Christine Mirzayan Science and Technology Policy Graduate Fellows
2022
Biographical Sketches

Alexander Belles (DEPS/SSB) is a Ph.D. candidate in the Department of Astronomy and Astrophysics at the Pennsylvania State University. Previously, Alex received his bachelor's in Physics and Mathematics from SUNY Geneseo. His graduate work has focused on panchromatic studies of nearby galaxies and the wavelength dependent effects of interstellar dust in the ultraviolet. During his graduate career, Alex has been a member of the Science Operations Team for the Neil Gehrels Swift Observatory, a NASA space-based observatory with three telescopes used to study gamma-ray bursts. Due to the importance of federal funding for his field of study, Alex has participated in the American Astronomical Society's Congressional Visit Day program to advocate for science funding. In his free time, Alex is an avid science fiction reader and loves coffee. He is looking forward to his time as a Mirzayan Fellow in order to gain hands-on experience in science policy.

Luyi Cheng (DELS/BLS) is completing a PhD in molecular biology at Northwestern University and previously received a BS in biochemistry from the University of Washington. She currently studies how RNA structures fold and regulate genes. As a graduate student, Luyi became interested in using science communication to make science more accessible, shape policy, and inform decision making. Luyi served as a policy intern for the Office of Sustainability of the City of Evanston, IL where she worked on developing waste management policies. She was also a science journalist at Voice of America as a AAAS Mass Media Fellow in 2021. As a Mirzayan Fellow, Luyi is excited to learn how scientists can support evidence-based policies for the protection and conservation of the natural environment.

Ippolyti Dellatolas (DEPS/BEES) is a PhD candidate in the Mechanical Engineering department at MIT. She holds a BS and MS in Engineering from Ecole des Mines de Paris. Her PhD research aims at understanding and preventing the uneven flow that occurs when water infiltrates hydrophobic soils, for instance in the case of heavy rainfall after a wildfire. Using a lab-scale model system, she studies the physical origin of the uneven flow, to develop solutions for homogeneous water retention in soils, with potential impact for agriculture, water purification, and land stability. In parallel, Ippolyti works with the MIT Office of Sustainability, where she performs energy modelling to provide recommendations for emissions reductions in laboratory spaces.

She is also involved in student-run environmental initiatives across the MIT campus, through the MIT Water Club, and the Graduate Student Sustainability Committee. As an international student originally from Greece and France, Ippolyti is sensitive to environmental challenges on a global scale. Through the Mirzayan Fellowship, she hopes to gain insight on how science can inform climate policy to implement sustainable solutions worldwide.

Mark Feuer DiTusa (GRP/BGEE) is a Ph.D. candidate in the Department of Physics at the University of Chicago. Mark's research bridges into UChicago's Molecular Engineering school under the guidance of Professor Shrayesh Patel, where Mark studies the properties of plastic semiconductors to improve their electronic performance. A proud Louisiana State University (LSU) Tiger, Mark still considers himself a Baton Rougian at heart, where he received a B.S. in physics and in chemistry, and helped create Experimental, a podcast showcasing research at LSU and the people that conduct it. He has been a leading officer of the UChicago Science Policy Group, a chapter of the National Science Policy Network and a student organization that aims to connect scientists at UChicago with policy efforts both within Chicago and at a national level. As a Mirzayan Fellow, he hopes to bridge his knowledge and penchant for science communication into the policy realm and bring it back with him to help communities on the Gulf Coast. When he has a chance to relax, Mark is a tabletop and roleplaying game enthusiast, a folk singer wannabe, or when he's not being ambitious, curling up with his cats.

Kimberlyn Ellis (HMD/HCS) is a Ph.D. student in the Training Program in Human Genetics at Vanderbilt University. Her current research explores the interplay of genetic, behavioral, and social determinants of health to elucidate which social and environmental determinants drive disparities in lung cancer. With this work, Kimberlyn hopes to elucidate which risk-causing determinants can be reformed to improve health outcomes for susceptible populations. Prior to being a Ph.D. student, Kimberlyn received her Bachelor of Science in biology from Spelman College in 2019 and completed the NIH Postbaccalaureate Research Education Program at Brown University in 2020. As a Mirzayan Fellow, Kimberlyn is eager to participate in the process of translating research findings into policy to enhance public knowledge and perceptions of STEM while promoting health equity and social good. In her free time, Kimberlyn enjoys reading, cooking, painting, Pilates, and spending time with her dog.

Bianca Espinosa (PGA/COSEMPUP) is a Chemistry PhD candidate at the University of Southern California, a National Science Foundation GRFP fellow, and a National Institutes of Health T32 trainee. She earned her Bachelor of Science in Biochemistry in 2016 from California State University, Fullerton, where she worked as a medicinal chemistry undergraduate researcher. Now as a graduate student with a focus in chemical biology, her research centers on developing covalent, small-molecule probes to target proteins pertaining to diverse pathologies from cancer to COVID-19. Beyond her research interests, Bianca demonstrates her commitment to increasing the college retention of underrepresented students through mentorship and the establishment of a scholarship for minorities in STEM. In her personal life, Bianca enjoys climbing, painting, and spending time with her two rescue dogs. As a Mirzayan Fellow, Bianca is excited to work for the Committee on Science, Engineering, Medicine, and Public Policy (COSEMPUP), and engage with the greater science policy community in D.C.

Dayoung Kim (NAE/CESER) is a Ph.D. Candidate in Engineering Education and a Bilsland Fellow of College of Engineering at Purdue University. She received her B.S. in Chemical Engineering at Yonsei University (Seoul, South Korea) in 2017 and M.S. in Chemical Engineering at Purdue University (West Lafayette, IN, USA) in 2021. As a scholar who is interested in the role of engineering professionals in society, she has harmonized her engineering background with social science approaches in the interdisciplinary research environment of Purdue University. Throughout her doctoral study, she has examined ethics in engineering practice by actively working with engineers from various industries. She is interested in enhancing the fundamental understanding of the ethical and innovative practice of engineers in business settings within complex social, economic, and political contexts and identifying how best to support their practice through both education and science and technology policy. As a Mirzayan Fellow, she is excited to have hands-on experiences in science and technology policy and contribute to the National Academy of Engineering (NAE)'s Cultural, Ethical, Social, and Environmental Responsibility (CESER) program. She received the 2020 Best Formal Paper by a Graduate Student Award from the Association for Practical and Professional Ethics (APPE) and served as an officer of the American Society of Engineering Education's Engineering Ethics Division.

Maren Loe (HMD/HSP) is an MD/PhD student in the Medical Scientist Training Program at Washington University in St. Louis. She earned her PhD in Systems Science and Mathematics and will complete her medical degree in 2024. She received a BS in Computational and Applied Mathematics from the University of Chicago in 2016. Her dissertation research involved developing methods to quantify and computationally modeling novel electroencephalography (EEG) phenomena in pediatric critical care patients. Maren has conducted research in gender disparities in medical education, and she served on the Provost's Title IX Advisory Committee, in addition to proposing and implementing changes in mistreatment reporting and support for medical students. She has also served as a Community Science Note writer for the Missouri Science & Technology Policy Initiative. As a college volleyball player and graduate assistant coach, Maren witnessed multiple concussions and their impact on athletes, spurring her interest in brain injury research and policy. She is honored to participate in the Mirzayan fellowship and is eager to build on her prior advocacy and policy experiences, gain skills to advance equity in STEM, and further explore the role of scientific research in brain injury policy.

Mollie Marr (PGA/CWSEM) is an MD/PhD student at Oregon Health & Science University. She is currently completing her 3rd year of medical school and a Master of Clinical Research. Her PhD is in Behavioral and Systems Neuroscience and her dissertation work focused on the effects of stress during pregnancy on offspring neurodevelopment and the intergenerational transmission of childhood maltreatment. She earned her Bachelor of Fine Arts in Theatre from Tisch School of the Arts at New York University with a second major in Psychology and a minor in Applied Theatre. She has held leadership positions with the American Medical Women's Association, Medical Student Pride Alliance, and American Physician Scientists Association. Mollie is passionate about gender equity and is excited to work with the Committee on Women in Science, Engineering and Medicine as a Mirzayan Fellow. She is compulsively curious and loves history, reading, and exploring.

Juita Martinez (GRP/GEPS) is a PhD candidate in the Department of Biology at the University of Louisiana at Lafayette. She earned her BSc in zoology with a minor in wildlife from Humboldt State University. Juita's work on various coastal regions has encompassed a variety of research projects, including environmental toxicology testing, monitoring of flora and fauna, and implementing habitat restoration practices. Her current research investigates the impacts of habitat restoration on the reproductive success of seabirds such as the Brown Pelican across coastal Louisiana. She co-organized the inaugural "Black Birders Week," a social media movement showcasing birders and outdoor enthusiasts within the Black community. Juita was recently elected as a council member for the Wilson Ornithological Society and is an active committee member for the Black and Latinx Birders Scholarship. She has also served as a student representative for the graduate student organization and the graduate council at University of Louisiana at Lafayette. As a Mirzayan fellow for the Gulf Environmental Protection and Stewardship Board, Juita is eager to use her first-hand experience and perspective on coastal issues to bridge the gap between scientific research and people who rely on the Gulf coast, in part by informing and influencing management and policy decisions. In her free time, she enjoys hiking, exploring new places and attempting to improve her wildlife photography skills.

Chioma Onwumelu (DELS/BESR) is a Ph.D. candidate in Geology at the University of North Dakota (UND). She is a researcher working at UND's Energy & Environmental Research Center (EERC) studying and conducting laboratory analyses to interpret data on improved unconventional oil and gas production, enhanced oil recovery in unconventional and conventional resources and CO2, and rich gas storage in a geologic formation. Chioma holds a B-tech degree in geology from the Federal University of Technology Owerri Nigeria; and an MS degree in geology from UND. Chioma is interested in how geological sciences can support the energy transition and what policy frameworks can enable the energy transition. She is also interested in mentoring the next generation of professional geoscientists, especially young women. Outside of the lab, Chioma has pioneered and led several student and professional organizations in the state of North Dakota. Chioma is currently one of the Atlantic Council Global Energy Center's Women Leaders in Energy and Climate Fellow. She strongly believes in and advocates for diversity, equity, and inclusion (DEI). Chioma loves traveling and volunteering for great causes like teaching science to young children.

Dr. **Neeti Pokhriyal** (DBASSE/CNSTAT) is a visiting scholar in the Department of Computer Science, Dartmouth College, where she was a postdoc from 2019-2021. She explores critical dualities that lie at the intersection of artificial intelligence and its societal impacts. Of special interest to her are the potentials of AI for societal development and addressing sustainability issues, while limiting their tendencies to exacerbate biases related to gender, race, ethnicity, etc. She has developed statistical and computational methods to map poverty and inequality, to forecast energy deficits given Sustainable Development Goals, to estimate economic well-being in presence of shocks as well as to build more secure biometric systems. She has extensively collaborated with the Inter-American Development Bank, the Overseas Development Institute, Datapop Alliance, the National Statistics Office of Senegal, Orange Labs, and Sonatel regarding using novel methods and data to map poverty and inequality. Her doctoral work was awarded the Chih Foundation Research Award in 2019 at the University at Buffalo, State University of New York, from where she completed her Ph.D. in Computer Science. Before that, she was a researcher at Oak Ridge National Laboratory and has obtained her master's in computer science from the University of California, Riverside, where she received the Dean's Distinguished Fellowship. As a Mirzayan Fellow, she is looking forward to an immersive experience in science policy.

Kayla Young (DBASSE/BECS) (she/her) is a Ph.D. Candidate in Political Science and Ecological Sciences and Engineering (ESE) at Purdue University. Broadly, her research explores factors that influence public policy to address climate change. Her dissertation investigates how the strategic communication of youth climate activists may generate support for ambitious climate policies in the United States. Prior to her doctoral work, Kayla earned a B.S. and M.A. in Political Science from Appalachian State University and served as an intern with the U.S. State Department (OES/ECW). She is also passionate about working with her community and is currently serving as a Commissioner on the West Lafayette Go Greener Commission in West Lafayette, Indiana. As a Mirzayan Fellow, she is excited to build on these experiences and learn how she can inform the policy process at the federal, state, and local levels.