



Mitacs's Canadian Science Policy Fellowship 2020–21 fellows' biographies

Adrian Herod, Dalhousie University

Hosted by Agriculture and Agri-Food Canada

Adrian Herod completed undergraduate degrees in Health Sciences and Biochemistry at the University of Ottawa before moving to Halifax to pursue graduate studies at Dalhousie University in Microbiology and Immunology. His doctoral research focused on the foodborne bacteria Salmonella, its impact on food safety in Canada, and its ability to establish infection.

Adrian's work led to numerous research opportunities, including training at Institut Pasteur in Paris, where he collaborated with several universities and government agencies through the Genome Canada Salmonella Syst-OMICS project, and completing a student placement at the Canada Food Inspection Agency. In 2019, Adrian was a national finalist in the Canadian Association for Graduate Students Three Minute Thesis Competition, where he presented his research on improving Salmonella diagnostics in food safety. Outside of research, Adrian has volunteered in program evaluation with Common Roots Urban Farm in Halifax and led an initiative to improve mental health support for graduate students at Dalhousie University.

Asif Iqbal, McGill University

Hosted by Agriculture and Agri-Food Canada

In more than 10 years of academic and industrial research career, Asif Iqbal has been developing challenging computational models and simulation tools using advanced numerical methods, high-performance computing and machine learning algorithms. Asif has obtained his PhD in Materials Engineering from McGill University and Bachelor's in Electrical Engineering from Bangladesh University of Engineering and Technology. He has a career aspiration to deploy his physics-based computational and AI-based modeling expertise to tackle the grand challenges of our time affecting energy, climate, and healthcare.

In his doctoral study, Asif developed a novel physics-based computational model designed for solar fuel device that can replicate and predict the outcome of complex solar-assisted processes. This achievement has received a considerable amount of attention and, together with his supervisor, he greatly enhanced the research outreach of his group, created multiple international research collaborations, and won several competitive research grants. After completing his PhD, Asif started working as a Visiting Researcher at the University College London (UCL), where he jointly led a highly collaborative research project among participants from McGill, UCL, and Imperial College London. In his recent role as a postdoctoral fellow at McGill University and Institut de Recherche d'Hydro-Québec (IREQ), Asif implemented deep learning algorithms exploiting data from multiple domains and performed benchmarking of computing processors in solving large-scale differential equations. In addition, he also worked as an R&D Engineer (intern) at Lumerical Inc. (Vancouver), developed a prototype solver, and improved its performance by reducing time complexity.

Asif received three independent research grants (MSSI Idea Funds, Mitacs Globalink, and Mitacs Accelerate), managed 10 research projects, served as a lecturer and teaching assistant and demonstrated a continuous record of publication in high-impact journals for scientific computations. He also actively participated in several reputed innovative and business case competitions, including being a finalist in Lockheed Martin Innovate the Future, Merck Innovation Cup, and HSBC Young Entrepreneurship Award.



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Bereket Isaac, University of Waterloo

Hosted by Environment and Climate Change Canada

Bereket Negasi Isaac holds a bachelor's degree in Economics and a Master of Science and PhD in Environmental Policy and Governance. During his PhD studies at the University of Waterloo, he was awarded the Geoffrey F. Bruce Fellowship in Canadian Freshwater Policy for his research on water quality policy in Lake Erie basin. Since the fall of 2018 he has been working as a Research Associate with the Global Water Futures project, the largest of its kind in Canada.

Bryony McAllister, University of Toronto

Hosted by Transport Canada

Bryony McAllister earned her bachelor's degree in Chemistry at the University of Victoria, and is currently a PhD candidate in Chemistry at the University of Toronto, where she specializes in the development of new energy storage materials from renewable, organic sources. Her research applies synthetic methodologies to produce and modify organic polymers and study their working mechanisms in energy storage devices. During her graduate studies, Bryony co-founded a start-up company, Pliant Power Devices, with the aim of commercializing these new materials.

Bryony is passionate about student advocacy and has served on a number of equity-based working groups within the University of Toronto and the Chemical Institute of Canada. Bryony became interested in science policy as a volunteer with the Toronto Science Policy Network, and is excited to apply her technical knowledge to issues that impact the lives of Canadians.

Catarina Ferreira, Castilla-La Mancha University (Spain)

Hosted by Canadian Food Inspection Agency

Catarina Ferreira is a broadly trained conservation biologist with a PhD in Biology from Castilla-La Mancha University (Spain), where she specialized in terrestrial ecology, epidemiology, and wildlife management. With an extensive international research background and experience, she has dedicated her career to advance our understanding of the impacts that human-induced stressors have on biodiversity (such as land use changes, invasive alien species, overexploitation, and climate change). She is a guest scientist at the Department of Conservation Biology of the Helmholtz Centre for Environmental Research GmbH (UFZ).

Catarina has used the findings of her research to inform species-at-risk conservation initiatives in Europe and North America, having provided an important contribution for policy-makers to improve the implementation of environmental legislation (like the Species At-Risk Act) and of species conservation action plans — including that of the Iberian Lynx, which involved guidelines for the reintroduction of the species in the Iberian Peninsula. She has also a rich cross-sectoral experience in the environmental public, private, and not-for-profit sectors in Europe, where she acted as a knowledge broker to support evidence-based policy decisions and outcomes.



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Claude Fortin, Simon Fraser University

Hosted by [Ville de Montréal, Service du développement économique](#)

Academically trained in fine arts, social sciences, and the humanities, Claude Fortin is an interdisciplinary scholar who uses collaborative and ethnographic methods to build bridges and to be a knowledge broker between the diversity of stakeholders concerned by a research issue. Claude was a postdoctoral research fellow affiliated with McGill University's Department of Art History & Communication Studies from 2016 to 2020. She holds an interdisciplinary PhD from Simon Fraser University's School of Interactive Arts & Technology in British Columbia (2016), as well as a Master of Arts in Communication from Carleton University's Faculty of Public Affairs, in Ottawa (2011).

Ellen Gute, University of Toronto

Hosted by [Natural Sciences and Engineering Research Council of Canada](#)

Ellen Gute completed her PhD in Physical and Environmental Sciences at the University of Toronto, where she investigated ice forming processes in clouds, relevant for radiation budgets in climate predictions and the distribution of water resources. In her research she combines the fields of chemistry and meteorology, which she studied both in Germany.

Beyond her research, Ellen is one of the co-founders of the Toronto Science Policy Network, as well as alumna of Science Outside the Lab North, and served as National Student Chair of the Canadian Meteorological and Oceanographic Society. Ellen cares about meaningful implementation of research findings into public policy towards a sustainable world.

Garret Munch, Western University

Hosted by [Public Health Agency of Canada](#)

Garret Munch received his PhD in Chemical and Biochemical Engineering from the University of Western Ontario, where his research focused on the production of biofuels through fermentation of industrial wastes. He received his Bachelor of Science in Biochemistry and Master of Science in Biosystems Engineering from the University of Manitoba. His work during this time was also in the area of renewable biofuel production.

As part of his doctoral research, Garret was selected for an international fellowship with the RWTH-Aachen, a partnering university in Aachen, Germany. There, he developed new tools which increase the amount of data obtained from test fermentations and greatly reduce the materials required to conduct the fermentations. Throughout his studies, he has worked in many areas of the bioeconomy, and was a Teaching Consultant for the BioFuelNet Advanced Biofuels Course. In addition, Garret has taught communication skills for students in science and engineering disciplines, and teaches curriculum development to current graduate students in engineering programs.



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Jason Flindall, University of Lethbridge

Hosted by British Columbia's Ministry of Health

Jason Flindall earned a PhD in Neuroscience from the University of Lethbridge in 2017, where he studied lateralized asymmetries in the kinematics of goal-directed reach-to-grasp actions. As an NSERC-funded doctoral candidate and postdoctoral fellow, he authored 14 research articles, three book chapters, and presented dozens of conference presentations. He is the winner of the 2017 Governor General's Gold Medal for Outstanding Academic Achievement. Jason lives in Vancouver.

Joseph Stinziano, Western University

Hosted by Canadian Food Inspection Agency

Joseph Stinziano is curiosity-driven, with a strong passion for helping others succeed. He has run workshops to teach graduate students and underrepresented undergraduate students how to code for data analysis at the University of New Mexico, and developed software to help researchers in the field of plant physiology to analyze data. During his graduate studies, Joseph served on the Environmental and Ecological Planning Advisory Committee for the City of London, helping to ensure that development proposals met environmental standards and regulations.

Joseph has a Bachelor of Science and PhD in Biology from the University of Western Ontario. His doctoral work focused on understanding and predicting how boreal forest trees will respond to climate change. Joseph's postdoctoral work at the University of New Mexico focused on integrating data from diverse systems to better understand how plant photosynthesis is regulated. This research sparked a passion for developing the data analytics and models that underlie scientists' ability to draw conclusions from their research. His research has led to numerous scientific publications, software packages, and a patent.

Julian Campisi, York University

Hosted by Defence Research and Development Canada

Julian Campisi completed his PhD in Political Science at York University in 2018. He is taking up a Mitacs Science Policy Fellowship with the Government of Canada at the Department of Defence. His research interests are predominantly in the field of international political economy and comparative politics, specifically the methodologies that underpin political risk assessments in the private and public realms, with specific interest in the Italian case. He also studies the determinants of FDI at the institutional, political, and sociocultural levels, and how these can contribute to international business decisions.

Julian was a visiting scholar in 2015–16 at LUISS University in Rome. He completed his Master of Arts at the University of British Columbia, Vancouver, in European Studies, and his Bachelor of Arts at the University of Ottawa in International Studies. Julian has worked and studied in China, Australia, and Italy over the years in a variety of industries. He has recently taught courses on Canadian politics, public policy, public law, and multiculturalism at the University of Toronto Scarborough, in addition to providing consulting advice on geopolitical risks.



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Julianne Yip, McGill University

Hosted by Defence Research and Development Canada

Trained as a sociocultural anthropologist, Julianne Yip has conducted research on human-environment relations within anthropogenic climate change, zoonotic diseases, and synthetic biology. Her doctoral focus on the impacts of climate change on the Arctic sea ice has led to collaborations with filmmakers at the National Film Board of Canada as they develop a dome film on ice that puts climate change and its impacts into a new perspective. As a 2019 Transformations of the Human Research Fellow at the Berggruen Institute, she worked in the Sculpting Evolution group at the MIT Media Lab on the social and ethical implications of genetically editing an entire species to limit emerging infectious diseases (e.g., Lyme), and control invasive animals and agricultural pests.

Julianne received her PhD in Sociocultural Anthropology from McGill University in 2019, where she was recipient of the Joseph-Armand Bombardier Canada Doctoral Scholarship and Wolfe Graduate Fellowship in Scientific and Technological Literacy. She holds a Bachelor of Health Sciences degree from the University of Calgary, and a Master of Arts in Medical Anthropology from McGill University.

Mary-Rose Bradley-Gill, McGill University

Hosted by Natural Sciences and Engineering Research Council of Canada

Mary-Rose Bradley-Gill recently received her PhD in Biology from McGill University, where she studied genes mutated in cancer and their role in the basic processes that control cell division and development using the model organism of the fruit fly.

Mary-Rose is an engaged scientist who has always been active in her community, from within the university to impacting federal policies. After serving as president, she currently serves on the Board of Directors of Science & Policy Exchange (SPE), a student-run non-profit that aims to foster and elevate the student voice in science policy. Through this group, she has become passionate about relating research to the broader society and promoting evidence-based policy-making.

Mary-Rose is also a passionate advocate for diversity and inclusion in science and has organized events such as policy discussions on gender barriers and a Wikipedia editing night to create and enhance pages of women scientists. She also runs the Montréal chapter of the STEMMinist book club, discussing books related to underrepresented groups in science.

Matteo Bernabo, McGill University

Hosted by National Research Council of Canada

Matteo Bernabo is currently working as a Policy Analyst with the National Research Council. He completed his PhD in Neuroscience from McGill University, where he studied memory plasticity. During the summer of 2020, Bernabo interned with Natural Resources Canada. There, Matteo applied experimentation and behavioural science techniques to a project aimed at increasing home energy retrofits. In the past, he also volunteered with the Science & Policy Exchange to improve training of STEM students for careers outside of academia.



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Shweta Ganapati, University of Maryland, College Park (U.S.)

Hosted by Natural Sciences and Engineering Research Council of Canada

Shweta Ganapati holds a PhD in Organic and Analytical Chemistry from the University of Maryland and a Master of Science and Bachelor of Science from the University of Delhi. Her dissertation explored the pharmaceutical application of cucurbituril molecular containers in drug reversal, for the mitigation of overdose related fatalities associated with drugs of abuse (such as methamphetamine) and post-anesthesia recovery of surgery patients. After graduating, Shweta worked as a research scientist at the biotech start-up SD Nanosciences to develop a low-cost, easy to assemble, surfactant-based vaccine against *Neisseria gonorrhoeae*.

Prior to starting her fellowship at NSERC, Shweta served as the Program Manager at the Canadian Science Policy Centre (CSPC), whose mission is to act as an inclusive hub to support science policy in Canada. In this capacity, she led several projects, including spearheading a workshop program for capacity building in science policy and managing the operations of over 60 volunteers to execute CSPC's annual conferences in 2019 and 2020. As a science policy fellow, Shweta hopes to apply her scientific training to serve society through supporting scientific discovery and innovation as well as evidence-based decision-making.

Sophia Lavergne, University of Toronto

Hosted by Public Health Agency of Canada

Sophia Lavergne completed her PhD in Ecology and Evolutionary Biology at the University of Toronto Scarborough's Centre for Environmental Epigenetics and Development. With highly interdisciplinary research interests, she specializes in boreal forest predator-prey interactions, wildlife endocrinology, and inherited effects of early life stress. Prior to the doctorate, she obtained a Bachelor of Environmental Science at the University of Manitoba and gained clinical research experience in human health and development through the Manitoba Institute of Child Health. Sophia is a strong proponent of collaborative research, student mentorship, Open Science, and creative problem solving using cross-disciplinary solutions.

Tayyaba Jiwani, University of Toronto

Hosted by Ontario Ministry of Health, Digital Health Division

Tayyaba Jiwani earned her PhD from the University of Toronto, focusing on developmental and stem cell biology. Her research revealed a new set of gene interactions that control the formation of neurons from brain stem cells, informing knowledge of common childhood brain cancers. She was awarded the Ontario Graduate Scholarship, graduate scholarship at Toronto's SickKids Hospital, and NSERC Canada Graduate Scholarship. She completed a Bachelor of Science (Honours) from the University of Toronto, specializing in cell and molecular biology.

Tayyaba has pursued diverse writing and editorial leadership experiences at the interface of science and society. At the Princess Margaret Cancer Foundation, she shaped cancer research projects and proposals in line with scientific, strategic, and policy objectives. As former Assistant Science Editor of the *Los Angeles Review of Books*, and Editor-in-Chief of *The Training Post* magazine for trainee scientists, she published articles on the ethical, social, and political aspects of science. She is also co-founding editor of a multi-lingual media platform for South Asian journalism highlighting political and environmental challenges confronting the region.