Christine Mirzayan Science and Technology Policy Graduate Fellows
2021
Biographical Sketches

Raphael Apeaning (DEPS/BEES) is a Post-Doctoral Researcher at the Institute for Carbon Removal Law and Policy (ICRLP) at American University. He holds a PhD in Technology, Policy and Innovation from Stony Brook University and an MSc in Energy and Environmental Engineering from Linkoping University in Sweden. His work focuses on energy systems modeling particularly in the context of climate mitigation policy. His current research at ICRLP involves modeling and investigating the role of Carbon Removal Technology for climate mitigation policy. As a Mirzayan Fellow, Raphael hopes to attain the foundational knowledge and hands-on experience in navigating the complex field of climate and energy policy.

Nixon Ricardo Arauz (HMD/BGH) is a PhD Student in the Department of Health Behavior and Policy at Virginia Commonwealth University School of Medicine. He earned his Bachelor of Science in biology and society with minors in global health and Latino studies from Cornell University as well as a Master of Arts in health education from Columbia University. After completing his master's program, Nixon joined the Associate Director of Health Equity at the Centers for Disease Control and Prevention (CDC), Division of STD Prevention, in Atlanta, GA. His work at CDC combined his interests in disease prevention and control, implementing interventions and approaches to address health disparities to improve health outcomes in vulnerable populations nationally. As a PhD student, his primary research interests are to develop mix methodological approaches (e.g. community based participatory research, relative to social and behavioral science, social epidemiology, humanistic frameworks) to develop metrics in order to evaluate behavioral interventions to address the social determinants closely associated to chronic diseases/conditions like diabetes, cancers, and cardiovascular diseases in minoritized populations. Long-term, he sees himself combine his love for policy, teaching, mentoring, and becoming a tenure track assistant professor. As a Mirzayan Fellow, Nixon is thrilled to have the opportunity to combine his multidisciplinary professional

experiences and his interests in public and global health to contribute to science policy to promote safer international ports of entry. In his spare time, Nixon enjoys running, cooking, and listening to music.

Callie Chappell (DELS/BLS) is a Ph.D. candidate in the Department of Biology at Stanford University. Callie is an ecologist and studies how genetic variation influences how ecological communities change over time. With a background in bioengineering, Callie is particularly interested in the conservation and policy impacts of gene editing wild organisms and the cascading impacts that genetic variation can have on ecological and evolutionary processes. Outside of the lab, Callie leads several groups that work in the intersection of science and society. Callie is the 2020-21 President of Stanford Science Policy Group (SSPG), a chapter of the National Science Policy Network and student organization that engages scientists with policy on the local, state, national, and international level. Callie also co-leads BioJam, an education program that collaborates with high school students and community organizations from low-income communities in the Greater Bay Area of California. BioJam participants and organizers learn together about bioengineering and biodesign through the lens of culture and creativity. Callie is also a professional artist and scientific illustrator. Callie is a former Graduate Ethics Fellow with Stanford's McCoy Center for Ethics in Society, BioFutures Fellow with the Stanford Bio Policy and Leadership in Society (Bio.Polis) Initiative, and Katherine S. McCarter Policy Fellow with the Ecological Society of America.

Jean de Becdelièvre (DEPS/ASEB/SSB) is a PhD student in Aeronautics and Astronautics at Stanford University. He works on aircraft design methodologies, or how to use mathematical optimization to find the best possible airplane satisfying a set of requirements. Jean is an avid teacher and was a teaching assistant in physics and aerodynamics. Prior to his doctorate work, Jean earned a Master's degree in Engineering from Ecole Centrale Paris in 2017, and was a research intern at INRIA Paris Saclay, a French national lab, where he worked on fluid dynamics simulations. As an undergraduate student, Jean organized talks for engineering students on the impact of their work on society and human progress. Besides his research, Jean is passionate about all outdoor activities, particularly backpacking, running and freediving.

Harold U. Escobar-Hernandez (GRP/GOES) is a Chemical Engineer currently pursuing his doctorate at the Artie McFerrin Department of Chemical Engineering at Texas A&M University. His research focuses on identifying correlations between the chemistry and stability of novel technologies, focusing on safety, applicability, and sustainability concerns. Harold is part of the Mary Kay O'Connor Process Safety Center and the Multi-Scale Process Safety Research Lab at Texas A&M. There, he has worked on multiple industry-led and government-sponsored projects on process safety issues. His career has focused on the advancement of safety knowledge based on science and multidisciplinary research.

Escobar has served as Vice President for the Graduate Student Association and currently serves as Senator for the Safety Engineering Program at the Graduate & Professional Student Government. Harold obtained his B.S. in Chemical Engineering with a focus on Environmental Science from Universidad de Los Andes, Colombia. As a Mirzayan Fellow at the Gulf Offshore Energy Safety Board, Harold aims to bring his unique perspective and expertise to the current offshore energy sector panorama. Additionally, his objective is to acquire expertise on science and technology policy to thus contribute to a safer, sustainable, and aware offshore industry based on science decisions. Harold's interests vary anywhere from volunteering for political campaigns and registering voters, enjoying the arts (especially cinema), and being active in the sport of figure skating.

Bethany Gordon (NAE/CESER) is a PhD candidate in the University of Virginia's Convergent Behavioral Science Initiative (CBSI). She received her BS in Civil and Environmental Engineering in 2017 from UVA. Bethany researches applications of behavioral science to improve equity through design of the built environment. Her dissertation research focuses on the relevance of critical racial history in prioritizing distributive justice for large-scale infrastructure projects. Bethany is a NSF Graduate Research Fellow (GRFP), UVA SEAS Dean's Scholar, and a GAANN teaching fellow. As an impact-driven scholar, Bethany has pursued experiences to understand how her training as an engineering researcher translates into policy. She has served in leadership roles for 500 Women Scientists and the Science Policy Initiative at UVA, as well as actively participating as a member of the National Science Policy Network. As a Mirzayan Fellow, Bethany is excited to work with the

NAE's Cultural, Ethical, Social, and Environmental Responsibility (CESER) initiative and to explore the policy landscape in D.C.

Amanda Guthrie (GRP/GHRB) is a PhD candidate at the Virginia Institute of Marine Science, William & Mary where she studies shoreline erosion modifications. Specifically, Amanda researches how well created marshes ("living shorelines") provide habitat for fish. She also looks at how property owners make decisions on which type of shoreline erosion structure to install and works to find ways to better support more sustainable shoreline decisions and policies. She earned her Master of Science in fisheries management from Michigan State University and her Bachelor of Science in marine science from the University of Miami. In her off times, Amanda may be seen kicking a soccer ball around, going for a run, or hanging out with her dog.

Kafayat O. Mahmoud (HMD/HCS) is a dual-title Doctoral Candidate in Sociology and Gerontology at the University of Kansas. She holds a Masters in Gerontology from the University of Southampton, United Kingdom, for which she had a British Commonwealth Scholarship and also holds a Masters in Sociology from the University of Ilorin, Nigeria. Her research interests include social determinants of health, international health disparities, chronic conditions, end of life care, family dynamics and intergenerational relations. Her prior research has explored how older persons understand and cope with their chronic conditions in Northern Nigeria, as well as the relationship between social support, which is usually provided by family and community members, and the coping strategies adopted. As a graduate student, Kafayat has been an Andrew W. Mellon Foundation Doctoral Research Fellow and Institute for Policy and Social Research Fellow where she has continued to conduct research on minority populations, as well as develop her interdisciplinary research skills. Her dissertation research examines the associations between family structure, social integration, end-of-life quality among older Americans.

Erin Robartes (TRB/CAAS) is completing a PhD in Civil Engineering at the University of Virginia. She also holds an M.S. and a B.S. in Civil Engineering from the University of Virginia and the University of Connecticut, respectively. Erin helped establish the Omni-Reality and Cognition Lab at the University of Virginia where she currently works on the development of bicycle and pedestrian simulators for use in behavioral transportation research. During her time at UVA, Erin served on the executive boards of the Graduate Engineering Student Council and the Institute of Transportation Engineers where she was dedicated to improving the graduate student experience for her peers. Erin was part of the COVES (Commonwealth of Virginia Engineering and Science) Fellows inaugural class of 2020, working in the Office of the Secretary of Natural Resources on coastal resilience projects. With the Mirzayan Fellowship experience Erin seeks to build on her understanding of the benefits of policy to advance equitable, safe, and effective transportation.

Linnea Saby (DELS/BASC/PRB) (she/her) is a PhD candidate in Civil and Environmental Engineering at the University of Virginia. Her dissertation research is evaluating the environmental outcomes of water quality trading policies. Linnea is also founder and president of Virginia Scientist-Community Interface (V-SCI), a statewide graduate student organization dedicated to providing science expertise for community-led activism and advocacy. In this role, Saby has led creation of research-based public comments and science reports that have been cited in federal litigation and distributed through grassroots advocacy networks. As co-president of the Science Policy Initiative at UVA, Linnea led numerous science policy training and engagement opportunities for fellow graduate students. In her future career, Linnea hopes to empower community voices at the nexus of environmental justice, food, energy, and water decision making.

Starlette (Star) M. Sharp (DBASSE/BOSE) is currently completing her PhD in the Department of Curriculum and Instruction's Science Education program at Pennsylvania State University at University Park, PA. She also earned a B.S. in Biology and an M.S. in Cancer Biology from Tuskegee University in Tuskegee, Alabama. Star's graduate research focuses on interventions that foster access and retention of Blacks students in STEM and the systemic institutional barriers that create those challenges. During her graduate career Star focused on representing her fellow graduate students by serving two terms on the university's faculty senate as the graduate student rep. She also initiated and facilitates the National Association for Research in Science Teaching (NARST) graduate student and early career writing group. Additionally, during her tenure as a grad student, she completed a fellowship at the National Science Foundation (NSF) in the Division of Biology and upon completion of her work presented a talk on the role of women in STEM in Oldenburg, Germany. Star is passionate about the role Historically Black Colleges and Universities (HBCUs) play in STEM workforce diversity and the importance of intentionally building inclusive and representative environments in STEM. To that end Star is the chair of the 2023 Graduate Research Seminar (GRS) portion of the Undergraduate Biology Education Research (UBER) Gordon Research Conference (GRC).

Katelyn Stenger (DBASSE/CNSTAT) is an expert on behavioral design within complex adaptive systems. She has six years of experience designing, engineering, and researching the built environment. Katelyn has founded and led a social justice start-up proposing policies for lead-free water and has engineered building facades for the Hudson Yards Project – the largest US real-estate development in the past century. Following an interest in policy, behavioral science, and designing the built environment, Katelyn researches as a PhD Fellow in the Convergent Behavioral Science Initiative at University of Virginia. She researches how to democratize behavioral design, with a goal to scale behavioral insights and widen who can shape decision-making spaces. Katelyn's approach is rooted in complex system science and emphasizes adaptability and inclusion as systems, cultures, and policies evolve. Katelyn earned a Bachelor of Science in Mechanical Engineering from Rose- Hulman Institute of Technology.

Komal Syed (PGA/COSEMPUP/BHEW) is a PhD candidate in Materials Science and Engineering, graduating summer 2021, at the University of California-Irvine (UCI). Her research focuses on understanding the effects of atomic-scale defects on the structure and chemistry of engineering ceramics for applications in energy and transportation. Komal has been an active volunteer at UCI in various roles such as mentoring undergraduate students from minority backgrounds, and organizing forums to address graduate student issues in collaboration with her department and the Office of Access and Inclusion. Due to her interest in science policy, she completed an online certificate course in science policy and advocacy for STEM scientists during which she learnt effective strategies for scientists to interact with policymakers. She also won the 2020 annual elevator pitch competition at UCI. Komal is excited to be a 2021 Mirzayan fellow and looking forward to formal hands-on training in science policy working with the *Committee on Science, Engineering, Medicine, and Public Policy* and the *Board on Higher Education and Workforce.* Komal likes to spend her free time exploring local nature trails with her husband and son.

Nikki Teran (PGA/CISAC) is currently working with Open Philanthropy's Biodefense Advocacy Initiative. She holds a PhD in Genetics from Stanford and a BS in Molecular Biophysics and Biochemistry from Yale. Her thesis work focused on discovering RNA functions and its use in genetic interpretation. She's been fortunate enough to have research experience in many areas, from bacteria to fungi to vertebrates and humans, in both computational labs and at the bench, in industry and academia. She loves learning about science and translating it for others and has done so leading workshops in a science museum, hosting and editing podcasts, writing for direct to consumer genomics companies, and simplifying technical reports for wider consumption. She hopes to be able to use her technical knowledge, science communication skills, and eagerness to learn to reduce global catastrophic biological risk. When not trying to save the world, she enjoys outdoor aerobic activities, experimenting with baked goods, and googling every question she can think of.