaming from interdisciplinary politico-military games to more computerized war gaming determining which side would 'win' in a total nuclear war. Contact information can be found at www.EmeryJohnR.com

Mike GAINES is a doctoral candidate at the Pardee RAND Graduate School and an assistant policy researcher at the RAND Corporation. Currently, he is a summer intern research assistant for the Center for Global Security Research at the Lawrence Livermore National Laboratory. Prior to joining RAND, he worked as a consultant with Booz Allen Hamilton fulfilling a Defense Intelligence Agency contract in Stuttgart, Germany and as a Diplomatic Security Special Agent at the US Department of State in Washington, D.C. He was also a U.S. Marine, with 23 years of experience. He holds a B.A. in History from the University of Memphis, an MS in Logistics Management from the Florida Institute of Technology, an MS in Strategic Intelligence from the National Intelligence University, and numerous certifications.

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Paige Gasser is a Nonproliferation Analyst at Lawrence Livermore National Laboratory (LLNL). Previously, Paige was a Research Associate at LLNL's Center for Global Security Research (CGSR), where she supported work in the future of long term competitive strategies and the impact of disruptive technologies on strategic stability. Paige holds a Masters in Law and Diplomacy from the Fletcher School of Law and Diplomacy at Tufts University where her research interests included Russian and Chinese defense policies, illicit trafficking of fissile material, and the future of U.S.-Russian arms control. She was a former Fulbright scholar in Bulgaria and holds a B.S. in Social Sciences and Global Politics from Cal Poly San Luis Obispo.



Tim Genda is a graduate student in the Nuclear Engineering Department at the University of California, Berkeley. He received a B.S. in physics from the U.S. Air Force Academy and a M.S. in Nuclear Engineering from the Air Force Institute of Technology. Tim previously worked at the Air Force Technical Applications Center as an active duty U.S. Air Force officer conducting nuclear treaty monitoring missions in response to foreign nuclear weapon detonations and domestic post-detonation nuclear forensic exercises. His current research focuses on the fireball chemistry of nuclear fallout formation in iron-rich environments, and he is particularly interested in how technical nuclear forensics impacts worldwide nuclear deterrence and nonproliferation policy.



Ed Goldring is a PhD Candidate in Political Science at the University of Missouri, and in academic year 2019/20 will be a US-Asia Grand Strategy Predoctoral Fellow at the University of Southern California. Ed studies how non-democratic leaders stay in power, particularly authoritarian consolidation. His dissertation examines the causes of elite purges in dictatorships with a range of original data, including individual-level quantitative data on elites in Kim Jong-un's North Korea. Ed has published research in various academic journals and has also written media articles on the dynamics in 2017 and 2018 on the Korean Peninsula, in part related to North Korea's weapons programs.

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Jack Goodell is a Postdoctoral Researcher in the Nuclear and Chemical Sciences Division at Lawrence Livermore National Laboratory. His research focuses on the modeling and simulation of nuclide activation and radiation detection for post-detonation nuclear forensics. He received his PhD in nuclear chemistry from the University of Maryland and holds a BS in chemistry from Adrian College. As a graduate student, he participated in the Glenn T. Seaborg Institute Summer Internship Program at Lawrence Livermore National Laboratory and also at Los Alamos National Laboratory. His other research interests include radionuclide signature and detector development, particle beam production and applications, and the relationship between the technical and policy segments of nuclear science.



Daniel Hartman is a Nuclear Science and Security Consortium (NSSC) graduate research fellow at the University of Tennessee Knoxville (UTK), currently working towards a PhD in Energy Science and Engineering (ESE) through the joint UTK-ORNL Bredesen Center for Interdisciplinary Research and Graduate Education with current research focuses on nuclear safeguards/security for uranium enrichment facilities and nuclear security policy. He is also working towards a MS in Nuclear Engineering at UTK with a focus in Nuclear Security Science and Analysis. During his undergraduate years at UTK, he conducted nuclear security policy research in addition to his senior design project that focused on creating a passive emergency cooling system to be installed in spent fuel pools as a response to the Fukushima accident. He has also served as the president of the Institute of Nuclear Materials Management (INMM) student chapter at UTK during the 2018-2019 academic year.



Yuan-Yuan Hsu is a PhD student in political science at the University of Missouri-Columbia. Her research focuses on how foreign policy negotiations can help resolve nuclear issues between states and multinational institutions, with a particular focus on North Korea; on the drivers of arms transfers and their role in foreign policy; and on broader security issues throughout the Asia-Pacific. Previously, she worked as a research assistant at the Institute of Political Science, Academia Sinica. She received a BA and MA in international relations from National Taiwan University.



Shelly Leshner is an Associate Professor of Physics at the University of Wisconsin, La Crosse and a Guest Professor at the University of Notre Dame specializing in experimental nuclear physics. Dr. Leshner has authored of over 55 scientific publications which focus on understanding the structure of nuclei in journals such as *Physical Review C*, *Physical Review Letters*, and *Nuclear Physics A*. She is also interested in the intersection of physics and human rights. At an undergraduate institution, she works at developing the next generation of scientists and educating non-science majors in nuclear issues while continuing to pursue a scientific program. She is the chair of the American Physical Society's Committee on International Freedom of Scientists and the Director of the Division of Nuclear Physics Conference Experience for Undergraduate (CEU) program. The CEU program funds

undergraduate students to attend a national nuclear physics conference to present their research. She has held postdoctoral fellowships at the Katholiek Universiteit Leuven in Belgium and Lawrence Livermore National Laboratory. Her scientific research is funded by the National Science Foundation.

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Rafael Loss is a researcher at the Center for Global Security Research at Lawrence Livermore National Laboratory, where he examines nuclear strategy, extended deterrence, arms control, and the effects of emerging technologies on strategic stability. Rafael was a Fulbright fellow at the Fletcher School of Law and Diplomacy at Tufts University, where he earned a master's degree in international relations. He also holds a BA in political science from the University of Bremen in Germany.



Jackie KERR is a Postdoctoral Research Fellow at the Center for Global Security Research at Lawrence Livermore National Laboratory. She is also an Affiliate at the Center for International Security and Cooperation at Stanford University and a New America Cybersecurity Fellow. Her research examines the politics of cybersecurity, information warfare, Internet governance, and the Internet policies of non-democratic regimes. Areas of interest also include risk and governance in relation to emerging

technologies, misperception and crisis stability, and the relationships between security, privacy, and freedom of expression in Internet policy. Jackie holds a PhD and MA in Government from Georgetown University, and an MA in Russian, East European, and Eurasian Studies and a BAS in Mathematics and Slavic Languages and Literatures from Stanford University. She has held predoctoral fellowships at Stanford and Harvard Universities, research fellowships in Russia, Kazakhstan, and Qatar, and has previous professional experience as a software engineer.

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Sophie McCormack, is currently completing an MA in Applied Security Strategy from the University of Exeter. She is choosing to specialize in atomic weapons and nuclear deterrence, doing a Dissertation on British political understanding of the term ‘nuclear deterrence’. In June Sophie presented on her dissertation topic at RUSI PONI’s summer conference. Sophie regularly attends talks and workshops on nuclear issues and is an active member of RUSI’s PONI group. Alongside this, she is working as an Assistant Researcher for the nuclear think tank, Basic. Following the completion of the MA, Sophie plans to start a career within the nuclear field.



Stephen Murray is a design physicist at Lawrence Livermore National Laboratory (LLNL). Since 1996, he has worked on several projects to ensure the reliability of the U.S. nuclear stockpile, which included 12 years as a design lead for a U.S. weapon system. He is now beginning to work on aspects of international assessments. In addition, he leads an effort to preserve and expand our use of data from the era of nuclear testing. Mining that irreplaceable data is crucial for our efforts to take the stockpile into the future in the absence of further nuclear testing. Stephen holds a B.S. in Physics from Washington State University and a Ph.D. in Astronomy and Astrophysics from the University of California at Santa Cruz. Prior to joining LLNL, he held postdoctoral research positions at the University of Virginia, Cambridge University, and the University of California at

Berkeley.

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Ryan A. Musto will be a Stanton Nuclear Security Fellow at M.I.T. starting in September. He holds a Ph.D. in history from The George Washington University, master's degrees in international and world history from Columbia University and the London School of Economics, and a B.A. (hons.) in history from N.Y.U. Ryan also served as a Nuclear Security Fellow with *Fundação Getúlio Vargas* in São Paulo, Brazil. His work has been published in *Diplomatic History*, *Diplomacy & Statecraft*, *Bulletin of the Atomic Scientists*, and *Americas Quarterly*, amongst other outlets. Ryan is currently completing a book manuscript on the international history of regional denuclearization.



Ann Mycroft is a material scientist specializing in materials characterization techniques at Lawrence Livermore National Laboratory (LLNL). She is concentrated on the implications of processing parameters and of application environments on the materials properties of metals. This work is in support of stockpile stewardship and of technical solutions to nonproliferation challenges for two of the core LLNL programs, Weapons and Complex Integration as well as Global Security. Ann Mycroft received a B.S. in Chemistry from the University of California San Diego and a M.S. in Materials Science from Stanford University.

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Beenish Pervaiz is a second-year Pakistani Phd. student in Political Science at Brown University. She holds a Master's degree from Stanford University in International Policy Studies (with a concentration in international security) and has completed her undergraduate studies in Economics and Political Science from Lahore University of Management Sciences. She has most recently served as a program associate for Nuclear Threat Initiative where she implemented and coordinated NTI's efforts to reduce global biological threats and conduct CBRN threat management. She is interested in exploring how global norms around emerging technologies as well as WMD threats can be developed to mitigate risk especially in countries with vulnerable threat landscapes. She has also served as a youth group coordinator for the Comprehensive Nuclear Test Ban Treaty and also worked for Global Zero and the United Nations HQ in New York.



Dr. Muhammad Sadiq is currently working as assistant professor at the Department of Defense and Strategic Studies (DSS) Quaid-i-Azam University Islamabad Pakistan. He teaches courses on nuclear strategy, national security and nuclear nonproliferation to M.Sc students. He is keen to learn and write on nuclear issues in South Asia

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Pete Stephenson is a postdoc in the Nuclear and Chemical Sciences Division at Lawrence Livermore National Laboratory. His current research focuses on noble gas measurements of nuclear materials for forensic purposes as well as constraining parameters of the ancient Martian atmosphere using noble gases found in Martian meteorites. His graduate work (MS and PhD) at the University of Bern, Switzerland were on age-dating meteorites using cosmogenic noble gases.



Anna Wagner is a project lead at CRDF Global, where she supports the implementation of a diverse portfolio of nuclear security and nonproliferation projects. Previously, she completed a graduate internship at the Nonproliferation and National Security Department, Brookhaven National Laboratory, where she researched nuclear security and arms control in US-Russia relations. She also interned at the United Nations Office for Disarmament Affairs in New York. She completed the 17th ESARDA Course at the European Commission's Research Center and nuclear safeguards courses at Pacific Northwest National Laboratory and Brookhaven National Laboratory. Anna's interests include nuclear security and arms control in US-Russia relations. She has an MA in international affairs from The City University of New York - Brooklyn College and a BA in English from Moscow City Pedagogical University.

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Jana Wattenberg is a PhD candidate in the Department of International Politics at Aberystwyth University and the Deputy Director of the David Davies Memorial Institute of International Studies. She holds a BA from the University of Bremen in Sociological European Studies and a MA in International Studies/Peace and Conflict Studies from Goethe University Frankfurt. She is currently working on research projects on ideas about nuclear weapons and disarmament, nuclear stigmatisation and women in nuclear disarmament and non-proliferation.



Michael Wickett is a Computational Physicist and Associate Division Leader in the Design Physics Division at Lawrence Livermore National Laboratory. He leads a project developing a simulation suite for the Stockpile Stewardship Program, is a line manager for a section of about 45 physicists, and serves as a point of contact for the Advanced Simulation and Computing Verification and Validation program. After completing a B.S. in physics, he joined LLNL as a graduate student, earning a Ph.D. from the U.C. Davis Department of Applied Science. After graduating, he was a member of the Center for Applied Scientific Computing at LLNL, developing simulation tools for climate modeling and material modeling before moving to the Design Physics

Division.