



UNIVERSITY OF SASKATCHEWAN

College of Medicine

DEPARTMENT OF BIOCHEMISTRY,
MICROBIOLOGY AND IMMUNOLOGY
MEDICINE.USASK.CA

A photograph of a male scientist with long dark hair and a beard, wearing a white lab coat and safety glasses. He is focused on adjusting a large, complex microscope in a laboratory. The scene is dimly lit with a blueish-purple hue. A computer monitor is visible in the background.

DEPARTMENT OF BIOCHEMISTRY, MICROBIOLOGY AND IMMUNOLOGY

ANNUAL NEWSLETTER

Issue 7 - Fall 2025



Building the foundation for better health

The University of Saskatchewan's Department of Biochemistry, Microbiology and Immunology (BMI) falls within the field of biomedical science, the foundation of knowledge and discovery that ultimately improves patient care.

From antibiotic resistance to HIV/AIDS to altering the biochemistry of cancer cells, biomedical scientists ask the questions and find the answers that improve the health and well-being of the people of Saskatchewan—and the world.

Main Office

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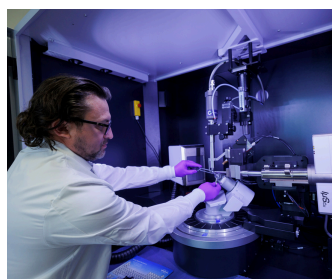
@USask Department of Biochemistry,
Microbiology, & Immunology (BMI)



UNIVERSITY OF
SASKATCHEWAN

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ON THE COVERS

FRONT COVER PHOTO:

Dr. Michal Boniecki in the Protein Characterization and Crystallization Facility. *Photo by David Stobbe.*



BACK COVER PHOTO:

Undergraduate student Ally Seifert. *Photo by David Stobbe.*

Message from the Department Head



Dr. Linda Chelico

As I reflect on the past year, I am amazed at how much we have accomplished and how we have positioned ourselves for continued success. When I stepped into this role, my plans for BMI were to assess and strengthen our undergraduate program through alumni feedback, support our graduate students with a communication skills course and career guidance, and enable the department to focus on collaborative research rather than only functioning within separate research labs. Additionally, I saw an opportunity to connect with a broader audience by celebrating our people and increasing our public visibility through a LinkedIn page. Since some things take time to fully develop, I decided to start each of these initiatives as soon as possible. I invite you to read more about them below.

Assess our undergraduate program

When the departments merged to form BMI, there was an opportunity to redesign our undergraduate curriculum, an area that had never been assessed with an alumni survey. Even prior to the merger, neither the microbiology and immunology or biochemistry faculty had surveyed their alumni on a consistent basis.

It was time to assess how students had applied their degrees and hear how their education contributed to their success.

Our alumni survey provided valuable insights into their experience with the program. We found that graduates wanted more practical experience. While alumni valued the theoretical aspects taught in class, those directly entering the workforce felt that the curriculum lacked hands-on learning opportunities and expressed a need for more work integrated learning.

As a result, we formed a working group with Dawn Giesbrecht, Scott Napper, and myself to explore a work integrated learning program (often called a co-op program). We hope to develop this over the next four years.

Develop a communication skills course

The first offering of BMI 800-Science Communication in Biochemistry, Microbiology and Immunology started at the beginning of September 2025 with eight new graduate students. It will become a required course for all BMI graduate students as of September 2026.

In the course, students will learn how to form a hypothesis, search scientific literature, present their research in seminars and different written forms, conduct peer review, and explore how their aptitude fits with career options available after a graduate degree. We will be gathering feedback from students and their supervisors to improve the future sessions of the course.

Form a Research Affairs Committee

This year, we established the BMI Research Affairs Committee (RAC) to provide guidance around research funding, identify future areas for faculty hiring and advocate for university funding for research instrumentation (a.k.a. research infrastructure).

Scott Napper is the inaugural chair of the committee. He has organized regular meetings with the committee and is working to gain a clearer understanding of how health sciences research infrastructure can be strengthened and expanded on campus. →

While many universities are shifting to centralize research infrastructure in a “core lab” with multiple specialized instruments, this model has costs associated with it. This includes renovations to create an appropriate lab space, instrument service and repairs, and hiring experienced individuals to operate the instruments and train students.

Having the right research infrastructure over the lifetime of a research career is just as important as having the research funding to operate the lab on a daily basis. These two funding sources are different and serve different purposes and the research infrastructure is often overlooked by funding organizations over the lifetime of a research scientist.

The RAC is looking at new and innovative ways to solve these issues. One of these ways is to partner with our colleagues in University Advancement and identify opportunities for giving. BMI will be actively looking for partners to help support our research goal to “Find the answers that improve the health and well-being of the people of Saskatchewan and the world.” If you are interested in supporting us with a donation, see details on our fundraising priorities on page 12.

Follow us on LinkedIn!

Many BMI members wanted an active online presence. In response, we launched the **BMI LinkedIn account** in July 2024 and it now has over 1600 followers! We have highlighted the many accomplishments of our students and faculty, creating a sense of community in an increasingly digital world.

Follow our page to stay updated on: Program Information: Get the latest on courses, curriculum updates, and more, Important Deadlines: Find out how to apply for awards, scholarship, summer research fellowships, Meet Our People: Get to know our faculty, students, and staff, Research Opportunities: Discover openings in research labs and how you can get involved, and Events: Stay informed about upcoming student events and weekly seminars. 🍀



Top photo: Dr. Marzi Ghanbarian, postdoctoral fellow in the Dmitriev Lab. Bottom photo: Kenny Ta, BMSC undergraduate student. Photos by David Stobbe.

Department News

RETIRING FACULTY



Dr. Mirosław Cygler

Dr. Mirosław Cygler, a world-renowned structural biologist, is retiring after over four decades of pioneering research and leadership — with 14 of those years being at USask. Prior to this, Dr. Cygler worked at the National Research Council Canada. As a Tier 1 Canada Research Chair in Molecular Medicine Using Synchrotron Light, he advanced our understanding of bacterial virulence, contributing to global efforts against antimicrobial resistance. Before arriving and while at USask, he was instrumental in developing the Canadian Light Source's crystallography beamlines and founded the PRISM Centre, fostering interdisciplinary protein science.

Dr. Cygler established the PSFaM conference and Protein Characterization and Crystallization Facility (PCCF), enhancing national research capacity. He mentored numerous trainees and initiated the Mingling Minds seminar series to bridge clinical and basic science. With over 270 publications and 23,000 citations, his impact spans continents through collaborations in Canada, Europe, Australia, and the U.S. His legacy of excellence, mentorship, and innovation has profoundly shaped Saskatchewan's health research landscape and will continue to inspire future generations. 🍀



Dr. Sylvia van den Hurk

Dr. Sylvia van Drunen Littel-van den Hurk was a professor in the College of Medicine's Department of Biochemistry, Microbiology and Immunology, and a (co-)graduate chair from 2017-2022. She was also the Program Manager of the Viral Pathogenesis and Vaccine Development group at the Vaccine and Infectious Disease Organization until 2024. She received her BSc and MSc at the University of Wageningen in the Netherlands and a PhD at USask and worked at the University of Montreal and McGill University. Dr. van den Hurk published over 250 peer-reviewed manuscripts, reviews and book chapters, and received nine patents. She mentored over 60 students and post-doctoral fellows who now have careers in academia, industry, government or health professions.

Her research focused on disease control and virus-host interactions. Specific projects included respiratory syncytial virus (RSV) - host interactions, development of RSV and parainfluenzavirus-3 (PIV3) vaccines, and herpesvirus pathogenesis. This research was funded by international (Bill and Melinda Gates Foundation, National Institutes of Health), national (Canadian Institutes for Health Research, Natural Sciences and Engineering Council) and provincial (SK, AB, BC and ON) granting agencies, as well as private foundations, such as the Krembil Foundation. Currently she is completing pre-clinical trials with an RSV-PIV3 combination vaccine, in support of an application for a human Phase I clinical study.

Dr. van den Hurk served as reviewer in multiple national (NSERC, CIHR), international (NIH, BBSRC, MRC UK), and provincial (SHRF) grant review panels. She is on the editorial board of "*npj Vaccines*" (Nature Publishing) and the journal *Vaccine*, and was associate editor for *Vaccine* from 2017-2024. From June 2020 to June 2022 she served as committee member on the COVID-19 Vaccine Task Force, Innovation, Science and Economic Development Canada, providing advice to the Government of Canada on COVID-19 vaccines, which was instrumental in procuring the required vaccines for Canadian citizens. 🍀

DEPARTING STAFF AND FACULTY



Barb Stuckless

Barb, Graduate Administrator, was a valued member of the BMI team for 6.5 years. This year she joined the College of Nursing as the Administrative Assistant for their undergraduate program. We thank Barb for her time with BMI and wish her the best of luck in her new position.



Dr. Jeff Dong

Jeff joined BMI in 2022 as an Assistant Professor. In January 2026 he will depart USask for a new faculty position at the University of British Columbia (UBC). Thank you, Jeff, for your contributions to the department, we wish you all the best at UBC.

NEW STAFF AND FACULTY



Michelle Burch

BMSC Clerical Assistant
Started March 2025



Peggy Naughton

Graduate Administrative Assistant
Started May 2025



Dr. Michael Wozny

Assistant Professor
Started September 2025



Dr. Kezia Fourie

Laboratory Instructor
Started September 2025



Meet BMI's newest professor!

Dr. Michael Wozny studies host-pathogen interactions using integrative techniques including cryo-electron microscopy and fluorescence light microscopy to contextualize high-resolution protein structures within cellular environments.

The Wozny Lab's long-term goals are to extend these techniques to study other membrane contact sites and host-pathogen protein complexes within cells and, eventually, tissues. With this knowledge, the lab will be able to test how therapeutics can be used to block infection by interfering with pathogen proteins or altering cellular ultrastructure and host-pathogen responses. 🍷

Research Success

RENEWAL OF PROBATION

This important milestone signifies satisfactory progress towards meeting standards for tenure across the majority of categories.



Dr. Peter Pioli



Dr. Jessica Sheldon



Dr. Jeff Dong

COLLEGE OF MEDICINE FACULTY FUNDING AWARDS

College of Medicine Research Awards (CoMRAD) and College of Medicine Bridge Funding (CoMBRIDGE).



Dr. Jo-Anne Dillon

CoMRAD

Project Title: Role of the N-terminus of FtsI of Neisseria gonorrhoeae in cell division and penicillin binding



Dr. Anil Kumar

CoMRAD

Project Title: Human Microproteins as host factors of Dengue virus



Dr. Kerry Lavender

CoMRAD

Project Title: Preliminary studies of a novel oligonucleotide therapeutic (OT) delivery platform in a humanized mouse model of HIV infection



Dr. Scot Leary
CoMRAD

Project Title: Disrupting mitochondrial function in the liver: implications for immune suppression



Dr. Peter Pioli



Dr. Peter Pioli
CoMBRIDGE

Project Title: Regulation of thymic B cell activation and differentiation into antibody-secreting cells

NATURAL SCIENCES AND ENGINEERING RESEARCH COUNCIL OF CANADA (NSERC) AWARDS



Dr. Jessica Sheldon

Discovery Grant
5 years - \$38,000/year

Discovery Launch Supplement
1 year - \$12,500

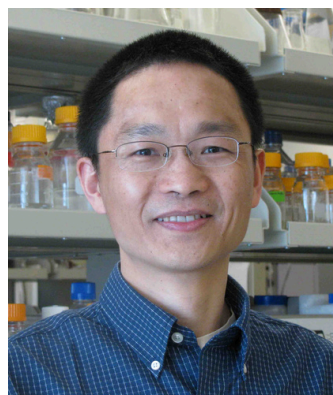
*Project Title: Molecular mechanisms of histamine sensing and response in *Morganella morganii**



Dr. Hong Wang

Discovery Grant
5 years - \$39,000/year

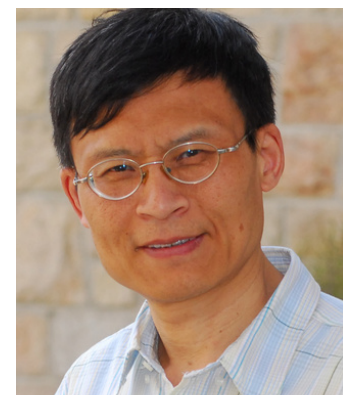
Project Title: Plant Cell Cycle Regulation and Protein Ubiquitination



Dr. Yuliang Wu

Discovery Grant
5 years - \$49,000/year

Project Title: Defining the Molecular Mechanisms of DDX41 Helicase in Antiviral Innate Immune Responses



Dr. Wei Xiao

Discovery Grant
5 years - \$44,000/year

Project Title: Understand how a budding yeast transcriptional factor Fzf1 coordinates responses to multiple chemical stresses

CANADIAN INSTITUTES OF HEALTH RESEARCH (CIHR) AWARDS



Dr. Linda Chelico

Project Grant

5 year - \$1,029,202

**Project Grant - Breast Cancer
Prevention & Early Detection**

1 year - \$100,000

*Project Title: Role of APOBEC3
single-stranded DNA cytosine
deaminases in breast cancer*

[READ MORE](#)



Dr. Jo-Anne Dillon

**Planning and Dissemination
Grant - Institute Community
Support**

1 year - \$20,000

*Project Title: Dissemination of
Research, Knowledge and
Educational Materials for the STI
and HIV 2025 World Congress to
be held in Montreal Canada July
26-30, 2025*

[READ MORE](#)



Dr. Anil Kumar

Project Grant

5 years - \$1,224,000

*Project Title: Human
Microproteins Modulating
Enterovirus Replication*

[READ MORE](#)



Dr. Kerry Lavender

**Team Grant: Biomedical
Research for HIV/AIDS and
STBBI, Next-Generation
Therapeutic Interventions**
5 years - \$727,500 to USask

*Project Title: Targeted
Therapeutics for HIV-1 Cure*

[READ MORE](#)

**Planning and Dissemination
Grant - Institute Community
Supports**

1 year - \$20,000

*Project Title: Prairie Infection &
Immunity Network 2025*

[READ MORE](#)



OTHER RESEARCH AWARDS



Dr. Peter Pioli

Canada Foundation for Innovation
John R. Evans Leaders Fund
\$468,276 total contribution

*Project Title: Establishment of a Cell
Sorting Hub at the University of
Saskatchewan*

Team members: Gurpreet Aulakh,
Volker Gerdts, Peter Pioli



Dr. Wei Xiao

Western Grains Research
Foundation and Saskatchewan
Canola Council
3 years - \$270,000

*Project Title: Develop verticillium stripe
disease management strategy in canola*

[READ MORE](#)

Results Driven Agriculture
3 years - \$333,000

*Project Title: Generating next generation
clubroot resistant canola varieties with
advanced gene editing technologies*

[READ MORE](#)



Dr. Harold Bull

STAR Connect: Scholarship,
Teaching and Research initiative
aims to seamlessly integrate the
University's Signature Areas of
Research with excellence in teaching
and learning.
2 years - \$10,000

*Dr. Bull was awarded a Fellowship Award
to collaboratively pursue the further
development of his proposed project
mapping learner mental wellness to
specific course attributes with a focus on
active learning components.*

Faculty Awards

BMI faculty members were recognized by CIHR for their outstanding performance as a reviewer for the Fall 2023 and/or Spring/Fall 2024 Project Grant Competitions. This honour is reserved for a select number of reviewers (~20%) who demonstrate exemplary commitment to the peer review process.



Dr. Jeff Dong



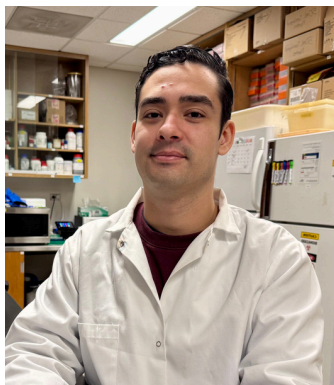
Dr. Scot Leary



Dr. Peter Pioli

Student and Trainee Success

GRADUATE STUDENT SUCCESS



Enrique Aburto Arreguin

Supervisor: Dr. Jessica Sheldon

**CIHR Canada Graduate
Research Scholarship -
Master's**

*Project Title: Elucidating the
interactions between
Acinetobacter baumannii and
host cells*



Hannah Braun

**Supervisor: Dr. Jenny-Lee
Thomassin**

**NSERC Canada Graduate
Research Scholarship -
Doctoral**

*Project Title: Identification and
characterization of novel type II
secreted proteins of Klebsiella
pneumoniae*

**2025 BMI Irene Grodums
Scholarship**

**Klebsiella Epidemiology &
Biology Symposium 2024:
Poster competition winner**



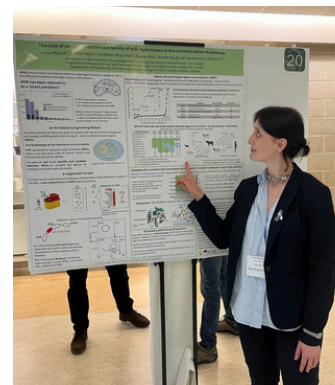
Vivian Chang

Supervisor: Dr. Kerry Lavender

**CIHR Canada Graduate
Research Scholarship -
Master's**

*Project Title: Preclinical studies of
a novel oligonucleotide
therapeutic delivery platform in a
humanized mouse model of HIV
infection*

**College of Medicine Graduate
Student Award**

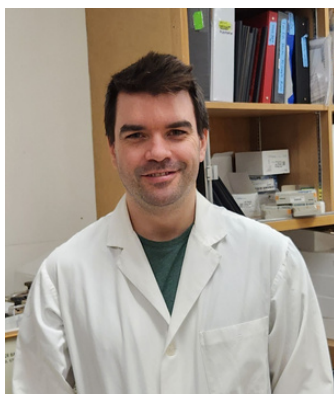


Iryna Myziuk

Supervisor: Dr. Tony Ruzzini

**NSERC Canada Graduate
Research Scholarship -
Doctoral**

*Project Title: Discovery and
characterization of serine-
dependent macrolide esterases*



Eric Toombs

**Supervisor: Dr. Jenny-Lee
Thomassin**

**NSERC Canada Graduate
Research Scholarship -
Doctoral**

*Project Title: Dissection of the
Klebsiella pneumoniae type two
secretion system through gene
deletion and functional
characterization*

Congratulations to our CGPS 75th Anniversary Scholarship Awardees:

- Srivathsa Shankar Kurpad (Supervisor: Dr. Neeraj Dhar)
- Francisca Lopez Molina (Supervisors: Drs. Oleg Dmitriev and Graham George)
- Jose Pablo Navarro Santiago (Supervisor: Dr. Jessica Sheldon)
- Chelsey Thistle (Supervisor: Dr. Joyce Wilson)
- Yuntao (Wayne) Wang (Supervisor: Dr. Wei Xiao)

UNDERGRADUATE STUDENT SUCCESS

Congratulations to the following students for being awarded an NSERC Undergraduate Student Research Award:

- Eric Luo (Supervisor: Dr. Jenny Wachter)
- Zyna Hernandez (Supervisor: Sébastien Gauvrit)
- Kenzie Byers (Supervisor: Dr. Michelle Collins)
- Eve Simpson (Supervisor: Dr. Anil Kumar V. Ansalem)
- Will Rice (Supervisor: Dr. Linda Chelico)
- Ismail Kamel (Supervisor: Dr. Steven Machtaler)
- Kirsten Lowe (Supervisor: Dr. Jo-Anne Dillon)
- Vianne Chang (Supervisor: Dr. Kerry Lavender)
- Kenny Ta (Supervisor: Dr. Jeff Dong)

CLASS OF 2025 GRADUATION BANQUET

Congratulations to the BMI 2025 graduates! The Biochemistry, Microbiology and Immunology Student Association (BMISA) hosted a celebratory banquet where graduates connected with peers and families. Two outstanding students were honored with awards.



Attendees of the 2025 BMISA Graduation Banquet. Photo submitted.



Award Recipients

Eric Luo

Most Outstanding Graduate Biochemistry, Microbiology and Immunology

Francisca Lopez Molinar

Dr. Louis T.J. Delbaere Memorial Award

BMI Research Retreat 2025



The BMI annual retreat brought faculty together for a one-day event in May at the Crossmount Cider Company to discuss initiatives for the next academic year.

The retreat opened with a session facilitated by the Gwenna Moss Centre for Teaching and Learning entitled, *"Feedback Without Burnout: Guiding Effective Peer Review."* This workshop helped faculty build knowledge in using peer review as a form of assessment in the undergraduate curriculum. There was also time allotted to discuss the BMI undergraduate alumni survey and decide on next steps. Finally, the afternoon was dedicated to a research discussion where faculty gave short talks to share new techniques, discuss research problems, and expand collaborations within the department. 🍀

Fundraising Priorities

Within the Department of Biochemistry, Microbiology and Immunology, our scientists are driven by a shared mission: *to uncover the biological mechanisms of disease and translate them into new treatments that change lives.* Their discoveries are shaping the future of medicine, but innovation depends on access to the right tools.

Funding for major research equipment in Canada is often delayed and highly competitive. Even when federal grants such as those from the Canada Foundation for Innovation are available, they require matching funds before research can begin, slowing the path from idea to breakthrough.

Your philanthropy can accelerate this work. Every dollar invested in research infrastructure can generate up to 30 times its value through follow-on grants, patents, and clinical advances. When donors help us acquire the technology that powers discovery, they enable our researchers to move faster, to identify new therapies, bring hope to patients, and save lives. Together, we can fuel the discoveries that will transform lives for generations to come.

To learn how your charitable gift can make a difference, please connect with our Advancement Office at sherry.buckler@usask.ca. 🍀

Scientific and Community Engagement

PRAIRIE INFECTION AND IMMUNITY NETWORK (PIIN) MEETING 2025



PIIN brings together researchers and trainees in infectious diseases and immunology from across Manitoba and Saskatchewan. This year's conference reflected the continued growth of the network and its strength of emerging leadership across our institutions.

The PIIN 2025 scientific program included five sessions, two poster sessions, and a trainee career development workshop. An Indigenous Engagement in Infection and Immunity Research session was included to recognizing the essential contributions of First Nations Peoples to health research and community well-being. This session reflected on culturally grounded approaches to infectious disease prevention, the role of traditional knowledge in health and healing, and the importance of equitable research partnerships. Dr. Anna Blakney from the University of British Columbia and Dr. Nathalie Grandvaux from the Université de Montréal provided the keynote presentations.

PIIN 2025 was hosted in Saskatoon from September 28-30, 2025. Dr. Kerry Lavender was the PIIN 2025 Co-Chair.

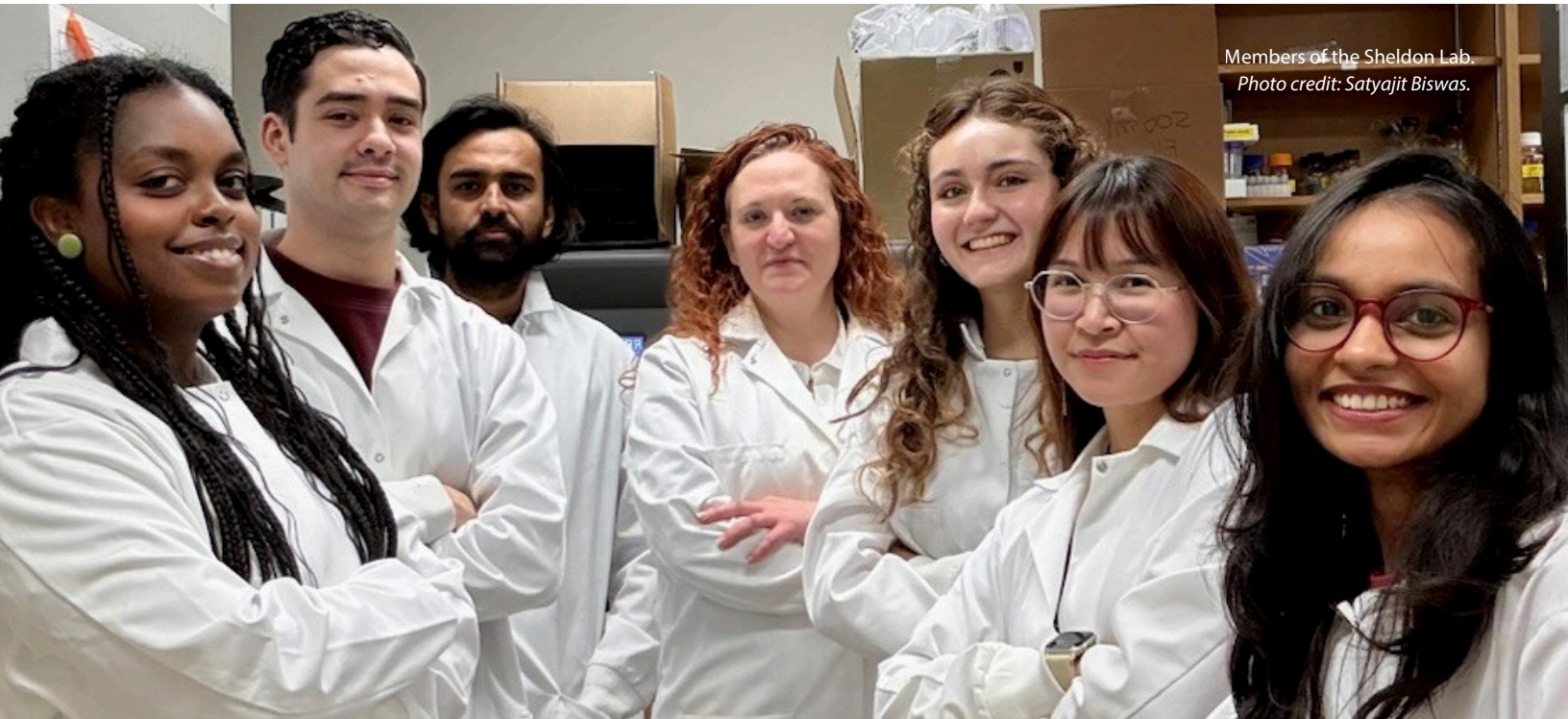
2025 PROTEIN STRUCTURE, FUNCTION AND MALFUNCTION MEETING (PSFaM)



This year's PSFaM featured four sessions: pulmonary disease, immunology, cancer biology, and microbiology, which highlighted the diverse roles of protein biology in health and disease. Keynote speakers included Dr. John Hanrahan (McGill University), Dr. Robin Yates (University of Calgary), Dr. Matthew Macauley (University of Alberta), Drs. Deborah Anderson and Aaron White (University Saskatchewan), and Dr. Brett Finlay (University of British Columbia), who presented cutting-edge protein science. Local trainees showcased the University of Saskatchewan's outstanding biomedical research through oral and poster presentations. A career development workshop and a guided tour of campus facilities, including the Canadian Light Source, provided additional networking opportunities.

The 12th annual PSFaM conference was hosted in Saskatoon from June 05-06, 2025. Drs. Asmahan AbuArish (APP Department) and Jeff Dong were the PSFaM Co-Chairs.

BMI in the News



New cell sorting technology primed to improve USask medical innovation

October 10, 2025

A new cell sorting hub at the University of Saskatchewan has received prestigious national-level funding through a joint, multi-unit effort.

A joint proposal from the Vaccine and Infectious Disease Organization, the College of Medicine, and the Western College of Veterinary Medicine received more than \$460,000 from the Canada Foundation for Innovation John R. Evans Leadership Fund to acquire cutting-edge technology to sort biological samples by their cell type.

Peter Pioli said it can be extremely difficult to study rare populations of cells like stem cells in detail without removing them from the organism. The new cell sorter will allow researchers like him to pull specific cell types from samples to study precise cell functions, like how disease impacts different cell types.

[READ MORE](#)

That's So Metal: Dr. Jessica Sheldon Targets *Acinetobacter Baumannii*

October 6, 2025

Jessica Sheldon is on a mission to starve out *Acinetobacter baumannii* — one of the world's most virulent hospital-borne pathogens. Notorious for its speedy evolution and multi drug resistance, this hospital-borne pathogen lingers on dry surfaces and infects critically ill patients, leading to sepsis, pneumonia and high mortality rates.

In this **Researchers Under the Scope** episode, Sheldon delves into the real-life events that drove her to investigate histamine and its role in bacterial survival and immune response.

[LISTEN TO THE FULL EPISODE](#)



Dr. Anil Kumar is exploring microproteins and their role in defending against viruses. Photo by David Stobbe.

Investigating the role of APOBEC in breast cancer progression

October 3, 2025

To investigate the role of APOBEC in breast cancer progression, Dr. Linda Chelico, received \$1,029,202 for a five-year project, 'Role of APOBEC3 single-stranded DNA cytosine deaminases in breast cancer' as part of Canadian Institutes of Health Research Spring 2025 Project Grant competition.

APOBEC3 is a type of protein that is present in our cells and helps our bodies defend against viruses. These proteins are also found in cancer cells, where they can cause mutations. Chelico's lab investigates whether these mutations contribute to cancer progression or destruction, an inquiry that could reshape cancer treatment.

[READ MORE](#)

USask research explores role of microproteins in virus replication

February 26, 2025

Researchers are still discovering more about the fundamental building blocks of human cells and a University of Saskatchewan-led research project is exploring microproteins and their role in defending against viruses.

Dr. Anil Kumar received \$1.2 million through the Canadian Institutes of Health Research Fall 2024 Project Grant competition to investigate the mechanisms behind how microproteins — a recently discovered group of small proteins in the cell — help spread enteroviruses and how the body uses this group of protein to defend against virus infections.

[READ MORE](#)



College of Medicine graduate students Magie Francis and Juveriya Qamar Khan received their PhDs during USask's Fall Convocation. *Photos submitted.*

USask researchers paving the way to better HIV treatments

December 23, 2024

The human immune deficiency virus (HIV) first entered public consciousness in the early 1980s, after cases of unfamiliar and deadly illnesses began to overwhelm medical centres across North America.

"An estimated 42 million people have died from HIV/AIDS to date, and while people can now live full lives with access to treatments, it is still a chronic condition that people would like a cure for," said Dr. Linda Chelico.

Chelico's lab studies immune responses to HIV, particularly a family of proteins called APOBEC3 which cause mutations in the HIV virus. Her research and others' show that the virus uses a counterattack that breaks down APOBEC3's defences, helping HIV win and establish an infection.

[READ MORE](#)

USask Convocation: Completing a PhD program in a pandemic

November 6, 2024

For many university students, Fall Convocation represents a culmination of hard work, perseverance and late nights. For two University of Saskatchewan College of Medicine graduate students, their path took an unexpected turn during the pandemic, which ultimately led them to contribute to COVID-19 research.

Early in 2020, Magie Francis and Juveriya Qamar Khan shifted their research to focus on severe acute respiratory syndrome coronavirus 2 (known as SARS-CoV-2), the virus that causes COVID-19.

[READ MORE](#)

Curriculum Renewal

NEW GRADUATE CLASSES FOR 2025/26

BMIS 800

Dr. Linda Chelico

Science Communication in Biochemistry, Microbiology and Immunology

This course will teach students how to develop a feasible research project proposal in sufficient detail relevant to their field of study, acquire practical skills in data management, and enhance their ability to communicate complex scientific information to diverse audiences. Skills to critically evaluate scientific literature and effectively incorporate this analysis into their own research through writing and presentation will also be developed.

BMIS 819

Dr. Scott Napper

Vaccinology: Principles and Practices

This course provides a multidisciplinary introduction to vaccinology including historical perspectives on the emergence and evolution of vaccines, modern strategies of vaccine development, formulation and delivery, as well as processes of vaccine licensing and manufacturing.

BMIS 820

Dr. Jessica Sheldon

Antimicrobial Resistance of One Health Pathogens

This course covers topics that include antibiotic discovery and development, mechanisms of resistance, emerging threats, surveillance and transmission of AMR in the environment, and novel treatment strategies.



2025/26 Student Associations

BMI GRADUATE STUDENT ASSOCIATION EXECUTIVE



Anna Martens-Koop, Co-President

Anna Martens-Koop is a PhD candidate in the Laboratory of Vaccine Engineering and Immunology located at the Vaccine and Infectious Disease Organization. Her current project focuses on the development of novel inhalable lipid-based subunit vaccines for Tuberculosis.

She is excited to put together some fun events for all BMI graduate students this year and can't wait to get to know everyone better!



Marin Habbick, Co-President

Marin Habbick is a MSc student in Dr. Angie Rasmussen's lab, working out of the Vaccine and Infectious Disease Organization. Her research focuses on understanding the role that sex hormones play in determining human coronavirus disease severity.

Outside the lab, Marin enjoys reading, trying new restaurants, thrifting and spending time with her family at the lake! Marin is excited to be returning to the BMI-GSA for the upcoming year!"



Harmony Grainger, Vice President

Harmony Grainger is an MSc student in Dr. Yuliang Wu's lab. Her research focuses on DDX41 and ribonucleoprotein granule dynamics in connection with myeloid malignancies.

As Vice President of the BMI Graduate Student Association, Harmony is committed to organize engaging events, foster open communication between students and faculty, and amplify graduate student voices to enrich their academic experiences. Outside the lab, she enjoys spending time with friends and family, traveling, and being active.

BMI UNDERGRADUATE STUDENT ASSOCIATION EXECUTIVE



**Aleksandra Dovichak,
President**

"I am most excited to promote fun and educational events to promote community building within the department for faculty and students!"



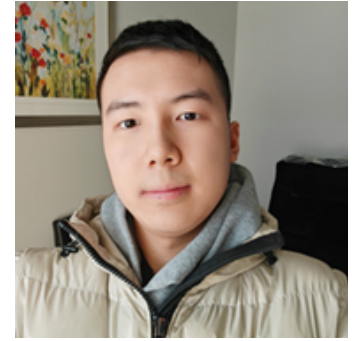
**Joshua Cameron, Vice-
President**

"I'm looking forward to meeting a ton of BMI students and faculty through our events and hoping to foster a sense of community within the department!"



Weixi Zhang, Treasurer

"We are so excited to host events for everyone to have fun and build a strong community. Don't be scared to come up and say hi or ask questions, I can't wait to meet you all!"



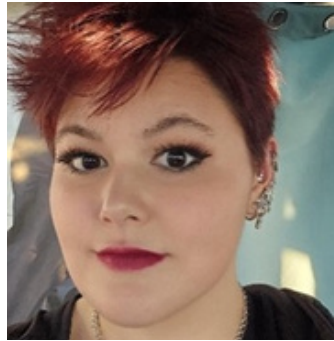
Richard Xu, Secretary

"I look forward to connecting with people across campus through the amazing events the BMISA will host this year!"



**Zachary Adamko, Events
Coordinator**

"I am awe struck by the amazing team we have this year. I am so excited for all the amazing educational and sociable events we are planning!"



Tayla Farr, Events Coordinator

"I'm really excited about being a part of the BMISA especially events as I want to see lots of events and be part of a strong community."



**Jeshua Jacob, Tutorial
Coordinator**

"We had a lot of fun with the tutorials last year and hope to connect with more BMI students and faculty through the events that we will organize over this academic year!"



**Morgan Johannson, Tutorial
Coordinator**

"I am looking forward to connecting with BMI students throughout the year, as well as guiding first and second year BMSC students through their courses!"



**Carly Jo Olzewski, Social Media
Coordinator**

"I am excited to build the connection of students to faculty and executives. I find it really important for everyone to be involved as much as they can in their studies, and I hope I can help others be informed about events and news on Instagram."



Yun Kim, Second Year Rep

"I am really excited for this school year to be able to experience the community of the BMSC program and promote fun events for the students of my year!"



**Atharv Govardhan, Third Year
Rep**

"My role will be forming a bridge with third-year BMI students and BMISA. My goal is to form a bigger BMI community where people interact with one another without any judgements."



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