

AGENDA

JUNE 18th - DAY 1

08:15-08:45 | Breakfast

Location: HLTH GD50 atrium Health Sciences Building

08:45-09:00 | Opening Remarks

Location: HLTH B450

Dr. Adelaine Leung/Dr. Tyler Wenzel - Chair/Co-Chair

Dr. Debby Burshtyn – Dean, College of Graduate and Postdoctoral Studies

09:00-10:30 | Session 1

Location: HLTH B450 | Chair: Ana Mendes Silva and Narsimha Pujari

09:00-09:45 | Keynote speaker: **Rakesh Karmacharya** (Harvard Medical School)

9:45-10:00 | Trainee presentation: **Arkpravo Chattopadhyay** (Barakat Lab, University of Alberta)

10:00-10:30 | Invited speaker: **Dr. Vineet Rathod** (University of Lethbridge)

10:30-11:00 | Coffee and networking

Location: HLTH GD50 atrium

11:00-12:30 | Session 2

Location: HLTH B450 | Chair: Michael Wozny and Andy Kim

11:00-11:45 | Keynote speaker: **Dr. Alba Guarne** (McGill University)

11:45-12:00 | Trainee presentation: **Christine Duong** (Mitchell-Koch Lab, University of Manitoba)

12:00-12:30 | New Investigator Speaker: **Dr. Rashmi Panigrahi** (Memorial University)

12:30-13:30 | Lunch

Location: Marquis Hall Culinary Centre

13:30-14:45 | Session 3:

Location: HLTH B450 | Chair: Maruti Chandra Uppalapati and Tayler Dzikowski

13:30-14:00 | Invited speaker: **Dr. Haixia Zhang** (University of Saskatchewan)

14:00-14:15 | Trainee presentation: **Morgan Fleming** (Eskiw Lab, University of Saskatchewan)

14:15-14:45 | Invited speaker: **Dr. Cameron Semper** (University of Calgary)

14:45-16:15 | Networking – GIFS Tour

16:15-18:15 | Poster Session Location: Louis Loft, 93 Campus Dr, Saskatoon, SK S7N 0W6

18:15-00:00 | Dinner & Karaoke Location: Louis Loft | 93 Campus Dr, Saskatoon, SK S7N 0W6

JUNE 19th - DAY 2

08:15-09:00 | Breakfast

Location: HLTH GD50 atrium

09:00-10:30 | Session 4:

Location: HLTH B450 | Chair: Franco Vizeacoumar and Jared Price

09:00-09:45 | Keynote speaker: **Dr. Christian Steidl** (University of British Columbia)

09:45-10:00 | Trainee presentation: **Christopher Chivers** (Collins Lab, University of Saskatchewan)

10:00-10:30 | Invited speaker: **Dr. Khaled Barakat** (University of Alberta)

10:30-11:00 | Coffee and networking

Location: HLTH GD50 atrium

11:00-11:45 | Session 5:

Location: HLTH B450 | Chair: Changiz Taghibiglou and Harmony Gringer

11:00-11:30 | Invited speaker: **Dr. Tanya Dahms** (University of Regina)

11:30-11:45 | Trainee presentation: **Bisrat Bekele** (Abuarish Lab, University of Saskatchewan)

11:45-13:15 | Lunch

Location: Marquis Hall Culinary Centre

13:15-14:30 | Networking Break | Tour of PCCF

Location: 44 Innovation Blvd, Saskatoon SK S7N 2V3

14:30-16:00 | Session 6:

Location: HLTH GB06 | Chair: Olamide Adebisi and Dipesh Shahi

14:30-15:15 | Keynote speaker: **Dr. Daniel Krummel** (TUFTS University)

15:15-15:30 | Trainee presentation: **Tongshuo Hu** (Dadachova Lab, University of Saskatchewan)

15:30-16:00 | Invited speaker: **Dr. Brad Doble** (University of Manitoba)

16:00-16:30 | Awards Presentation and Closing Remarks

Location: HLTH B450

Dr. Tony Ruzzini – PRISM Director

Dr. Linda Chelico - Vice Dean of Research – Biomedical Sciences



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KEYNOTE SPEAKERS:

Dr. Rakesh Karmacharya

Chemical biology and human stem cells in the study of schizophrenia and bipolar disorder

Dr. Alba Guarne

Target Locked: How Tn7 Transposons Find Their Landing Sites

Dr. Christian Steidl

Genomic insights into lymphomas developing in the thymic niche

Dr. Daniel Krummel

Targeting GABAergic Signaling in Brain Cancers

INVITED SPEAKERS:

Dr. Vineet Rathod

From Structural Biochemistry to Therapeutic Design: Targeting Pathogenic Proteins Across Biological Systems.

Dr. Tanya Dahms

Imaging Cells Inside and Out: Functional Cellular Assays Using Correlative Microscopy

Dr. Haixia Zhang

Mass Spectrometry–Based Characterization of Food Nutrients and Their Impact on Human Health.

Dr. Cameron Semper

Growth factors: the proteins driving cultured meat production, cost, and scalability

Dr. Khaled Barakat

From Lead Optimization to Drug Rescue: An AI-Driven Multi-Objective Framework for Drug Design

Dr. Brad Doble

Unravelling WNT signaling networks in pluripotent stem cells through genome editing

NEW INVESTIGATOR PRESENTATIONS:

Rashmi Panigrahi

From Small Signals to Major Shifts: The Story Behind DNA Damage Signaling

TRAINEE PRESENTATIONS:

Arkapravo Chattopadhyay (Barakat Lab)

Christine Duong (Mitchell-Koch Lab)

Morgan Fleming (Eskiw Lab)

Christopher Chivers (Collins Lab)

Bisrat Bekele (Abuarish Lab)

Tongshuo Hu (Dadachova Lab)

SPEAKER PROFILES:

Dr. Rakesh Karmacharya

Chemical Biology and Human Stem Cells in the Study of Schizophrenia and Bipolar Disorder.

Rakesh Karmacharya is an Associate Professor at Harvard University, with appointments in the Chemical Biology Graduate Program, Program in Neuroscience, the Department of Psychiatry and the Harvard Stem Cell Institute. He received an A.B. in Biochemistry from Harvard University, an M.S. in Molecular Biophysics from Yale University and an M.D. and a Ph.D. in Biophysics from the Albert Einstein College of Medicine. After clinical training in psychiatry, he pursued postdoctoral training in chemical biology at Harvard University with Prof. Stuart Schreiber before starting his own group. His laboratory focuses on research at the intersection of chemical biology and stem cell biology in order to investigate the cellular-molecular underpinnings of schizophrenia and bipolar disorder. In addition to overseeing his lab, he takes care of patients with first-episode psychosis as the Medical Director of the OnTrack Program.

Dr. Alba Guarne

Target Locked: How Tn7 Transposons Find Their Landing Sites.

Alba Guarne is a professor at McGill University and Canada Research Chair (Tier 1) in DNA transposition. She is a leading structural biologist whose work focuses on understanding how cells coordinate DNA replication, repair, and DNA damage response. Dr. Guarne's path into structural biology began during her undergraduate studies in biochemistry at the University of Barcelona, when she attended a talk by her future PhD supervisor. He showed the crystal structure of an antibody fragment bound to human rhinovirus, and she was immediately impressed by the prospect of seeing how proteins function at the atomic level. That curiosity led her to pursue doctoral research on the structure of viral proteases at the Institute of Molecular Biology of Barcelona, followed by postdoctoral work at the NIH, where she began studying DNA-binding proteins. Since then, her laboratory has made major contributions to our understanding of DNA mismatch repair, exploring the role of MutL. Another key project in her lab involves studying a unique transposon, Tn7. Her lab has also become a Canadian reference for combining small-angle X-ray scattering with other structural biology approaches, primarily cryo-EM, to study complex and often transient biological interactions. Beyond her scientific accomplishments, Dr. Guarne is deeply committed to mentorship, describing one of the most rewarding parts of her work as helping trainees reach their potential. She has trained numerous undergraduate students, graduate students, postdoctoral fellows, and research associates, many of whom have received major national awards.

Dr. Christian Steidl

Genomic Insights Into Lymphomas Developing in the Thymic Niche

Dr. Christian Steidl is Executive Director, Research at the BC Cancer Research Center, Research Director of the Center for Lymphoid Cancer at BC Cancer, and Professor in the Department of Pathology and Laboratory Medicine at the University of British Columbia. His research focuses on the molecular pathogenesis of lymphoid cancers, with particular emphasis on Hodgkin lymphoma, primary mediastinal large B-cell lymphoma, mediastinal gray zone lymphoma, and the role of the tumor microenvironment in shaping disease biology. His group uses integrative genomic, single-cell, spatial transcriptomic, and imaging-based approaches to define molecular subtypes, tumor-immune interactions, immune escape mechanisms, and clinically actionable vulnerabilities in lymphoma. His recent work has provided important insights into how genetic alterations in malignant lymphoma cells influence the composition and function of the tumor microenvironment, with implications for classification, biomarker development, and emerging therapeutic strategies.

Dr. Daniel P. Krummel

Targeting GABAergic Signaling in Brain Cancers.

Dr. Pomeranz Krummel is an Assistant Professor in the Department of Neurosurgery at Tufts Medical Center. He completed his PhD at Yale University, where he studied RNA structure and function under Nobel Laureate Sidney Altman. He then pursued postdoctoral training at the Medical Research Council in Cambridge, where he solved the first crystal structure of a fully recombinant 10-subunit U1 snRNP.

Over the past decade, Dr. Pomeranz Krummel has expanded his research into the field of cancer neuroscience, investigating how interactions between neurons and cancer cells shape the brain tumor microenvironment. His work focuses particularly on the role of GABAergic signaling in brain tumor growth and on developing new therapeutic strategies to target these pathways. He is also interested in using advanced 3D in vitro models to better understand brain tumor biology.

In 2025, he joined Tufts Medical Center after serving on the faculty at the University of North Carolina at Chapel Hill.

Dr. Khaled Barakat

From Lead Optimization to Drug Rescue: An AI-Driven Multi-Objective Framework for Drug Design

Dr. Barakat is a Full Professor at the University of Alberta, where his research lies at the multidisciplinary interface of physics, biology, and computer science. He earned his PhD in Biophysics from the University of Alberta in 2012, followed by postdoctoral training with Nobel Laureate Sir Michael Houghton. His academic work focuses on cardiac ion channels, antiviral therapeutics, and cancer immunotherapy, with a strong emphasis on developing and applying advanced computational drug discovery tools. He has published more than 150 peer-reviewed papers and serves on the editorial boards of several international journals. His research has been continuously supported by leading agencies including the Alberta Cancer Foundation, NSERC, CIHR, Kidney Foundation of Canada, Alberta Innovates, and the Li Ka Shing Institute of Virology. He has also received prestigious awards such as the CIHR and AIHS postdoctoral fellowships and the University of Alberta Dissertation Award.

Dr. Cameron Semper

Growth factors: the proteins driving cultured meat production, cost, and scalability

Dr. Cameron Semper is an Assistant Professor at the University of Calgary. He was the first North American recipient of the New Harvest Postdoctoral Fellowship award and holds expertise in protein biochemistry, structural biology and fungal genetics. His research program is focused on two main themes: 1) improving our understanding of fungal pathogens; 2) using fungi as cell factories in biotechnological applications. In particular, he is interested in investigating the role of fungal secondary metabolism in pathogenesis and in the emerging field of cellular agriculture. He is active in translating his agricultural research into real-life solutions, serving as the lead technical consultant for XPRIZE Foundation's Feed the Next Billion prize competition. A \$15 million dollar competition focused on advancing the technology of meat alternatives. He is currently recruiting graduate students.

Dr. Brad Doble

Unravelling WNT signaling networks in pluripotent stem cells through genome editing

Dr. Brad Doble is an Associate Professor in the Departments of Pediatrics and Child Health and Biochemistry and Medical Genetics at the University of Manitoba. He holds the inaugural Bihler Chair in Stem Cell Research and serves as the Scientific Director of the Genetically Engineered Model Services core facility. Dr. Doble has a longstanding interest in WNT signaling in stem cell and cancer contexts. Dr. Doble's expertise in genome editing and biotin proximity labeling in pluripotent stem cells revealed functional redundancies and unique functions of key WNT pathway regulators such as the kinases GSK-3alpha and GSK-3beta. His expertise has been instrumental in recent collaborations with Drs. Michael Taylor and Tamra Ogilvie's laboratories, focusing on the pediatric brain cancer medulloblastoma, and the WNT subgroup of medulloblastoma is being actively studied by the Doble lab.

Dr. Haixia Zhang

Mass Spectrometry–Based Characterization of Food Nutrients and Their Impact on Human Health.

Dr. Zhang is a faculty member in the Department of Food and Bioproduct Sciences at the University of Saskatchewan. Her research applies advanced mass spectrometry techniques to characterize food micronutrients and bioactive compounds, and to better understand their roles in human health and disease.

Her work spans several important areas, including vitamin B analysis in pulse crops to support global efforts to address micronutrient deficiencies, the study of health-promoting phenolic compounds in foods and fruits, and the development of non-invasive biomarkers for Parkinson's disease using cerumen and sebum. Her research also explores how nutritionally balanced diets may influence the progression of neurodegenerative diseases.

SELECTED TALKS:

Arkaprovo Chattopadhyay: *Residue-Level In Silico Analysis of Gliflozin Derivatives Reveals Determinants of Nav1.5 Selectivity and Guides Novel Drug Design*

Christine Duong: *Solvent Mediated Lipase Catalysis: Michael Addition and Transesterification with Organic and Ionic Liquid Solvents*

Morgan Fleming: *Stronger Together: Investigating Haskap Berry Phenolic Synergy and Its Impact(s) on Human Cellular Longevity*

Christopher Chivers: *Pitx2c regulates cardiomyocyte organization to promote atrial trabeculation*

Bisrat Bekele: *SARS-CoV-2 ORF3a Disrupts Stress Granule Formation and Uncovers Impaired Integrated Stress Response Plasticity in Cystic Fibrosis Bronchial Epithelial Cells*

Tongshuo Hu: *Enhancing Colorectal Cancer Treatment Efficacy by combining radioimmunotherapy with immunotherapy*

POSTER PRESENTATIONS:

1. **Harmony Grainger:** *DDX41 in Nuclear Speckles and Myeloid Malignancies*
2. **Andy Kim:** *PITX2C Deficiency Promotes Arrhythmogenic Remodeling via Oxidative Stress in Atrial Myocytes*
3. **Vincent Maranda:** *Developing combination therapies for telomerase-overexpressing cancers*
4. **Ryley Chalack:** *High-Resolution Characterization of Early Amyloid Assembly in Functional Amyloids by Analytical Ultracentrifugation*
5. **Valérie Lapointe:** *Evaluating amyloid- β plaque deposition in mouse models of Alzheimer disease.*
6. **Colyn Cleland:** *Developing a Structure Based Protein Diagnostic for Clubroot Disease*
7. **Aum Patel:** *SpecAbs: An Integrated Platform for De Novo Design of Conformation-Specific Amyloid-Targeting Antibodies and Antigens*
8. **A K M Munzurul Hasan:** *Bisphenol F Disrupts Larval Zebrafish Optomotor Behavior, Sensorimotor Decision-Making, and Ribosomal Biogenesis*
9. **Farnoosh Tabatabaieian:** *GLP-1R/GIPR DUAL AGONISM REDUCES INTESTINAL LIPID SECRETION*
10. **Jared Price:** *Epigenetic Consequences of Telomeric RNA Dysregulation*
11. **Ying Du:** *Coordinated Regulation of yeast DDI2/3 Activation by Fzf1 and Nucleosome in Response to Chemical Stresses*
12. **Evan Chayer:** *Acute Cigarette Smoke Exposure Triggers the Integrated Stress Response Pathway and Promotes Stress Granule Assembly in Human Macrophages*

13. **Taylor Dzikowski:** *Investigating Temporal and Spatial Changes in Proteins Involved in Migration of Breast Cancer Cells in a Novel 3D Tumour Model*
14. **Ashlyn Materi:** *Circular RNAs as Emerging Biomarkers for Bladder Cancer Detection*
15. **Presly Goodwin:** *Defining Citrobacter rodentium type II secretion system activating conditions*
16. **Parnaz Soori:** *Building Patient Avatars for Precision Medicine using Tissue Engineering Techniques*
17. **Emma Eger:** *Developing a gata6 Knock-Out Model to Study Congenital Heart Disease*
18. **Thejjeswini Calaivanane:** *Reprogramming the Fibrotic Matrix: Targeting myCAF-Driven ECM Stiffness to Enhance Drug Penetration in Pancreatic Cancer*
19. **Mahboubeh Pordeli:** *Reprogramming Inflammatory CAF Networks to Overcome Immune Suppression and Stromal Resistance in Pancreatic Cancer*
20. **Rhea Martin:** *Investigating the breadth and mechanism of APOBEC3B Regulation of cMyc in breast cancer cells*
21. **Chamod Gunathilake:** *In Silico Investigation of Ion-Specific Solvation and Interfacial Organization Around the Melittin Tetramer*
22. **Mahafujul Hamid Ananda:** *A Phylogenetically Informed, Multi-Factor Variant Scoring System for Context-Aware H5N1 virus Pandemic Risk Stratification*
23. **Theodor Zaharia:** *Pharmacological study of allosteric mechanisms at the type 1 cannabinoid receptor*
24. **Will Rice:** *Small Protein and Peptide-based Inhibition of HIV-1 Vif-mediated Antagonism of Deoxycytidine Deaminase APOBEC3G*
25. **Camiryn Kardal:** *Investigating Host-Associated Bacteria as a Source for Antiparasitic Ivermectin Resistance with Caenorhabditis elegans*
26. **Wrynan Munabirul:** *Generating Dominant-Negative Vegfaa to Dissect VEGFA-Dependent Resistance Mechanisms in the Brain*
27. **Famia Farhin Zeehan:** *Studies of Arabidopsis cyclin-dependent kinase inhibitors and sequences involved in protein degradation*
28. **Reza Javan:** *3D Tumoroid Model for Studying Macrophage Polarization and Therapeutic Strategies*
29. **Nitin Challa:** *Recombinant Production of Human GSK3 β to Enable Probe Discovery for DISC1-Associated Psychiatric Disorders*
30. **Shabnam Abdi:** *Comparative evaluation of EphA2 expression and function in human and canine melanoma*

31. **Mousumi Bhowmik:** *Interrogating the defective integrated stress response pathway in human cystic fibrosis airway epithelium*
32. **Nima Daneshvar Baghbadorani:** *Microenvironment-Driven LGR5 Induction Defines Cancer Stem Cell Plasticity in Triple-Negative Breast Cancer Microtissues*
33. **Maria Yousefi:** *Understanding novel interaction residues on APOBEC3F N-terminal domain for HIV-1 Vif antagonism*
34. **Breanne Bevelander:** *"3D Microtissues: Enhancing In Vitro and In Vivo Modeling of Ovarian Cancer*

2026 PSFaM General Conference Information

PRISM EDI Statement

The Proteomics Research in Interactions and Structure of Macromolecules (PRISM) Centre recognizes and promotes Equity, Diversity, and Inclusions (EDI) in its activities, including but not limited to adjudication of Travel Awards, and organization of its annual Protein Structure, function and misfunction (PSFaM) conference. We acknowledge the historical and ongoing intersectional discrimination of marginalized people in Canada and within the scientific community. With the goal of promoting and maintaining a welcoming conference environment for all persons, we have outlined specific actionable steps that we hope will enhance our collective conference experience.

PSFaM Code of Conduct

PRISM and USask is committed to providing a safe and equal space for professional participation for all organizers, sponsors, partners, and event attendees. We believe that everyone has the right to professional interactions without fear, intimidation, harassment, or disparagement, and that everyone has the right to fair and equal participation and treatment. We encourage the free expression and exchange of scientific ideas and support a harassment free conference experience for everyone.

Harassment includes: offensive verbal comments related to gender, gender identity and expression, age, sexual orientation, disability, physical appearance, body size, race, ethnicity, religion, technology choices, sexual images in public spaces, deliberate intimidation, stalking, following, bullying, spreading malicious rumours, harassing photography or recording (also applying on posters or presentations with a specific “no photography” sign), sustained disruption of talks or other events, inappropriate physical contact, and unwelcome sexual attention.

Our strength is our people, and we welcome their diversity. We value all our organizers, sponsors, partners, and event attendees, and will not accept any treatment that goes contrary to this.

Reporting Any incidents of harassment should be reported to: one of the co-organizers of the conference.

If the person is not comfortable reporting directly or wishes to report a matter confidentially or anonymously, they may contact the University’s Safe Disclosure hotline by telephone (1-844-966-3250) or via the webpage (www.safedisclosure.usask.ca).

Quiet room

A quiet room will be available for parents, or anyone needed a little space to escape the meeting environment.

2026 PSFaM General Conference Information

Dining and Entertainment:

Aside from the meals associated with the conference registration or additional fees, attendees can also enjoy the city of Saskatoon that features outstanding restaurants and walking trails along the South Saskatchewan River. Various outdoor seating options, coffee shops, ice cream shops, pubs, restaurants, and on-campus museums are nearby. These are perfect for informal networking with colleagues!