# 2021 PPNT Boot Camp July 26 - July 30 Participants

# UC INSTITUTE ON GLOBAL CONFLICT & COOPERATION PUBLIC POLICY & NICIEND THDEATC





#### Fola Aina

Fola Aina is an international security and development policy expert. A political scientist by training, he completed a second master's degree in African studies at the University of Oxford and also holds a master's degree in international development policy. A recipient of multiple awards, in 2016 he was awarded a Mandela Washington Fellowship in recognition as a young African leader by the U.S. State Department. He is currently completing a Ph.D. in leadership studies at King's College London. He is also a non-residential Hans. J Morgentau Fellow at the Notre Dame International Security Center, University of Notre Dame, U.S.A.

#### Anna Armstrong

Anna Armstrong is a graduate fellow in the National Nuclear Security Administration Graduate Fellowship Program supporting the Office of Nuclear Incident Response. Armstrong graduated from Texas A&M University, where she received her B.S. and M.S. in nuclear engineering and earned certificates in nuclear security and advanced international affairs. Armstrong previously interned with the International Safeguards Group at Oak Ridge National Laboratory, with the United States Secret Service in Washington D.C., and with the late Senator Daniel Inouye of Hawaii on Capitol Hill.





### Amrit Bal

Amrit Bal is a graduate student in the Scripps Institution of Oceanography at University of California, San Diego. Her research focuses on geophysics and computational seismology. During the summer of 2020, Amrit was an Air Force Research Lab Scholar at Kirtland AFB. She was awarded the National Science Foundation Graduate Research Fellowship (NSF GRFP) in 2019. Amrit is currently a National Nuclear Security Administration Graduate Fellow (NNSA NGFP) and is based in Lawrence Livermore National Laboratory (LLNL). She holds a B.S. in physics from the University of Missouri, Columbia.

#### Robin Brackett

Robin Brackett is a Ph.D. student in political science and international relations at the University of Oregon. She holds an M.A. in Persian and Iranian studies from the University of Arizona and a B.A. in international studies with a minor in Persian language from Portland State University. Currently, Robin is researching Iranian nuclear deterrence, the Joint Comprehensive Plan of Action, U.S.-Iran relations, and regional nonproliferation strategies.



## Brandon Clary

Brandon Clary is a postdoctoral researcher in the Physical and Life Science Directorate at Lawrence Livermore National Laboratory. His research at LLNL involves using world-class supercomputers to perform calculations to support efforts related to understanding the influence of the environment on physics, chemistry and debris formation during a nuclear explosion. He holds a Ph.D. in physics from the University of Connecticut with an emphasis on nuclear particle physics. During his time as a doctoral candidate, he explored the 3D structure of protons and neutrons at Thomas Jefferson National Lab in Virginia. Clary's other research interests include, but are not limited to, developing next generation detectors to support nonproliferation, leveraging scientific advances to drive public policy decisions, and data science to aid nuclear forensics.

#### Becca Earnhardt

Becca Earnhardt is a Ph.D. student in policy studies at the School of Public Policy at the University of Maryland, College Park, specializing in international security. She is also a research associate with the nuclear security program at the Henry L. Stimson Center. Prior to joining the Ph.D. program at the School of Public Policy, Earnhardt was a faculty specialist in the Unconventional Weapons and Technology Division at the National Consortium for the Study of Terrorism and Responses to Terrorism, focusing on technology transfer and adoption, red team scenario development, over the horizon CBRN threats, and CBRN adversary psychology. Her work centers on the impact of organizational structure and bureaucratic processes on nuclear security culture, reducing nuclear terrorism risks, and analyzing nuclear enterprise responses to emerging technologies. Her current research interests include emerging technologies, nuclear and radiological terrorism, nuclear security culture, physical protection of nuclear facilities, and nuclear facility crisis operations. She holds a B.A. in political science and a B.A. in homeland security/emergency preparedness from Virginia Commonwealth University, and a M.Sc. in biodefense from George Mason University.





# Emily Enright

Emily Enright is a policy fellow at BASIC, coordinating the Emerging Voices Network and is a project manager within the wider Youth, Gender and Diversity portfolio. She is an M.A. candidate in international conflict studies with the War Studies Department at King's College, London, and worked previously as a research assistant with the Centre for Science and Security Studies within the War Studies Department, and with British Pugwash as a project officer. A former Australian civil servant, and a former project officer with the Young Australians in International Affairs, Emily completed her B.A. (politics and international studies, French) with Honors at the University of Melbourne in 2018. She also completed a certificate in international affairs and strategy at Sciences Po in 2016. Emily's research interests include nuclear ethics and legitimacy, WMD arms control, and the politics of the deterrence/disarmament debate. Emily has worked on research projects relating to P5 dialogue, arms control and emerging tech, WMD institutions, and strengthening the UK's nuclear policy community.

#### Dinara Ermakova

Dinara Ermakova is a nuclear engineering Ph.D. candidate with a minor in public policy at the University of California, Berkeley. She is a Jane Lewis Fellow and a graduate assistant at the Lawrence Berkeley National Laboratory, focusing on U.S. nuclear waste management and policy. Her interests also include nuclear proliferation and the future of U.S.-Russian arms control. Dinara completed an M.Sc. in nuclear engineering at UC Berkeley, M.Sc. in materials science at Skoltech, and a B.Sc in nuclear physics at Eurasian National University in Astana. Before starting graduate school, Dinara worked for a year in the nuclear industry in Russia.



## Daniel Gum

Daniel Gum is a data science project officer at the Defense Threat Reduction Agency's Research and Development directorate. He works with a team of developers to discover new datasets and build novel analytic capabilities in support of the agency's countering weapons of mass destruction mission set. Previously, he worked on applying machine learning techniques to nuclear forensics pipelines, interested in discovering new signatures that could tie nuclear materials to their origin. He received a B.S. in physics and mechanical engineering from Southern Methodist University, and an M.S. in nuclear engineering from the Air Force Institute of Technology.



# Tyler Jordan

Tyler Jordan is a Ph.D. student in the Nuclear Engineering Department at UC Berkeley. He received a B.S. in nuclear engineering and radiological sciences from the University of Michigan, where he worked as an undergraduate researcher in Professor Sara Pozzi's Detection for Nuclear Nonproliferation Group. This early research experience exposed Tyler to the technical intricacies and high-impact applications of radiation detection systems, and he quickly found himself enthralled. Today, Tyler is conducting his Ph.D. research at Los Alamos National Laboratory, where he is developing a barium fluoride scintillator detector for fast timing applications. In 2016, Tyler attended the 15th European Safeguards Research and Development Association Workshop on Nuclear Safeguards and Nonproliferation, held at the Joint Research Centre in Ispra, Italy. More recently, he was a participant in the 2017 NSSC-LANL Keepin Nonproliferation Summer School, and a student in UC Berkeley's nuclear policy course NE285 -The Nexus Between Policy and Technology. Tyler looks forward to continue building on this foundation in nuclear policy at this year's PPNT workshop!

## Coral Kazaroff

Coral Kazaroff is a first-year doctoral student in nuclear engineering at the Georgia Institute of Technology. Her primary research focuses on computational methods for reactor physics calculations of molten salt reactors. She is also interested in the effects of hypersonic weapons technology and concurrent missile defense systems on international strategic stability, particularly with respect to great power relations and nuclear deterrence. Kazaroff has supplemented these interests with the continued study of Russian and Persian as well as some experience in scenario and path gaming.



## Hadyn Kistle

Hadyn Kistle is a doctoral candidate in the Nuclear Engineering Department with the Center for Nuclear Security Science and Policy Initiatives (NSSPI). Kistle is conducting her graduate research at Los Alamos National Laboratory (LANL) in New Mexico with the Advanced Nuclear Technology Group. Her present work involves the investigation of new neutron analytical and dosimetry capabilities with a portable neutron multiplicity detector. Prior to her graduate enrollment, Kistle obtained a B.S. in nuclear engineering in 2016 from the University of Tennessee.

## Emily Kuhn

Emily Kuhn is a Ph.D. student in physics at Yale University and a NASA Space Technology Research Fellow. Her graduate research is conducted at Yale's Wright Nuclear Structure Laboratory, and focuses on developing calibration hardware for next-generation radio telescopes. As a graduate student, she has taught several courses at the intersection of science and public policy, with a particular focus on the history and legacy of the U.S. nuclear program. As a teacher, she enjoys challenging young scientists to think about the broader societal implications of their own work. Emily holds a B.S. in physics from Duke University.





#### Marina Lorenzini

Marina Lorenzini is a graduate student at the Fletcher School of Law & Diplomacy at Tufts University. Marina focuses on critical infrastructure, sanctions, and nuclear affairs in the context of U.S. foreign policy in the Middle East. She is writing her M.A. thesis on Turkey-Russian relations, with a focus on the two countries' cooperation in developing Turkey's civil nuclear program. She has held research positions with the Nuclear Threat Initiative, Belfer Center at the Harvard Kennedy School of Government, and the International Human Rights Clinic at Harvard Law School.

## Markus Meyer-Miner

Markus Meyer-Miner is a graduate student at Arizona State University focusing his studies on emergency management and homeland security, while concurrently carrying-out his duties as the Detached Duty Intelligence Staff Supervisor for U.S Coast Guard Sector Corpus Christi Intelligence Division in Brownsville, TX. There he facilitates all Coast Guard intelligence missions in the southernmost Gulf of Mexico area of responsibility (AOR) to include 1,300 miles of southwest border with Mexico and the second highest U.S. foreign trade zone. Markus also leads human intelligence collection efforts directed at thwarting Transnational Criminal Organization activities. Previously to this assignment, he was assigned to U.S. Coast Guard Cyber Command Detached Duty at the Department of Homeland Security (DHS). As the ranking officer of the unit, he provided oversight to military, civilian, and government contracted personnel. He also served as a DHS Enterprise Network Operation Center Watch Officer, where he oversaw and managed the coordination of service provider and engineering resources for 230,000 users across 12 DHS inter-agency components, 17 Headquarter offices, and 134 DHS mission essential applications.



## Darius Meissner

Darius Meissner is a graduate student in the security studies master's program at Georgetown University's School of Foreign Service. His key professional interests concern the mitigation of global threats from weapons of mass destruction. In particular, he focuses on low-probability, high-impact risks from nuclear and biological warfare and how these risks interact with emerging technologies such as artificial intelligence. Previously, Meissner has interned for six months with the Biological Weapons Convention at the United Nations Office for Disarmament Affairs in Geneva. He graduated from the University of Oxford with a B.A. in philosophy, politics and economics. Originally from Germany, he has lived for extended periods in China, India, Switzerland, and the United Kingdom.

## **Dennis Murphy**

Dennis Murphy is a recent graduate of the Johns Hopkins School of Advanced International Studies' Strategic Studies and Tsinghua University's Chinese Politics and Foreign Policy programs. He was a Jack Kent Cooke graduate scholar and a SAIS-Tsinghua Fellow. He is interested in promoting democratic resilience and in finding effective ways for states to establish deterrence across multiple domains. He is particularly interested in refining lessons learned from nuclear deterrence policy to determine cross-transferable concepts between domains in deterrence studies, and whether a breakdown in deterrence in one domain invites further breakdowns elsewhere. He will be attending the Georgia Institute of Technology's Sam Nunn School to pursue a Ph.D. in international affairs, science, and technology in the fall.



# Fady Najjar

Fady Najjar is a physicist and group leader at Lawrence Livermore National Laboratory (LLNL). Since 2007, he has worked on projects ensuring the reliability and safety of our nation's nuclear stockpile. Najjar is the lead physicist on a series of LLNL's hydrodynamics experiments. He is the recipient of several DOE's Defense Programs Awards of Excellence in 2014, 2015 & 2017. He is an ASME Fellow, an AIAA Associate Fellow and an APS member. Najjar holds a Ph.D. in mechanical engineering from University of Illinois at Urbana-Champaign (UIUC). Prior to joining LLNL, he was a Senior Research Scientist at the DOE's Center for Simulation of Advanced Rockets at UIUC.

## Mitch Negus

Mitch Negus is a graduating Ph.D. student in the Department of Nuclear Engineering at UC Berkeley. He researches privacy preserving computation as it applies to nuclear safeguards, specifically developing software tools to allow safeguard-relevant conclusions to be reached without revealing the underlying data. Mitch's other interests include nuclear energy and sustainability, and he is training to run a marathon. Mitch will be joining the staff at Sandia National Laboratories in December.



#### Orion Noda

Orion Noda is a Ph.D. candidate and teaching assistant at the Department of War Studies at King's College London and at the International Relations Institute at the University of São Paulo. His current research is focused on investigating the symbolism of nuclear weapons and how matters of symbolism and status interact with states' identities and behavior in the nuclear arena. He holds an M.A. (Hons) in international security from the University of Groningen and a B.A. in international relations from the Pontifical Catholic University of Minas Gerais.

#### Cole D. Pruitt

Cole D. Pruitt is a post-doctoral researcher at Lawrence Livermore National Laboratory in the Design Physics Division. His current research includes uncertainty quantification in nuclear reactions, improving reliability of nuclear data for applications, and assessing the impact of scientific advisors on national security policymaking. He holds a Ph.D. in chemistry from Washington University in St. Louis and a Bachelor of Science in biophysics from Brown University. Outside of science, he co-directed/produced The Surrounding Game (2017), the first feature documentary about the Asian game of Go.



#### Adham Sahloul

Adham Sahloul is a consultant working at the intersection of diplomacy, technology, and international affairs at Accenture Federal Services. He is currently a subject matter expert on disinformation and geopolitics at the U.S. Department of State's Global Engagement Center. A foreign policy expert specializing in the Middle East and Indo-Pacific, he has worked on a variety of national security issues while based in Washington, D.C. and abroad. In addition to past work at the Atlantic Council and the Brookings Institution, Sahloul worked in the Office of U.S. Senator Tammy Duckworth (D-IL) and was a volunteer foreign policy advisor to the Biden-Harris and Pete Buttigieg 2020 presidential campaigns. He began his career in the humanitarian field in southern Turkey, researching nonproliferation and human rights issues in Syria. His expertise has been published by Foreign Affairs, the Newlines Institute, Middle East Institute, Lawfare, Axios, and The Diplomat, and he has been quoted across major U.S., European, Japanese, and Middle Eastern media outlets. Sahloul is a national board member of Emgage Foundation, a leading civic engagement organization for American Muslims. He holds an M.A. in international relations from the Fletcher School of Law and Diplomacy and a B.A. in political science from the University of Illinois, Urbana-Champaign.



## Thomas Rehagen

Thomas Rehagen is a design physicist at Lawrence Livermore National Laboratory (LLNL). He has worked on projects in support of the Weapons and Complex Integration and Global Security core programs. He is currently the primary physics lead of a weapon system in the U.S. nuclear stockpile. Thomas arrived at LLNL as a postdoctoral researcher in 2015 and was hired on as full staff in 2017. Thomas has a B.S. in physics and mathematics from the University of Notre Dame and a Ph.D. in physics from University of California, Los Angeles.

#### Denis Richard

Denis Richard graduated from the Paris Diderot University with a doctorate in astrophysics and space science in 2001, after which he moved to the San Francisco Bay area and served for 10 years at the NASA Ames Research Center as a space scientist. He worked there in experimental and computational astrophysics, participating in instrument development and calibration for planetary missions. He joined the Lawrence Livermore National Laboratory's Weapon Program in 2011 as a nuclear weapon designer. He has worked in this capacity on various systems, including on the W80-1 Annual Assessment team, the W88 as Independent Nuclear Weapon Assessment Program primary physics lead, and the W80-4 Life Extension Program as deputy primary physics lead. Since 2016, he has served as program group leader for the Design Studies and Technologies group with a focus on providing agile and responsive solutions for the future U.S. nuclear deterrent. Since December 2020, he is serving as deputy to the director of the Designer Training Program, an effort to streamline and standardize training for nuclear weapon designers. In March 2021, he was selected as the associate program director for Transformational Technologies in the Weapon Physics and Design Program.







### Sanem Topal

Sanem Topal is a master's student of international relations at Bilkent University in Ankara, Turkey. Her master's dissertation focuses on nuclear modernization, how states develop new weapons, refurbish or improve the existing ones, or add to the stockpile, with a specific emphasis on the United States. She is a research volunteer at Nuclear Information Service (NIS) in London since September 2020. During her continuing nine-month journey in NIS, Sanem authored a briefing on the attitudes of non-nuclear weapon states to nuclear modernization to be published soon. She has received mentorship from the **European Union Non-Proliferation and** Disarmament Consortium since March 2021. Sanem's personal research interests are nuclear modernization, U.S. nuclear policy and defense companies.

#### Chad Ummel

Chad Ummel is a Ph.D. student at Rutgers University studying nuclear physics. He received his B.A. in physics from UC Berkeley in 2016. In his primary research, he performs experiments to probe nuclear structure and measure nuclear reactions important for nuclear astrophysics and stockpile stewardship. Since 2018, Chad has been a Stewardship Science Graduate Fellow with the Department of Energy National Nuclear Security Administration. Chad was also awarded a Nuclear Forensics Undergraduate Scholarship from the Department of Homeland Security in 2015. Chad is active in advocating for nuclear policy. As a member of the Physicists Coalition for Nuclear Threat Reduction and the Union of Concerned Scientists, Chad meets with congressional staff to discuss bills related to nuclear security and policy.



## Reja Younis

Reja Younis is a program manager and a research associate with the Project on Nuclear Issues in the International Security Program at the Center for Strategic and International Studies (CSIS). Prior to working at CSIS, she completed a year-long fellowship with The Stimson Center, where she conducted research on nuclear deterrence challenges, crisis dynamics, and great power competition in the context of South Asia. She has also worked as a research analyst for the Chicago Project on Political Violence and has served as an editorial writer and subeditor of the Opinion and Editorial section for the Tribune newspaper. She holds a bachelor's degree in social sciences and liberal arts from the Institute of Business Administration Karachi and a master's degree in international relations from the University of Chicago.

## Rory Ziomek

Rory Ziomek is a senior consultant at Deloitte, and an active member of the firm's Countering Weapons of Mass Destruction practice. With a background in emergency and crisis management, Rory supports the development of strategy and tools/accelerators to help bring advanced solutions and thought leadership to the U.S. Government and the greater U.S. countering WMDs community. As part of this mission, Rory leverages OSINT to support counterproliferation and combat proliferation finance activities. Rory is originally from Amherst, MA, and now resides in Washington, D.C.