



Accelerating the Growth and Success of Canada's Engineering Biology Community by Design

SPEAKER BIOGRAPHIES



Hanan Abramovici

Controlled Substance and Cannabis Branch, Health Canada

Hanan Abramovici is Manager and Senior Science Advisor in the Office of Science and Surveillance in the Cannabis Legalization and Regulation Branch at Health Canada, the Canadian Federal Department of Health. Since 2010, Dr. Abramovici has been involved in numerous federal government monitoring, surveillance, and research activities on cannabis, including development of the Canadian Cannabis Survey and cannabis data indicators; supporting the work of the Federal Task Force on the Legalization and Regulation of Cannabis; supporting development of the legislation and regulations on cannabis in Canada; and public education, compliance and enforcement, litigation, and regulatory policy work on cannabis.

Dr. Abramovici received his PhD in neuroscience from the University of Ottawa and his Master of Science degree in pharmacology from the University of Toronto.



Ian Affleck

CropLife Canada

Ian Affleck is the executive director of plant biotechnology for CropLife Canada. In this role, Affleck works with domestic and international agricultural stakeholders and governments on the development of policies, regulations, and science related to plant biotechnology. Prior to joining CropLife Canada, Affleck worked at the Canadian Food Inspection Agency for 10 years. His work there focused on the regulation of novel plants and new varieties. Affleck holds a bachelor of science in agriculture from the Nova Scotia Agricultural College, concentrating on agronomy and pest management. He also holds a master's degree in agriculture from the University of Guelph, specializing in horticulture and plant breeding. Affleck has been involved in agriculture from an early age, having he grown up on a potato farm in Bedeque, Prince Edward Island.



Christina Agapakis

Ginkgo Bioworks

Christina Agapakis is creative director of Ginkgo Bioworks, a synthetic biology company based in Boston designing biology for applications from fragrance to farming to pharmaceuticals. Her work brings together biologists, engineers, designers, artists, and social scientists to explore the future of biotechnology, from perfume made from extinct flowers to engineered probiotics and GMO beer. During her PhD at Harvard, she worked on producing hydrogen fuel in bacteria and making photosynthetic animals. She has taught designers at the Art Center College of Design and biomolecular engineers at UCLA, and she once made cheese using bacteria from the human body.



Clara M. Alarcon

CORTEVA Agriscience

Dr. Alarcon received her Ph.D. from University of Iowa in Molecular Biology and did a post-doctoral training with the Howard Hughes Medical Institute at Duke University in yeast genetics. She joined Pioneer's Analytical and Genomics Technologies department in 1997 and lead the molecular characterization of Pioneer's transgenic pipeline. She now serves as director of the Molecular Engineering department at CORTEVA Agriscience, Agriculture Division of DowDuPont. Research in her team focuses in the development of new plant breeding techniques such as gene editing, discovery of new genome editing tools, improving mechanisms of double strand break repair in plants, and deploying these technologies in the development of new products.



Ela Borenstein

CORTEVA Agriscience

Ela Borenstein is Program Director in the Market Development team, where she is responsible for the development and launch of a new initiative for Canadian funds. She joined BDC Capital in 2007 spending 9 years as an investor in healthcare and life sciences companies bringing over 20 years of management, entrepreneurial and consulting experience in the biopharmaceutical and related industries.

Prior to joining BDC, she was Chief Operating Officer at a VC-backed biotech firm. She previously held the position of Vice President in clinical, regulatory affairs and product strategy for various public and private companies, as well as Senior Vice President of Scientific Affairs for Technilab Pharma during the company's successful IPO. Her diversified professional background includes senior management responsibilities in drug and medical device development as well as key involvement in product acquisition and M&A activities.

Ela is a Kauffman Fellow Class 17, a society for leaders in venture capital, as well as an advisor and guest lecturer with several organisations and universities.

Ela holds a Bachelor of Science in Chemistry from the University of Western Ontario, a Master of Science in Pharmacology from the University of Toronto and an MBA in Bio-Industries from the Université du Québec à Montréal.



Andrew Casey

BIOTECCanada

In his role as President & CEO of BIOTECCanada Andrew is responsible for the day-to-day operations of the Association. In this capacity, he is the primary spokesperson for Canada's biotech industry communicating on the industry's behalf with government, regulators, international bodies, media and the Canadian public. He also ensures BIOTECCanada plays a central role in partnership with Government in the development of policy relating to Canada's biotech sector and the member companies of BIOTECCanada.

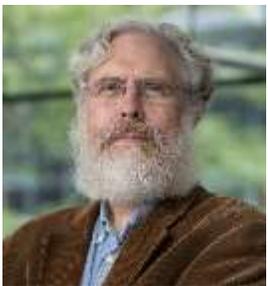
Prior to joining BIOTECCanada, Andrew served from 2004-2012 as Vice President, Public Affairs and International Trade and Vice President, Government Relations and Communications for the Forestry Products Association of Canada. In those roles he held responsibility for the Association's government relations, communications, media relations, advertising and international trade undertakings. From 1993-2004 he held the position of Assistant Vice-President, Government Relations with the Canadian Life and Health Insurance Association. Between 1989 and 1993 Andrew held political assistant positions with a Member of Parliament and the Minister of State (Finance). Andrew Casey is a native of Montreal, Quebec. After attending Loyola High School (Montreal) and St. Lawrence CEGEP (Quebec City) he graduated from Carleton University (Ottawa) with a Bachelor of Arts degree in Political Science.



Kevin Chen

Hyasynth Bio

Kevin Chen is an entrepreneur and scientist leading the team at Hyasynth Bio, a Montreal-based startup focused on engineering strains of yeast to produce the active compounds of Cannabis without having to grow plants. After 5 years of research, Hyasynth has recently raised a funding round of 10M\$ led by Organigram. Their team consists of top scientists with experience in metabolic engineering, enzyme engineering and large scale fermentation. They have filed for two patents which include both novel and engineered enzymes in the biosynthetic pathway of cannabinoid synthesis. They are expanding their team and capacity and looking forwards to forming additional partnerships over the next year.



George Church

Harvard Medical School, PersonalGenomes.org

George M. Church, PhD '84, is professor of genetics at Harvard Medical School, a founding member of the Wyss Institute, and director of PersonalGenomes.org, the world's only open-access information on human genomic, environmental, and trait data. Church is known for pioneering the fields of personal genomics and synthetic biology. He developed the first methods for the first genome sequence & dramatic cost reductions since then (down from \$3 billion to \$600), contributing to nearly all "next generation sequencing" methods and companies. His team invented CRISPR for human stem cell genome editing and other synthetic biology technologies and applications – including new ways to create organs for transplantation, gene therapies for aging reversal, and gene drives to eliminate Lyme Disease and Malaria. Church is director of IARPA & NIH BRAIN Projects and National Institutes

of Health Center for Excellence in Genomic Science. He has coauthored 450 papers, 105 patents, and one book, "Regenesis". His honors include Franklin Bower Laureate for Achievement in Science, the Time 100, and election to the National Academies of Sciences and Engineering.



Adam Clore

Integrated DNA Technologies

Adam Clore is the Technical Director of Synthetic Biology at Integrated DNA Technologies. His passion for synthetic biology drives him to develop novel solutions to old and new challenges within the synthetic biology community. His background is in microbiology, biochemistry, and DNA repair. For his PhD in Biology and Systems Science, Adam studied the molecular genetics of hyperthermophilic archaea and their viruses.



Mary Dimou

Canopy Rivers

Mary Dimou has been engaged within the innovation ecosystem for a decade working closely with investors, industry, and academia. Her areas of focus cover a broad range of disciplines within the life sciences and agriculture fields including human health, animal health, and plant sciences.

Prior to joining Canopy Rivers, Mary worked in senior level roles at various private and public capital companies. Most recently, she helped manage the Ontario Centres of Excellence's Seed investment fund that deployed over thirty investments annually. She has held portfolio management and foreign direct investment roles at OMAFRA, has acquired ag-tech venture experience through Bioenterprise, and gained Director-level experience at an industrial seed-stage company. As an entrepreneur, Mary exited a machine-learning technology in the agri-technologies sector, AgRegKit. The patent-pending technology was awarded a Premier's-Award For Agri-Food Innovation Excellence in 2017.

Mary graduated from University of Guelph, with a Masters of Science focused on nutritional genomics and biochemistry. She holds her Project Management Professional (PMP) designation, and is currently pursuing her doctorate part-time at the University of Toronto.



Elizabeth Douville

AmorChem

Dr. Elizabeth Douville is Managing Partner and co-founder of AmorChem, a Québec-based seed venture fund dedicated to financing and commercializing university-based life sciences technologies. Launched in 2011 with a capital of \$41,25M, the AmorChem fund model uniquely combines access to financial resources with a virtual incubator structure that enables the rapid development and commercialization of life science technologies. The first fund successfully built a portfolio of 24 technologies, leveraged its initial capital to close to \$76M with non-dilutive sources, transacted two pharma exits and spun out six biotech companies. The AmorChem II fund was launched in September of 2017 and now has \$53.7M in capital under management.

Elizabeth brings to AmorChem a deep and long standing experience in venture capital investing having been General Partner of GeneChem, a leading North American life

sciences venture capital fund manager. She joined GeneChem in 1997, moving rapidly from manager to partner with the different funds under management. Elizabeth trained as a biochemist, obtaining her PhD from the University of Ottawa and a post-doctoral fellow from the Imperial Cancer Research Fund in London, UK. She also has a business degree from CIREM/HEC.



Evelyn Eggenstein

Arbor Biosciences

Dr. Evelyn Eggenstein is product development scientist at Arbor Biosciences, where she heads the myTXTL[®] Cell-Free Protein Expression product line. In this role, Eggenstein leads R&D operations, coordinates manufacturing and QC processes, and markets the myTXTL[®] platform.

Prior to this role, Eggenstein completed her Ph.D. in Prof. Arne Skerra's laboratory at the Technical University Munich, where she focused on the construction of Anticalin[®] fusion proteins for therapy and diagnostics. She successfully showed that Anticalins[®] are a promising alternative to antibodies, and bispecific fusion protein thereof are highly suitable for pre-targeted radio-treatment of cancer diseases. After moving to the Detroit area, Eggenstein pursued her passion for protein science and joined Arbor Biosciences to develop and market the all-*E. coli* cell-free platform myTXTL[®]. This has allowed Arbor Biosciences to become a provider of comprehensive solutions in the synthetic biology market starting from DNA synthesis to protein expression.

Eggenstein holds a patent on a collection of muteins of a1m lipocalin and methods of their production. Eggenstein received a B. S. and M. S. in molecular biotechnology from Technical University Munich.



Pratish Gawand

Ardra Inc.

Pratish Gawand is the CEO of Ardra Inc. Dr. Gawand holds a PhD in Chemical Engineering from the University of Toronto and M. Tech in Bioprocess Engineering from ICT, Mumbai. His previous experience includes his role as a Development Scientist at Biocon Ltd., India's largest biotech company, where he was responsible for fermentation scale-up for small-molecules production. Dr. Gawand started Ardra during his post-doctoral fellowship at the University of Toronto, and is leading business development as well as financing effort for the start-up.



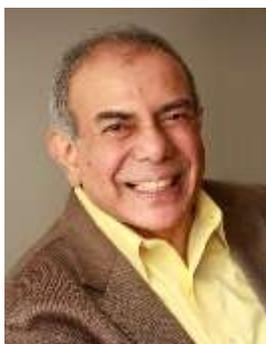
Bettina Hamelin

Ontario Genomics

Before joining Ontario Genomics as President and CEO in August 2017, Bettina served as Vice-President of NSERC's Research Partnerships Directorate, where she was responsible for a range of programs designed to stimulate increased public/private sector collaboration and technology transfer by connecting the Canadian research enterprise to Canadian and global innovation stakeholders. Bettina has more than 15 years of experience in the biotech and international pharmaceutical industry as well as 10 years of academic experience as a tenured professor at the Faculty of Pharmacy at Université Laval.

Prior to joining NSERC Bettina held a variety of leadership positions at Pfizer Canada, most recently as Canadian Medical Lead, Vaccines, and Head, Strategic Research Partnerships, Western Canada. Passionate about R&D, she excels at bringing together unlikely partners to attract and leverage funds from diverse sources. She is known for pioneering novel public-private partnership models, and breaking down barriers between federal, provincial and private sector stakeholders.

Early roots in biology and chemistry (Vordiplom, Universität Kaiserslautern, Germany) have led Bettina to complete a B.Sc. in pharmacy and a Doctor of Pharmacy, both from the University of Kentucky, U.S. and an EMBA in Healthcare from the University of British Columbia, Canada.



Ganesh Kishore

Spruce Capital Partners

Dr. Kishore is a co-founder and Managing Partner at Spruce Capital Partners. He has a distinguished track record of accomplishments in biotechnology research and development and business. After receiving a Ph.D. in biochemistry from the Indian Institute of Science, Dr. Kishore received postdoctoral training in chemistry and biology at the University of Texas at Austin.

He then joined Monsanto, where he made contributions to the discovery of Roundup Ready technology and the synthesis of Aspartame. During his tenure at Monsanto, he was named a Distinguished Science Fellow and won the prestigious Queeny Award. Before moving to DuPont, he served as the President of Monsanto's Nutrition & Consumer Sector.

He joined DuPont as the Chief Technology Officer of Agriculture & Nutrition. He retired from DuPont as Chief Biotechnology Officer to join Malaysian Life Science Capital Fund, as CEO and later co-founded Spruce Capital Partners.

He serves on the board of several companies, academic institutions, and the advisory board of Scientific American. He's a recipient of Bio's Legacy Award, ASPB's Innovation Award.



Jess Leber

Ginkgo Bioworks

Dr. Jess Leber has over 20 years of experience and expertise as a microbiologist, molecular biologist, and metabolic engineer. He received his training at MIT, UC San Francisco, and UC Berkeley. Until 2008, Dr. Leber was an Assistant Professor of Microbiology at the University of Chicago before joining renewable fuels company Joule Unlimited where he served in both scientific and commercial roles. As Head of Business Development - Small Molecule APIs at Ginkgo, Dr. Leber brings his technical background to help identify commercial opportunities, including leading Ginkgo's collaboration with The Cronos Group.

Headquartered in Boston and spun out of MIT, Ginkgo Bioworks is making biology easier to engineer, revolutionizing industrial metabolic engineering through the use of state-of-the-art automated organism engineering foundries and an unparalleled genetic codebase. Ginkgo has raised over \$600MM in private investment, has

partnerships spanning a range of industries and announced collaborations such as ADM, Cargill, Ajinomoto, and Bayer Crop Sciences. For the new cannabis economy, Ginkgo's technology platform can be used to deliver a range of low-cost, high-quality existing and novel cannabinoids at scale.



Marc LePage

Genome Canada

Marc LePage is President and CEO of Genome Canada. Before assuming this role in January 2016, he served as President and CEO of Génome Québec since December 2011, where he led a major increase in research activity and enhanced focus on the development of genomic applications within priority sectors within the province.

He brings a wealth of experience in the innovation sector and venture capital, in addition to a broad network of international contacts. He is an expert in international partnerships and previously served as Special Advisor, Climate Change and Energy for the Embassy of Canada in Washington, D.C. and worked as Consul General at the Canadian Consulate in San Francisco/Silicon Valley.

Marc LePage was also one of the pioneers behind the founding of Genome Canada in 2000. During his tenure as Executive Vice-President of Corporate Development, he made a significant contribution to the development of genomics in Canada.

From 1994 to 2000, he worked as Director of Business Development for the Medical Research Council, where he was in charge of building international partnerships with the pharmaceutical industry, venture capital and foundations.



Michael Lohuis

Semex Alliance

Dr. Lohuis is Vice-President, Research & Innovation for Semex Alliance (Guelph, Ontario, Canada) a global dairy and beef breeding cooperative with sales of genetic products and services worldwide. Semex actively utilizes genetic, genomic and reproductive technologies to accelerate genetic progress for production, health and economic traits in cattle.

From 1998-2017, Dr. Lohuis worked at Monsanto company (St. Louis, MO) leading a range of R&D programs in animal and plant genetics & genomics, statistics, patent science and environmental & climate change modeling. Prior to joining Monsanto, Dr. Lohuis was an Assistant Professor in the Animal Breeding Department, University of Guelph, Ontario, Canada. He obtained his Ph.D. in animal breeding and B.Sc. in animal science at the University of Guelph. Dr. Lohuis began his career in the Canadian dairy cattle breeding industry as a bull procurement expert and research coordinator of advance reproductive technology trials.



Krishna Mahadevan

Institute of Biomaterials and Biomedical Engineering at the University of Toronto

Dr. Krishna Mahadevan is a Professor in the Departments of Chemical Engineering & Applied Chemistry, and Institute of Biomaterials and Biomedical Engineering at the University of Toronto. He obtained his B. Tech from Indian Institute of Technology, Madras in Chemical Engineering in 1997 and then obtained his Ph.D. degree from the University of Delaware in Chemical Engineering in 2002. He was a research scientist at Genomatica Inc., San Diego from 2002–06 and has also held appointments as a visiting scholar and a guest lecturer at the Department of Bioengineering in the University of California, San Diego, and in the Department of Microbiology, University of Massachusetts, Amherst. His research interests are in the area of modeling, analysis and optimization of metabolism for applications in bioremediation, biochemicals production and medicine. He has received David W. Smith Jr. Best Paper Award in 2006, the Jay Bailey Young Investigator Award in Metabolic Engineering in 2010, the Society of Industrial Microbiology and Biotechnologists' Young Investigator Award in 2012, University of Toronto FASE Research Leaders Award in 2013, the Alexander von Humboldt Fellowship in 2014 and the Syncrude Innovation Award in 2014.



Serge Marchand

Génome Québec

With 30 years of experience in the Québec research field, Serge Marchand has an impressive track record in the science sector. Before joining Génome Québec in January 2019, Serge served as the Scientific Director of the Fonds de recherche du Québec – Santé from 2017 to 2019, an experience that helped him better understand and promote provincial, national and international interactions among members of the academic community, industry and politics in support of science and research progress in Québec.

Having completed his PhD in Neurological Sciences, Serge was Professor at the Faculty of Medicine and Health Sciences at Université de Sherbrooke for over 15 years. As a scientist, he was affiliated to the Sherbrooke University Hospital Research Center, within the Inflammation-Pain axis, axis that he created and developed. From 2008 to 2013, he was the Research Center's Scientific Director, period during which he obtained funding to double the space of the center and new medical imaging equipment.

Author of over hundred scientific articles and recipient of several distinctions, Serge has served on numerous national and international committees and boards. Within his mandate, he will be responsible for the overall vision of Génome Québec's Scientific Affairs Branch and developing initiatives that meet the needs of strategic sectors while focusing on generating wealth here in Québec.



Emily Marden

University of British Columbia

Emily Marden is Research Associate at the University of British Columbia Faculty of Law as well as Counsel in Sidley Austin LLP's Food and Drug Regulatory law group. She has extensive experience counselling on regulatory aspects of novel genetic technologies, including potential applications of gene therapy, genome editing, and synthetic biology. She has led the social science (i.e. GE³LS) research on a number of Genome Canada projects focusing on regulation/governance of genomics and innovation policy. Her current research, as part of the Large-Scale Applied Research Project "Genomics of Abiotic Stress Resistance in Wild and Cultivated Sunflowers" led by Prof. Loren Rieseberg at the University of British Columbia, is focused on the role of international treaties for agricultural genomics research and innovation. Emily is actively engaged in international dialogue on these issues. Emily has a degree in molecular biology from Harvard University, graduate degrees in the History and Philosophy of Science from Harvard University and the University of Cambridge, as well as a Law degree from the New York University School of Law.



Sandy Marshall

Bioindustrial Innovation Canada

Sandy was raised on a farm near Blyth Ontario before graduating with Bachelor of Applied Science Degree (BASc) and Masters of Applied Science Degree (MASc) in Chemical Engineering from the University of Waterloo. He started his professional career in 1984 with Polysar Inc., a Canadian rubber manufacturer. Over his 30 year career in the chemical and polymers industry, he worked in research and process, product development and market development before moving into Operations and General Management. Sandy had two international assignments, one in Germany and a second in Cincinnati USA. Sandy finished his corporate career as President and Managing Director responsible for Canadian Operations of Lanxess Canada.

Sandy is a proven Senior Executive with strategic planning and general operations management expertise gained in the polymer and chemistry industries. Results have been achieved through effective analysis of management processes, deep understanding of organizations, and quickly translating them to business opportunities. He is an innovative thinker, recognized for strong leadership, negotiation and relationship building skills. Experience includes P&L responsibility, R&D scale-up, Board of Directors membership and interaction with government at the federal, provincial and local level. Sandy has been recognized as a leader committed to Corporate Social Responsibility and environmental sustainability in Canada. Sandy is Executive Director of Bioindustrial Innovation Canada (BIC), President and CEO of Sustainable Chemistry Alliance, Chairman of the Board of Governors at [Lambton College](#), Chairman of the External Advisory Board for the [Biorefinery Research Institute at Lakehead University](#) and is also member of the Boards of [BIOTECanada](#) and [Soy20/20](#).



Vincent Martin

Concordia University

Vincent Martin is a Professor of Biology at Concordia University where he currently holds the Concordia University Research Chair in Microbial Engineering and Synthetic Biology. He is the Founder and Co-Director of the Concordia Centre for Applied Synthetic Biology and The Genome Foundry, a unique CFI-funded technology platform that aspires to accelerate the design-build-test cycle of biological engineering. Prof Martin earned his BSc in Microbiology from McGill University, his MSc in Environmental Biology from the University of Guelph and his PhD in Microbiology from the University of British Columbia. He is the co-founder of Amyris Inc, a renewable products biotech company. In 2014 Prof Martin was elected to the Royal Society of Canada, College of New Scholars, Artists and Scientists.



Ubaka Ogbogu

University of Alberta

Dr. Ubaka Ogbogu is an Assistant Professor and the Katz Research Fellow in Health Law and Science Policy at the University of Alberta. He is cross-appointed to the Faculties of Law and Pharmacy and Pharmaceutical Sciences. Dr. Ogbogu is a recipient of the Confederation of Alberta Faculties Association Distinguished Academic Early Career Award and he has been nominated for the Faculty of Law's Tevie Miller Teaching Award. He holds a doctorate in law from the University of Toronto, a Master of Laws degree from the University of Alberta, and undergraduate degrees in law from the University of Benin, Nigeria and the Nigerian Law School. His research and teaching interests are in torts, health law, law and biotechnology, biomedical law and bioethics, science policy studies, legal theory, and medical malpractice law. He is an expert on the legal, ethical and social issues associated with stem cell research and other novel and emerging biotechnologies and on the impacts of commercialization policies on the conduct and societal impact of cutting-edge scientific research. His publications have appeared in prestigious academic journals, including *Nature Biotechnology*, *Cell*, *Healthcare Policy*, *Regenerative Medicine*, and the *McGill Journal of Law and Health*. He frequently provides commentary to the media on health and science policy matters, and he has been involved in prominent national and international biotechnology policy-making activities. Dr. Ogbogu was recently appointed to the Board of Directors of the Health Quality Council of Alberta and he is a member of the Council of Canadian Academies Expert Panel on Medical Assistance in Dying. His book, *Law for Healthcare Providers* (co-authored with Professor Erin Nelson) was published by Lexis Nexis in Fall 2018.



Sean O'Sullivan

SOSV

Sean O'Sullivan is managing partner of SOSV, the world-leading "Accelerator VC". SOSV invests \$50 million per year and backs more than 150 new startups annually through its accelerators. Recognized in 2017 as the world's #1 most active global early stage investor and the #2 most active global seed investor*, SOSV is also the #1 most active investor in hardware and life sciences, helping startups get further and go faster.



Kelley Parato

National Research Council

Dr. Kelley Parato, Program Director, Health Challenge Program, at the National Research Council has more than 15 years executive and research experience in the development, management and evaluation of both fundamental discovery and applied translational research programs in the academic, non-for profit and biotech industry. Most recently, as Director of Scientific affairs at BioCanRx, she developed and implemented its strategic plan, and managed ~\$18.5M in research grants and contribution funding including oversight for the first made-in Canada CAR-T capacity building project. Previously, she has held a number of other positions including Research Program Manager for Canadian Oncolytic Virus Consortium, Clinical Research Program manager for Ontario Regional Biotherapeutics program (ORBiT) and Director, Translational Research for Jennerex Biotherapeutics. Dr. Kelley Parato obtained her PhD in Microbiology and Immunology from University of Ottawa in 2003 followed by post-doctoral training with Dr. John Bell where she researched how oncolytic viruses and the immune system work together to fight cancer. She is passionate about fostering multi-sectorial research teams to support the translation of scientific health research into innovative medicines that benefit Canadians.



Keith Pardee

University of Toronto

Keith Pardee is the Canada Research Chair in Synthetic Biology in Human Health and is an Assistant Professor at the Leslie Dan Faculty of Pharmacy at the University of Toronto. He holds an Honors B.Sc. in Biological Sciences from the University of Alberta, a M.Sc. in Natural Products Chemistry from the University of British Columbia, and a Ph.D. in Molecular Genetics from the University of Toronto. His postdoctoral studies with Jim Collins (Wyss Institute, Harvard University), one of the founders of the field of synthetic biology, served to translate this training into his current focus in applied biological research.

His lab works in the field of synthetic biology, and specifically is focused on pioneering *in vitro* devices to host cell-free synthetic gene networks for broad applications in sensing and human health. To do this freeze-dry the enzymes of transcription and translation and genetically encoded tools are embedded into porous materials, such as paper. Using this approach, they create a biosafe platforms for low cost diagnostics (e.g. Ebola and Zika viruses), the portable production of protein-based therapeutics (e.g. vaccines) and classroom education. Ongoing work is dedicated to producing small, programmable sensors and devices to de-centralize access to health care. <https://www.pardeelab.org>



Laura Prochazka

University of Toronto

Laura completed her PhD at ETH Zurich, under the supervision of Kobi Benenson, where she implemented RNAi-based logic gene circuits for detection and destruction of specific cancer cell types and created a new “bow-tie” framework that greatly expanded the spectrum of applications for these gene circuits. At the Zandstra Lab, she is developing a synthetic biology platform for genetic engineering of human PSCs (hPSCs). With this platform, she envisions building gene networks that can be programmed to perform specific and predictive functions inside hPSCs without disturbing the cells’ pluripotency characteristics. Over the long term, she aims to develop synthetic reporting and control systems to dissect and promote the in vitro generation of hPSC-derived progenitor T cells to complement our lab’s ongoing efforts in scalable manufacturing technologies for immunotherapy.



Vardit Ravitsky

Université de Montréal

Vardit Ravitsky is Associate Professor at the Bioethics Program, School of Public Health, University of Montreal and Director of Ethics and Health at the Center for Research on Ethics. Ravitsky is Vice-President of the International Association of Bioethics, member of the Standing Committee on Ethics of the Canadian Institutes of Health Research (CIHR) and of the Institute Advisory Board of CIHR’s Institute of Genetics. She is also member of the National Human Genome Research Institute’s (NHGRI) Genomics & Society Working Group. Previously, she was faculty at the Department of Medical Ethics at the University of Pennsylvania.

Ravitsky's research focuses on the ethics of genomics and reproduction and covers a variety of topics such as: public funding of In-Vitro Fertilization (IVF); the use of surplus frozen embryos; posthumous reproduction; pre-implantation genetic diagnosis (PGD); gamete donation; epigenetics; prenatal testing, in particular the ethical, social and legal aspects of Non-Invasive Prenatal Testing (NIPT); germline and somatic gene editing; and mitochondrial replacement. She published over 120 articles and commentaries on bioethical issues. She holds a BA from the Sorbonne University in Paris, an MA from the University of New Mexico in the US, and a PhD from Bar-Ilan University in Israel.



Janet Rossant

SickKids

Dr. Janet Rossant, SickKids Chief of Research and a world-renowned expert in developmental biology, is the definition of a trailblazer. Widely known for her studies of the genes that control embryonic development in the mouse, Rossant has pioneered techniques for following cell fate and altering genes in embryos. This work continues to resonate in medical genetic research. Her current research focuses on stem cell development and cell differentiation in the developing embryo, important areas for the study of birth defects as well as regenerative medicine. Firmly planted on the front lines of technological change, Rossant has established SickKids as a global forerunner in genetic research.

Dr. Rossant trained at the Universities of Oxford and Cambridge, United Kingdom and has been in Canada since 1977, first at Brock University and then at the Samuel Lunenfeld Research Institute within Mount Sinai Hospital in Toronto, from 1985 to 2005. She joined SickKids in 2005. Dr. Rossant has been recognized for her contributions to science with many awards, including the Ross G. Harrison Medal (lifetime achievement award) from the International Society of Developmental Biologists, the Killam Prize for Health Sciences, the March of Dimes Prize in Developmental Biology, the Conklin Medal from the Society for Developmental Biology, and the CIHR Michael Smith Prize in Health Research. She is a Fellow of both the Royal Societies of London and Canada, and is a foreign Associate of the US National Academy of Science. Rossant was most recently recognized in October 2014 with the 10th ISTT Prize, from the International Society for Transgenic Technologies in Edinburgh, Scotland.



Michael Tyers

Université de Montréal

Mike Tyers is a Principal Investigator at the Institute for Research in Immunology and Cancer and a Professor in the Department of Medicine at the University of Montreal, where he holds a Canada Research Chair in Systems and Synthetic Biology. He is also a Visiting Professor at the University of Edinburgh and an Associate Member of the Lunenfeld-Tanenbaum Research Institute of Mount Sinai Hospital in Toronto. He is a Fellow of the Royal Society of Canada, a Member of the European Molecular Biology Organization, and a Fellow of the Royal Society of Edinburgh. His current research interests are in the systems genetics and quantitative modeling of cell size control, enzymology and protein recognition in the ubiquitin-proteasome system, the mapping of drug-gene interaction networks by CRISPR/Cas9 genome-wide screens, mass spectrometry-based analysis of protein interactions and modifications, the generation of open-access databases and software tools for analysis of biological interaction data, and the development of synthetic biology approaches for early stage drug discovery in infectious disease, neurobiology and cancer.