

Christine Mirzayan Science and Technology Policy Graduate Fellows 2009 Fall Biographical Sketches



Albert Einstein Memorial Statue © 1978 by Robert Berks.



Helena Antoun (Fall 2009, DELS/OSB) graduated from the University of Puerto Rico-Mayagüez with a master's degree in marine sciences. As part of her graduate research, she participated in oceanographic expeditions in the Caribbean, studying the impacts of the Orinoco River plume and mesoscale eddies on phytoplankton dynamics. She holds bachelor's degrees in environmental science and chemistry from the University of Puerto Rico-Rio Piedras and has been involved in different projects ranging from environmental pollution to impact assessment of climate change in the Caribbean and ocean acidification. Over the years, Helena has taken a strong interest in ocean policy and marine management. During her time as a Mirzayan Fellow she had the opportunity to participate and work on different ongoing projects within the OSB. Helena is now working with the Conservation Trust of Puerto Rico, educating local communities of all ages and backgrounds on the importance of our environment and natural resources and the need to conserve and protect them. (Updated 2/2011)

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Lisa Boyette (Fall 2009, IOM/HCS) is co-founder and CEO of SAVE JON, Inc., a non-profit research accelerator and solution shop for rare and complex diseases. SJI specializes in bringing an innovative approach to delivering new treatments for life-threatening disorders using a milestone-driven portfolio of coordinated translational research and therapeutic development programs. Prior to founding SJI, Lisa was an American Society of Nephrology Postdoctoral Fellow at the University of Pittsburgh following patients post-solid organ transplantation to understand the role of the innate immunity in graft rejection and tolerance. She completed her M.D. at the University of Virginia, where she also obtained a Ph.D. in Molecular Physiology and Biological Physics based on work performed at the National Institutes of Health through the NIH Graduate Partnerships Program. She was a Mirzayan Policy Fellow at the Institute of Medicine of the National Academies, working with the Board on Health Care Services and the National Cancer Policy Forum. She is an adjunct assistant professor in the Starzl Transplantation Institute at the University of Pittsburgh School of Medicine, where she continues to participate in translational research in solid organ transplantation. (Updated 2/2016)



Carrie Brubaker (Fall 2009, PGA/CWSEM and NAE/DEW) is currently a post-doctoral researcher at the École Polytechnique Fédérale de Lausanne, in Lausanne, Switzerland. She is a Whitaker International Scholar and a P.E.O. Mary Louise Remy Endowed Scholar. Carrie obtained her PhD in biomedical engineering from Northwestern University in June 2011. Prior to establishing herself at Northwestern, Carrie was employed by the Ministère de l'Éducation Nationale (France) as an English language instructor in the public school system. She graduated Phi Beta Kappa from UCLA with a BS degree in biochemistry and a BA degree in French and Francophone studies. As a former teacher, as a STEM researcher, and as a woman in engineering, she is very interested in the processes by which S&T policy decisions impact these groups, both within the United States and internationally. Gaining such insights represented an important facet of her time as a Mirzayan Fellow, during which she was involved in projects related to (1) the role of women in technical entrepreneurship and (2) mechanisms for science outreach to underrepresented groups. Carrie is pursuing a career in academia and plans to incorporate S&T policy into her engineering coursework design. (Updated 10/2011)



Ethan Chiang (Fall 2009, PGA/CSCANS) is a program officer with the Board on Global Science and Technology. Since joining the National Academies, he has participated in a range of projects, including a series of international workshops on emerging areas of science and technology and a study on the impact of export controls on the Department of Homeland Security. He is currently leading a study on global approaches to advanced computing for the Department of Defense. Ethan first came to the Academies as a Christine Mirzayan Science and Technology Policy Fellow after completing his MS and PhD in chemistry and chemical biology at Cornell University in 2009. Much of his doctoral research was driven by a desire to understand the molecular mechanisms that drive nano-scale protein heterogeneity at the plasma membrane before and after immune cell activation. As the recipient of a Cornell University-Rockefeller University-Sloan Kettering Cancer Center Tri-Institutional Chemical Biology Fellowship, he also participated in a number of highly interdisciplinary projects ranging from organic drug synthesis to intracellular bio-polymer sensors to nano-lithography. Ethan also holds a BA in chemistry from Whitman College (2004). During his free time, he enjoys playing the viola, cooking without recipes, discussing politics, stumbling through his Russian language class, and singing loudly to the radio. (Updated 10/2011)

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Keri Chiodo (Fall 2009, NAS/Koshland) is currently the public affairs manager for the Association for Psychological Science, where she promotes the public understanding of psychological science through mainstream media and other outreach initiatives. She earned her PhD in neuroscience from Wake Forest University in 2009. In her doctoral research, Keri evaluated d-amphetamine as a potential pharmacotherapy for cocaine dependence by examining its effects on cocaine self-administration in rats. Keri's enthusiasm for public outreach and informal education began in graduate school when she co-founded the Brain Awareness Council at WFU, a student-led science outreach organization. As a Mirzayan Fellow at the Koshland Science Museum, Keri was able to explore science communication and education on a greater scale by developing new exhibits and public programs. In her free time, Keri enjoys playing soccer, watching the Phillies, and attempting to conquer the "difficult" Sudoku puzzles in the *Washington Post Express*. (Updated 10/2011)



Jon Dolle (Fall 2009, DBASSE/DBASSE EO) is a research associate for R&D Field Building at the Carnegie Foundation for the Advancement of Teaching. He leads the developmental evaluation of two mathematics pathways for community college students and helps test practical theories about how to build improvement communities. In 2010 he received his Ph.D. in education from Stanford University and joined the foundation full-time. From 2005 to 2010 Dolle worked as a research assistant on Carnegie's business education and liberal learning project. He holds degrees in engineering, philosophy, and education policy from the University of Illinois at Urbana-Champaign. In the fall of 2009 he was a Mirzayan Policy Fellow in the DBASSE Executive Office where he worked with the Standing Committee for Social Science Evidence for Use. (Updated 5/2012)



Yeetey Enameh (Fall 2009, IOM/BCYF) is a DrPH candidate at the Drexel University School of Public Health, Department of Community Health and Prevention in Philadelphia. He is also a clinical research fellow at the Kintampo Health Research Centre (KHRC), where he coordinates a Sexual and Reproductive Health Program and directs the Joanna Briggs Institute (JBI) Affiliate Center at the KHRC. Yeetey is a public health physician working in the areas of evidence based healthcare, policy communication, adolescent health, sexual and reproductive health and tropical diseases. Currently, Yeetey is working on his doctoral dissertation that is examining adolescent-friendly health service (AFHS) delivery within the healthcare system in his home country, Ghana. He is looking forward to the outcome of the research facilitating improvements in care delivery to the adolescent population. (Updated 1/2013)

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University. (Updated 10/2011)

Sherrie Forrest (Fall 2009, DBASSE/CHDGC) is a senior program officer for the Program on Risk, Resilience and Extreme Events in the Division of Global and Policy Affairs at the National Academy of Sciences, Engineering and Medicine, which provides scientific and evidence-based policy advice to the government, states, and foundations. At the Academies, she has worked with the National Research Council's (NRC) Disasters Roundtable, the Ocean Studies Board, and the Board on Science Education on projects that include the Roundtable on Climate Change Education, the *Conceptual Framework for New Science Education Standards*, and the *Effects of the Deepwater Horizon Mississippi Canyon-252 Oil Spill on Ecosystem Services in the Gulf of Mexico*. Currently, she leads the Resilient America Roundtable. She joined the full time staff of the NRC in the summer of 2010 following her Christine Mirzayan Science & Technology Graduate Fellowship in the fall of 2009. She obtained her M.S. in biological oceanography from the Institute of Marine and Coastal Sciences at Rutgers University, and a B.A. in English from Pepperdine



Janet Fraser (Fall 2009, TRB/TAD) is a transportation analyst at Noblis, where she supports surface transportation contracts and research with an emphasis on intelligent transportation systems, safety, and analysis. Dr. Fraser earned a Ph.D. in civil engineering from the Pennsylvania State University in 2015, but is never found without a book or enrollment in a MOOC so she may keep sharp without leaving the comfort and solitude of her little home in the mountains of West Virginia. Dr. Fraser also holds an M.S. in technology management from Marshall University and a B.A. in economics and political science from Chatham University. In her spare time, Dr. Fraser volunteers as an emergency medical technician and is an avid geocacher. (Updated 10/2016)



Sarah Gaillot (Fall 2009, IOM/BSP) is a social science research analyst at the Centers for Medicare & Medicaid Services where she works on health quality measurement for Medicare Advantage plans and the implementation of quality bonus payments that are part of the Affordable Care Act. She completed a PhD in policy analysis from the Pardee RAND Graduate School (PRGS) where her AHRQ-funded dissertation examined racial-ethnic and gender disparities in trauma and mental health service use. Sarah also worked as an assistant policy analyst at RAND. Prior to joining PRGS and RAND, Sarah taught English in South Korea on a Fulbright teaching grant, and she earned an honors BS in human development/family studies and psychology from Penn State. (Updated 10/2011)

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Stephanie K. Goodwin (Fall 2009, IOM/FNB) joined the Nutricia North America (Danone) team as the manager for specialized adult nutrition in medical and scientific affairs in 2014. Stephanie provides the bridge between clinical medicine, clinical research, research and development, and marketing and sales. Prior to joining Nutricia, Stephanie worked within the Office of the Assistant Secretary for Health, U.S. Department of Health and Human Services (HHS). During her time with HHS, Stephanie worked closely with USDA's Center for Nutrition Policy and Promotion in the development process for the 2015 Dietary Guidelines for Americans. Stephanie completed her postdoctoral fellowship at the National Institutes of Health with the National Institute of Diabetes & Digestive & Kidney Disease in the Lab of Biological Modeling. Stephanie completed her PhD in human nutrition, foods and exercise and her master's of public health in population health sciences at Virginia Tech. She is a graduate of the University of New Hampshire, having received her bachelor degree in nutritional sciences, and served in a Virginia Tech Dietetic Internship in

2003.(Updated 4/2016)



Aaron Greco (Fall 2009, DEPS/BEES) is a principal materials scientist at Argonne National Laboratory in the Energy Systems Division. There, he leads U.S. Department of Energy (DOE) supported research projects on the topic of tribology, related to reliability of wind turbine drivetrains, advanced lubricants and surface engineering for improved vehicle engine efficiency, and material considerations for other manufacturing and energy applications. In 2011-2012 Aaron was detailed to DOE headquarters in Washington D.C. to work with the Wind and Water Power Technology Office as a laboratory liaison and technical advisor on wind turbine drivetrain technology. As a Mirzayan Fellow at the National Academies, Aaron worked in the Board on Energy and Environmental Systems on a vehicle technology report focused on fuel efficiency titled *Assessment of Technologies for Improving Light-Duty Vehicle Fuel Economy*. Aaron received his Ph.D. from Northwestern University and his B.S. from Iowa State University, both degrees in Mechanical Engineering. In his free time, Aaron enjoys bicycling, bee keeping, beer brewing, and being outdoors. (Updated

2/2016)



Chazeman Jackson (Fall 2009, IOM/BPH) is the Health Science Advisor in the Office of Minority Health at the U.S. Department of Health and Human Services (HHS). Prior to joining HHS as an Emerging Leaders Fellow, Chazeman earned her Ph.D. in microbiology from Howard University. She holds a M.A. in biology from American University, and a B.A. in humanities with an emphasis in philosophy from Tougaloo College. Her research has focused on understanding the complexities of genetic and environmental variation within the context of health disparities. Beyond her laboratory work, she has served as a biologist in the Division of Molecular and Cellular Biosciences at the National Science Foundation, and as a health scientist at the National Institute on Minority Health and Health Disparities at the National Institutes of Health. As a Mirzayan Fellow, Chazeman worked with the Roundtable on the Promotion of Health Equity and the Elimination of Health Disparities. She gained invaluable experience during the fellowship and continues to bridge her scientific background with the development and implementation of policies that advance the

nation's health. Chazeman enjoys traveling, photography, creative writing, and acting as a mentor to high school and undergraduate students. (Updated 4/2016)

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Julie Kang (Fall 2009, DBASSE/BOHSI) has completed her PhD in cognitive psychology at the University of California, Riverside. Her graduate research has focused identifying the attention and visual factors that can affect task performance such as driving. She recognizes the importance in considering the abilities and limitations in the human operator for designing complex systems. Through her experiences with the Mirzayan fellowship with the Board on Behavioral, Cognitive, and Sensory Sciences., she has gained insight as to how current research helps shape emerging policy issues. She currently works as a human factors engineer with the National Highway Traffic Safety Administration (NHTSA) at the U.S. Department of Transportation on issues involving in-vehicle technologies, cognitive workload, and distraction. (Updated 10/2011)



Abigail Kroch (Fall 2009, IOM/HSP) is currently an MPH student at UC Berkeley, concentrating in Epidemiology. Before the Mirzayan fellowship, she completed a postdoctoral fellow at University of California, San Francisco in the molecular mechanism of transcription. She did her doctoral work on the biophysics of protein interactions at Johns Hopkins University, and obtained a bachelor's degree from the University of Chicago. While at UCSF, she taught general biology courses at the University of San Francisco. She also served as director of postdoctoral education at UCSF, a part-time appointment in the dean's office to act as a representative for postdoctoral fellows within the university administration. The Mirzayan Fellowship provided insight and contacts into the world of public health. She intends to continue to pursue public health research and potentially public health policy work in the future. Abigail's hobbies include indoor climbing, yoga, and she currently plays the bass in the Prometheus Symphony, a Bay Area-based community orchestra. (Updated 7/2010)



Kevin Kuhn (Fall 2009, DELS/BCST) is a AAAS Science & Technology Policy Fellow hosted by the U.S. Environmental Protection Agency, Office of the Science Advisor. Before starting at the EPA, Kevin acted as the visiting scientist in the Office of Public Affairs at the American Chemical Society in Washington, D.C. In this role, he provided scientific expertise to policy development, budget analysis, and ACS Science & the Congress Project congressional briefings. Prior to joining ACS, Kevin was a Mirzayan Fellow at the National Academy of Sciences, working with the Board of Chemical Sciences and Technology. He holds degrees in biochemistry (BS) and chemistry (BS, PhD) with research emphases in organometallic catalysis, green chemistry and sustainability. Kevin is married with a baby daughter and a giant dog. He loves backpacking, drinking coffee, and talking politics. (Updated 10/2011)

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Sarah Soliman (nee Lovell) (Fall 2009, DEPS/AFSB) is an Emerging Technology Trends Project Associate at RAND in Arlington, Va. She is also pursuing her Ph.D. through the King's College London Department of War Studies, researching the use of biometrics technology by the Department of Defense in Iraq and Afghanistan after 9/11. This builds off the two years she spent in Iraq and Afghanistan working with identity management and aerial surveillance technologies. While completing her Mirzayan Fellowship, she was a part of the TIGER Committee studying future disruptive technologies. Sarah read for a master's degree in technology policy at the University of Cambridge, and completed her thesis on *Implications of Emergent Databases in a Surveillance Society*. Her undergraduate days were spent at West Virginia University, earning degrees in computer engineering and biometric systems alongside a minor in political science. (Updated 2/2016)



David Lukofsky (Fall 2009, PGA/STS & NAE) obtained his PhD in engineering physics from the Thayer School of Engineering at Dartmouth. For his graduate research, David investigated non-linear interactions of Near Infrared femtosecond laser pulses with water, for the purpose of expanding their potential for long-distance communication in aqueous environments. At the Academies he examined one of the defining relationships of the 21st century, working on the NAE's roadmap for U.S.-China cooperation on renewable energy. Prior to the Academies he was a AAAS Mass Media fellow reporting on-air on science and technology issues at NPR-affiliate WOSU in Ohio. He is now at Apple in California. (Updated 12/2012)

currently an associate with the 2009 Mirzayan Fellowship with property and federal School with a doctorate in dissertation examined the pharmaceutical firms in making expire. Prior to this work, she intellectual property law business strategy, a topic economics department. Oxford, and worked in graduate school. Her interests the U.S. and in emerging free time, Merlina enjoys movies, dancing, reading and volunteer work with after-school programs. (Updated 3/2010)



Merlina Manocaran (Fall 2009, PGA/STEP) is risk practice of McKinsey & Co. She spent her fall STEP, working on projects related to intellectual funding. Merlina graduated from Harvard Business business administration in June 2009. Her strategies and outcomes of generic and branded patent challenges to enter the market before patents conducted field research in India on the effects of changes. She has also taught emerging markets which she enjoys, to undergraduates at the Harvard Merlina completed her undergraduate studies in law at corporate and investment banking before attending include the intersection of business and policy (both in markets) and the delivery of global health care. In her

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Zachary Pirtle (Fall 2009, NAE/CEES) is a program analyst for the National Aeronautics and Space Administration in Washington, D.C. As a Presidential Management Fellow in the Human Exploration and Operations Mission Directorate, Zach supports programmatic and strategic integration for the Exploration Systems Development division, which includes the Space Launch System and Multi-Purpose Crew Vehicle programs. He recently completed a PMF developmental assignment with the Joint Polar Satellite System program office at the Goddard Space Flight Center. Before NASA, Zach earned his MS in civil and environmental engineering, BS in mechanical engineering and BA in philosophy, all from Arizona State University. Previously, he worked as a consultant on energy innovation for the D.C. office of the Consortium for Science, Policy and Outcomes. Zach spent the 2008-09 academic year in Mexico as a Fulbright-Garcia Robles scholar studying the potential role of science in development. As an undergraduate, he had diverse experiences interning with Honeywell Aerospace and the Center for Nanotechnology in Society. As a Mirzayan Fellow, Zach enjoyed working for the Center for Engineering, Ethics and Society as an opportunity to apply and unify his interests in engineering, philosophy and science policy. He is proud to be a fourth generation Arizonan and enjoys racquetball and travel. (Updated 10/2011)



Edrin Rouse (Fall 2009, DBASSE/CNSTAT) currently works for Bank of America managing two large-scale customer satisfaction marketing research surveys with a combined annual budget of \$11.2 million. He has over 19 years of experience spearheading business process improvement and major change initiatives in industry. His Mirzayan fellowship experience involved working with the Committee on National Statistics and Board on Assessment and Testing to evaluate, respectively, the feasibility to create a research center focused on statistical innovation and test design issues impacting Title III English Language Learner state population counts and program funding disparities. Edrin is also completing his PhD in Business Quantitative Methods at Northcentral University. His dissertation will examine the relationships among test-related factors and candidate pass rates across professional certification exams. Edrin holds a BS in Industrial Technology from North Carolina A&T State University and a MS in Quality Systems from Eastern Michigan University. (Updated 2/2011)



Abigail Sheffer (Fall 2009, DEPS/SSB) is an associate program officer with the Space Studies Board at the National Academies, the board she was assigned to during her Mirzayan Fellowship. She is currently working with Art Charo on the Solar and Space Physics Decadal Survey where she is the staff officer for two of four panels. She also is study director for The Effects of Space Weather on Earth's Climate: A Workshop. She earned a PhD in planetary science from the Lunar and Planetary Laboratory at the University of Arizona and a BA in geosciences from Princeton University. Her doctoral research explored the relationship between the high pressures and temperatures caused by meteorite impacts and the extremely reduced chemistry of impact glasses such as tektites and lunar regolith agglutinates. In her spare time, Abigail enjoys making jewelry, helping raise Arabian horses, adding to her rock collection, and stargazing. (Updated 10/2011)

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Gyami Shrestha (Fall 2009, DELS/BASC) is now enthusiastically assuming the responsibilities of coordinating the Carbon Cycle Interagency Working Group (CCIWG), which comprises 10 federal agencies. She previously did consulting work for organizations such as the American Association for the Advancement of Science (AAAS). Her graduate research pertained to the physicochemical changes and accumulation of black carbon, biochar and carbon in prescribed burn affected forest soils of Yosemite National Park and grazing excluded rangelands of Wyoming. The other research endeavors that Gyami led while completing her graduate degrees in Environmental Science, Soil Science and Water Resources include assessments of the policy implications of the above land management practices and related impacts on terrestrial carbon pools; surface coal mining and reclamation influences on soil bulk density and hydraulic properties and a study on immigrants' success in science education and careers. Her professional experiences encompass gender-balanced analyses, project coordination and implementation of rainwater harvesting, improved cookstoves and solar technology projects in rural Nepal. As a Mirzayan Science Policy Fellow at the NRC, she conducted climate change science research, writing and peer reviewer recruitment for the *America's Climate Choices* science panel report and wrote about U.S. policies for technology transfer and financial mechanisms to stimulate low carbon technology development and use in small developing countries. (Updated 2/2011)



Mary C. Thomas (Fall 2009, PGA/COSEPUP) joined the National Cancer Institute's Office of Biorepositories and Biospecimen Research in 2010 under the auspices of the AAAS Science and Technology Policy Fellowship Program. Her efforts are focused on raising biobanking awareness within the federal government and shepherding agreements through the federal government approval process. She actively seeks partnerships with international groups in biobanking to harmonize best practices in research and in ethical/legal issues. Prior to joining NCI, she worked as a science policy analyst at the Office of Autism Research Coordination at the National Institute of Mental Health, where she conducted a comprehensive analysis of the Autism Spectrum Disorder research portfolios of major Federal agencies and private organizations. As a Mirzayan Fellow, she explored various topics including public-private partnerships, transformative research issues, social networking in science, and responsible conduct of research. Her Ph.D. is in Biochemistry from the University of Illinois at Urbana-Champaign and she was a Howard Hughes Postdoctoral Fellow at St. Jude Children's Research Hospital, where she explored the molecular basis of cancer through the study of tumor suppressor genes. (Updated 10/2011)



Brian Tse (Fall 2009, NAS/Koshland) graduated from Harvard with a PhD in chemistry in June 2008, with support from a National Science Foundation Graduate Research Fellowship. He also holds a BS in chemistry/medicinal chemistry from the University at Buffalo. His graduate research focused on developing an evolution-inspired approach to drug discovery called DNA-templated synthesis. As a graduate student, Brian assisted the faculty with the design and implementation of a new interdisciplinary science course, "Life Sciences 1A." After completing his thesis, he joined Harvard's teaching faculty as a preceptor, where he developed a new general education science course, titled "Molecules of Life." As a Mirzayan Fellow at the National Academies, Brian worked at the Koshland Science Museum on public programming related to climate change. He is now serving as a AAAS Science & Technology Policy Fellow in the Department of Health & Human Services, where he works in the Office of the Biomedical Advanced Research & Development Authority (BARDA) on programs related to biomedical security. (Updated 10/2011)

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Joyce Wondolowski (Fall 2009, DELS/BLS) completed her PhD in neuroscience at Oregon Health & Science University and holds a BS in psychology from the University of North Carolina. Her research experience has spanned a range of topics from aggression in juvenile sex offenders to the neural substrates of addiction, and, presently, the biophysical properties of neurotransmitter receptors in the hippocampus. Throughout her research Joyce has been active with a number of community organizations, including Big Brothers/Big Sisters and the Komen Foundation. She is excited about the prospect of being a Mirzayan Fellow at The National Academies because science policy is at the intersection of her two passions, basic science research and public service. After completing her graduate work, Joyce went to work as a postdoctoral fellow at UCLA. In her free time, Joyce likes to run and hike. (Updated 9/2010)