The Royal Society of Canada | Class of 2022

ACADEMY OF ARTS AND HUMANITIES

ACADEMY OF SOCIAL SCIENCES

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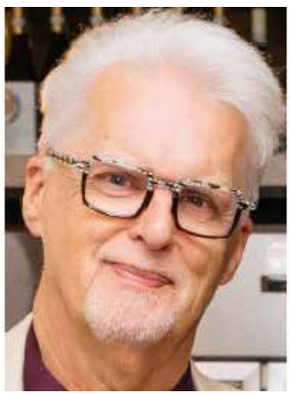
Academy of Arts and Humanities

Division of Humanities



Richard Arthur's innovative work on the history and philosophy of science and mathematics in the 17th century has transformed the study of his field. In particular, he is the author of numerous ground-breaking articles and books on the great German philosopher and polymath Leibniz, which have reinvigorated and reshaped work on Leibniz around the world. Professor Arthur has also made important contributions to debates in metaphysics and philosophy of time.

Department of Philosophy | McMaster University | Academy of Arts and Humanities

Wendy Hui Kyong Chun is SFU's Canada 150 Research Chair in New Media and the Digital Democracies Institute. An internationally renowned digital media scholar, she draws from her training in both engineering and the humanities to analyze contemporary media phenomena: from the rise of the Internet to discriminatory predictive algorithms. Her research creates interdisciplinary data fluencies to express, imagine, and create public engagements with our data-filled world.

School of Communication | Simon Fraser University | Academy of Arts and Humanities

Penelope Farfan is an award-winning scholar whose interdisciplinary research on feminist and queer performance has reshaped the fields of modernist theatre, drama, dance, and performance studies. She is also an award-winning editor and an internationally recognized scholar of contemporary feminist theatre whose research has foregrounded Canadian playwrights while also advancing knowledge of playwriting by women from around the world over the past thirty years.

School of Creative and Performing Arts | University of Calgary | Academy of Arts and Humanities

Randy Allen Harris researches the intersection of rhetoric, linguistics, cognitive neuroscience, and Artificial Intelligence at the University of Waterloo, where he is a Professor of English Language and Literature and Director of the multinational, multisectoral, and multidisciplinary research project, the Rhetoricon Database. His books include *The Linguistics Wars* ("outstanding"—Nature), *Rhetoric and Incommensurability* ("a real tour de force"—*International Studies in the Philosophy of Science*), and the pathbreaking *Voice Interaction Design* ("supremely practical"— *ACM Books*).

Department of English Language and Literature | University of Waterloo | Academy of Arts and Humanities

Allan Hepburn, an internationally renowned literary scholar, has published many books and articles on twentieth-century British, Irish, and American novels. Mid-century literature and culture are his particular expertise. His publications focus on convergences among espionage, human rights, citizenship, nuclear extinction, the Second World War, diplomacy, and fiction. He is a recognized authority on the novelist Elizabeth Bowen. He holds the James McGill Chair in Twentieth-Century Literature at McGill University.

Faculty of Arts | McGill University | Academy of Arts and Humanities

Bonny Ibhawoh is an internationally renowned historian of human rights and African studies, and the founding Director of McMaster University's Centre for Human Rights and Restorative Justice. A prolific scholar and public commentator, Ibhawoh's ground-breaking publications have shaped human rights scholarship. His significant academic and policy contributions to global human rights are evident in his appointment by the United Nations Human Rights Council as Chair of the UN Expert Mechanism on the Right to Development.

Department of History and Centre for Peace Studies | McMaster University | Academy of Arts and Humanities

Esyllt Jones is an internationally recognized historian of pandemic influenza and the history of socialized health care in Canada, whose work is characterized by strong public engagement. She is the author or editor of seven scholarly books, several of which are prize winners. She was recently appointed Humanities Research Professor in the Faculty of Arts. She is a past member of the RSC College of New Scholars (2014-2021).

Departments of History and Community Health Sciences | University of Manitoba | Academy of Arts and Humanities

Valerie Korinek is one of Canada's leading historians of cultural and gender history. A Professor of History at the University of Saskatchewan, Dr. Korinek is the author of award-winning books on queer communities, women's cultural history, and food history. In Prairie Fairies she provides an inclusive, accessible history of queer people, communities and activism in the west. Dr. Korinek's ambitious and innovative studies have fundamentally shaped how Canadian historians understand feminist and sexualities histories.

Departments of History | University of Saskatchewan | Academy of Arts and Humanities

Hendrik Kraay is one of the most influential North American historians of Brazil; his scholarship has been foundational to our understanding of Brazil's birth as an independent state and its nineteenth-century empire. Kraay's sophisticated, innovative, and meticulous research has shaped local and global scholarship on Brazil, influencing the way both historians and the public view the complex history of the largest country in Latin America.

Faculty of Arts | University of Calgary | Academy of Arts and Humanities

Laura Marks is a media art and philosophy scholar with an intercultural focus. Over the past 25 years, she has written five influential books, introduced a new theory of multi-sensory perception, challenged the origins of media art through her explorations of non-Western genealogies, and proposed sustainable solutions to the impact of media on the environmental crisis. She is also internationally recognized as a curator of experimental media art.

School for the Contemporary Arts | Simon Fraser University | Academy of Arts and Humanities

A bioethicist and feminist philosopher, **Carolyn McLeod** is known worldwide for her research in the ethics of reproduction, adoption, and parenthood. She has provided solutions to some of the deepest ethical problems in reproductive health policy and family policy and has developed innovative tools for tackling these and similar problems. Through her participation in multi-disciplinary and multi-organizational research teams, she has contributed directly to public policymaking affecting prospective parents in Canada.

Department of Philosophy | Western University | Academy of Arts and Humanities

Cynthia Milton is internationally recognized for her work on poverty and colonialism, and post-conflict memory, human rights and artistic representations, in particular in Latin America. Her innovative, interdisciplinary approach has carved out new fields in the study of the legacies of political violence, with attention to diverse and inclusive modes of historical reckoning. She was member of the Inaugural Cohort and former President of the College of New Scholars.

Department of History | University of Victoria | Academy of Arts and Humanities

Charmaine A. Nelson is a Provost Professor of Art History and the founding director of the Slavery North Initiative at the University of Massachusetts - Amherst. Her ground-breaking research explores representations of and production by enslaved Africans within Transatlantic Slavery in Canada, the Caribbean, and the USA. An award-winning scholar, she has published 7 books, and given 300 talks, and over 240 interviews in Europe, the Caribbean, and North America.

Art History and Contemporary Culture Division | NSCAD University | Academy of Arts and Humanities

Julie Rak is a field leader in the study of autobiography and life writing in Canada and internationally. Her fierce commitment to socially-engaged research shifted the study of autobiography away from a focus on famous literary figures to writers and artists who are marginalized. The power and purpose of life stories across media, especially by those who have been excluded from the body politic because of their gender, race, class or sexual orientation, motivates her scholarship and her advocacy.

Department of English and Film Studies | University of Alberta | Academy of Arts and Humanities

Margaret Schabas, a leading scholar in the history and philosophy of economics, has published three important monographs: one on William Stanley Jevons and the transition of economics from a literary to a mathematical discipline, the second on the concept of "the economy" and the belief that it is governed by natural and social laws and, most recently, the first monograph on the economics of David Hume.

Department of Philosophy | The University of British Columbia | Academy of Arts and Humanities

Raymond Siemens is Distinguished Professor at the University of Victoria, in English with cross-appointment in Computer Science. His research has revised our understanding of early English poetic tradition and has enriched the academic ecosystem by exploring, testing, and proving the value of emerging digital research, dissemination and collaborative engagement methods—advancing the important mission of the humanities within the academy and in the many communities that humanistic work serves.

Faculty of Humanities | University of Victoria | Academy of Arts and Humanities

Wendy Steiner's pathbreaking studies of word-and-image relations have influenced thinkers and artists worldwide. From the technicalities of verbal and visual semiotics to the pyrotechnics of the public intellectual, she has argued for freedom of expression and the centrality of beauty in human experience. Her concepts of the model and "beauty as interaction" advance a liberal, feminist aesthetics that also inspires her creative work as an opera librettist and installation artist.

Faculty of Arts and Sciences | University of Pennsylvania | Academy of Arts and Humanities

Cynthia Sugars is widely considered to have laid the groundwork for the field of Canadian settler-colonial literary studies within broader international debates. Her richly historicized analyses have shaped fundamental discussions about some of the most pressing issues of our time, such as Indigenous-settler relations, multiculturalism, national identity, and Canada's position in a global world. Her work has deepened our understanding of the ways that Canadians have both imagined and interrogated stories of national belonging.

Department of English | University of Ottawa | Academy of Arts and Humanities

Christine Sypnowich is an internationally renowned scholar who uses an interdisciplinary approach—spanning philosophy, law, politics, education, urban planning, and local history—to make a significant impact on political and legal philosophy. Her research revolves around the central tenet that philosophy should illuminate vexing questions of justice and equality, enhance self-understanding, and further human flourishing. Sypnowich's background in heritage activism bolsters her commitment to the relevance of political philosophy for public debate.

Department of Philosophy | Queen's University | Academy of Arts and Humanities

Maite Taboada is Distinguished SFU Professor in the Department of Linguistics and Director of the Discourse Processing Lab at Simon Fraser University. Professor Taboada's research combines insights from discourse analysis and computational linguistics to investigate and confront pressing societal issues. She has transformed the way information is understood and disseminated, developing tools to classify online comments and identify misinformation, and drawing attention to gender representation in the media.

Department of Linguistics | Simon Fraser University | Academy of Arts and Humanities

Division des lettres et science humaines

Diana Dimitrova is a leading authority in South Asian Studies and Professor of Hinduism and South Asian religions at the Université de Montréal. Her international reputation is based on her pioneering work on Hinduism and Hindi theater, otherness, cultural identity and gender. Her numerous books and articles have earned her great influence and recognition both in Canada and internationally.

Faculté des arts et des sciences | Université de Montréal | Academy of Arts and Humanities

Marc Lapprand is recognized as the world's leading expert on the French writer Boris Vian, as well as on the Oulipo, on Pataphysics and, more broadly, on the literary theory, Georges Perec, Martin Winckler and Jacques Jouet. He is undoubtedly the foremost expert in these fields, where he has shone with his sustained and internationally recognized production, as evidenced by the influence of his publications and his many conferences around the world.

Département de français et d'études francophones | University of Victoria | Academy of Arts and Humanities

Division of Arts

David Chariandy is an award-winning author and major contributor to the field of Black Canadian literature. His novels are celebrated internationally for their meticulous attention to language and narrative form. Together with his scholarship and non-fiction, his body of work details the social struggles and intimate relations of diasporic life. A committed promoter of creative writing in Canada, he supports both emerging and established authors through mentorship, editing, and institutional service.

Department of English | Simon Fraser University | Academy of Arts and Humanities

Megumi Masaki is a Japanese-Canadian pianist and multimedia performing artist recognized as a leading interpreter of new music, and an innovator that reimagines the piano, pianist and performance space. Her work pushes boundaries of interactivity between sound, image, text and movement in multimedia works through new technologies. Over 70 compositions have been created with/for Megumi and she has premiered 150 works worldwide. Megumi was appointed to the Order of Manitoba.

School of Music | Brandon University | Academy of Arts and Humanities

Judy Radul is an award-winning and internationally renowned new media artist and scholar whose research investigates how technologies shape perceptions of reality. Her complex, large-scale installations provoke reflection on the nature of truth, power, and representation. Radul's practice has had a significant impact in the areas of legal aesthetics, representation and perception, and camera motion technology. Her many high-profile residencies, exhibitions, and scholarly contributions reflect her national and international profile.

School for the Contemporary Arts | Simon Fraser University | Academy of Arts and Humanities

Academy of Social Sciences

Division of Social Sciences

Payam Akhavan is Senior Fellow of Massey College, University of Toronto, formerly Full Professor at McGill University Faculty of Law and Senior Fellow at Yale Law School. He is a renowned scholar and practitioner of international criminal law, transitional justice, and human rights, having previously served as a UN prosecutor at The Hague. His seminal publications and ground-breaking victim-centred research have had a significant impact on shaping these fields, with a focus on the relevance of global accountability mechanisms for survivors of genocide. He is also a noted public intellectual, who delivered the 2017 CBC Massey Lectures, and an advocate for persecuted minorities, who has made significant contributions to the jurisprudence of international courts and tribunals.

Massey College | University of Toronto | Academy of Social Sciences

Barbara Arneil is a world-renowned scholar of identity politics, feminist theory, and the history of political thought. Her research has forged innovative and enduring insights into the political consequences of imperialism, colonialism, and liberalism. Her pathbreaking research has exposed discrimination and oppression in Canada and the world by deepening the understanding of how and why so many people are excluded from politics based on gender, disability, age, ethnicity, and indigeneity.

Department of Political Science | The University of British Columbia | Academy of Social Sciences

Christine Chambers is an internationally recognized leader in children's pain management. She spearheaded Solutions for Kids in Pain, a national network dedicated to putting research into practice, and champions research supporting the well-being of children as Scientific Director of CIHR's Institute of Human Development, Child and Youth Health. Identified as one of Canada's Most Powerful Women, she is passionate about research impact and patient and public engagement in health research.

Departments of Psychology & Neuroscience and Pediatrics | Dalhousie University | Academy of Social Sciences

Marie-Claire Cordonier Segger is a pioneering full professor and renowned jurist in sustainable development law and governance, advancing solutions to climate change, natural resources degradation and other critical global sustainability challenges while interactionally informing UN treaty design and compliance. As international award-winning CISDL Senior Director, her ground-breaking scholarly publications include the textbook *Sustainable Development Law* (OUP 2004, 2024); *Athena's Treaties* (OUP 2021) and the *Implementing Treaties for Sustainable Development* series (CUP 2008-).

School of Environment, Enterprise and Development | University of Waterloo | Law and International Studies | University of Cambridge | Academy of Social Sciences

Keith Dobson is a global expert in the field of mental health, with expertise in models of psychopathology, evidence-based psychosocial treatments of mental disorders, and interventions that reduce stigma towards mental health problems. He has published extensively about the ethics and the practice of professional psychology in Canada, and has led of many national and international organizations dedicated to the advancement of the discipline and practice of psychology.

Department of Psychology | University of Calgary | Academy of Social Sciences

William Fisher is an internationally recognized health psychologist who has contributed foundational theory and research aimed at understanding health behavior risk and promoting health behavior change. Fisher and Fisher's Information—Motivation—Behavioral Skills (IMB) model identifies specific drivers of health behavior risk and specific avenues for intervention to promote risk reduction behavior change. The IMB model has been applied worldwide to understanding and promoting health behaviors as diverse and consequential as HIV/AIDS prevention, women's, men's, and adolescent's sexual and reproductive health, vaccine uptake, and sexual consent, and the IMB model is regarded as a fundamental advance in prevention science.

Department of Psychology | Western University | Academy of Social Sciences

Royston Greenwood is the most important scholar in institutional theory in Canada with an outstanding international reputation. He elaborated a theory of organizational change within institutional theory that showed how organizations adopt new organizational forms and practices through dynamic internal processes by both reacting to, and shaping, institutional pressures. He reinvented the study of professional and knowledge-based organizations as central actors in a knowledge based society and economy.

Department of Strategy, Entrepreneurship & Management | University of Alberta | Strategy Group | University of Edinburgh | Academy of Social Sciences

Celia Haig-Brown, an Anglo-Canadian scholar, has spent her career committed to respectful and reciprocal research and practice working closely with Indigenous collaborators from Secwépemc territory to the Naskapi Nation. Her 1988 book, based on testimonies of Indian residential school survivors, has served as the basis for two films and a 2022 version with Indigenous contributions. Her next SSHRC-funded film: *Rodeo Women: Behind the Scenes* is in post-production.

Faculty of Education | York University | Academy of Social Sciences

Steven J. Hoffman is a world-leading authority on global health law and the global governance of health threats that transcend national borders. He has achieved important intellectual breakthroughs by combining law and epidemiology to address challenges faced by the numerous governments and United Nations agencies that rely on his advice. He is a leading voice in public health, a champion for evidence-informed policymaking, and a frequent contributor to news media.

Public Health Agency of Canada | Global Health, Law, and Political Science | York University | Academy of Social Sciences

Dana Lepofsky is a Professor in the Department of Archaeology at Simon Fraser University. She seeks to understand the long-term relationships among Indigenous Peoples and their environment and to situate these relationships in current social and ecological contexts. She brings together diverse knowledge holders from within the academy and beyond and builds long-term meaningful partnerships with the descendent communities whose past she is privileged to study.

Department of Archaeology | Simon Fraser University | Academy of Social Sciences

Kai Li, Canada Research Chair in Corporate Governance, is the world's leading expert in corporate finance research. Her analysis of governance and innovation has transformed research on executive compensation design, shareholder monitoring, and corporate innovation. Her research on human capital and technological synergies in takeovers has profound policy implications for fostering creative breakthroughs, and her pioneering approach to measuring organizational cultures has reinvigorated research on their influence on business decision-making.

Sauder School of Business | The University of British Columbia | Academy of Social Sciences

Michael Masson has made internationally recognized contributions to the study of human cognition. He developed one of the first neural network models of the influence of semantic context on word reading and has conducted innovative research on the unconscious influences of learning and memory on skilled reading. His work on embodied cognition provided groundbreaking evidence regarding action representations and their contributions to the identification of objects and to language comprehension.

Department of Psychology | University of Victoria | Academy of Social Sciences

Stephen McAdams is one of the world's top researchers in the cognitive dynamics of music listening. Holder of a Canada Research Chair in Music Perception and Cognition at McGill University since 2004, he is exceptionally gifted at bridging the disciplines of the arts, humanities, and social sciences. His research has revolutionized the role of cognition within music scholarship, through collaborations with music theorists, composers, performers, conductors, and music technologists.

Schulich School of Music | McGill University | Academy of Social Sciences

Linda Peake's award-winning research integrates feminism and anti-racism into theorizations of urban everyday life, inspiring scholarship in human geography and urban studies, as well as promoting equity and diversity in the academy. Her original body of work on women as gendered urban subjects has invigorated critiques of canonical knowledge production, utilizing methodologies that engage with subaltern knowledge production and marginalized communities, and creating the field of comparative feminist urban research.

Department of Environmental and Urban Change | York University | Academy of Social Sciences

Ito Peng's groundbreaking research on gender, care and migration policies and the global care economy established her as an internationally acknowledged thought leader on issues of gender equality, care work, transnational care migration, and the multidimensional and interlocking dependencies between the Global North and South through the work of care and the migration of care workers. Backgrounded by the pandemic, her work is now in critical demand.

Department of Sociology | University of Toronto | Academy of Social Sciences

Susanne Soederberg is a professor in Global Development Studies at Queen's University. She is an interdisciplinary researcher whose scholarship in political economy has advanced debates about debt, finance, and neoliberal governance across the global North/global South divide. Dr. Soederberg has written several award-winning books, including Corporate Power in Contemporary Capitalism (2010), Debtfare States and the Poverty Industry (2014), and Urban Displacements: Governing Surplus and Survival in Global Capitalism (2021).

Department of Global Development Studies | Queen's University | Academy of Social Sciences

Kelli Stajduhar, Professor, University of Victoria has worked in oncology, palliative care, and gerontology as a nurse, educator, and researcher. Her practice and research focuses on end-of-life, caregiving, and marginalized populations. Most recently, she was inducted as a Fellow into the Canadian Academy of Health Sciences and the Canadian Academy of Nursing. In 2021, she received the Tier 1 CRC in Palliative Approaches to Care in Aging and Community Health.

School of Nursing | University of Victoria | Academy of Social Sciences

Sunera Thobani's scholarship focuses on critical race and postcolonial theory and politics; intersectionality and social movements; colonialism, migration and violence; Islam, Gender and Muslims; and South Asian Gender & Sexuality Studies. Professor Thobani has served as Ruth Wynn Woodward Endowed Chair (SFU); President, National Action Committee on the Status of Women; and founding member, Researchers and Academics of Colour for Equity (RACE). She is a recipient of the Sarah Shorten (CAUT) and Dean's Excellence (UBC) Awards.

Department of Asian Studies | The University of British Columbia | Academy of Social Sciences

Sasha Tsenkova is one of the world's prominent scholars in urbanism, focusing on the nexus of planning, design and policy. She is the leading authority in Canada on housing and planning policies in Eastern Europe, and an internationally recognised expert on comparative urban and housing research. Her innovative and impactful work on resilience focuses on housing and planning strategies to design sustainable, livable and equitable cities.

School of Architecture, Planning and Landscape | University of Calgary | Academy of Social Sciences

Danika van Proosdij is Director of TransCoastal Adaptations: Centre for Nature Based Solutions, professor at Saint Mary's University and Fellow of the Royal Canadian Geographical Society; studying how coastal systems respond to natural and human drivers of change, leveraging this understanding to integrate nature-based adaptation options in protection of coastal communities. She has over 25 years of applied ecosystem based coastal adaptation projects and vulnerability assessments in Canada and abroad.

Department of Geography and Environmental Studies | Saint Mary's University | Academy of Social Sciences

Jennifer M. Welsh (Canada 150 Research Chair in Global Governance and Security, McGill) is an internationally-renowned scholar and public intellectual of armed conflict, civilian protection, humanitarian action, and Canadian foreign policy. She co-founded the interdisciplinary Oxford Institute on Ethics, Law and Armed Conflict, served as Special Advisor to the UN Secretary General on the 'Responsibility to Protect', and currently co-directs a Canada-wide research network on Women Peace and Security. Welsh's award-winning work focuses on how international conflict management and humanitarian efforts can leverage and reinforce those of local actors. Throughout her career, she has built bridges with national and international policymakers and nurtured a new generation of policy-engaged scholars on global security.

Department of Political Science and Max Bell School of Public Policy | McGill University | Academy of Social Sciences

Keith Yeates is a world-leading neuropsychologist whose prolific and ground-breaking research focuses on pediatric traumatic brain injury (TBI), a major cause of acquired disability. His investigations of the family's role in children's recovery from TBI, the social outcomes of childhood brain disorders, and the impact of childhood concussion have transformed the science of pediatric TBI and markedly improved clinical care and outcomes for children with TBI and their families.

Department of Psychology | University of Calgary | Academy of Social Sciences

Division des sciences sociales

Malek Batal holds the Tier 1 Canada Research Chair in Nutrition and Health Inequalities and is the Director of TRANSNUT, the WHO's Collaborating Centre on Nutrition Changes and Development. Working with transdisciplinary teams, he studies the relationships between population health, the food system and the environment with the aim of addressing inequities

between population groups. He works with First Nations in Canada and with Indigenous and rural populations internationally, applying his research findings to improve public policies.

Département de nutrition | Université de Montréal | Academy of Social Sciences

Diane Gérin-Lajoie is recognized for her scholarship on official language minorities in Canada and their schools. Her expertise in the areas of identity and youth in minority language schools, as well as teacher identity in those schools make her a pioneer in the comparative analysis of Canada`s two official linguistic minority groups. Recipient of multiple research funds, Diane Gérin-Lajoie makes a significant contribution to the study of official language minorities in Canada.

Ontario Institute for Studies in Education | University of Toronto | Academy of Social Sciences

Isabelle Le Breton-Miller is Chair of Succession and Family Enterprise at HEC Montréal. Her studies of family businesses have revealed them to be an unusually sustainable and stakeholder-friendly form of organization. Her internationally acclaimed research into their economic performance, strategic conduct, corporate governance and managerial succession have helped to establish the field of family business as a rigorous and vibrant academic discipline.

Département de management | HEC Montréal | Academy of Social Sciences

André Lecours is an internationally renowned political scientist. His work on nationalism and federalism stands out for the breadth of the comparisons made, its theoretical scope and its analytical power. It has raised the profile of the Canadian context in comparative politics and enriched the study of Canadian politics by incorporating findings from other multinational federal democracies.

École d'études politiques | University of Ottawa | Academy of Social Sciences

Jean Saint-Aubin is a world-renowned expert whose creative work on the interface between short- and long-term memory representations has challenged conventional wisdom and opened the door to new conceptualizations. In addition, his work on reading, with its innovative eye movement-based approach, has opened a new field of study on parent-child reading.

École de psychologie | Université de Moncton | Academy of Social Sciences

Academy of Science

Division of Applied Sciences and Engineering

Roussos Dimitrakopoulos is the world's leading authority in stochastic mine modelling and the optimization of planning and production scheduling of industrial mining complexes. His research has fundamentally shifted the way the mining industry solves planning problems. He has pioneered a new framework that integrates and manages uncertainty in

supply and demand. He has been awarded an exceptional third term renewal of his Canadian Research Chair (Tier 1) in Sustainable Mineral Resource Development.

Department of Mining and Materials Engineering | McGill University | Academy of Science

Janet A. W. Elliott is one of the world's leading engineering scientists, known for profound insight in thermodynamics. Her creative and elegant integration of mathematics and experimental data has addressed many long-standing problems across a wide array of disciplines in science, engineering, and medicine, particularly in surface science and cryobiology. Her work has expanded thermodynamics to new complexity, new length scales, and new disciplines, and has provided leading cryopreservation protocols.

Department of Chemical and Materials Engineering | University of Alberta | Academy of Science

Gabor Fichtinger is a distinguished researcher who has made seminal contributions to the field of computer-assisted medical interventions. His work in medical robotics and surgical navigation paved the way for many modern diagnostic and therapeutic techniques. He is a renowned innovator and mentor, and a dedicated developer of free open-source software resources that are used around the world in education, research, and industry.

School of Computing | Queen's University | Academy of Science

Carl Haas has contributed seminal new knowledge in the principles behind, the interdependencies among and the circular economic applications of computer vision, mixed reality, building information modeling and human-robotic-systems. Key barriers in the way of moving toward a circular economy in the built environment include the scale, complexity, and uncertainty associated with constructing, maintaining and

deconstructing our built environment. His contributions improve complex, built environment systems' performance.

Department of Civil and Environmental Engineering | University of Waterloo | Academy of Science

Jiawei Han, PhD (University of Wisconsin, 1985), Professor (Computing Science, Simon Fraser University, 1987-2001); now Michael Aiken Chair Professor, University of Illinois at Urbana-Champaign. Fellow of ACM, Fellow of IEEE, received ACM SIGKDD Innovation Award (2004), IEEE/CS Technical Achievement Award (2005), IEEE/CS W. Wallace McDowell Award (2009), and Japan's Funai Achievement Award (2018). He is internationally recognized for his contributions to knowledge discovery from data and data science.

Department of Computer Science | University of Illinois at Urbana-Champaign | Academy of Science

Ian Moore is the world leader in the analysis and design of buried structures used in municipal and highway applications. Using a powerful combination of numerical and physical modelling, Ian has advanced fundamental understanding of strength and other performance limits of metal, polymer and composite pipes used for drainage and water supply, in modelling of nonlinear soil-structure interaction, and in characterizing the stability of new, deteriorated, and repaired pipe structures.

Faculty of Engineering and Applied Science | Queen's University | Academy of Science

Catherine Mulligan is an internationally recognized expert in the decontamination of water, soils, and sediments, and a pioneer of green remediation technologies. She is the founding Director of the Concordia Institute of Water, Energy and Sustainable Systems. Her fundamental and applied contributions to research and her service to the engineering profession have been recognized with prestigious awards, including the John B. Stirling Medal from the Engineering Institute of Canada.

Department of Building, Civil and Environmental, Engineering | Concordia University | Academy of Science

Satya Prakash is a world-renowned scientist, entrepreneur, and innovator in the fields of microbiome, probiotics, artificial cells, targeted therapeutics delivery and next-generation cardiac stents. He discovered key links between the gut microbiome and metabolic diseases, as well as developed novel targeted drug and gene delivery platforms. His groundbreaking work on the role of the microbiome in disease has led to the world's first-of-its-kind health-promoting probiotic formulation that reduces blood cholesterol.

Faculty of Medicine | McGill University | Academy of Science

Mohamad Sawan is an international authority on biomedical engineering. He is credited with several major breakthroughs, including chip-integrated implantable devices for the measurement and electrical stimulation of the visual cerebral cortex in order to restore sight to the blind, work that has received international recognition. His scientific contributions have been applied in a variety of specialties including audiology, urology, respirology, vision, epilepsy, and limb movement.

Département de génie électrique | Polytechnique Montréal | Academy of Science

David Sinton is an international leader in fluids- and energy-related research. He pioneered the field of microfluidics for energy applications and has developed fluid testing systems that improve the environmental and economic performance of energy operations. He has made significant breakthroughs in the utilization and storage of carbon dioxide and the electrocatalytic conversion of carbon dioxide into renewable fuels and chemicals.

Department of Mechanical & Industrial Engineering | University of Toronto | Academy of Science

Wen Tong has made fundamental contributions to wireless communications system, information transmission, sensing, processing, computing and machine learning, terrestrial and satellite mobile networks, with a focus on their applications in 1G to 6G wireless, WiFi, smartphone and associated global standardizations. A fellow of Canadian Academy of Engineering and fellow of IEEE, he received the R.A. Fessenden Medal, and the IEEE Communications Society Distinguished Industry Leader Award.

Huawei Canada | Academy of Science

Division of Earth, Ocean, and Atmospheric Sciences

Villy Christensen is one of the most highly-cited fisheries scientists in the world today. He is the principal architect behind the Ecopath with Ecosim ecosystem modelling framework and software, which is used by hundreds of scientists worldwide. His research focuses on ecosystem-based management with emphasis on human impact, food web effects, and environmental conditions including climate change—notably with focus on the balance between social and ecological tradeoffs in management.

Institute for the Oceans and Fisheries | The University of British Columbia | Academy of Science

Gregory Edgecombe is a palaeontologist and systematic biologist investigating the evolutionary history of the largest animal phylum, the Arthropoda. His research integrates fossils into animal phylogenies based on living species, including their molecular data. He is a Merit Researcher at The Natural History Museum in London, where he has been a Research Leader since 2007. He was elected a Fellow of the Royal Society in 2018.

Natural History Museum, London | Academy of Science

John-Michael Kendall's research covers pure and applied geophysics, with connections to mineral physics, geodynamics, natural resources and engineering. Leading seismic field experiments in geologic settings ranging from the Canadian Arctic to Ethiopia, he has made pioneering contributions to the study of the structure and dynamics of the Earth's interior, with a focus on seismic anisotropy.

Department of Earth Sciences | University of Oxford | Academy of Science

Julie LaRoche is a marine microbiologist who uses biochemical and molecular biological approaches to unravel the factors that control primary productivity in the ocean. She has developed and applied several widely used molecular biological approaches that have had long-lasting impact on our understanding of nutrient limitation in phytoplankton and other marine microbes, especially with respect to iron limitation, which is prominent in large areas of the surface ocean.

Department of Biology | Dalhousie University | Academy of Science

Doug Wallace is an oceanographer who uses observations of chemical distributions to unravel the complex biogeochemical processes that connect the ocean and the atmosphere. He introduced several approaches and tools that have had long-lasting impact on our understanding of marine biogeochemistry and its connection with climate, especially with respect to the uptake of carbon dioxide and oxygen by the oceans.

Department of Oceanography | Dalhousie University | Academy of Science

Division of Biological Sciences

Ehab Abouheif, a James McGill Professor at McGill University, is an award-winning and internationally renowned biologist whose pioneering research has laid the foundations for the interdisciplinary field of eco-evo-devo (ecological evolutionary developmental biology). By uncovering the rules through which genes, development, and environment interact to influence evolutionary change, Abouheif is leading a paradigm shift in the biological sciences that has important implications for medicine, biodiversity conservation and animal/plant breeding.

Department of Biology | McGill University | Academy of Science

John Archibald is a Professor of Biochemistry & Molecular Biology and Arthur B. McDonald Research Chair of Excellence at Dalhousie University. He is also the Director of Dalhousie's Institute for Comparative Genomics. Dr. Archibald is the author of more than 170 research articles and two books. He is a Fellow of the American Academy of Microbiology and in 2019 was awarded the Miescher-Ishida Prize for his internationally recognized work on the biology of symbiosis.

Department of Biochemistry & Molecular Biology | Dalhousie University | Academy of Science

Steven J. Cooke is an interdisciplinary scholar whose work spans the natural and social sciences, with a focus on solving complex conservation problems. He defined the nascent discipline of conservation physiology and is a world leader in freshwater biodiversity conservation, animal biotelemetry, and fisheries science. Cooke founded the Canadian Centre for Evidence-Based Conservation and is well known for science communication and embracing a co-production research model with diverse partners.

Department of Biology and Institute of Environmental and Interdisciplinary Science | Carleton University | Academy of Science

Andrew Hendry is an evolutionary ecologist and a leading figure in the fusion of ecology and evolution, based on his work on rapid evolution in natural populations of fish and birds. His fieldwork, review papers and books have been instrumental in changing our view of the species from a static category to a continually evolving dynamic entity.

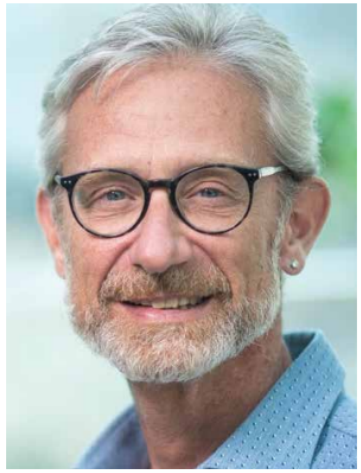
Department of Biology | McGill University | Academy of Science

Heidi McBride is an international leader in the field of mitochondrial dynamics and signaling. Awarded a Canada Research Chair in Mitochondrial Cell Biology, she is renowned for her discovery of mitochondria-derived vesicles, whose functions range from quality control to peroxisomal biogenesis and immune signaling. Her research has had a profound impact in areas of neurodegeneration, metabolic syndromes and rare diseases.

Montreal Neurological Institute | McGill University | Academy of Science

Adrian M. Owen is Professor of Cognitive Neuroscience and Imaging at the University of Western Ontario, Canada and co-directs the CIFAR Brain, Mind, and Consciousness program. His research combines structural and functional neuroimaging with neuropsychological studies of brain-injured patients. Owen has published over 400 scientific articles and chapters and a best-selling popular science book 'Into the Gray Zone'. He was awarded an OBE in 2019 for services to scientific research.

Department of Physiology and Pharmacology | Western University | Academy of Science



Fabio Rossi's innovative approaches to understand the cellular origins and differentiation capabilities of tissue resident cells have opened up new fields of research. His work is recognized internationally for providing new strategies to treat chronic degenerative diseases such as muscular dystrophy. His efforts in the Canadian and international regenerative medicine community have catalyzed the creation of new interdisciplinary research clusters and advanced Canadian leadership in this important health research area.

School of Biomedical Engineering and Department of Medical Genetics | The University of British Columbia | Academy of Science

Virginia Walker has been described as a renaissance biologist. Her scientific curiosity has resulted in investigations that focus on current problems affecting the next generation. Her scholarship is unique in its breadth and diversity, weaving together disciplines of genetics, molecular biology, chemistry and engineering. A prolific researcher with an international reputation, Dr. Walker is a pioneer in several fields linked by a common concern: coping strategies against environmental stress.

Department of Biology and School of Environmental Studies | Queen's University | Academy of Science

Division of Medical Sciences

Sonia Anand is internationally recognized for her research on the cardiovascular health of women and populations of diverse ancestral origin. Over an esteemed career, the McMaster University professor of medicine and epidemiology, and senior scientist of the Population Health Research Institute, has earned a global reputation for prioritizing research into women's health, impacting public policy and clinical practice, and developing new therapies that are benefitting high-risk vascular patients globally.

Department of Medicine | McMaster University | Academy of Science

Katherine Borden's pioneering work unearthed novel modes by which cancer cells hijack genetic information, by subverting messenger RNA (mRNA) metabolism. Her landmark studies revolutionized our view of central tenets of mRNA biology. Her atomic snapshots transformed our understanding of the mechanics of these processes. Her ground-breaking clinical studies demonstrated that these processes can be targeted in humans providing promising avenues for therapeutic development.

Institut de recherche en immunologie et en cancérologie & Département de pathologie et biologie cellulaire | University de Montréal | Academy of Science

Laurent Brochard is an intensive care physician working at Unity Health Toronto. He holds the Keenan Chair in Critical Care and Respiratory Medicine and is the Director of the Interdepartmental Division of Critical Care Medicine at the University of Toronto. Dr. Brochard is internationally renowned within respiratory and critical care medicine, and his research on mechanical ventilation has improved the clinical outcomes of

millions of patients worldwide.

St. Michael's Hospital, Keenan Research Centre, Li Ka Shing Knowledge Institute | University of Toronto | Academy of Science

Sylvain Chemtob (Canada Research Chair and Leopoldine Wolfe Chair in Vision) is a world-renowned neonatal pharmacologist, and leading authority on mechanisms of retinopathy of prematurity; he pioneered unprecedented biological concepts and contributed to reform care of premature children. His work on ibuprofen to treat the ductus arteriosus is now standard of care. His discovery of novel allosteric anti-inflammatory drugs transforms treatment against preterm birth to improve newborn outcome.

Départements d'ophtalmologie et de pédiatrie | Université de Montréal | Academy of Science

Aaron Fenster is Professor in the Department of Medical Biophysics and Chair of the Imaging Sciences Division of the Department of Medical Imaging at Western University. He is internationally known as a pioneer of the development of 3D ultrasound imaging. His career in medical imaging has been focused on unmet patient needs as the driving force behind his developments, which have made invaluable contributions to Canadian medical imaging science and technology.

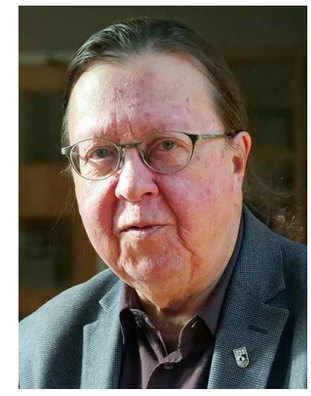
Departments of Medical Biophysics and Medical Imaging | Western University | Academy of Science

Mayank Goyal is a leading researcher and innovator in acute ischemic stroke treatment worldwide. His leadership in randomized trials (ESCAPE, SWIFT PRIME and HERMES collaboration) changed stroke care and established mechanical thrombectomy worldwide. Subsequently, through the ESCAPE-NA1 trial, he showed that neuroprotection in humans is possible. Mayank developed multiphase CT angiography, a technique for fast imaging diagnosis of acute stroke that is now routinely used across the world.

Department of Radiology | University of Calgary | Academy of Science

Richard Hughson is Schlegel Research Chair in Vascular Aging and Brain Health in the Schlegel-UW Research Institute for Aging. His NASA award-winning research revealed accelerated vascular aging for astronauts on the International Space Station and implications for vascular aging on Earth. His pioneering work on human cardiorespiratory adaptations to exercise and physical inactivity continues to profoundly influence research directions in Canada and around the world.

Faculty of Health | University of Waterloo | Academy of Science



Malcolm King is a member of the Mississaugas of the Credit First Nation and a health researcher at the University of Saskatchewan. His internationally acclaimed research is aimed at improving wellness and achieving health equity for First Nations, Métis and Inuit through strengths-based approaches that respect self-determination and privilege Indigenous ways of knowing. He is also a Fellow of the Canadian Academy of Health Sciences.

Department of Community Health and Epidemiology | University of Saskatchewan | Academy of Science

Gergely Lukacs proposed novel methods to treat cystic fibrosis (CF), a prevalent "conformational disease" caused by numerous mutations that misfold the CF-protein. Lukacs showed that, albeit single preclinical drugs cannot correct CF-protein misfolding, rationally selected drug-combination leads to efficacious treatment, used clinically since 2019 and suggest new treatment strategies for other conformational diseases. His studies also identified cell-surface protein quality-control mechanisms and their contribution to various conformational disease pathogenesis, including CF.

Department of Physiology | McGill University | Academy of Science

David Malkin is the foremost Canadian expert in the field of childhood cancer genetics. His pioneering studies have enhanced our understanding of the molecular basis for genetic predisposition to childhood and young adult cancer. Through the methodical introduction of gene testing and development of early tumor detection strategies, Dr. Malkin's research has created a global paradigm shift in the care of children at genetic risk for cancer.

The Hospital for Sick Children | University of Toronto | Academy of Science

Steven Paul Miller, is a physician-scientist leader whose brain-imaging studies of critically-ill newborns identified the power of early-life intensive care unit experience to shape the trajectory of brain development through childhood. His findings led a paradigm shift from brain injury as a fixed-event to a focus on "everyday" interventions that he showed are modifiable to promote brain maturation across the life-course.

Department of Pediatrics | The University of British Columbia | BC Children's Hospital
The Hospital for Sick Children | University of Toronto | Academy of Science

Stephen Scott from Queen's University is a world leader in the computational, neural, mechanical and behavioural aspects of voluntary motor control. He invented Kinarm, interactive robotic technologies that provide unprecedented experimental control over arm motor function, which he has used to transform our understanding of the intimate link between cortical circuits and limb biomechanics. Kinarm robots are now widely used around the world to quantify brain function and dysfunction.

Department of Biomedical and Molecular Sciences | Queen's University | Academy of Science

Janet Smylie holds a Canada Research Chair in Advancing Generative Health Services for Indigenous Populations in Canada at the University of Toronto. Among Canada's first Métis physicians, she is globally respected by academics and Indigenous leaders for consistently producing and translating innovative research into tangible benefits for Indigenous communities. Dedicated to advancing equity in health services for Indigenous populations, her research program, Well Living House, is grounded in Indigenous community partnerships.

Well Living House | Unity Health Toronto | Dalla Lana School of Public Health and Department of Family and Community Medicine | University of Toronto | Academy of Science

Division of Math and Physical Sciences

Kim Baines is an internationally recognized scholar in the fundamental chemistry of low valent, highly reactive main group compounds. She pioneered the synthesis and chemistry of germasilenes and novel low-valent germanium, tin and gallium cations, opening new areas of scientific inquiry. Capitalizing on the research, she developed the synthesis of new inorganic polymers and main group catalysts and furthered the understanding of semiconductor surface chemistry.

Department of Chemistry | Western University | Academy of Science

Cornelia Bohne is a world leader in physical-organic chemistry renowned for using light in novel ways to move beyond research on static molecular structures to trailblazing studies of supramolecular dynamics in complex systems. She has created breakthrough knowledge and continues to have major impacts in areas as broad as fundamental science and smart materials.

Department of Chemistry | University of Victoria | Academy of Science

One of Canada's most creative and prolific physical chemists, **David Bryce** is an internationally renowned authority on nuclear magnetic resonance spectroscopy and electrophilic interactions in solids. His paradigm-shifting discoveries in the analysis and interpretation of spectral data have led to breakthroughs in our understanding of solid materials, pharmaceuticals, and biomolecules. An inspirational mentor, Prof. Bryce is also known for bringing a passionate voice to the national discussion on science funding priorities.

Department of Chemistry and Biomolecular Sciences | University of Ottawa | Academy of Science

Louis-Charles Campeau has made lasting contributions in organic synthesis, drug discovery, practical drug synthesis, and research leadership, during a 15-year career at a top innovative pharmaceutical company. He has published in high-impact journals, made significant scientific innovations, and engaged the public. He has contributed to the discovery of over 30 novel drug candidates in human clinical trials and, contributed to five seven new marketed therapies impacting human health.

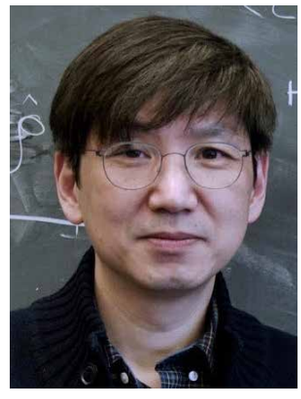
Process Research & Development | Merck & Co., Inc. | Academy of Science

Jiahua Chen has made fundamental contributions to statistics, particularly in mixture models, empirical likelihood, sampling theory, and the design of experiments. His work on the extended information criteria shreds new insight into the variable selection when the number of predictors is comparable to the sample size. The result is particularly significant in the big data era. His works in mixture models are groundbreaking. His technical strength enables him to solve challenging problems.

Department of Statistics | The University of British Columbia | Academy of Science

Marcel Franz is a Professor of Physics at The University of British Columbia and a Deputy Scientific Director of The Stuart Blusson Quantum Matter Institute. Franz is a leading expert in theories of topological quantum matter, unconventional superconductivity and strongly correlated electron systems. He is known for making important contributions to our understanding of high-temperature cuprate superconductors, topological insulators, and most recently for theoretical work establishing foundations of topological superconductivity that forms a basis for novel approaches to quantum computation.

Faculty of Science | The University of British Columbia | Academy of Science



Yong Baek Kim is a theoretical condensed matter physicist and a professor at the University of Toronto. He has made significant contributions to theoretical understanding of emergent quantum phenomena in strongly spin-orbit coupled quantum materials, which include quantum spin liquids and novel quasiparticles. He received Guggenheim Fellowship (2022), Simons Fellowship (2022), Killam Fellowship (2018), Brockhouse Medal (2017), Fellow of American Physical Society (2012), Canada Research Chair (2002), Sloan Fellowship (1999).

Department of Physics | University of Toronto | Academy of Science

Xing-Fang Li is an internationally recognized expert in analytical chemistry and water research. Her innovative techniques enabled ultrasensitive detection of environmental contaminants, microbial pathogens, and biomolecular interactions. Her discovery of new classes of water disinfection byproducts, of toxicological significance, opens a vital new direction of research. Her patented technological innovations and research findings contribute greatly to public health protection in Canada and the world.

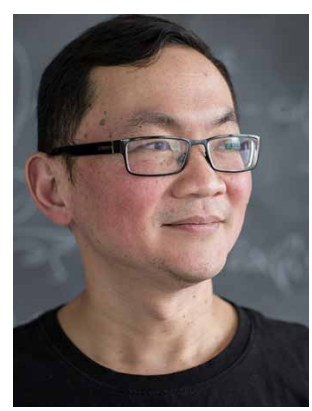
Department of Laboratory Medicine and Pathology | University of Alberta | Academy of Science

Guojun Liu, Canada Research Chair in Materials Science at Queen's University, is a pioneer and world leader in the field of materials science. In particular, he has led the development of nano- and micro-structured materials constructed from block and graft copolymers; their self-assembly or directed-assembly; and the ability to control and manipulate their shape, size, function roles and stability, to make important fundamental and applied scientific contributions.

Department of Chemistry | Queen's University | Academy of Science

Bojan Mohar is a world-leading graph theorist who has deeply contributed to central areas in discrete mathematics. His deep and fundamental results advanced algebraic, structural, and topological graph theory and influenced theoretical computing, mathematical chemistry and other fields. His transformative contributions to graph theory have been recognized with ICA's Euler medal and RSC's John L. Synge Award; he was distinguished as an AMS Fellow, a SIAM Fellow and a Canada Research Chair.

Department of Mathematics | Simon Fraser University | Academy of Science



Ue-Li Pen is one of the most original and enterprising theoretical astrophysicists working today. He pioneered the rapidly growing field of 21-cm cosmology. His work culminated in Canada's preeminent astronomical achievements of the last decade, the CHIME and CHIME-FRB experiments, and led to new dedicated telescopes in China, South Africa and Brazil. More recently, his innovative use of cosmic plasma as a giant billion-kilometre-sized telescope spawned the new field of scintillometry.

Canadian Institute for Theoretical Astrophysics | University of Toronto | Academy of Science

Doina Precup is noted for her fundamental contributions to reinforcement learning specifically for her contributions to temporal abstraction through the concept of options, the invention of the option-critic architecture, her pioneering work on bisimulation metrics and off-policy learning, her many theoretical and practical contributions to the development of RL algorithms and her contributions to the use of machine learning in medicine that have made a difference in practice.

School of Computer Science | Mila | DeepMind | McGill University | Academy of Science

Jianhong Wu, a renowned mathematician, has made foundational contributions to the global dynamics and bifurcation theory. His novel mathematical models have pioneered several research fields. His disease modelling research provides critical insights of mechanisms behind complex patterns and accurately forecasts disease trends. His leadership has profoundly contributed to the paradigm shift toward using interdisciplinary modelling extensively in health planning and firmly establishing Canada as a global leader in mathematical epidemiology.

Faculty of Science | York University | Academy of Science