

## Christine Mirzayan Science and Technology Policy Graduate Fellows 2012 Fall Biographical Sketches



**Gina Adam** (Fall 2012; NAE/NAEPO) is pursuing her PhD in electrical and computer engineering at the University of California, Santa Barbara with the financial support of the International Fulbright Science & Technology Award. Her research is related to neuromorphic hybrid circuits, which incorporates the advantages of the CMOS technology with those of memristive devices. Through her research, Gina hopes to bring solutions in the field of neural networks capable of ultra fast processing of information and advanced learning opportunities. A native of Romania, Gina received her bachelor's degree from Politehnica University of Bucharest. During her undergraduate degree, she received several international awards: the NanoInitiative Munich International Student Research Award, the Roberto Rocca Award for Student Excellence in Engineering, and the General Electric Foundation Scholar-Leaders Award. Gina also received a bachelor's degree in public administration and has contributed to a number of projects related to the education and research policy in Romania. Through the Mirzayan Fellowship, Gina hopes to gain a better understanding of the relationships between policy, academia and industry and diversify her professional network. When not working on research topics, Gina enjoys cooking, reading science fiction books and taking walks around beautiful Santa Barbara.

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**Steven Ceulemans** (Fall 2012; DBASSE/DBASSE EO) is currently completing a doctorate in health systems management at Tulane University. He holds a master's degree in international business from Vlekho Business School in Brussels, an MS in biochemistry and molecular biology from Louisiana State University Health Sciences Center in New Orleans, and a BS in chemistry from Artesis University College Antwerp. Steven is currently the vice president of innovation and technology for the Birmingham Business Alliance, where he supports the growth of the Alabama knowledge economy through technology-based economic development in the Birmingham region. Before joining the BBA, Steven served as the director of technology commercialization for the New Orleans BioInnovation Center, where he managed a number of venture development programs aimed at growing technology startups in New

Orleans, La. Before that, Ceulemans worked in R&D and technology development roles for a number of organizations including Software AG, Tibotec (Johnson & Johnson), Procter & Gamble, and the Joint Research Centre (European Commission). In 2010, Steven received the Louisiana Governor's Technology Award as Academic Technology Leader of the Year. As a Mirzayan Fellow, Steven hopes to explore how science and technology policy supports innovation, and how its societal impact is measured.



**Richard-Duane Chambers** (Fall 2012; PGA/COSEPUP) is a management and strategy consultant with a record of using comprehensive data analysis to support organizational change. He has experience using systems thinking and process design techniques to help multi-stakeholder organizations prioritize multi-billion dollar budgets, manage complex systems, and analyze, communicate, and mitigate risk. Richard-Duane holds a BS in aeronautics and astronautics and a MS in technology and policy, both from MIT. His graduate work focused on augmenting airport design to reduce the significant associated cost risks and to better prepare for the growth of low cost carriers. Since leaving MIT, he has supported senior government and private industry stakeholders, helping them to better manage initiatives including large construction projects, product testing operations, and national security planning. As a Mirzayan Fellow, Richard-Duane

is excited to join COSEPUP and to gain a broader understanding of S&T issues, particularly as they pertain to national security, education, and competitiveness, while becoming a stronger advocate for public/private actions in these areas. Outside of his professional life, Richard-Duane is a taekwondoist who enjoys learning and follows international affairs.



**Diana Connolly** (Fall 2012; DELS/BLS) received her PhD in biomedical research from Albert Einstein College of Medicine. Diana's doctoral research focused on elucidating the role of a novel oncogene in breast cancer initiation and progression at the genetic, epigenetic, and cellular levels. During her PhD candidacy, Diana sought to share her passion for science by preparing and teaching undergraduate biology courses at Stern College for Women, as well as tutoring high school biology students. Prior to graduate school, Diana earned her BS in biology at Hofstra University and shortly thereafter worked as a research assistant at Brookhaven National Lab, where her interest in scientific research began. At this point in Diana's career, she looks forward to applying her scientific training to new challenges as a Mirzayan Fellow that will ultimately promote scientific advancement and awareness. She hopes that this opportunity will broaden her

perspectives on how scientific knowledge is used in the design of optimal policies, and furthermore, how science policy drives the progression of research and education. When not teaching or in the lab, Diana enjoys traveling, spending time outdoors with her friends and family, or escaping with a good book.

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**Adam Dunkelberger** (Fall 2012; DELS/BCST) is currently completing a PhD in chemistry at the University of Wisconsin. His research focuses on exploring the role of nuclear motion in simple solution-phase reactions and developing methods for control of chemical reactions with laser light. Prior to graduate school, Adam earned a BS in chemistry from Ohio State University. Adam is looking forward to the broad exposure to the policy world that the Mirzayan Fellowship offers and hopes to use that exposure to pursue a career in science policy-making at the federal level. In his spare time, Adam enjoys skirting the line of “too competitive” during ultimate Frisbee games, weightlifting, playing extremely nerdy computer games, and sampling the nearly infinite variety of Wisconsin craft beers.



**Ashley Grant** (Fall 2012; PGA/CISAC) is currently the senior biological scientist at the U.S. Government Accountability Office. She works in the Applied Research and Methods division and is the analyst-in-charge of a government-wide technical performance audit focused on biosafety and biosecurity issues. Dr. Grant was an American Association for the Advancement of Science (AAAS) Science and Technology Fellow in the Office of the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs. She served on the Weapons of Mass Destruction Emergency Preparedness Integration Group for the Chemical and Biological Defense Program. Previously, Dr. Grant was a Mirzayan Fellow with the Committee on International Security and Arms Control (CISAC) at the National Academies of Sciences, Engineering, and Medicine. Her work focused on international security, nonproliferation and the spread of biological and chemical weapons. Dr. Grant received her PhD in experimental pathology and a MPH in epidemiology from the University of Texas Medical Branch at Galveston. Her graduate work focused on investigating pathogenesis and potential countermeasures for viral hemorrhagic fevers under biological safety level (BSL)-4 conditions. In addition, she received a B.S. in chemistry and a B.S. in business economics and management from the California Institute of Technology. (Updated 4/2016)



**Carolyn Graybeal** (Fall 2012; NAS/Koshland) received her PhD in neuroscience from Brown University. Carolyn's doctoral work examined how stress can modulate executive functions such as cognitive flexibility using murine models. She received the NIAAA Benedict J. Latteri Award for the publication of this work. Prior to graduate school, Carolyn received a BA in biology from Bryn Mawr College. After graduating, she returned to San Francisco where she worked as research associate at University of California, San Francisco. As a Mirzayan Fellow, Carolyn hopes to gain a better insight into the dynamics between science and policy making. In particular, she is excited to delve into the “behind the scenes” process involved in forwarding science education and communication at the Marian Koshland Science Museum where she has been a volunteer. In her spare time, Carolyn enjoys sketching, cooking and nurturing a struggling herb garden.

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**Melinda T. Hough** (Fall 2012; NAS/CPNAS) was named a Wellcome Trust Scholar at the University of Edinburgh (2001-2008) where she completed a master's (2002) and PhD (2008) in molecular microbiology investigating the molecular mechanisms of bacterial cell death caused by antibiotic treatment to address the unmet need for novel therapeutics against deadly antibiotic resistant infections. More recent research has included investigating kidney stem-cells and modeling microbial behaviors. Over the past five years, she has worked to increase the profile of science on both sides of the Atlantic. In 2008, she helped found EuSci, a student magazine at the University of Edinburgh reporting cutting-edge research to non-specialist audiences and is currently International Editor-At-Large. Her photographs illustrated the book *Darwin In Scotland* (2010). Most recently, she attended Capitol Hill Days (2012), consulted on the development of the first Seattle

Science Festival EXPO Day (2011-2012), volunteers as a beach naturalist and is the Health Research Policy Advisor with ScienceDebate.org. Dr. Hough believes it is vital to bridge the gap between scientists and the general public in order to inspire future generations and, as a fellow, hopes to gain the necessary foundation to continue shaping the public science dialogue as a civic scientist. Having lived abroad for a decade, Melinda has a deep love for exploring new cultures and a knack for being mistaken as a local when not behind the lens of her Nikon.



**Vincent S. Huang** (Fall 2012; PGA/STEP) completed his postdoctoral training at Columbia University Medical Center where he used mathematics to study human motor skill learning and investigated strategies to enhance post-stroke rehabilitation with movements guided by robotic systems. His interest in strategic planning has led to a diverse set of experiences including market analysis of used mobile phones in El Salvador, characterization of the entrepreneurial landscape in New York City and a redesign of a database system for reporting and tracking disease outbreaks for the New Jersey Department of Health. He has regularly served as a manuscript reviewer for various scientific journals and a panelist for the Research and Development Service of the Department of Veterans Affairs, where he developed an interest in public policy, its strategic planning, and its social and economic impact. Vincent holds a PhD in biomedical

engineering from Johns Hopkins University and a BSc in physics and physiology from McGill University. This fall in the nation's capital, he hopes to gain hands-on understanding of the policy-making process, sample local good eats with old and new friends, and catch a Nats' playoff game.



**Andrei Israel** (Fall 2012; DBASSE/BECS) is a PhD candidate in geography and women's studies at The Pennsylvania State University. He is a human geographer studying the recent rise of internationalization and global education in American colleges and universities. His dissertation examines travel- and field-based educational programs, using qualitative research to understand how students experience and make sense of encounters with new, distant places, and how such experiences promote, or fail to promote, global awareness and social and environmental responsibility. Andrei completed his MS in geography at Penn State and his BA in liberal arts in the "Great Books" program at St. John's College. Prior to graduate school, he worked for six years in the experiential education field, first as an environmental educator and then as the director of an urban service-learning and social justice education program in Washington, D.C. For his

Mirzayan Fellowship, Andrei is looking forward to gaining experience translating research in the environmental social sciences across academic disciplines and into the policy realm and working with diverse groups of experts to promote effective solutions to social and environmental challenges. Outside of his academic work, Andrei enjoys hiking, ultimate Frisbee, and baking bread.

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**Alyssa Katzenelson** (Fall 2012; IOM/BPH) received a PhD in neuroscience from Johns Hopkins University. The focus of her doctoral work was the effect of aging on cerebellum-dependent learning. During her time as a graduate student, she worked with an organization that promoted sustainable practices both on-campus and at home. She also spent a summer working at the Maryland Science Center's WetLab, teaching visitors about the scientific process. Since obtaining her degree, she has interned with two policy groups; these experiences have given her the opportunity to advocate for federal investments in research and to advance domestic "green" job creation. During her graduate work, she acquired some practice in Environmental & Occupational Health from the Bloomberg School of Public Health, and is now excited to use this knowledge as a

Mirzayan Fellow with the Roundtable on Environmental Health Sciences, Research, and Medicine. Alyssa is looking forward to a productive Fellowship promoting sustainability and health outcomes in discussions of energy policy, ecosystem services, and food systems.



**Dharik Mallapragada** (Fall 2012; DEPS/BEES) is currently a researcher with ExxonMobil's Corporate Strategic Research (CSR) laboratory. His research work is focused on quantifying the life cycle environmental impact of emerging energy technologies as well as on energy systems modeling to understand the impact of evolving technology and policy on energy infrastructure development. Prior to joining ExxonMobil, Dharik was a research scientist at SABIC, where he studied novel pathways to convert biomass and recyclable materials into valuable chemicals. Dharik received his PhD in chemical engineering at Purdue University and his bachelors degree in chemical engineering from the Indian Institute of Technology in Madras, India. His doctoral research identified novel engineering concepts for biofuel production and grid-scale energy storage, using different mathematical modeling approaches. Dharik was invited to present his

research findings at the 2011 European Future Energy Forum. As a Mirzayan Fellow, Dharik worked at the Board on Energy and Environmental Systems (BEES) where he contributed to ongoing studies related to light duty vehicles and electric vehicle deployment. He also prepared a brief in support of a potential new effort to investigate energy efficiency measures at data centers.



**Lindsey Mette** (Fall 2012; IOM/HSP) is a former Leadership Education in Neurodevelopmental Disabilities (LEND) fellow and graduate of the MS genetic counseling program at the University of Arkansas for Medical Sciences. There, she co-chaired a non-profit organization dedicated to promoting health literacy in international Latino communities. This volunteer work spurred her interest in public health, which ultimately led her to a second master's degree. She received her MScPH from Charité Universitätsmedizin in Berlin, Germany, during which time she interned at the Genetic Diagnostic Commission of the Robert Koch Institute. Lindsey's most recent research efforts have explored the rationale for incorporating pharmacogenomics into low- and middle-income countries. Her combined interests in genetic and public health lead her to public policy, and by completing the Mirzayan Fellowship she hopes to gain a better understanding

of health policy formation and implementation. In her spare time, Lindsey enjoys traveling, hiking, yoga, spending time at the lakes, and experimenting with new desserts.

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**Cheryl Moy** (Fall 2012; DEPS/SSB) received her PhD in chemistry from the University of Michigan. In her graduate work, she focused on elucidating the interactions that drive the formation of unique materials categorized as molecular gels. Also during her graduate career, she helped design and implement a class-project centered on students editing Wikipedia pages as means of improving science education and the public's access to science. She holds a BA from Willamette University, and her experiences there led to an interest in bridging the gap between scientists and the general public. In 2011, she interned at the Office of Science and Technology Policy where she worked on the Materials Genome Initiative for Global Competitiveness. Cheryl is excited for the opportunity to be a Mirzayan Fellow to learn how to connect scientific discoveries with everyone who can benefit outside of the research atmosphere, from consumers to government leaders to industry partners.

She enjoys spending her free time outdoors especially to go on a bike ride or a hike.



**Daniel Pomeroy** (Fall 2012; DELS/NRSB) received his PhD in experimental high-energy physics from Brandeis University. He first started in high-energy physics as an undergraduate, interning with the Department of Energy at Thomas Jefferson National Accelerator Facility in Virginia. In graduate school he worked on the largest particle physics experiment in the world at CERN in Switzerland. His research focused using the ATLAS detector to search for new physics phenomena. Throughout all this he has always had a passion for public policy and politics. As an undergraduate, he organized students to lobby for marriage equality in Massachusetts, and, in graduate school, he chaired the formation of Join the Impact MA, an advocacy group that focuses on national gay rights issues. Before starting his doctoral research he took a year and a half to work professionally in grassroots organizing for the 2008 elections. Now, as a Mirzayan Fellow, he hopes to gain the public

policy experience he will need to transition into a career that combines his passion for the political process and his skills as a scientist. In his free time he enjoys hiking, running, ultimate Frisbee, and yoga.



**Gabriela Marie (Rodríguez) Hungerford** (Fall 2012; IOM/BCYF) is currently completing a PhD in clinical science in child and adolescent psychology at Florida International University. Gabriela's master's thesis focused on emotional regulation as a moderator of treatment outcome in young children born preterm with externalizing behavior problems. Her doctoral work will focus on examining usual care practices for infant mental health. Prior to graduate school, Gabriela received a bachelor's degree in psychology with a minor in biology from Indiana University. Her honors thesis examined the role of low birth weight as a risk factor for childhood antisocial behavior using a large Finnish twin sample. As a Mirzayan Fellow, Gabriela is looking forward to learning about how scientific research and policy meet to result in the health-promoting programs implemented at the federal level. She hopes to utilize the skills learned through this experience in a future career in policy-informed research or

science policy. In her free time, Gabriela enjoys spending time at the beach with her husband, watching Colts football, and afternoons at the dog park. (Updated 02/2013)



**Caitlin Schrein** (Fall 2012; DBASSE/BOSE) earned an M.A. and Ph.D. in evolutionary anthropology from the School of Human Evolution and Social Change at Arizona State University. Caitlin's doctoral research examined the effects of human evolutionary biology education on students' personal, academic and professional goals and achievements and socioscientific decision-making. Caitlin has a B.A. in environmental biology from Columbia University. During her graduate career, Caitlin was involved with many formal and informal science education and outreach programs. She was twice an NSF GK-12 Graduate Teaching Fellow and has co-coordinated and instructed teacher workshops for K-12 educators. Prior to her Mirzayan Fellowship, she was a Human Origins Program education and outreach fellow at the National Museum of Natural History. Caitlin enjoyed working with the Board on Science Education and appreciated having the opportunity to share her

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passion for science education and to learn more about assessing the success of K-12 science teaching and learning. Currently, Caitlin is a science writer and social media manager for a federal government agency and a blogger for the online anthropology magazine. (Updated 2/2016)



**Ryan Shelby** (Fall 2012; NAE/NAEPO) is a senior energy engineering advisor within the U.S. Agency for International Development (USAID) that works on the design and implementation of decentralized energy projects (<1 MW to 10 MW) in sub-Saharan Africa and other emerging regions. Within USAID, Dr. Shelby serves as Program Manager for the Powering Agriculture: An Energy Grand Challenge for Development (PAEGC) initiative which seeks to accelerate the development and deployment of clean energy solutions for increasing agriculture productivity in developing countries. Dr. Shelby completed his PhD at the University of California, Berkeley in mechanical engineering. Contact by email. (Updated 2/2016)



**Sarah Sliwa** (Fall 2012; IOM/FNB) is a New Balance Doctoral Fellow and PhD candidate at the Friedman School of Nutrition Science and Policy, where her doctoral dissertation investigates maternal employment, time allocation, and implications for child weight status among immigrant populations. She received an MS in Food Policy and Applied Nutrition with a concentration in Food Policy & Economics at the Friedman School of Nutrition Science and Policy and a bachelor's degree in International Relations and in International Letters and Visual Studies at Tufts University. She is interested in social, economic, and environmental determinants of health, and policy approaches to influencing health behaviors. Sarah has recently worked as a consultant for ChildObesity180, conducting formative research and qualitative analyses for the Healthy Kids Out of School initiative. As a Mirzayan Fellow, Sarah learned more about national research priorities and policy agendas relating to food and nutrition. She also gained experience translating scientific research and evidence-based recommendations into concise language for a broader audience.



**Emily Tomayko** (Fall 2012; IOM/FNB) completed her PhD in nutritional sciences from the University of Illinois in 2011 studying the effects of protein supplementation on health outcomes in hemodialysis patients. She completed the dietetic internship at the University of Houston in June 2012 and will take the Registered Dietitian Exam later this year. Previously, Emily obtained her BS in dietetics with a minor in English from the University of Georgia. Emily served a four-year term on the Student Interest Group Executive Committee for the American Society for Nutrition and is currently serving a three-year term on the ASN Public Information Committee. She has held the American Heart Association Predoctoral Fellowship and Kraft Food Graduate Fellowship, as well as a Doctoral Student Research Grant through the American College of Sports Medicine. After studying the effects of chronic diseases, Emily developed a strong desire to promote nutrition as a health prevention strategy and wants to learn how to create policy to direct this shift in healthcare. She plans to continue pursuing the interface of nutrition and policy during her postdoctoral work at the University of Wisconsin using the knowledge gained during the Mirzayan Fellowship program.

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**Marilyn Waite** (Fall 2012; PGA/STEP) has worked, studied and researched in more than ten countries across four continents. She has implemented water and sanitation projects in rural Madagascar, led key projects in the nuclear energy cycle in France, as well as authored many publications in sustainability topics (textiles, energy, and water). While a fellow at the National Academies, Marilyn worked on three topics: the impact of the U.S. tax code on greenhouse gas emissions, the market enablers to adopting clean energy technologies, and the impact of student loan debt on innovation. Marilyn holds a master's with distinction in engineering for sustainable development from the University of Cambridge. She holds a bachelor's of science in engineering (*magna cum laude*) in civil and environmental engineering from Princeton University and also carries a certificate from the Woodrow Wilson School of Public and International Affairs. Marilyn currently works for AREVA in France. Marilyn's interests include the saxophone, languages, and sustainable agriculture.