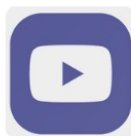
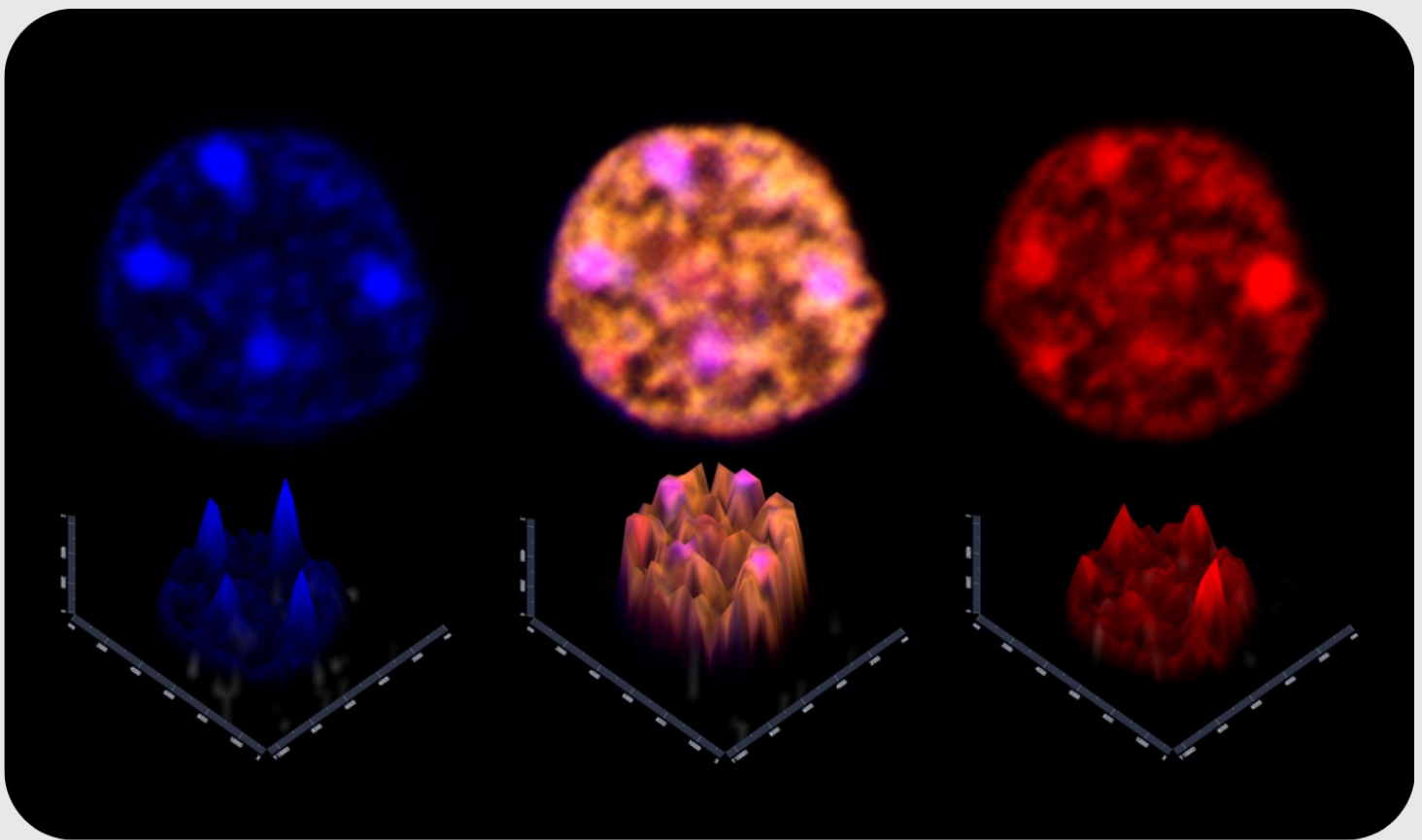


# CSMB BULLETIN

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## 2025



Canadian Society for Molecular Biosciences  
Société Canadienne pour les Biosciences Moléculaires

# Table of Contents

TITLE	PAGE NO.
<b><u>Board of Directors</u></b>	<b>1</b>
• Executive Committee	1
• CSMB Board Members	3
<b>President's Report</b>	<b>5</b>
<b><u>News from Member Departments</u></b>	<b>8</b>
• Hospital for Sick Children Research Institute, Toronto - Molecular Medicine Program	8
• McMaster University - Department of Biochemistry and Biomedical Sciences (BBS)	10
• Simon Fraser University - Department of Molecular Biology and Biochemistry	12
• Toronto Metropolitan University - Department of Chemistry and Biology	14
• Université de Montréal - Department of Biochemistry and Molecular Medicine	16
• University of Alberta - Department of Biochemistry	21
• University of British Columbia - Department of Biochemistry and Molecular Biology	22
• University of Lethbridge - Department of Chemistry and Biochemistry	24
• University of Manitoba - Department of Biochemistry and Medical Genetics	25
• University of Ottawa - Department of Cellular and Molecular Medicine	27
• University of Toronto - Department of Biochemistry	30
<b>CSMB Award Winners</b>	<b>32</b>
<b>CSMB Fellows</b>	<b>34</b>
<b>CSMB Trainee Ambassador Program</b>	<b>36</b>
<b>ASBMB Update</b>	<b>37</b>
<b>Proceedings of the CSMB 2024 Conference (Published 2025)</b> <a href="https://doi.org/10.1139/bcb-2025-0146">https://doi.org/10.1139/bcb-2025-0146</a>	<b>38</b>

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Figure on the cover page is a courtesy of Dr. Rastegar Laboratory (University of Manitoba)  
Bulletin document is prepared by Ashraf Kadar Shahib and Mojgan Rastegar

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*Dr. Tarik Möröy*

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*Dr. Hans-Joachim Wieden*

# Board of Directors

## Board Members

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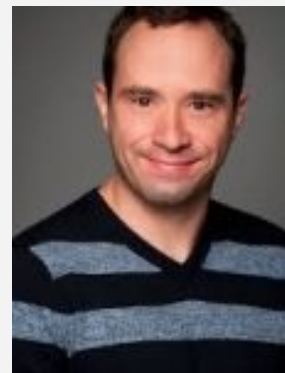
*Dr. Mohan Babu*

# Board of Directors

## Board Members

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*Dr. Michael Downey*

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*Dr. Costin Antonescu*

## Trainee Representatives

**Fabian Rohden**

University of Manitoba, MB



*Fabian Rohden*

**Chris-Tiann Roberts**

Ross University School of Medicine, FL



*Chris-Tiann Roberts*

# President's Report

December 19, 2025

Dear Members, Colleagues and Friends of CSMB,

As the year 2025 comes to a close, the Canadian Society for Molecular Biosciences (CSMB) celebrates a year marked by vibrant scientific engagement, impactful advocacy efforts, and growing support for trainees and researchers across Canada. Throughout the past year, our Society has fostered an environment where researchers and members actively exchanged ideas, collaborated on innovative projects, and contributed to the advancement of molecular biosciences in Canada. Together, the community has strengthened the national voice for molecular biosciences at a pivotal and very crucial moment for research and innovation.

The overall mandate of our Society is to advance and promote molecular biosciences in Canada, and to serve the membership of CSMB. Trainees and Principal Investigators join our Society in order to find a scientific home but also to establish a network of peers that share common interests and common concerns. Being part of CSMB allows our members to serve the greater scientific community in Canada and also to influence the scientific discourse through advocacy and recognition. For example, during the Federal elections earlier this year, CSMB was very active in advocating for the life sciences and for science funding through various means.

Our Society has multiple committees, each dedicated to a certain specific goal. This year has been very busy for our committees working to achieve these goals. Since I became President one of my main goals has been to increase the Society's membership and further strengthen our Society's impact among its peer societies. Therefore, several initiatives were undertaken with these goals in mind. These initiatives included the creation of CSMB Fellows awards category to recognize the achievement of CSMB members who contributed significantly to our Society. We also initiated a Mentorship program for new PIs, which is led by Dr. Costin Antonescu, to pair senior researchers with junior researchers. In an effort to attract undergraduate students to our Society and serve their ambitions, an Education and Undergraduate Affairs Committee was established. The committee is tasked with enhancing undergraduate student engagement with the CSMB by organizing events and providing information pertinent to the students' academic and professional development. The Committee is chaired by Dr. Scott Covey and includes four teaching stream Professors and a trainee. The Trainee Committee initiated a CSMB Trainee Ambassadors program to further engage graduate students with our Society. Thanks to the efforts of the Communications and Publications Committee chaired by Dr. Mojgan Rastegar (Vice President of CSMB), we restarted our annual Bulletin which was published in mid 2025 with very positive feedback from our community.

## Scientific events and meetings

In May 2025, CSMB held the 68th Annual Conference jointly with the 4th PRinCE meeting at the University of Ottawa with the theme "Protein Homeostasis – From Basic Science to Human Health". The meeting brought together about two hundred researchers to discuss topics ranging from protein folding and autophagy to neurodegeneration and cardiovascular health. Attendees benefited from keynote lectures, invited talks, trainee posters, outreach, and networking events that highlighted Canadian leadership in the molecular biosciences.

# President's Report



*The CSMB 2025 conference in Ottawa*

At the meeting, many of our researchers were recognized by prestigious awards from our Society. These include (1) the 2025 CSMB Fellow to Drs. Imogen Coe, John Orłowski, and Jan Rainey, (2) Canadian Science Publishing Senior Investigator Award to Dr. Aaron Schimmer, (3) CSMB Jeanne Manery Fisher Memorial Lecture Award to Dr. P. Lynne Howell, and (4) CSMB New Investigator Award to Dr. Heather McFarlane. In addition, travel awards, poster awards, and best talk awards were given. PRinCE also gave the Jason Young Graduate Student Award and Best Webinar Presentation Award. I thank Dr. Jyh-Yeuan (Eric) Lee, who also serves as CSMB Treasurer, for leading the organization of this excellent meeting.

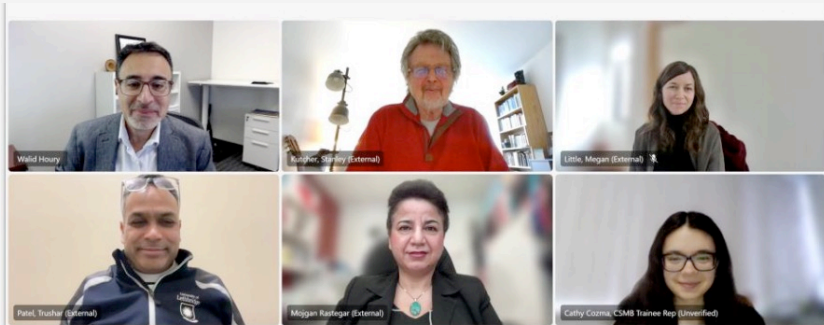
In 2025, the Society provided financial support to ten graduate student activities and one undergraduate student activity. These student-related activities included workshops, student-focused research conferences, and career fairs. Our Trainee Committee organized a monthly Trainee research seminar series and also the highly attended seminars on “Fantastic Careers and Where to Find Them” and “AI in Publishing”. You can view the trainee seminars on the CSMB YouTube: <https://www.youtube.com/@CSMB-SCBM>. Finally, the Education and Undergraduate Affairs Committee held their first virtual event on applying to graduate school for undergraduates with the title “So You Want to Go to Graduate School, Eh?”. The event was widely successful with more than 240 registrants, highlighting the need for a national organization such as CSMB to provide an overall guidance and direction of our undergraduate trainees.

## Advocacy efforts

CSMB continued to act as a strong advocate for robust and sustainable funding for fundamental research in Canada. During the elections period, we sent the costed party platforms to CSMB members. The Society made a pre-budget submission to Finance Canada’s consultation ahead of Budget in March and then in August. We also made a submission to the Department of Finance ahead of the 2025 Budget in August. In November, we sent out a statement to our members on the Government’s 2025 budget, welcoming new investments while raising concerns about remaining gaps in support for discovery science. In this regard, we published an article in *The Hill Times* (Sept 24, 2025) under the title “The Unsung Guardians of Canadian Dominion, Innovation, and Prosperity” (<https://www.hilltimes.com/story/2025/09/24/the-unsung-guardians-of-canadian-dominion-innovation-and-prosperity/474031/>) highlighting the importance of sustainable investment in basic research for Canada’s economy. It is a recommended read.

# President's Report

We worked closely with Research Canada and also met several MPs and senators during the year. Several CSMB Advocacy and Government Relations Committee members were in Ottawa the week of November 17-21 to attend events aimed at advocating for investments in Canadian science. These events included visits with MPs, the Science Meets Parliament event, the Canadian Society Policy Conference, and the Friends of CIHR meeting.



Meeting with Senator Stan Kutcher (Feb 5, 2025)



CSMB current and past leadership were in Ottawa November 17-21 (2025) to engage with policy and decision-making individuals during the Science Meets Parliament and the Canadian Society Policy Conference. Left to right: Drs. Trushar Patel, Kristin Baetz, Walid A. Houry, Reinhart Reithmeier, and Hans-Joachim Wieden



Board meeting Dec 5, 2025



Dr. Hans-Joachim Wieden (Past President of CSMB) and Dr. Trushar Patel (CSMB Advocacy and Government Relations Committee co-chair) met with MP Salma Zahid (Liberal MP from ON; Chair of the Standing Committee on Science and Research) at her office in Ottawa (Nov 20, 2025)

## Looking forward

In 2025, CSMB witnessed a notable increase in initiatives supporting trainees and early-career researchers nationwide. By empowering the next generation of scientists, the Society continues to ensure a vibrant and sustainable future for molecular biosciences across the country.

Collectively, our community has succeeded in amplifying the national voice for molecular biosciences. We aim to continue to increase our activities in 2026 by launching new initiatives and hosting new events that our Committees are currently planning. These will also include collaborations with our sister societies ASBMB and PABMB.

Finally, make sure to attend our 69th CSMB meeting on “Membrane Proteins in Health and Disease” in April 2026. The meeting is co-Chaired by Drs. Emmanuelle Cordat & Harley Kurata and will be held at the Banff Centre for Arts and Creativity located in Banff, at the heart of the Canadian Rockies.

On behalf of the CSMB Executive and Board members, thank you for your engagement, your science, and your support throughout 2025. Wishing you a restful holiday season and a productive, inspiring 2026.

Best regards,  
Walid A. Houry  
President, Canadian Society for Molecular Biosciences

# News from Member Departments

## HOSPITAL FOR SICK CHILDREN RESEARCH INSTITUTE, TORONTO Molecular Medicine Program

### New Faculty Appointments



*Dr. Michal Koziarski*

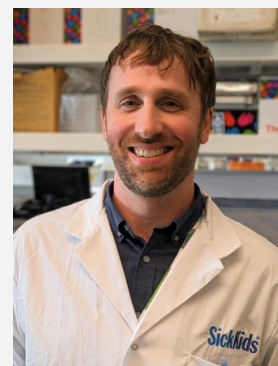
**Michal Koziarski:** Michal Koziarski was hired as a Scientist in 2024 and recently completed his first year in Molecular Medicine, following the Molecular Engineering by Machine Learning search, which was co-led by Julie Forman-Kay and Jason Moffat. He was previously a post-doctoral fellow with Dr. Yoshua Bengio at Mila, the Quebec Artificial Intelligence Institute, working on applications of machine learning to drug and materials discovery, with a focus on GFlowNets. Dr. Koziarski's current research program focuses on generative machine learning to facilitate the search for novel small molecule interventions, with an active interest in cellular senescence.

**Osama Abdin:** Osama Abdin was also hired as a Scientist from the Molecular Engineering by Machine Learning search and joined Molecular Medicine in May 2025. He obtained his PhD under Dr. Philip Kim at the University of Toronto and then joined Microsoft Research AI for Science in London, England, as a core contributor to the Biomolecular Emulator team under the leadership of Dr. Frank Noe. Dr. Abdin spearheaded the development of deep learning approaches for the scalable modelling of protein equilibrium ensembles. His current focus is on using deep learning approaches for modelling and designing peptides and small proteins.



*Dr. Osama Abdin*

**Greg Beilhartz:** Greg Beilhartz was hired in the role of Technical Innovation Investigator (TII). This represents a new role within the Research Institute that was created to catalyze the development of experimental research platforms and to advance technology development activities and computational and statistical approaches to complex data analysis. Dr. Beilhartz obtained his PhD at McGill University, and was a post-doctoral fellow and senior research associate with Roman Melnyk before transitioning to this current role. One of Dr. Beilhartz's current projects is on tumor-specific delivery of a bacterial protease that degrades RAS oncoproteins for the treatment of various cancers. He is building his TII program around the machine learning-driven design of synthetic protein binders and the development of new methods for the targeted intracellular delivery of protein-based and RNA-based biologic agents.



*Dr. Greg Beilhartz*

### Appointment to Senior Scientist Emeritus:

**Charles Deber:** As a Senior Scientist in the Research Institute at the Hospital for Sick Children, Charles Deber focused on fundamental and applied problems at the interface between peptide/protein chemistry and lipid/membrane biochemistry. His multifaceted approach, combining de novo design, synthesis of natural and 4synthetic model peptides, biophysical methods, and molecular biology, established detailed relationships among peptide/protein structures and their biological functions in membranes. Among 300 publications from his lab, Deber and his associates described the effect of CF-phenotypic mutants on the folding of the cystic fibrosis gene product CFTR; designed membrane-interactive cationic antimicrobial peptides (CAPs) that selectively kill bacteria without toxicity to mammalian cells; and explained the basis of aberrant membrane protein migration on SDS-PAGE gels.



*Dr. Charles Deber*

# News from Member Departments

Dr. Deber was also an active contributor to the teaching program in the U of T Biochemistry Department, including being part of the team teaching “Introductory Biochemistry” to classes of >1,200 students. The American Peptide Society honored Dr. Deber with the Bruce Merrifield Award (2017) for “Outstanding Lifetime Accomplishment in Peptide Research, recognizing the highest level of scientific creativity.” Deber was elected a Fellow of the Royal Society of Canada (FRSC) in 2001.



*Dr. Roman Melnyk*

## Leadership Transitions in Molecular Medicine Program Head

**Roman Melnyk:** On November 1, 2025 Roman Melnyk was appointed as the new Program Head of Molecular Medicine. Roman Melnyk is a Senior Scientist in the Molecular Medicine program and an Associate Professor of Biochemistry at the University of Toronto. He has also served as Scientific Co-Director of the SPARC Drug Discovery Core Facility since 2012, where he has led collaborative research initiatives and advanced the discovery of innovative protein-based and small molecule therapeutics, and works closely with the Industry Partnerships & Commercialization Office in his role as Faculty Liaison, to bring new discoveries to market. Roman’s career spans both academia and industry.

He completed a postdoctoral fellowship at Harvard Medical School and spent five years as a Senior Scientist at the Merck Frosst Centre for Therapeutic Research, contributing significantly to preclinical drug discovery. Since joining SickKids in 2011, Dr. Melnyk has authored numerous high-impact publications that have helped uncover fundamental molecular mechanisms underlying bacterial toxin pathogenesis and the preclinical development of novel therapeutics for infectious diseases and cancer. His work has led to multiple patents and innovations that are now being actively translated toward clinical application, including the co-founding of a biotechnology company.

**Julie Forman-Kay:** On October 31 2025, Julie Forman-Kay completed her 10-year term as Molecular Medicine Program Head.

Julie Forman-Kay obtained a degree in chemistry from the Massachusetts Institute of Technology in 1985, then pursued graduate studies at Yale University in the laboratory of Frederic M. Richards. She also worked at the National Institutes of Health in the lab of Angela Gronenborn and Marius Clore. Dr. Forman-Kay joined the Hospital for Sick Children in 1992, where she continues to be a Senior Scientist in the Molecular Medicine program, Professor in the Department of Biochemistry (University of Toronto) and the Co-Director of the Structural & Biophysical Core Facility. Dr. Forman-Kay’s research focuses on structural, functional, and bioinformatic studies of intrinsically disordered proteins using a combination of computational and experimental approaches.



*Dr. Julie Forman-Kay*

In 2016, Dr. Forman-Kay was elected as Fellow of the Royal Society of Canada and in 2021, was elected as a Fellow of the Royal Society. Most recently, Dr. Forman-Kay was awarded a SickKids 150 Award, honoring individuals who have dedicated their careers to the SickKids Research Institute, with exceptional productivity.

Also of note is that Dr. Forman-Kay’s graduate student Zi Hao (Nemo) Liu won the University of Toronto Biochemistry Department 2025 David A. Scott Award. This is an annual honour that recognizes a graduate student who exemplifies outstanding all-around achievement across academic research, teaching, and service to the department.



# News from Member Departments

## McMASTER UNIVERSITY

### Department of Biochemistry and Biomedical Sciences (BBS)



*Dr. Lindsey Marmont*

The Department of Biochemistry & Biomedical Sciences at McMaster has enjoyed a year of remarkable growth and recognition across all aspects of its mission. Our faculty, staff, and students continue to define McMaster as one of Canada's most research-intensive universities, advancing knowledge in biochemistry and biomedical sciences while shaping the next generation of scientific leaders.

This year we welcomed new faculty colleagues, including Dr. Lindsey Marmont, who joined as an Assistant Professor, strengthening departmental expertise in microbial biochemistry and host-pathogen interactions. We also celebrated the early success of Dr. Kathleen Houlahan, who joined in 2024 and has quickly established herself as a leader in computational oncology, being named a Tier 2 Canada Research Chair and recipient of the 2024 Gairdner Early Career Investigator Award. Several faculty members were recognized

with national and international honours: Dr. Gerry Wright was elected a Fellow of the Canadian Academy of Health Sciences, Dr. Eric Brown received a 2025 Professor Entrepreneur Fellowship for his work in AI-driven drug discovery, and both Dr. Lori Burrows and Dr. John Whitney were recognized at the Banff Conference on Infectious Diseases with the Don Woods and William Paranchych Lecturer Awards, respectively. In July, Dr. Matthew Miller was promoted to Professor, a reflection of his outstanding contributions to research, education, and leadership in the field of vaccinology.



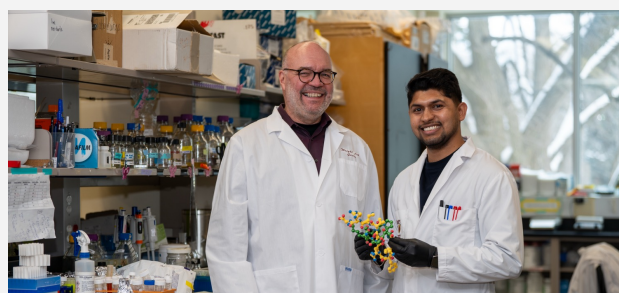
*Drs. Lori Burrows and John Whitney*

Our research community continues to thrive. Collectively, BBS researchers secured over \$21.5 M in competitive funding in 2025, with new awards to Dr. Lindsay Kalan from the Human Frontier Science Program and to Dr. Cameron Currie from CIHR standing out among many others. The discoveries themselves speak to the creativity and reach of our department. In just a few examples, in work published in *Nature*, the Wright laboratory reported the discovery of Lariocidin, a new class of lasso-shaped antibiotic that binds the ribosome at a previously untargeted site; Wright, Brown, and MacNeil labs described coniotins, a novel antifungal class derived from plant-associated fungi (*Nature Communications*); and Eric Brown's lab, in collaboration with Jonathan Stokes, revealed new strategies for antimicrobial therapy that exploits the fitness cost of antibiotic resistance (*Nature Microbiology*).



*Dr. Lindsay Kalan*

The Schertzer laboratory published important new insights into the links between metabolism, the microbiome, and disease (*Cell Metabolism*), while McMaster's inhaled COVID-19 vaccine program, led by Drs. Fiona Smaill, Zhou Xing, Brian Lichty, and Matthew Miller, entered phase-2 human trials. Beyond our campus, the Currie laboratory is exploring the unique symbiosis between fungus-farming ants and their bacterial partners, uncovering antimicrobials with the potential to address the global crisis of drug resistance.



*Drs. Gerry Wright and Manoj Jangra holding a 3D printed model of LAR (Nature paper)*

# News from Member Departments

Education and training remain at the heart of the department. The undergraduate Biochemistry program continues to attract some of McMaster's most accomplished students, while the Summer Scholars Program welcomed another talented cohort from equity-deserving groups into research training. New courses launching in 2025–26, including From Molecules to Medicine (BIOCHEM 1MM3) and Molecular Foundations of Genetics (BIOCHEM 3GN3), will expand our offerings at both the introductory and advanced levels. Graduate students distinguished themselves once again, securing numerous national awards across Tri-Council competitions and contributing impactful publications in leading journals. The BBS Impact Awards recognized trainees for their contributions to Nature Communications, Nature Machine Intelligence, and Nucleic Acids Research, underscoring the depth and quality of graduate training in our department.



*Dr. Brian Coombes*



*Summer Scholars Program graduating class, with Program Chair Caitlin Mullarkey (left) and BBS Chair Brian Coombes*

The Biomedical Discovery and Commercialization (BDC) program marked its 10th anniversary with a special BDC Engage event that brought together alumni, students, faculty, and industry partners to celebrate a decade of success. The program also hosted an alumni reunion in Toronto, an event that reflected the strength of the BDC community and its continued impact on the health sciences sector. Our community also celebrated two important transitions. We bid a fond farewell to long-serving staff member, Lisa Kush, who retired after 40 years of service in the Graduate Office, and Dawn Lilley, who retired after serving as Director of Administration. We were also pleased to recognize the promotion of Sarah Cumin to Director of Administration.

As we look ahead, the Department of Biochemistry & Biomedical Sciences is well-positioned to continue its trajectory of excellence. With new faculty bringing fresh expertise, established programs achieving national recognition, and students and trainees earning accolades for their discoveries, the department remains a vibrant hub of research, education, and innovation at McMaster and on the national stage.



*Dr. Kathleen Houlahan*



*Lisa Kush Retirement (Sarah Cumin, John Whitney, Lisa Kush, Brian Coombes)*



*MBDC Presentation Award Winners, BDC Engage 2025*

# News from Member Departments

## SIMON FRASER UNIVERSITY

### Department of Molecular Biology and Biochemistry

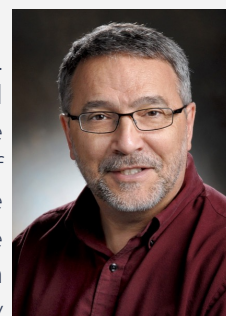
As we bring another productive and eventful year to a close, we are pleased to share the achievements and developments within the MBB Department. In 2025 we welcomed an esteemed scientist as a visiting faculty member and mourned the loss of another. We celebrated numerous faculty and student awards and funding successes and held some fun events. We encourage MBB Department alumni to follow us on LinkedIn to update us on their successes and career accomplishments.

**Appointment of Tom Cech to MBB faculty:** We are delighted to welcome Nobel Laureate Tom Cech to MBB as a President's Distinguished Visiting Scholar. Dr. Cech was awarded the Nobel Prize in Chemistry in 1989 along with Sidney Altman "for their discovery of catalytic properties of RNA". He has won more than 60 additional scientific awards, including the Canadian Gairdner Award and the National Medal of Science, and is as a former President of the Howard Hughes Medical Institute. As a Visiting Professor Dr. Cech is establishing new collaborations with MBB faculty members, teaching components of our "Nucleic Acids in Biotechnology" course, and working to promote RNA research in BC. He retains his position as Distinguished Professor at the University of Colorado Boulder.



*Dr. Tom Cech*

**Passing of Distinguished Professor, Glen Tibbits:** We were all deeply saddened by the loss of Dr. Tibbits, who passed away in November. He was cross-appointed to MBB and the Biomedical Physiology and Kinesiology Department and held an Adjunct Professor appointment at the University of British Columbia in the School of Biomedical Engineering and the Department of Cellular and Physiological Sciences. He was Co-Director of the Cellular and Regenerative Medicine Centre at the BC Children's Hospital Research Institute, a state-of-the-art facility he built for generating and phenotyping cardiomyocytes and pancreatic beta cells derived from human induced pluripotent stem cells. He was a stem cell research pioneer, an extraordinary scientist and leader, and a dear friend and colleague.



*Dr. Glen Tibbits*

**Faculty research funding and awards:** In funding news, **Tim Audas**, **Will Hsiao**, **Dustin King** and new faculty member **Dheva Setiাপutra** have secured CIHR Project Grants as Principal Investigators. **Fiona Brinkman** was honoured with a Genome British Columbia Award for Scientific Excellence at the 27th Annual Life Sciences BC Awards Gala. **Lisa Julian** won a Faculty of Science Excellence in Research Award in the Burgeoning Excellence Category and **Peter Unrau** was awarded the 2025 Dean of Graduate Studies Award for Graduate Supervision.



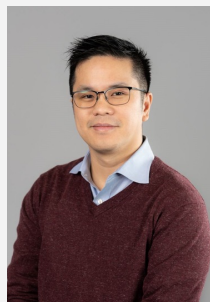
*Dr. Tim Audas*



*Dr. Will Hsiao*



*Dr. Dustin King*



*Dr. Dheva Setiাপutra*



*Dr. Fiona Brinkman*



*Dr. Lisa Julian*



*Dr. Peter Unrau*

# News from Member Departments

**Student awards:** Callum Brown (Morin lab), Jonathan Ho (Lee Lab) and Janeel Naidu (Setiাপutra lab) were awarded NSERC CGS-Ms (Canadian Graduate Scholarship - Masters Program). Jared Lim, an MSc student in the Paetzl Lab, won a 2025 Faculty of Science Graduate Student Teaching Award. The 2025 Bruce Brandhorst awards were given to Emma Lacroix (Audas lab) for Best PhD Thesis and Breanna Raymond (Quarmby lab) for Best Publication.



*Callum Brown*



*Jonathan Ho*



*Janeel Naidu*



*Emma Lacroix*



*Breanna Raymond*

**Noteable events:** This summer the Audas, Brinkman and King labs hosted Indigenous high school students for six-week internships in the seed2STEM pilot program. Our annual Graduate Colloquium, held at the Scandinavian Centre in Burnaby, featured Keynote Speaker Brad Nelson (BC Immunotherapy Program, Professor of Biochemistry & Microbiology, UVic) and many impressive student talks and posters. Our annual MBB Undergraduate Open House, held in October, had record attendance.



*Brad Nelson at the MBB Grad Colloquium 2025*

# News from Member Departments

## TORONTO METROPOLITAN UNIVERSITY

### Department of Chemistry and Biology

The Department of Chemistry and Biology encompasses multi-disciplinary interests in research and education and is home to almost 40 faculty. Our Chemistry research programs are generally focused on macromolecular, synthetic and medicinal chemistry. The research interests in Biology enjoy strengths ranging from biochemistry, molecular and cell biology, to genetics, microbiology and environmental biology. The breadth and variety of research interests creates an exceptional environment that permits cross-pollination of ideas and an open-concept milieu for learning and teaching. We are also the home department for the Molecular Science Graduate Program, which now hosts over 50 graduate students in Ph.D. and M.Sc. programs.

#### Faculty news:

**Dustin Little** was promoted to Associate Professor. The research in the Little lab is focused on understanding post-translational mechanisms at the host-pathogen interface, with the overarching objective that this knowledge will aid in the development of new antimicrobial disruption strategies benefiting human health and the environment.

#### Awards:

**Michael Olson** was the recipient of the Toronto Metropolitan University 2025 Sarwan Sahota Distinguished Scholar Award, which is awarded to established faculty members (mid to late career) who have made an outstanding contribution to knowledge or artistic creativity in their area(s) of expertise.

#### Post-doctoral funding:

**Patience Obi** was awarded a Toronto Metropolitan University Postdoctoral Fellowship for Black scholars in 2025. Dr. Obi's postdoctoral research in the **Michael Olson** laboratory focuses on investigating key proteins involved in ovarian cancer, assessing their functional significance in tumour progression, and evaluating their potential as therapeutic targets. By addressing critical gaps in ovarian cancer research and considering racial disparities in outcomes, her work aims to advance precision medicine and improve survival rates—particularly for Black women, who are disproportionately affected by the disease. Black scholars are among the most underrepresented in postdoctoral positions, tenured faculty positions, and in university leadership. Building on the recommendations of the Anti-Black Racism Campus Climate Review and reinforced by the Standing Strong committee recommendations, and as part of a wider commitment to equity, in recognition of the barriers to equal opportunities for education and employment, TMU implemented this program with the goals of building a more diverse and inclusive academe, and supporting the flourishing of Black scholarship. In particular, this program seeks to expand and advance Black scholarship and intellectual traditions, and support the academic endeavours of the Black community.

#### Faculty funding:

**Roberto Botelho** was a recipient of a CIHR Project grant "The functions and mechanisms of lysosome remodelling during immuno-stimulation of antigen-presenting cells" and an NSERC Alliance grant with **Raffi Karshaffian** and **Costin Antonescu** "AI-enabled Ultrasound-Microbubble Therapy System"

**Michael Olson** had his Tier 1 Canada Research Chair in Cytoskeleton Regulation and Function renewed in 2025.

# News from Member Departments

## Featured publications:

“Depletion of endomembrane reservoirs drives phagocytic appetite exhaustion in macrophages.” (*J. Cell Sci.* 2025, 138(16): jcs263539) Fountain *et al.* in the **Roberto Botelho** laboratory investigated how macrophages restrict their phagocytic appetite as they approached their phagocytic capacity. While multiple processes are at play, a key event is the depletion of endomembrane stores that locally exocytose to grow phagocytic cups.

“The LCLAT1/LYCAT acyltransferase supports EGF-mediated phosphatidylinositol-3,4,5-trisphosphate generation and Akt signaling.” (*Mol. Biol. Cell.* 2025, 35(9):ar118). In a collaboration between the **Roberto Botelho** and **Costin Antonescu** laboratories, Chan *et al.* showed that the LCLAT1 phosphatidylinositol acyltransferase, which enriches phosphatidylinositol in stearate at sn-1 position, is important to support receptor tyrosine kinase signaling. This shows for the first time that the acyl profile of phosphoinositides helps support cell signaling.

“Vacuolar pH regulates clathrin-mediated endocytosis through TORC1 signaling during replicative aging.” (*J. Cell Biol.* 2025, 224(11):e202412064.) Work by Antenor *et al.* in the laboratory of **Mojca Mattiazzi Usaj** revealed that clathrin-mediated endocytosis becomes less efficient in aging yeast cells due to loss of vacuolar acidity. This change in vacuolar pH alters TORC1-Npr1 signaling, delaying assembly of the early and coat modules and slowing endocytic dynamics. Restoring vacuolar acidity or modulating TORC1-Npr1 signaling preserves endocytosis, which may help maintain cellular function, including mitochondrial function, in aging cells.

“An electroporation cytometry system for long-term, live cell cycle analysis” (*Biomicrofluidics* 2024, 18:044105). In a collaboration between **Darius Rackus** and **Gagan Gupta**, a new system for live-cell cytometry coupled with pulsed electric fields was developed, which allows researchers to apply pulsed electric fields (e.g. for electroporation) to adherent cells while doing live-cell microscopy for over 24 hrs.

“Cargo-selective regulation of clathrin-mediated endocytosis by AMP-activated protein kinase.” (*iScience.* 2025, 28980: 113131). The **Costin Antonescu** lab published a paper by Orofiamma *et al.* revealing that AMPK regulates the behaviour of integrins via their clathrin-dependent internalization through a pathway involving regulation of the GTPase Arf6 and the clathrin-associated protein dab2.

“Interaction proteomics of Polycystins 1 and 2 reveal a novel role for the BLOC-1/BORC lysosomal positioning complex.” (*Mol. Cell Proteomics.* 2025, 24(11): 101091). Proximity-dependent biotinylation was used by Lukmani *et al.* in the **Gagan Gupta** laboratory to characterize the interactome of the polycystin (PC) 1 and 2 proteins, that are commonly affected in autosomal dominant polycystic kidney disease (ADPKD). These studies established a clear links of the BLOC-1/BORC complex to PC-1, opening up new avenues of research in ADPKD.

“Bromodomain proteins IBD1 and IBD2 link histone acetylation to SWRI- and INO80-mediated H2A.Z regulation in Tetrahymena.” (*Epigenetics Chromatin.* 2025, 18:51). Work by Garg *et al.* in the laboratory of **Jeffrey Fillingham** showed that H2A.Z chromatin dynamics are modulated by SWRI- and INO80-complexes that are differentially recruited to chromatin via distinct bromodomain proteins that recognize specific histone acetylation marks.

“Toggle-Untoggle: A cell segmentation tool with an interactive user verification interface.” (*J. Cell Sci.* 2025, 138(22):jcs264154). Grishchenko *et al.* in the **Michael Olson** laboratory developed a standalone desktop application that enables intuitive, code-free quality control of automated cell segmentation to facilitate accurate and efficient single-cell analysis of microscopy images.

# News from Member Departments

## UNIVERSITÉ DE MONTRÉAL

### Department of Biochemistry and Molecular Medicine

The Department of Biochemistry and Molecular Medicine (BMM) is a basic science department in the Faculty of Medicine at the Université de Montréal (UdeM). With a long-standing tradition of excellence and innovation in teaching and research, the BMM Department supports a vibrant community of ~350 undergraduate and ~200 graduate students. It offers undergraduate (BSc) and graduate programs (MSc/PhD) in both Biochemistry and Bioinformatics, a new MSc program in Biotechnology launched in 2024, as well as a postdoctoral diploma in Clinical Biochemistry, which renewed its five-year accreditation with the Canadian Academy of Clinical Biochemistry (CACB) in 2024. The BMM programs are supported by a diverse and accomplished faculty comprising 30 regular professors, 4 clinical professors, 8 clinical instructors, 4 adjunct professors, and over 60 accredited professors. The regular professors work either on the University's Main Campus or in affiliated research centers and institutes, such as the Institut de Recherche Clinique de Montréal (IRCM), the Centre hospitalier universitaire (CHU) Sainte-Justine and the Centre hospitalier de l'Université de Montréal (CHUM) Research Centers, and the Institut de Recherche en Immunologie et Cancérologie (IRIC).

In June 2023, Dr. Legault renewed his appointment as Chair of the BMM Department for a second four-year mandate. Since this is their first appearance in the CSMB Bulletin since 2021, they will provide a broad overview of recent news and developments from 2022 onward.

#### Major changes on campus: A new home and a new vision for biomedical research

Since its creation in 1964, the BMM Department had been headquartered in Pavillon Roger-Gaudry, UdeM's iconic landmark building. As part of a major renovation project to Roger-Gaudry, the department temporarily relocated its on-campus division in 2022 to newly renovated space in the Joseph-Armand-Bombardier Building (PJAB). PJAB now provides an appealing, safe, and welcoming environment for our on-campus community of staff, students, and researchers, with modern facilities and research spaces that more effectively support our teaching, training, and scientific activities.

To meet the challenges of cutting-edge science, the Faculty of Medicine proposed, through its 2021-2026 strategic plan, to bring together the strengths of its five basic science departments that are housed on campus, which includes the Department of Biochemistry and Molecular Medicine, as well as Microbiology, Immunology and Infectious Diseases; Neurosciences; Pathology and Cell Biology; and Pharmacology and Physiology. This goal of this initiative is to integrate specialists with complementary expertise and create an interdisciplinary research and training environment dedicated to investigating fundamental mechanisms in life sciences. The new Center for Biomedical Innovation was officially launched in early 2023 but was renamed the Courtois Institute for Biomedical Innovation (CI2B) in May 2025 following a major philanthropic gift from the Courtois Foundation. The creation of CI2B embodies a bold vision to break down departmental barriers, foster a shared culture of excellence, create and sustain state-of-the-art scientific research platforms, and establish a transformational hub for fundamental biomedical research in Canada.

New Faculty members: We are delighted to welcome five new faculty members! The Department has attracted top-tier talent across diverse, cutting-edge fields aligned with its five main research axes (RNA, from molecules to diseases, structural and quantitative biology, bioinformatics and molecular evolution, cell and molecular biology and molecular medicine), and three of the CI2B's research axes (Structural and Computational Biology, Pathogenesis and Microbial Physiology, and Neurobiology). It began with the hiring of **Malik Chaker-Margot in 2022** as a tenure-track Assistant Professor with expertise in cryo-electron microscopy from his post-doctoral position with Timm Maier at the University of Basel (Switzerland).



*Dr. Malik Chaker-Margot*

# News from Member Departments

In 2023, **Paul François** was recruited from the Physics Department at McGill University as a Full Professor. Paul was already an established researcher and leader in bioinformatics, biophysics, and AI, applying physics-inspired theoretical methods to study biological phenomena. In 2024, **Christine Roden** was recruited as a tenure-track Assistant Professor in RNA biology with expertise in virology and biomolecular condensates from her post-doctoral position with Amy Gladfelter at the University of North Carolina at Chapel Hill (U.S.A). Soon after, in January 2025, **Jean-Benoît Lalanne** was appointed as a tenure-track Assistant Professor, specializing in functional genomics of transcriptional regulation, from his post-doctoral position in genome sciences with Jay Shendure at the University of Washington in Seattle (U.S.A.).



*Dr. Paul François*



*Dr. Christine Roden*



*Dr. Jean-Benoît Lalanne*

In November 2025, **Mike Strauss**, from the Anatomy and Cell Biology Department at McGill University, joined our department as a tenure-track Associate Professor. His unique expertise in electron microscopy will help drive the sustained development of a new cryo-EM platform currently under development in conjunction with the CI2B. This infusion of new talent has significantly revitalized the department's campus sector, bringing innovative expertise and strengthening our commitment to research excellence.



*Dr. Mike Strauss*

**Promotions:** **Vincent Archambault**, Principal Investigator of the Cell Cycle Regulation Research Unit at IRIC, was promoted to Full Professor in 2022. His team aims to elucidate the molecular mechanisms that regulate the cell division cycle, with a focus on mitosis, a process whose defects can lead to the production and aberrant proliferation of cancer cells. **Éric Léculyer**, Director of the RNA Biology Research Unit at IRCM, became a Full Research Professor in 2022. He conducts research aimed at dissecting the mechanisms of mRNA localization and their impact on cellular architecture and function, while addressing how these processes are altered in disease settings. **Daniel Zenklusen**, CI2B researcher, was promoted to Full Professor in 2023. He conducts research aimed at advancing our understanding of gene regulation by applying single-cell and single-molecule molecular imaging approaches, combined with biochemical, genetic, genomic, and proteomic methods, to unresolved fundamental questions in RNA biology. **Carine Nyalendo**, clinical biochemist at the CHU Sainte-Justine and Director of the Postdoctoral Studies Diploma Program (DEPD) in Clinical Biochemistry since 2022, became an Associate Clinical Professor in 2023. **Mohan Malleshaiah**, Director of the Stem Cells and Cell Reprogramming Research Unit at IRCM, became an Associate Research Professor in 2024. His team uses sophisticated single-cell assays to analyze the regulatory networks that determine cell fate and to assess decision-making biological circuits in multiple contexts, including those involving stem cells and cancer.

**Secondary appointment:** Professor **Julie Hussin**, Associate Research Professor in the Department of Medicine at UdeM and Director of the BMM Graduate Programs in Bioinformatics, obtained a secondary appointment in the BMM Department in 2024.

**Retirements:** Several faculty members of the BMM Department retired in the past 4 years, including Clinical Associate Professor **Jean-Pierre Émond** (2022; CHUM), Professor **Luc Desgroseillers** (2022; CI2B), Professor **Luis Rokeach** (2022; CI2B), Professor **Christian Baron** (2023; CI2B), Professor **Serguei Chteinberg** (2023; CI2B), Professor **Nikolaus Heveker** (2025, CHU Sainte-Justine Research Center), and Research Professor **Benoit Coulombe** (2025; IRCM).

# News from Member Departments

**Other changes in Faculty status:** Professor **Luc DesGroseillers**, who was recruited in 1987 and served as Department Chair from 2015 to 2019, retired in September 2022. He was subsequently appointed Adjunct Professor in the BMM Department to maintain his research activities. Professor **Christian Baron**, who was recruited in the department in 2008 and served both as Department Chair (2008-2015) and Vice-Dean for Research and Development at the Faculty of Medicine (2015 to 2020), retired from UdeM in 2023. He was appointed Adjunct Professor in the BMM Department to maintain his research activities (2023-2024). Professor **Martin Smith**, recruited in 2019 as a researcher at the CHU Sainte-Justine Research Center and as an Adjunct Grant-Funded Professor in the BMM Department, left UdeM at the end of 2023 to become a tenured Associate Professor at the University of New South Wales in Australia and Director of the Ramaciotti Centre for Genomics. He was appointed Adjunct Professor in 2023 to maintain his research activities at UdeM. Professor **Jean-Baptiste Rivière**, Chief Executive Officer of CARTaGene, a public research platform at the CHU Sainte-Justine Research Center, was appointed Adjunct Professor in 2025. Several clinical biochemists obtained a Clinical Teaching Appointment in the BMM Department, including **Emmanuelle Saint-Gemain** (2021; Maisonneuve-Rosemont Hospital), **Marie-Ève Gingras** (2022, Maisonneuve-Rosemont Hospital), **Nicolas Gauthier** (2022, Montreal Sacred Heart Hospital), and **Élie Kostantin** (2023, Hôpital de la Cité-de-la-Santé).

**Faculty honors and awards:** Several members of the BMM Department received notable distinctions in recent years. Professor **Nathalie Grandvaux** was awarded the Dean's Recognition Award (Teaching staff) in 2021. In 2022, Professor **Michel Bouvier** was named Chevalier of the Ordre national du Québec and, in 2023, he received a Doctorate Honoris Causa from the University of Montpellier for his pioneering work on G protein-coupled receptors. Professor **Luc DesGroseillers** was named Professor Emeritus of UdeM in 2023 after 36 years of distinguished service in research, teaching, and institutional leadership. In 2023, Professor **Éric Lécuyer** was awarded the Bell-Bombardier Research Excellence Chair at the IRCM. Professor **Gerardo Ferbeyre** was appointed Scientific Director of the Institut du cancer de Montréal in 2023, and Professor **Sébastien Lemieux** became Scientific Director of Calcul Québec in 2024. Professor **Sylvie Mader** was selected as the 2024 Jeanne Manery Fisher Memorial Lecturer of the Canadian Society for Molecular Biosciences. In 2025, Professor **Jean-Benoît Lalanne** was named IVADO Professor, with associated Canada First Research Excellence /Apogée operating funds, and was also the recipient of a Génome Québec Emerging Talent Award. Also in 2025, Professor **Michel Bouvier** was honoured with the Club de Recherche Clinique du Québec (CRCQ) Scientific Mentorship Award.

**Salary awards:** Several members of the department renewed or obtained new career awards. In 2023, Professor **Adrian Serohijos** renewed his Tier 2 Canada Research Chair in *Evolutionary Biophysics: Integrating protein biophysics and systems biology to define mechanisms of complex phenotypes*. In the 2022-2023 FRQ-S competition, Professor **Martin Sauvageau** received a Junior 2 Research Scholar Salary Award for his work on the molecular functions and interactions of long noncoding RNAs in disease. The same year, Professor **Éric Lécuyer** received an FRQ-S Research Scholar Career Award, recognizing the excellence of his scientific trajectory and his work on intracellular RNA transport pathways and their implications for cellular function and therapeutic innovation.



**Luc DesGroseillers receiving his Professor Emeritus distinction from Rector Daniel Jutras during the 2023 convocation ceremony**

In addition, Professor **Lécuyer** was also awarded one of the FRQ-S Dual Chairs in Health and Digital Health AI for a collaborative project with Mathieu Blanchette (McGill University) focused on developing artificial intelligence approaches to decipher RNA regulatory codes and harness their therapeutic potential. In 2025, Professor **Malik Chaker-Margot** was awarded a Junior 1 FRQ-S Research Scholar Salary Award for his research in the structural biology of cancer cell-signaling pathways.

# News from Member Departments

**CIHR Grants.** Several researchers obtained grant support from CIHR through the Project grant competition: in 2022, **Michel Bouvier** (*Mechanisms and consequences of spatially controlled G protein-coupled receptor signaling*), **Gerardo Ferbeyre** (*Targeting ribosomal RNA biogenesis to restore the senescence tumor suppression mechanism*), **Nicole Francis** (*Macromolecular organization by biomolecular condensation in Polycomb mechanism and function*), and **James G. Omichinski** (*Studies of transient complexes that regulate PML nuclear bodies*); in 2023, **Paul François** (*Data-driven theory : adversarial immunodynamics, modelling and machine learning for engineered lymphocytes in the context of cancer immunotherapy*), **Gerardo Ferbeyre** and **Mohan Malleshaiah** (*Elimination of senescent cells to treat estrogen-deprivation associated disorders*), **Éric Lécuyer** (*Defining the functions and mechanisms of centrosomal RNA localization*), **Éric Lécuyer** and **Pascal Chartrand** (*Defining the repertoires and functional impacts of RNA binding proteins that undergo sequestration by toxic repeat RNA*), **Pascale Legault** (*Maturation of microRNAs targeting alpha-synuclein*), **Sylvie Mader** (*Mechanisms of action of antiestrogens in breast cancer: role of ubiquitin-like modifications in transcriptional inactivation of estrogen receptor alpha*), and **Michel Bouvier** (*Molecular mechanisms and structural determinants of pharmacological chaperone action; therapeutic potential for the treatment of early onset severe obesity*); in 2024, **Daniel Zenklusen** (*Investigate features and dynamics of intron RNP topology and its role in modulating RNA metabolism*), **Jacques Drouin** (*How do pioneer factors open chromatin?*) and **Vincent Archambault** (*Deciphering mitotic functions of phosphoprotein phosphatases in Drosophila*); in 2025, **Pascal Chartrand** (*Exploring the mechanisms of telomere biology disorders*), **Marlene Oeffinger** (*Determining regulatory mechanisms of nucleolar and ribosomal DNA stress*), and **Adrian Serohijos** with **Stephen Michnick** (*piQTL: Mapping the functional drivers of complex traits via in vivo protein-protein interactions*). In 2025, Professor **Julie Hussin** obtained grant support and received the Maud Menten New Principal Investigator Prize in Genetics for her project, *Harnessing the Interplay between Genomics and Electrocardiograms for Equitable and Precise Cardiovascular Health*.

Besides project grants, **Professor Julie Hussin** serves as the Québec representative on the pan-Canadian team awarded a **2024 CIHR Health Research Training Platform Grant** for the *Canadian Bioinformatics, Computational Biology and Data Science Training and Community Platform (BCBHDS Platform) – Empowering the Next Generation of Researchers*. Also in 2024, **Professor Alain Moreau** received a **CIHR Network Grant** as the director of a national interdisciplinary research network, the *Interdisciplinary Canadian Collaborative Myalgic Encephalomyelitis Research Network (ICanCME)*.

**NSERC Grants.** Several researchers have obtained support through the NSERC Discovery Grant: in 2022, **Vincent Archambault** (*Molecular dissection of mitotic kinases using chemogenomics*) and **Sébastien Lemieux** (*Development of reference-free algorithm for low coverage RNA-seq characterizations of cell states*); in 2023, **Malik Chaker-Margot** (*Elucidating the role of long noncoding RNAs in cell signaling*), **Paul François** (*Geometry of biophysical learning*), **Gerardo Ferbeyre** (*Characterization of lincRNA-miRNA networks*), **Sylvie Mader** (*Mechanisms of action of Grainy Head Like transcription factors in mammary epithelial differentiation*), and **James G. Omichinski** (*Structural and Functional characterization of protein-metal interactions*); in 2024, **Franz Lang** (*Enhanced eukaryotic genome annotation by exploiting advanced experimental and computational technologies*); and in 2025, **Pascal Chartrand** (*Mechanisms regulating mRNA localization and localized translation*), **Nicole Francis** (*Novel Nucleic acid-based activities of Polycomb complexes*), **Jean-Benoît Lalanne**, (*Quantitative multiscale profiling and modeling of mammalian transcriptional cis-regulatory epistasis*) and **Christine Roden**, (*Mechanisms regulating mitoviral replication in fungal mitochondria*). In 2024, Professor **Sylvie Mader** also received an NSERC Research Tools and Instruments Grant, entitled *Live cell imaging platform for the mechanistic analysis of cell differentiation, migration and division*.

**CFI Grants.** In the 2023 CFI Innovation Fund competition, the inter-university project *Overcoming Fundamental Challenges in Biomedical Research Through Multiscale 3D Cryo-Imaging* (co-led by Joaquín Ortega and **Pascale Legault**, with participation from **Malik Chaker-Margot** and **John Pascal**) was funded to support the development of a world-class cryo-EM platform at UdeM. These investments complement the earlier acquisition of a 200-kV JEOL cryo-ARM200 electron microscope, funded through the CFI John R. Evans Leaders Fund (PIs: Nanci, **Chaker-Margot**, and **Pascal**) awarded in 2022. In 2025, three researchers received CFI JELF awards: **Christine Roden** (*Spinning Disc Microscopy Infrastructure for Advanced Imaging and Structural Biology Applications*), **Jean-Benoît Lalanne** (*Multiplexed Quantitative and Single-Cell Functional Genomics of Mammalian Transcriptional Cis-Regulation*), and **Sébastien Lemieux** (*Infrastructure for the Development of Computational Approaches to Cancer Research*).

# News from Member Departments

**Other major grants.** Several members of the department secured other major research funding in 2023–2025. In 2023, **Gerardo Ferbeyre** was awarded a Terry Fox New Frontiers Program Project Grant entitled *Preventing chemotherapy resistance by killing senescent cells*. Several professors received FRQ-NT Team Grant funding, including **Gertraud Burger**, **Malik Chaker-Margot**, **Paul François**, **Franz Lang**, **Éric Lécuyer**, **Marlene Oeffinger**, **John Pascal** and **Daniel Zenklusen**. In 2023, **Pascal Chartrand** secured funding from Muscular Dystrophy Canada, obtained an NIH grant (with Agnel Sfeir, MSKCC) and received an AFM-Telethon grant. **Sébastien Lemieux** received funds from the Canadian Cancer Society – Breakthrough Team Grant. **Stephen Michnick** received a research contract with the University of Waterloo through the Recombinant Antibody Network. **Alain Moreau** obtained funding from the Patient-Led Research Collaborative (USA) and, in 2024, received an Open Medicine Foundation Grant. In 2023, **Marlene Oeffinger** was awarded a Cancer Research Society grant. In 2024, **Éric Lécuyer** and **Pascal Chartrand** received funding from Ataxia Canada and Genome Québec and **Sylvie Mader** was awarded a FRQS Team grant. That same year, **Malik Chaker-Margot** and **Martin Sauvageau** obtained a New Frontiers in Research Fund – Exploration Grant, **Daniel Zenklusen** obtained funding from the *NOMIS Foundation*, and **Éric Lécuyer** secured additional support from the UdeM Partnership Program. In 2024, **Jean-Benoît Lalanne** received a Cancer Research Society Emerging Scholar Research Grant. In 2025, **Gerardo Ferbeyre** received funding from the Canadian Cancer Society and the Lotte & John Hecht Memorial Foundation, **Éric Lécuyer** received funding from ALS Canada/Brain Canada, **Sylvie Mader** received operating funds from the New Frontiers in Research Fund, **Alain Moreau** received funding from an Arthritis Society of Canada Ignite Innovation grant and an Axelys–Medtronic grant, and **Michel Bouvier** received funding from Brain Canada.



Dr. Gerardo Ferbeyre



Dr. Michel Bouvier

**Special Events.** Under the leadership of Professor **James G. Omichinski**, the BMM Department continued its bilateral exchanges with Hokkaido University (HU), Sapporo, Japan. Each summer since 2022, several professors and students from Hokkaido University have participated in a summer school on protein purification at UdeM. In return, several professors from the Université de Montréal have taught at the Hokkaido University Summer Institute, a one-week training program, including **Adrian Serohijos** (2022), **James G. Omichinski** (2023), **Pascale Legault** (2024) and **Paul François** (2025). Building on several previous editions organized by **Vincent Archambault**, the department continued to host the Journée Simon-Pierre Noël annually from 2022 to 2025 (33<sup>rd</sup> to 36<sup>th</sup> editions), maintaining this tradition that celebrates Professor Noël's legacy through graduate student presentations and awards supported by the foundation created in his name. We also held our biannual Louis-Philippe Bouthillier meeting in Orford, Quebec in May of 2022 and 2024. In 2024, we celebrated the 60<sup>th</sup> anniversary of the BMM department during our departmental retreat and end-of-year celebration. In **October 2025**, we held a faculty retreat dedicated to strategic planning, providing an excellent forum for thoughtful exchanges and discussion in a collegial atmosphere.



Professor Legault and Omichinski from UdeM visited Hokkaido University to participate in an intensive summer school (Hokkaido University Summer Institute) on microRNA biology (July 2024)



Several professors and students from Hokkaido University participated in a summer school on protein purification at UdeM (May 2025)



Faculty retreat in October 2025. Top row (left to right): Stephen Michnick, James G. Omichinski, Adrian Serohijos, Pascal Chartrand, Malik Chaker-Margot, Jean-Benoît Lalanne, Sylvie Mader, Pierre-Olivier Héту, Vincent Archambault, Tony Antaky, Vincent De Guire, Gertraud Burger, Christine Roden, Franz Lang, and Eric Lécuyer. Bottom row (left to right): Nicole Francis, Julie Hussin, Pascale Legault, Mohan Malleshaiah, Paul François, Daniel Zenklusen, and Gerardo Ferbeyre.

# News from Member Departments

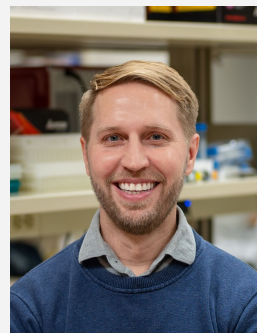
## UNIVERSITY OF ALBERTA

### Department of Biochemistry

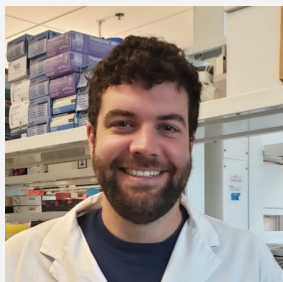


**Trainee news:** Led by Biochemistry professor, [Dr. David Stuart](#), the University of Alberta iGEM team has been awarded a gold medal at the competition in Paris this year. The team, composed of undergraduate students from Faculties of Medicine & Dentistry, Science, Arts, Education and Engineering designed, constructed and tested a biological system to produce a bio-based fire suppressant for application to wild-fires. The product is biodegradable and lacks PFAS (forever chemicals) used in current fire suppressants. The team is very grateful to the Faculty of Medicine and Dentistry for the donation that enabled them to pursue this project and present their innovative research at the international competition. Dr. Stuart stated that they represented U of A very well on the international stage.

**New Faculty Appointments:** The department expanded in 2024 with the hiring of two new Assistant Professors. [Dr. Jason Northey](#) joined after completing his doctorate at McGill University and a postdoctoral fellowship at the University of California, San Francisco (UCSF). His research at the University of Alberta currently focuses on how mechanical forces influence hormone signaling and breast cancer progression using mouse models, organoids, and hydrogel systems.



*Dr. Jason Northey*



*Dr. Justin Di Trani*

[Dr. Justin Di Trani](#) was also appointed as an Assistant Professor following his doctoral work at McGill and a research fellowship at the SickKids Research Institute. His expertise lies in cryogenic electron microscopy and kinetic methods for studying membrane proteins. As an independent researcher, his work is now centred on the bioenergetics of plants and bacteria

**Retirements and Leadership Transitions:** The department recognizes the recent retirements of several esteemed faculty members, including Drs. Brian Sykes, Joel Weiner, Larry Fliegel, Charles Holmes, Chris Bleakley, and Joe Casey. In addition to these departures, June 2025 marked the conclusion of [Dr. Mark Glover's](#) term as Department Chair. The faculty remains grateful for his steady leadership throughout the challenges of the COVID-19 years. As of July 2025, [Dr. Richard Fahlman](#) has taken the helm as the new Department Chair.

**Expanded Research Leadership:** Further leadership changes include [Dr. Joanne Lemieux](#), who previously served as the Director of the [PRAIRIE hub](#) for Pandemic Preparedness, has transitioned into a new role as Vice Dean of Research for the Faculty of Medicine and Dentistry (Biomedical Faculty). In this capacity, she is collaborating with the VDR Clinical to better bridge the gap between biomedical and clinical research efforts.

**Advances in Structural Biology and Infrastructure:** The department continues to strengthen its legacy in structural biology with the installation of a new [cryo-electron microscopy facility](#) in October 2024. This facility, funded by the Government of Alberta through [Striving for Pandemic Preparedness -The Alberta Research Consortium](#) (SPP-ARC), includes a Talos L120C screening microscope located within the Department of Biochemistry and a Titan Krios G4i in the NANUC facility, led by [Drs. Howard Young](#) (Biochemistry) and [Kaylan Das](#) (CERC Chair in the Department of Medical Microbiology and Immunology). To coincide with these advancements, the University of Alberta and Systems for Research hosted the national [NEXUS conference](#), bringing together cryo-EM leaders from across Canada to discuss the latest technological innovations in the field.

# News from Member Departments

## UNIVERSITY OF BRITISH COLUMBIA

### Department of Biochemistry and Molecular Biology

It has been an eventful year for the UBC Department of Biochemistry and Molecular Biology with notable scientific impact, recognition, and community celebration.

In a major clinical milestone, the enzymatic blood-type conversion technology developed by Dr. Stephen Withers, Professor Emeritus and Associate Member of UBC Biochemistry and Molecular Biology, has been successfully applied. This achievement marks the first human kidney transplant in which the organ was converted from blood type A to universal type O using specialized enzymes created by Dr. Withers and his team. These enzymes help prevent blood-type mismatch and reduce the risk of organ rejection. The breakthrough was reported in *Nature Biomedical Engineering*.

In another medical breakthrough published in the *New England Journal of Medicine*, lipid nanoparticle (LNP) delivery systems co-developed by Dr. Pieter Cullis (Professor UBC Biochemistry and Molecular Biology) and Acuitas Therapeutics played a central role in the world's first personalized CRISPR-based gene-therapy treatment. The technology was successfully applied to correct a genetic defect in a baby born with a carbamoyl-phosphate synthetase 1 deficiency.

Dr. Brett Finlay (Professor UBC Biochemistry and Molecular Biology), world renowned expert on the linkages between our microbiomes and health, published another book, this time titled *The Microbiome Master Key*, a book that translates advances in microbiome science into accessible strategies for improving human health.

Several members of the department received major awards and distinctions this year. Dr. Pieter Cullis received the 2025 Scheele Award (Scheelepriset) by the Swedish Pharmaceutical Society (Apotekarsocieteten). The award recognizes “a particularly prominent and internationally renowned pharmaceutical scientist” whose research has significantly advanced drug development or related disciplines. Dr. Emilia Lim, Assistant Professor, was named the 2025 Dr. Victor Ling Terry Fox New Investigator, an honour recognizing the highest-ranked new investigator of the year. Department staff members Bee Tan and Nazareen Khan were also recognized with UBC awards for their outstanding contributions and service to our department and the university.



*Drs Pieter Cullis and Jörg Gsponer, current UBC Biochemistry and Molecular Biology Department Head at the 75th anniversary reception*



*Dr Ruedi Aebersold (ETH Zurich) receives a talking stick as a thank you from Dr Leonard Foster, former UBC Biochemistry and Molecular Biology Head*



*Drs Jason Read, Thibault Mayor and Eden Fussner-Dupas in a panel discussion on undergraduate and graduate education.*

Numerous departmental faculty were successful in receiving tri-council funding. CIHR grants were awarded to Drs. Natalie Strynadka, Hugh Kim, Jörg Gsponer and Filip Van Petegem. NSERC Discovery Grants were awarded to Jörg Gsponer, Ivan Sadowski, a NSERC Research Tools and Instrument Grant to Seth Parker, and a CREATE grant to Thibault Mayor.

# News from Member Departments

In October, the department celebrated a major milestone, 75 years of Biochemistry research, education, and innovation at UBC. A large community symposium brought together emeritus faculty, current faculty, staff, students, alumni, campus and industry partners for scientific presentations, an educational panel discussion, and historical displays. The event featured talks by several distinguished departmental alumni, including Peter Davies (Queen's University), David Russell (UT Southwestern), Marlys Koschinsky (Western University), Ruedi Aebersold (ETH Zurich), Albert Berghuis (McGill University), and Dustin King (Simon Fraser University), each of whom reflected on their work and their time in the department.



*UBC Faculty at the 75th anniversary symposium, Drs Jason Read, Ross MacGillivray (Professor Emeriti), Dr Roger Brownsey (Professor Emeriti), Shoukat Deahar and Robert Molday*



*Drs Albert Berghuis (McGill University) and Steve Withers at the 75th anniversary reception.*

# News from Member Departments

## UNIVERSITY OF LETHBRIDGE

### Department of Chemistry and Biochemistry

#### Grants:

##### NSERC Discovery grants

- Dr. Borries Demeler - \$47,000 yearly for solution studies of interacting biopolymer systems.
- Dr. Vineet Rathod - \$38,000 annually to examine the structure-function relationship of natural and engineered amyloid proteins.
- Dr. Dylan Girodat - \$42,000 per year for a project on the structural dynamics of ribosomes during translation.
- Dr. Jessica Willi - \$44,000 annually for a project on ribosome functions through synthetic biology.
- Dr. Stacey Wetmore - \$89,000 per year for a project involving computer modelling of modified RNA.

##### Other grants

- Dr. Jessica Willi -2025 Banting Discovery Award - \$30,000
- Dr. Borris Demeler - NIH grant USD\$334,347.00
- Drs. Stacey Wetmore, Laura Keffer-Wilkes and Trushar Patel – RNA Salon grant -USD \$1,500
- Dr. Trushar Patel - Agriculture Funding Consortium and Glyconet grants - \$400,000

##### Trainee Grants

- Michael Hilary D'Souza – Doctoral Research Award: Canada Graduate Scholarships
- Ridwan Tajudeen – Alberta Innovates graduate student award
- Mark Lea – Alberta Innovates graduate student award
- Anuradha Chowdhury – CSMB funding for graduate students-led activities
- Dr. Haben Gabir - Alberta Innovates Post-doctoral Fellowship

##### Awards

- Dr. Trushar Patel

Blue Jacket Award, RiboClub Canada: SEP 2025

King Charles III Coronation Medal, Government of Canada: MAR 2025

- Dr. Stacey Wetmore

Clara Benson Award from the Canadian Society of Chemistry  
Honourary Lectureship from the Canadian Association of Theoretical Chemists

Graduate Student Mentorship Awards, School of Graduate Studies, University of Lethbridge

Robert S. Brown Lectureship, Queen's University

#### RiboWest 2025

The Alberta RNA Research and Training Institute (ARRTI) at the University of Lethbridge (UofL) organized the 19th Annual RiboWest conference from June 8th to 11th, 2025 in Lethbridge, Alberta. The organizing team included Drs. Girodat, Patel, Rathor, Wetmore and Willi, along with the student organizing committee, including Scott Teersteg, Ridwan Tajudeen, Aysha Demeler, Reece Martin, Carrigan Dawson, and Olanrewaju Oladokun. This meeting focused on all aspects of RNA research, ranging from understanding the cellular role of RNA to studying RNA interactions and structures, and employing them as a therapeutic tool. This year, we invited seven keynote speakers who provided insights into the wide range of RNA-based research. Although the conference was hosted in Western Canada, it was well attended by researchers from across the country (>100 attendees in total). One of the unique features of this conference was that the majority of the presentations were given by the trainees (undergraduate/graduate students and postdoctoral researchers). Trainees were also supported in an EDI workshop and provided with numerous opportunities to network. We requested feedback on the overall organization of the conference, including the venues for oral and poster presentations, the quality of food and accommodation, areas for improvement in the future, and the overall quality of the conference. Nearly 80% of survey respondents ranked the conference organization in the 'Extremely Organized' to 'Very Organized' category.

RiboWest 2026 will be held at the University of British Columbia - Okanagan Campus from June 14 to June 17, 2026, in Kelowna. For additional inquiries about this conference, contact Perry Howard <perry.howard@ubc.ca>.



*RiboWest 2026 Group Photo*

# News from Member Departments

## UNIVERSITY OF MANITOBA

### Department of Biochemistry and Medical Genetics

#### Departmental Leadership Updates

Dr. Jeff Wigle began his tenure as the new Department Head on March 1, 2025. Dr. Wigle earned his Bachelor of Science in Biochemistry from Queen's University and his PhD in Pharmacology at the University of Ottawa, followed by post-doctoral training at St. Jude Children's Research Hospital. He joined the University of Manitoba in 2001. In addition to his new role, Dr. Wigle serves as a Principal Investigator at the Institute of Cardiovascular Sciences, a joint institute of the University of Manitoba and St. Boniface Hospital Research. His research focuses on how homeobox transcription factors regulate cardiovascular and lymphatic cells, particularly in fibroblast activation and the genetics of rare diseases. Dr. Mark Nachtigal has been appointed as the Department Associate Head.



*Dr. Jeff Wigle*

Dr. Barbara Triggs-Raine stepped down as Department Head of the Department of Biochemistry & Medical Genetics in February 2025. Dr. Triggs-Raine is a world-recognized expert in rare genetic diseases, including disorders of hyaluronan metabolism. With nearly 90 publications, her internationally recognized research spans from identifying disease-causing genes in Manitoban families to developing cutting-edge mouse models to test new therapies. As Department Head for the past seven years, Dr. Triggs-Raine reinvigorated the department through the recruitment of seven new researchers with exciting programs. She is a respected mentor who has dedicated significant time to supporting the career development of faculty, technicians, and trainees, often providing thoughtful reviews of publications and grant applications.



*Dr. Barbara Triggs-Raine*

#### Faculty Awards & Highlights

Dr. Mojgan Rastegar was named a winner of the 2025 Women's Executive Network (WEN) Top 100 Canada's Most Powerful Women in the Science, Technology, Engineering, and Mathematics (STEM) category. She has also assumed the role of Chair for the CIHR Stem Cell Oversight Committee and continues as Vice-President of the CSMB.

Dr. Britt Drögemöller had her Tier 2 CIHR Canada Research Chair in Pharmacogenomics and Precision Medicine renewed until 2030. She is also a Co-PI on the CIHR Team Grant.

Dr. Paul Marcogliese secured a three-year funding from AFM-Telethon (2025 to 2028).



*Dr. Mojgan Rastegar*

#### Office News:

BMG Office welcomed the academic program administrator: Joseline Romero (September 2025).

# News from Member Departments

## Genetic Counselling Program News:

- **Jessica Hartley** was awarded the **University of Manitoba Merit Service Award**, which recognizes excellence in service. She will be formally recognized at the annual Faculty Recognition Reception in Spring 2026.
- **The Genetic Counselling Program** continued to secure funding for student support in this program.
- **Dr. Stephanie Clarke** (Adjunct Professor) was awarded the Canadian Association of Genetic Counsellors Award for Leadership in Professional Practice, Innovation, and Advocacy.



*Stephanie Clarke*



*Students, alumni, and faculty represented UM at the Canadian Association of Genetic Counsellors-Canadian College of Medical Genetics Meeting in Banff as both speakers and attendees*

## Student Awards & Achievements (2025)

- Andy Van Domelen: CIHR CGS-M; Multiple Travel Awards; Local poster award.
- Angela Dia: Mitacs Globalink Research Internship.
- Anthony Kozak: CIHR CGS-M.
- Ashraf Kadar Shahib: RFHS PhD Studentship; Research Manitoba PhD Studentship; Mindel Rady Olenick Fellowship in Human Genetics; Multiple Travel Awards; Dean of the RFHS Graduate Student Achievement Award.
- Camillo Venegas: ENRRICH Summer Studentship.
- Danielle Pascual: FGS General Bursary; FGS Research Completion Scholarship.
- David Di Iorio: CIHR CGS-M.
- Deanne Nixie Miao: NSERC Vanier CGS; Multiple Travel Awards.
- Delaram Jebreili Rizi: Research Manitoba MSc Fellowship; RFHS MSc Graduate Studentship; Local Award.
- Demi Andromidas: Multiple Travel Awards.
- Emerson Brazil: Local poster award; Research Manitoba/CancerCare Manitoba MSc Studentship.
- Emily Moss: FGS Research Completion Scholarship.
- Hanna Spring: NSERC Undergraduate Student Research Award.
- Hawa Afshari: PhD Research Studentship Award (Research Manitoba); Local poster award; Multiple Travel Awards
- Jaida Albrechtsen: CIHR CGS-M.
- Kaitlyn Quinlan: UMGF; Local poster award; HSGSA Graduate Student Merit Award (MSc).
- Kazem Nejati Koshki: UMGF; Human Genetics Endowment Fund; FGS Research Completion Scholarship.
- Lois M. Brockman: Student Thesis Research Fellowship in Child Development; Local poster award.
- Mark Piasecki: CHRIM 2025 Undergraduate Summer Studentship Award.
- Marton Rohaly Medved: Canadian Bioinformatics Hub Training Award.
- Marvellous Oyeyode: Multiple Travel Awards; UM Graduate Studies Bursary; BioImaging North America (BINA) Professional Development Program funded by CZI.
- Nicole Gerber: Research Manitoba/CancerCare Manitoba MSc Studentship.
- Paul Layug: Research Manitoba PhD Fellowship; UMGF Award.
- Rissa Hamlin: CIHR CGS-M.
- Samah Ahmed: Faculty of Graduate Studies Research Completion Scholarship; Local poster award.
- Sara Crooks: Cancer Research Society Doctoral Research Award; Local poster and oral presentation award.
- Sheryl M Bastian: Multiple Travel Awards; University of Manitoba Graduate Fellowship (UMGF).
- Shreya Shah: MSBI Scholarship Fund; UM Graduate Studies Bursary.
- Tooba Razi: MMCF 1959 BSc Medicine Travel Award.
- Yina Her: Local poster awards; FGS Research Completion Scholarship; CIHR CGS-M; Multiple Travel Awards.
- Zahra Nasser Moghaddam: FGS Research Completion Scholarship; UMGF.
- Zoe Goldstone Joubert: President's Graduate Scholarship in Human Genetics; FGS Research Completion Scholarship; Local poster award.

# News from Member Departments

## UNIVERSITY OF OTTAWA

### Department of Biochemistry, Microbiology and Immunology (BMI)

#### Message from the Department Head

"It is my pleasure to submit this report on behalf of the Department of Biochemistry, Microbiology, and Immunology (BMI) at the University of Ottawa for inclusion in the next edition of the CSMB Bulletin. The 2025 calendar year has been one of significant growth and achievement, marked by the arrival of new faculty, notable successes in research funding, and a renewed focus on enhancing the student experience. Our department remains deeply committed to advancing the biomedical sciences and fostering the next generation of researchers. We are proud to share some of our highlights with the Canadian Society for Molecular Biosciences."



*Dr. Keith Wheaton*

#### New Faculty Recruitment

The Department of BMI is delighted to welcome two outstanding new faculty members in 2025, further strengthening our expertise in key areas of education in biomedical research. We warmly welcome Dr. Ilham Mekkioui, who joins us as an Assistant Professor. Dr. Mekkioui's research focuses on identifying the most effective learning methods for teaching French undergraduate students scientific topics related to biomedical sciences that are usually delivered in English.



*Dr. Ilham Mekkioui*

We also extend a warm welcome to Dr. Keith Wheaton, who has been appointed as an Assistant Professor and serves as the Director of the Translational and Molecular Medicine (TMM) undergraduate program. Dr. Wheaton's research expertise lies in cellular senescence and tumour suppressor proteins, while his teaching covers core subjects including biochemistry, molecular biology, cell biology, and cancer biology. His dual role is vital in connecting our research excellence with our dedication to undergraduate education.

#### Honours, Awards, and Recognitions

The dedication and excellence of our faculty, students, and post-doctoral fellows were recognized through several prestigious honours and awards throughout the year.

#### Faculty and Research Success

The department and its affiliate research institutes celebrated several major recognitions and funding successes in 2025.

We are proud to announce that Dr. Jean-François Couture, our Department Head, is leading the BRIGHT CANADA (Bringing Radiobiology Innovations to Grow the Highly Trained workforce in Canada) team, which was awarded a prestigious NSERC CREATE Grant (Collaborative Research and Training Experience). This significant \$1.6 M funding will support the development of an innovative training program in low-dose radiation for graduate students and post-doctoral fellows over six years, reinforcing our commitment to research training.



*Dr. Jean-François Couture*



*Dr. Michele Ardolino*

In a significant advancement for cancer research, Dr. Michele Ardolino received a \$3 million, five-year Terry Fox New Frontiers Program Project Grant for his innovative work in cancer immunotherapy. His team's research seeks to explore the hidden mechanisms of how the body's immune and nervous systems interact to combat cancer.

# News from Member Departments

We extend our congratulations to **Dr. Erin Mulvihill** (University of Ottawa Heart Institute) on securing a **\$2 million CIHR grant** to lead **HEARTWISE**, a national research program dedicated to improving heart health outcomes for women with type 2 diabetes during menopause. The project will investigate key metabolic, hormonal, and lifestyle factors that contribute to elevated cardiovascular risk and evaluate whether existing diabetes treatment can be more effectively tailored to this population. With a strong patient-engaged design and translational focus, HEARTWISE has the potential to inform clinical guidelines and accelerate improvements in care for women across Canada.



*Dr. Erin Mulvihill*

Furthermore, we extend our warmest congratulations to **Dr. Marc-André Langlois**, who secured a **\$3.1 million CIHR Research Grant** to support cutting-edge work in infectious diseases and immunology. This multi-year research program will investigate critical molecular determinants of host-pathogen interactions and advance scientific understanding of emerging viral threats and immune defence mechanisms. This grant signifies a significant recognition of Dr. Langlois' leadership in virology research and enhances BMI's long-standing reputation as a national centre of excellence in infection, immunity, and translational biomedical science. The project will also promote the training of highly qualified personnel and foster collaborative scientific networks across Canada.

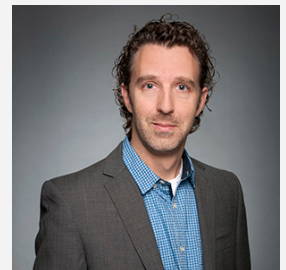


*Dr. Marc-André Langlois*

Finally, we recognize **Dr. Patrick M. Giguère**, who received the Bow Foundation research grant to advance rare disease research.

## Faculty and Research Awards and Recognition

- **Dr. Mathieu Lavallée-Adam** — Recipient of the **Human Proteome Organization (HUPO) Distinguished Service Award**, recognizing his leadership in supporting and empowering early-career researchers internationally.
- We also congratulate **Dr. Emilio Alarcon** on his recognition as a new member of the **Royal Society of Canada (RSC) College**.



*Dr. Patrick M. Giguère*

## Research Output and Publications (2024–2025)

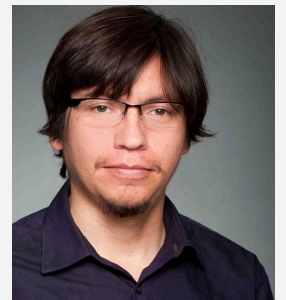
BMI faculty, trainees, and collaborators continue to demonstrate exceptional productivity and global impact through scholarly output.

Across the **2024 and 2025 academic years**, the department collectively generated **over 420 peer-reviewed publications**, including high-impact papers in leading journals such as *Lancet*, *Nature* and *Science*.

This sustained level of research productivity reflects:

- Strong national and international collaborations
- Broad multidisciplinary program strength
- Active engagement of faculty, graduate students, post-doctoral fellows, clinical partners, and cross-institutional research partners

The department remains committed to supporting a vibrant research ecosystem that advances scientific discovery, innovation, and knowledge translation.



*Dr. Emilio Alarcon*

# News from Member Departments

**Trainee Excellence:** The department continues to proudly recognize the achievements of its students, postdoctoral fellows, staff, and faculty through the annual BMI Awards. Now in its 14th year, this program highlights outstanding contributions in research, teaching, service, and academic excellence across the department. The 2025 awards were presented during the Morris Kates / BMI Awards Ceremony held in June 2025, which featured a keynote address by internationally renowned researcher **Dr. Florian Krammer** (Icahn School of Medicine at Mount Sinai), an internationally recognized leader in the field of virology. Student and trainee excellence was highlighted through the **Syed Sattar Awards**, with **Aida Said** receiving the PhD-level distinction and **Valeria Vasilyeva** receiving the MSc award. Two researchers were honoured with the **Michael W. McBurney Postdoctoral Fellow Award**: **Dr. Huy-Dung Hoang** and **Dr. Lucia Minarrieta**. In addition, the **Best Laboratory Publication Award** was awarded to the **Lavallée-Adam Lab**, recognizing excellence in research dissemination. This year's award recipients exemplify the strength, dedication, and talent of our community. The **Jean Himms-Hagen Research Award** was presented to **Dr. Jean-François Couture**. The **Denis Williamson Teaching Award** recognized **Dr. Kin Chan** for excellence in pedagogy and student mentorship. Together, these recognitions celebrate exceptional achievement and reflect the vibrant academic and research environment that continues to define BMI.

**Major Departmental Events and Initiatives:** The department maintained a vibrant academic and social calendar, fostering a strong sense of community and intellectual exchange.

**Community Events:** The Department remained deeply engaged in community outreach throughout the 2024–2025 academic year, contributing to initiatives that strengthen connections between the Faculty of Medicine and the broader Ottawa community. One highlight was the **Faculty of Medicine Open House**, which welcomed prospective students, families, community partners, and members of the public to explore biomedical research, hands-on demonstrations, and interactive learning stations. Faculty, trainees, and staff participated enthusiastically, showcasing the department's research strengths and commitment to training the next generation of scientists and health professionals. In addition, members of the BMI community actively supported local social outreach initiatives, including participation in the **Community Cupboard program**, which provides essential food and household items to individuals and families experiencing financial hardship. Through coordinated volunteer efforts and contributions, BMI students, staff, and faculty helped ensure consistent support for vulnerable members of the community. These activities reflect the Department's broader commitment not only to academic and research excellence, but also to meaningful community partnership, service, and social responsibility.

**Strategic Initiatives:** Capitalizing on the major investment by the University of Ottawa and its Faculty of Medicine in the construction of the Advanced Medical Research Center, the BMI department is holding strategic meetings to leverage this investment toward the creation or expansion of its research hubs. BMI intends to take an active role in recruiting national and international talent to continue helping the University of Ottawa and the Faculty of Medicine's research mission.

**Conclusion:** We are proud of the accomplishments of our faculty and trainees in 2025 and the dynamic environment that continues to define the Department of Biochemistry, Microbiology and Immunology. We look forward to another productive year of discovery and education, and we thank the CSMB for the opportunity to contribute to the Bulletin.



*BMI Symposium 2025*

# News from Member Departments

## UNIVERSITY OF TORONTO

### Department of Biochemistry

The Department of Biochemistry is excited to be recruiting new faculty in 2026. Please stay tuned for these details in 2027! Please also check out the updated website we launched this year: <https://biochemistry.utoronto.ca/>.

We are thrilled to recognize our faculty for their notable achievements and appointments in 2025. Selected highlights include:

- Dr. Michael Norris, Assistant Professor, received the Joan Dixon and Joel Parkes Early Career Professorship in Biochemistry. Dr. Norris was also appointed as the Director of the Cryo-Electron Microscopy Facility within the Microscope Imaging Lab in Temerty Medicine.
- Dr. Ahilya Sawh received the CIHR Maud Menten New Principal Investigator Award.
- Dr. Lynne Howell, Professor and Senior Research Scientist at Sick Children's Hospital, received the 2025 CSMB Jeanne Manery-Fisher Memorial Award: <https://csmb-scbm.ca/awards/2025-csmb-award-winners/>
- Dr. Alex Ensminger, Associate Professor, received a Connaught Mid-Career Award from the University of Toronto, entitled: "Evolution vs artificial intelligence: Establishing design principles of pathogenic inhibition"
- Dr. Stavroula Andreopoulos, Professor, Teaching Stream, was recognized with a 3M National Teaching Fellowship Award from the Society for Teaching and Learning in Higher Education.
- Dr. Sian Patterson, Associate Professor, Teaching Stream, received an Excellence in Undergraduate Laboratory Teaching in Life Sciences Award from Temerty Medicine, University of Toronto
- Dr. Karen Maxwell received the Temerty Research Excellence Award, Basic Stream.
- Dr. Nana Lee was appointed to a new role as Special Advisor to the Dean, where she will continue to innovate on improving the graduate experience for all MSc and PhD trainees in Temerty Medicine.
- Dr. Haley Wyatt was appointed as Associate Co-Chair, with Dr. Trevor Moraes, for Graduate Studies, Department of Biochemistry.
- Three new faculty joined the Advisory Council to the Chair Board this year, including Dr. Alex Palazzo (6-month term), Dr. Joel Watts, and Dr. Spencer Freeman. We thank Dr. Peter Kim and Dr. Jea-Philippe Julien for their excellent prior service on this Board.
- Dr. Roman Melnyck was appointed as the Head of the Molecular Medicine Program at the Hospital for Sick Children Research Institute (following a 10-yr term of exceptional leadership by Dr. Julie Forman-Kay)
- Dr. Spencer Freeman was appointed as the Interim Program Head of Cell and Systems Biology at the Hospital for Sick Children Research Institute.
- Dr. Walid Houry was appointed to the Chair for the Committee on Academic Policy & Programs at the University
- Dr. Trevor Moraes was appointed to the Chair of the University of Toronto Institutional Biosafety and Biosecurity Committee.

# News from Member Departments

Other Biochemistry faculty who continued in their leadership roles through 2025 include Dr. Lisa Robinson, Dean of the Temerty Faculty Medicine and Vice-Provost, Relations with Health Care Institutions at the University of Toronto; Dr. Justin Nodwell, Vice-Dean, Research and Research Education; Dr. Ahlia Khan-Trottier, Associate Dean, Undergraduate Education; and Dr. Karen Maxwell, Director of Research at Temerty Medicine.

**Undergraduates:** Many of the undergraduate students in the Department of Biochemistry were able to secure fellowships to carry out summer research projects, including NSERC, UTEA, UROP, USRS, and the James and Hilda Warwick Award. Several of our undergraduate students were also recognized by U of T and national excellence awards including the Toronto Faculty of Medicine Student leadership award and the SCI Canada Student Merit Award. We are also the only department in Canada to host an Amgen Scholars Program: <https://rhse.temertymedicine.utoronto.ca/amgen-scholars-program-university-toronto>

## Biochemistry Departmental Annual Awards

Each year at our Departmental retreat (see photo below), we recognize the achievements of our trainees and faculty members. Congratulations to the award recipients for 2025:

**Connell Award for Best All-Around Postdoctoral Fellow:** Dr. Trevor Morey (Houry Lab)

**Outstanding PhD Thesis:** Dr. Quynh Hyuong Hguyen (Moraes Lab)

**Centennial Award in honour of Sela Cheifitz:** Ian Yung Yen (Howell Lab)

**David A Scott Award for Best All-Around Graduate Student:** Nemo Liu (Forman-Kay Lab)

**Connell Award for Top Graduate Student Publication:** Hanlin Wang (Rubinstein Lab)

Congratulations to our Poster Winners!

**MSc Posters:** Tiana Lee, Nourhan Almasri, Julia Barbat, Lina Al Halabi.

**PhD Posters:** Nicholas Silver, Benjamin Beavington, Amy Qian, Alyssa Vander Zee.

**Schachter Award for Best PhD Poster:** David Van Ommen

We would also like to congratulate all department members, including faculty, MSc/PhD candidates, postdoctoral fellows, trainees, and research associates across the department who have received awards and recognitions for their research and scholastic excellence that are not listed here.



# CSMB Awards



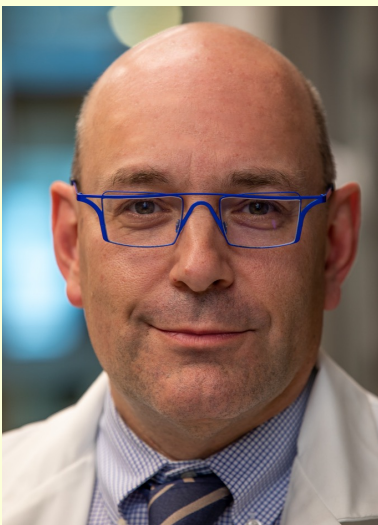
*Dr. Heather McFarlane*

## CSMB New Investigator Award

### Dr. Heather McFarlane

Dr. Heather E. McFarlane is an Assistant Professor and Canada Research Chair in Plant Cell Biology in the Department of Cell & Systems Biology at the University of Toronto. The McFarlane Lab studies plant cell wall synthesis, secretion, signaling, and remodeling since cell walls provide us with renewable biomass for food, materials, and energy. Attempts to modify plant cell walls for improved materials or biofuels have exposed a critical gap in our understanding: plants perceive cell wall status via largely unknown mechanisms, called “cell wall signaling” and typical plant responses cause yield penalties that render these cell wall “improvements” agriculturally/economically unviable.

The goal of Dr. McFarlane’s research is to discover how plants sense and respond to cell wall changes, to allow cell wall engineering for innovative products that advance sustainability. Dr. McFarlane earned her PhD at the University of British Columbia (Canada) where she studied the transport of lipids that form the protective plant cuticle. After her PhD, she joined the Max Planck Institute for Molecular Plant Physiology (Germany) to study cell wall synthesis as an EMBO postdoctoral fellow. She then moved to University of Melbourne (Australia) where she was awarded an Australian Research Council Discovery Early Career Researcher Award to initiate her work on cell wall signaling. Dr. McFarlane joined the Department of Cell and Systems Biology at the University of Toronto July 2019. Since then, Dr. McFarlane has established an innovative and inclusive research and training environment. She and her trainees have made important discoveries about the mechanisms of cell wall synthesis and signaling, and her work has been recognized by a Canada Research Chair and an Ontario Early Researcher Award, among others. Most recently, the McFarlane lab has identified dozens of new molecular components of cell wall signaling and provided mechanistic insights into why some cell wall modifications are tolerated by plants while other changes can cause dramatic growth and developmental phenotypes.



*Dr. Aaron Schimmer*

## Canadian Science Publishing Senior Investigator Award

### Dr. Aaron Schimmer



Dr. Schimmer graduated from medical school at the University of Toronto and completed specialty and subspecialty training in internal medicine in and hematology. He subsequently pursued research training and received his PhD in Molecular Biology in followed by post-doctoral training at the Burnham Institute in San Diego, California. Dr. Schimmer is the Director of Research, a Senior Scientist and a Staff Physician at the Princess Margaret Cancer Centre, University Health Network. Dr. Schimmer is also a Professor in the departments of Medicine, Medical Biophysics, and Institute of Medical Sciences at the University of Toronto. He is a Past President of the Canadian Hematology Society.

# CSMB Awards

Dr. Schimmer's clinical practice is focused on treating patients with acute leukemia and related disorders. His laboratory research focuses on developing new therapeutic strategies for leukemia by targeting dysregulated mitochondrial pathways in leukemia stem cells. Dr. Schimmer is the author of over 315 publications with over 25,600 citations and is an inventor on over 20 patent applications. He has been elected to the Royal Society of Canada, American Society of Clinical Investigation, and Canadian Academy of Health Sciences and was named Scholar in Clinical Research by the Leukemia and Lymphoma Society.



*Dr. P. Lynne Howell*

## **Jeanne Manery-Fisher Memorial Award**

### **Dr. P. Lynne Howell**

Dr. P. Lynne Howell is a Senior Scientist in the Program in Molecular Medicine at The Hospital for Sick Children (SickKids) and a Professor in the Department of Biochemistry, University of Toronto. Dr. Howell's research interests are focused on understanding at the molecular and cellular level how exopolysaccharides – a major component of the biofilm matrix – are synthesized, chemically modified and exported from the cell. This research has led to the identification of several glycoside hydrolases that are capable of both preventing biofilm formation and degrading pre-existing biofilms. These enzyme biologics have the potential to treat a wide range of chronic infections.

Dr. Howell obtained an undergraduate degree in Biophysics from the University of Leeds in 1983 and her Ph.D. from the University of London in 1986 in the laboratory of Dame Julia Goodfellow. She spent three years as a postdoctoral fellow with Professor Gregory Petsko at the Massachusetts Institute of Technology in Boston before moving to Paris for two years to study with Dr. Roberto Poljak and Dr. Andre Menez at the Institute Pasteur. She joined The Hospital for Sick Children (SickKids) in late 1991 and was cross-appointed to the University of Toronto shortly afterwards. Dr. Howell held a Tier I Canada Research Chair in Structural Biology from 2006-2020 and is a former recipient of a CIHR Investigator Award. She was Head of the Program in Molecular Medicine (formerly Molecular Structure and Function) at SickKids from 2002-2014 and Associate Chief, Research Integration and Communication, 2014-2016. She was a member of the Board of Directors of Canadian Light Source 2014-2023 and GlycoNET 2018-2020.

# CSMB Fellows



*Dr. Imogen Coe*

## Dr. Imogen Coe



Dr. Imogen R. Coe is a British-born Canadian cell biologist and expert in the biology and biochemistry of nucleoside transporters which are responsible for the uptake of an important class of anti-cancer and anti-viral drugs. More recently, her research has focused on innovative approaches to cellular uptake of drugs (using ultrasound and micro/nanobubbles). Beyond her scientific contributions, Dr. Coe is one of Canada's most influential advocates for equity, diversity, and inclusion (EDI) in STEM. She works at the intersection of research policy, organizational culture, and social justice - advising federal funding agencies, universities, and scientific societies on how to embed equitable practices into research systems and decision-making.

As the inaugural NSERC Scholar-in-Residence, she has advanced national conversations on research excellence, systemic inequities, and the culture of science. Dr. Coe is a sought-after speaker, writer, and educator, committed to improving research environments for historically excluded groups and strengthening Canada's scientific ecosystem through inclusive excellence. Her work combines scientific credibility, policy insight, and a long-standing dedication to mentorship and public engagement.



*Dr. John Orlowski*

## Dr. John Orlowski



Dr. John Orlowski is a Distinguished James McGill Professor and former Chair (2005-2017) of the Department of Physiology. Currently, he is the co-Director of the Cell Information Systems Group within the School of Biomedical Sciences at McGill University. His scientific interests have focused on understanding the complex dynamics of cellular pH homeostasis as it pertains to human health and disease. He has played a leading role in identifying new plasma membrane and organellar isoforms of the mammalian alkali cation/proton exchanger SLC9 gene family, commonly referred to as Na<sup>+</sup>/H<sup>+</sup> exchangers. He has served on the Board of Directors for CSMB from 2002 to 2015, including as President of the Society.

He is currently on the Editorial Board of the CSMB society journal *Biochemistry and Cell Biology* and serves as an Associate Editor of *Physiological Reviews*. In other leadership activities within the Faculty of Medicine and Health Sciences (FMHS) at McGill, Dr. Orlowski has made significant contributions to several mentorship activities, including the development and implementation of the Telemachus Scholar Mentoring Program for faculty members. He is also the current Chair of the Post-Leadership Development Program (LDP) Mentoring Program that offers personalized coaching for emerging leaders within the FMHS.

# CSMB Fellows



*Dr. Jan Rainey*

## Dr. Jan Rainey



Dr. Jan Rainey is Professor in the Department of Biochemistry & Molecular Biology, with cross-appointments in Biomedical Engineering and Chemistry. He is also currently the Undergraduate Coordinator for his Department. Dr. Rainey's research contributions in the molecular biosciences span structural biology, protein engineering, physical biochemistry, and biomaterials science. His research has two major areas of focus: (1) recombinant spider silk-based materials and (2) peptide activation of G-protein-coupled receptors (GPCRs). He made significant contributions to both areas. He recently established Dalhousie's Biomolecular NMR Spectroscopy CORE Facility.

Dr. Rainey first became involved with CSMB Board activity as Board member in 2010. In 2015, he hosted the CSMB Annual Meeting at Dalhousie University in Halifax. Since 2016 until 2024, Dr. Rainey served as Treasurer for CSMB. This was a period of substantial transition for the Society, and Dr. Rainey introduced several measures to ensure the financial success of CSMB. He also served as Associate Editor for Biochemistry and Cell Biology, the Society journal.

# CSMB Trainee Ambassador Program

The CSMB Trainee Ambassador Program, launched in 2024, was created to strengthen the organisation's visibility, deepen community engagement, and cultivate a network of passionate representatives who champion CSMB's mission and initiatives. Designed as both a leadership and outreach platform, the programme empowers selected ambassadors to serve as CSMB points of contact within their local communities.

Ambassadors play an active role in promoting awareness of CSMB's work, events and activities, and facilitating outreach to potential members. Through their participation, they help expand the reach of CSMB's programmes, contribute diverse perspectives, and encourage knowledge exchange among trainees. The initiative also provides ambassadors with opportunities for professional development, networking, and leadership growth, reinforcing CSMB's commitment to nurturing emerging voices and strengthening the Society's broader impact.

Since its inception, the Trainee Ambassador Program has reflected CSMB's dedication to inclusivity, partnership, and innovation. By engaging individuals from varied backgrounds and areas of expertise, the programme continues to build a vibrant community of representatives who help advance shared goals and inspire continued growth within the organisation and beyond.

## CSMB Trainee Ambassadors 2025-2026

- Ashraf Kadar Shahib - *University of Manitoba*
- Elizabeth Tsyben - *University of Ottawa*
- Michelle Tomczewski - *University of Waterloo*
- Paula Pineda Sánchez - *University of Manitoba*
- Talar Ghadianian - *McGill University*



*Ashraf Kadar Shahib*



*Elizabeth Tsyben*



*Michelle Tomczewski*



*Paula Pineda Sánchez*



*Talar Ghadianian*

# ASBMB Update

The American Society for Biochemistry and Molecular Biology (ASBMB) is a nonprofit professional society that builds and empowers a broad community of molecular life scientists to advance discovery. ASBMB is a community of 11,000 members, including researchers and scientist educators spanning students to senior scientists. Through dissemination of emerging scientific research, education and training initiatives, and advocacy, ASBMB shapes and supports fundamental science that fuels future innovation. For more than 100 years, its community has pioneered new discoveries in the molecular life sciences that drive medical advances and therapies for many disorders and diseases, as well as many other applications ranging from environmental to agricultural. We are excited to share recent updates with our Canadian counterparts, CSMB.

ASBMB is expanding its publishing portfolio with the launch of [\*Insights in Biochemistry and Molecular Biology \(IBMB\)\*](#), a new gold open access journal designed to provide rapid, high quality review and broad dissemination. ASBMB's other [journals](#), the Journal of Biological Chemistry, the Journal of Lipid Research, and Molecular & Cellular Proteomics, continue to publish influential, rigorously reviewed research with strong citation performance. Together, these publications sustain knowledge exchange while supporting the society's broader programs in education and advocacy.

[Advocacy](#) is also an important priority of ASBMB. ASBMB mobilized members to defend federal funding for fundamental research through Capitol Hill engagement, coalition partnerships, and judicial amicus briefs opposing unlawful grant terminations. Through the "Science Serves Us All" campaign and coordinated grassroots outreach, members sent thousands of letters to Congress and held dozens of meetings with policymakers, reinforcing the importance of sustained investment in basic science and training, the effects of which travel far beyond US borders.

ASBMB anticipates thousands of attendees at the 2026 ASBMB Annual Meeting at National Harbor. The keynote address will be delivered by Wesley I. Sundquist, who will discuss how fundamental research in biochemistry laid the groundwork for the development of lenacapavir, underscoring the long arc from basic molecular insight to transformative therapeutic innovation. The meeting also includes programming for every career stage, and networking opportunities for members.

In October, ASBMB will host a meeting on transcriptional regulation in Alexandria, Virginia. ASBMB also hosts myriad [webinars](#), including a monthly series on transcription and the "Breakthroughs" series, offering a window into the cutting-edge biochemistry and molecular biology research driving discovery. The ASBMB's Lipid Research Division also hosts a frequent virtual seminar series. Learn more here: <https://www.asbmb.org/meetings-events>

ASBMB is delighted to build connections with CSMB. We are looking forward to connecting again at the upcoming webinar featuring this year's ASBMB Mildred Cohn Young Investigator Award winner Joseph Cotruvo on May 5, 2026.

# Proceedings of the Canadian Society for Molecular Biosciences (CSMB) 2024 Conference — Gene Regulation: From Cells to Systems

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## Abstract

The 67th Canadian Society for Molecular Biosciences (CSMB) Annual Conference took place in Winnipeg, Manitoba, from 6 May to 8 May 2024, at the University of Manitoba, Winnipeg. The conference theme “Gene Regulation: From Cells to Systems” was selected to reflect the breadth and multidisciplinary nature of CSMB’s membership and to facilitate interactions among scientists and researchers across different disciplines and with diverse research programs and approaches. This meeting attracted registered participants from provinces across Canada and the USA. The objective of this meeting was to promote the inclusive dissemination, conversation, and discussions of molecular biosciences research, in different areas of molecular biosciences covering a wide range of topics in basic science and health-related research subjects such as neuroscience, cancer biology, immunology, physiology, bacterial systems, RNA biology, protein homeostasis, cellular metabolism and cell death mechanisms, neurobiology and neurogenetics, epigenetics, chromatin biology, environmental influence, stem cell biology, and genome-wide studies. This meeting provided a discussion opportunity for molecular bioscience researchers to develop innovative and novel strategies and collaborations for biomedical and translational research.

**Key words:** CSMB 2024, CSMB Annual Meeting, Gene Regulation, Model Systems

The 67th Canadian Society for Molecular Biosciences (CSMB) Annual Conference took place in Winnipeg, Manitoba, from 6 May to 8 May 2024, at the University of Manitoba’s Bannatyne campus. The conference theme “Gene Regulation: From Cells to Systems” was selected to reflect the breadth and multidisciplinary nature of CSMBs membership and to facilitate interactions from scientists and researchers across different disciplines and with diverse research programs and approaches (*Canadian Society for Molecular Biosciences 2024a*).

Gene regulatory mechanisms impact all aspects of life and are studied in different model systems, from unicellular prokaryote and eukaryote organisms to the most complex and advanced processes in humans. Many regulatory processes and control mechanisms are involved in cellular metabolism, growth, division, differentiation, maturation, phenotype, function, and behavior. To facilitate the multidisciplinary interaction of researchers, the 2024 CSMB conference featured talks from national and international experts in different research areas. The 2024 CSMB meeting covered a wide range of topics in basic science and health-related research subjects in different areas of neuroscience, cancer biology, immunology, physiology, bacterial systems,

RNA biology, protein homeostasis, cellular metabolism and cell death mechanisms, neurobiology and neurogenetics, epigenetics, chromatin biology, environmental influence, stem cell biology, and genome-wide studies.

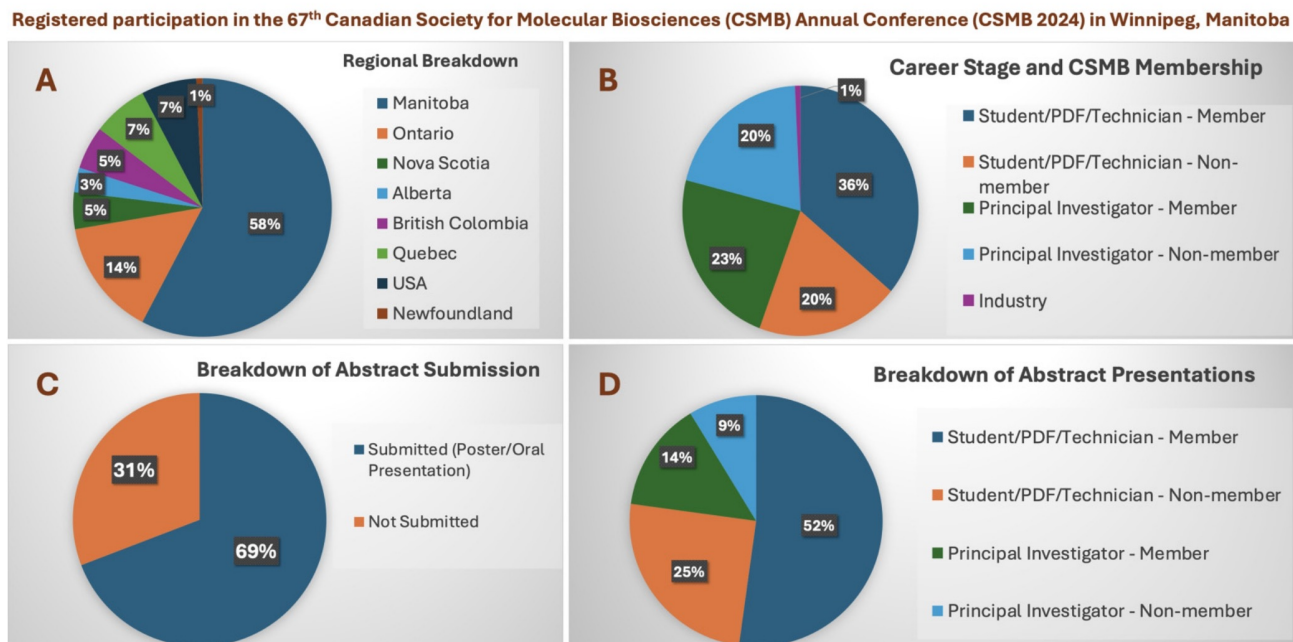
## The organizing committees

Dr. Mojgan Rastegar chaired the conference at the University of Manitoba. The scientific organizing committee consisted of Dr. Hans-Joachim Wieden, Dr. James Davie, Dr. Denice Bay, Dr. Susan Logue, Dr. Sean McKenna, and Dr. Paul Marcogliese from the University of Manitoba, and Dr. Sanoji Wijenayake from the University of Winnipeg. The trainee organizing committee included Dr. Carmine Slipski, Chris-Tiann Roberts, Sadhana Narayanan Sudhakar, Fabian Rohden, Hedieh Sattarifard, Amanda Vazquez, and Ghanan Bin Akhtar, all from the University of Manitoba.

## The participants

The 2024 CSMB meeting attracted 133 registered participants from provinces across Canada (and from USA) (group photo of conference attendees (*Canadian Society for Molec-*

**Fig. 1.** Registered participation and attendees of the 2024 Canadian Society for Molecular Biosciences (CSMB) Conference in Winnipeg, Manitoba, Canada, hosted by the University of Manitoba. (A) Regional breakdown of the conference participants from different provinces in Canada (Manitoba, Ontario, Nova Scotia, Alberta, British Columbia, Quebec, and Newfoundland) and from USA. (B) The conference participants were from different career stages who registered as society members or non-members, with 1% of registrations from industry. (C) Most conference participants submitted abstracts to be presented during the conference. (D) Attendees who presented their abstract during the conference were from different career stages and were registered as both society members and non-members.



ular Biosciences 2024b)), who shared their research results in molecular biosciences (Fig. 1). Conference participation was mainly from Canada (93%), with 7% participation from the USA. In Canada participation was highest from Manitoba (58%) followed by 14% participation from Ontario (Fig. 1A). Conference attendees were from different career stages as society members and non-members (Fig. 1B). Most conference participants (69%) submitted abstracts for talks and posters (Fig. 1C), with the highest number (52%) of presenters being among the society members who registered as trainees (students or postdoctoral fellows) and technicians (Fig. 1D).

## Keynote lectures

Conference participants had the opportunity to discuss science for developing new approaches and research directions through collaboration, brainstorming, and networking sessions. Current advances in molecular biosciences in molecular genetics, neuroscience, and stem cell biology were reported in an outstanding and well attended keynote lecture by Dr. Freda Miller from the University of British Columbia, supported by a Plenary Lecture Award from the International Union of Biochemistry and Molecular Biology (IUBMB). Dr. Miller is a Fellow of the Royal Society of Canada, the American Association for the Advancement of Science, and a pioneer Canadian scientist on survival, self-renewal, and differentiation of skin-derived and brain-derived neural stem cells, including the underlying regulatory mechanisms.

## Trainee sessions

The conference incorporated four trainee sessions that were well attended. The four trainee sessions included (1) Networking and Marketing Your Skills; (2) Creating a Healthy Work–Life Balance Mindset; (3) Careers in Science; and (4) Science and Communication. Trainee sessions were presented by Dr. Sabine Mai and Dr. Jean Eric Ghia from the University of Manitoba (1); Leah Deane and Arlena Vadnais from the University of Manitoba (2); Dr. Sabine Hombach-Klonisch from the University of Manitoba, Dr. Cheryl Greenberg and Dr. Jonathan McGavock from the University of Manitoba and Children’s Hospital Research Institute of Manitoba (CHRIM), and Dr. Brent Guppy from the Bioscience Diagnostics (3); and Calvin Chan from the Canadian Science Publishing (4). The trainee sessions were followed up by a presentation from Kristen Marshall from the Natural Sciences and Engineering Research Council of Canada (NSERC) that was complemented by a question-and-answer period.

## Scientific sessions

The conference also included 10 distinct scientific sessions, in the areas of (1) Epigenetics and Gene Regulation; (2) Synthetic Biology, Bioengineering, and Cancer; (3) RNA Biology, Cancer, and Disease; (4) Gene Regulatory Mechanisms in Stem Cells and Cancer; (5) Gene Regulation in Non-Mammalian Or-

ganisms; (6) Protein Homeostasis; (7) Gene Regulation and Cell Death Mechanisms; (8) Environmental Influences on Gene Expression; (9) Gene Regulation in Physiology and Immune System; and (10) Gene Regulation in Neurobiology and Neurogenetics.

Each session started with a presentation from an invited speaker, which was followed by three additional presentations selected from the submitted abstracts by conference attendees. The invited speakers for the 10 sessions were Dr. Juan Ausio from the University of Victoria (1); Dr. Haissi Cui from the University of Toronto (2); Dr. Bobby Varelas from Boston University (3); Dr. James Ellis from the SickKids Hospital affiliated with the University of Toronto (4); Dr. Vincent Archambault from Université de Montréal (5); Dr. Maria Vera Ugalde from McGill University (6); Dr. Lorrie Kirshenbaum from the University of Manitoba (7); Dr. Michael Kobor from the University of British Columbia (8); Dr. Odette Laneuville from the Ottawa University (9); and Dr. Susanne Schmid from the Western University (10).

Included in the program was a Gold Sponsor Talk by Dr. Sachin Katyal from the Paul Albrechtsen Research Institute CancerCare Manitoba and the University of Manitoba.

## CSMB award lectures

As a key element of the CSMB 2024 meeting, the winners of the prestigious CSMB awards delivered their award lectures. This year the Arthur Wynne Gold Medal Award Talk (Dr. Guy Sauvageau from the Université de Montréal); the Jeanne Manery-Fisher Memorial Award Talk (Dr. Sylvie Mader from the Université de Montréal); the Canadian Science Publishing Senior Investigator Award Talk (Dr. John Archibald from the Dalhousie University); and the CSMB New Investigator Award Talk (Dr. Maja Tarailo-Graovac from the University of Calgary). On the last day of the meeting, CSMB members attended the CSMB Annual General Meeting.

## Acknowledgements

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## Land acknowledgement

The University of Manitoba campuses are located on original lands of Anishinaabeg, Ininiwak, Anisininewuk, Dakota Ojate and Dene, and on the National Homeland of the Red River Métis. We respect the treaties that were made on these territories, we acknowledge the harms and mistakes of the past, and we dedicate ourselves to move forward in partnership with Indigenous communities in a spirit of reconciliation and collaboration.

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### Data availability

Not applicable as this is a Conference Proceeding Report.

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Project administration: MR, HW, JRD

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### Competing interests

The authors declare that there are no competing interests.

## References

- Canadian Society for Molecular Biosciences. 2024a. 2024 Annual Conference. Available from <https://csmb-scbm.ca/meetings/2024-annual-conference/> [accessed 4 May 2025].
- Canadian Society for Molecular Biosciences. 2024b. The 67th Annual CSMB meeting 2024. Available from <https://event.fourwaves.com/csmb2024/pages> [accessed 4 May 2025].