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## LMP Chair's Report - February 2026

1 message

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Dr. Benjamin Adam <Impadmin@ualberta.ca>

Tue, Feb 24, 2026 at 10:49 AM

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# Laboratory Medicine & Pathology

## Chair's Report February 2026

Dear Colleagues, Learners & Friends!

Welcome to the first Chair's report of 2026. I hope everyone has had a great start to the year.

In this report, we are pleased to share a **Spotlight on Research** from **Dr. Andrei Drabovich's** lab in the Division of Analytical and Environmental Toxicology. With internationally-renowned expertise in proteomics and mass spectrometry, and the recent acquisition of innovative first-in-Canada instrumentation to support their work, Dr. Drabovich's team is poised to continue leading the field in the areas of novel serologic diagnostics, antibody sequencing, and protein biomarker discovery and development. Please read below for further details on the exciting work from Dr. Drabovich's lab.

Please also see below for photos of the recent beautiful makeover to a couple of our spaces on campus, including LMP's main administrative office area on the 5<sup>th</sup> floor Kipnes Academy (formerly Edmonton Clinic Health Academy) and the MLS space in the basement of the Clinical Sciences Building. Special thanks to everyone that made this project possible!

As usual, I wish to extend a warm welcome to all new faculty, staff and learners that have joined LMP over the last few months, and encourage everyone to review the impressive list of new appointments, awards, grants, presentations, and publications by our department members.

Registration is now open for [2026 DRiVe Days](#), our department's annual research and education symposium, on April 24-25 at Lister Centre. I encourage anyone that is able to

attend for all or part of the event to consider doing so. In addition to the usual networking opportunities and high-quality research, innovation, professional development and education updates, we have two fantastic speakers providing our named lectures:

**Dr. Hanadi Sleiman**, Professor of Chemistry and Canada Research Chair in DNA Nanoscience at McGill University (Dr. John W. Macgregor Memorial Lecture on April 24), and local celebrated ER physician and public health advocate **Dr. Louis Hugo Francescutti** (Dr. R.E. Bell Memorial Lecture on April 25).

For those interested in Anatomical Pathology, please also mark your calendars for the **2026 Banff Pathology Course (Gastrointestinal Pathology)**, co-hosted by our department and the University of Calgary, on September 10-12 at the Banff Centre for Arts and Creativity. We have an exciting lineup of external and internal speakers for what is sure to be another fantastic event. Please watch for additional program and registration details coming shortly.

In closing, I wish you all the best for the final few months of the academic year and thank you for your ongoing dedication and contributions to the Department.

Sincerely,

**Benjamin Adam, MD, FRCPC**

Associate Professor and Chair

Department of Laboratory Medicine & Pathology

## Spotlight on Research

**Dr. Andrei Drabovich**

Associate Professor

Division of Analytical and Environmental Toxicology

Department of Laboratory Medicine & Pathology



Andrei Drabovich

Our division and my group are actively developing innovative mass spectrometry and proteomics workflows for applications in basic and translational research. We are excited to introduce novel, innovative mass spectrometry instrumentation recently installed in our division, thanks to support from the Biosciences Research Infrastructure Fund and Canada Biomedical Research Fund (**Figure 1**). This instrumentation (Bruker timsTOF Ultra 2, the first in Alberta, and Bruker timsOMNI, the first in Canada) brings state-of-the-art capabilities for the identification and quantification of nearly complete proteomes of human cells (>10,000 proteins in a one-hour LC-MS analysis). This instrumentation is transformative for innovative biomedical research beyond routine proteomic workflows offered at the proteomic core facilities. The examples include sequencing of human monoclonal and polyclonal antibodies, single-cell proteomics, top-down and intact protein

analysis, identification of mutant and gene fusion proteins in cancer, and discovery and characterization of pathogen proteins and their variants of concern.



**Figure 1.** The Bruker timsTOF Ultra 2 mass spectrometry system enables 4D proteomics across the dimensions of liquid chromatography, ion mobility, quadrupole precursor isolation, and time-of-flight analysis of peptide fragments

### Proteomics and Mass Spectrometry

Our basic research focuses on developing novel mass spectrometry and proteomics techniques to identify, characterize, and quantify human proteins and their proteoforms. A key advantage of mass spectrometry is its high resolution and its ability to distinguish protein variants with single amino-acid substitutions, unlike most antibody-based immunoassays. To enhance assay sensitivity in complex biological and clinical samples, we often combine immunoaffinity enrichment with protein quantification by mass spectrometry, leveraging the strengths of both approaches: the high sensitivity of immunoassays and the high selectivity of mass spectrometry. Immunoaffinity-mass spectrometry assays are approaching the sensitivity of immunoassays and emerge as promising methods for measuring low-abundance human proteins in complex biological and clinical samples (*Molecular & Cellular Proteomics* 2023, 22, 100556).

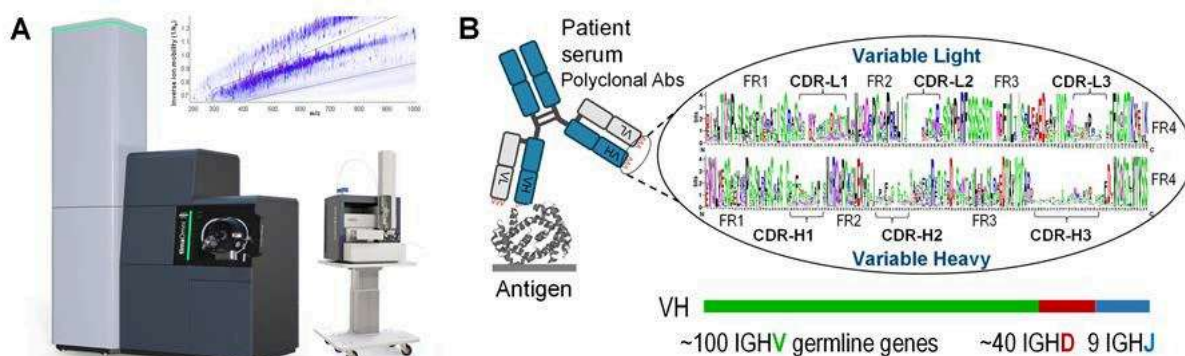
### Serological Diagnostics by Mass Spectrometry

Recent pandemics motivated us to focus our proteomics research on serological diagnostics and pandemic preparedness. Mass spectrometry assays provided powerful tools for the discovery, characterization, and quantification of the complex and diverse repertoires of human polyclonal antibodies generated against viral pathogens. With their high selectivity and minimal cross-reactivity, these assays could serve as independent methods to evaluate the diagnostic specificity of conventional serology tests. Selecting best combinations of viral antigens and antibody isotypes enabled the rational design and development of serology tests (*Analytical Chemistry* 2022, 94, 12990). Our proteome-wide serology assays have now been validated in more than 1,000 blood serum samples with over 20 recombinant antigens representing respiratory syncytial virus, SARS-CoV-2 (including variants of concern), and several influenza A subtypes. In addition to viral antigens, our assays detected and confirmed the presence of serum autoantibodies against prostate-specific proteins (*medRxiv* 2025, 10.1101/2025.06.26.25330371). Our current efforts extend beyond diagnostics and focus on developing novel workflows for sequencing human antibodies.

## Antibody Sequencing

Monoclonal antibodies have revolutionized the treatment of cancer and autoimmune disorders. However, conventional approaches for discovery of therapeutic monoclonal antibodies through animal immunization and hybridoma screening are labor-intensive and can take years. Single-cell mRNA sequencing of memory B cells has emerged as an alternative approach for the development of therapeutic antibodies, but it is limited by the physical and functional separation of memory B cells from antibody-secreting plasma cells. Moreover, B-cell sequencing alone cannot predict the affinity and serum concentration of circulating clones and therefore requires extensive screening of recombinant antibodies to identify high-affinity clones suitable as therapeutic leads.

In our group, we are developing a workflow for the direct selection and *de novo* sequencing of antigen-specific antibodies enriched directly from patient blood serum (Figure 2).

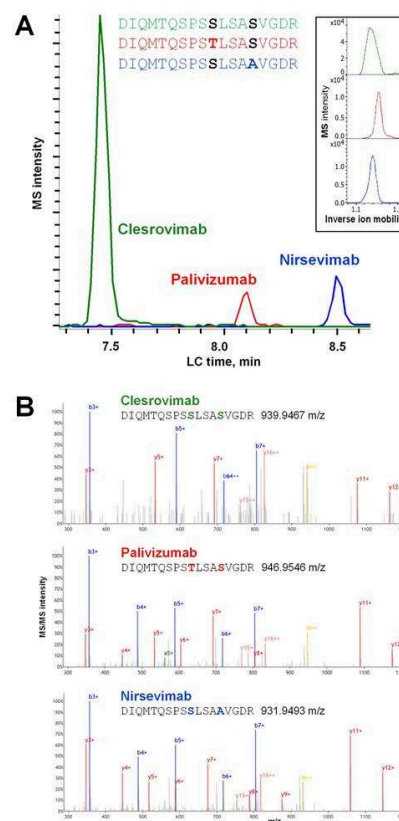


**Figure 2. (A)** Cutting-edge mass spectrometry instrumentation equipped with ion mobility and electron-based protein dissociation techniques (Bruker timsOMNI, the first of its kind in Canada) generates substantially more informative, multidimensional proteomic data and improves *de novo* sequencing of human antibodies. **(B)** The alignment of anti-SARS-CoV-2 RBD antibodies from a single patient reveals the complexity of polyclonal antibodies and highlights hypervariable CDR regions and more conserved framework regions (based on single-B-cell mRNA sequencing data, the CoV-AbDab database: <https://opig.stats.ox.ac.uk/webapps/covabdab>).

Proteomic sequencing of polyclonal antibody mixtures remains a major methodological challenge due to highly diverse hypervariable regions and the enormous number of possible sequences ( $\sim 10^{80}$  theoretical sequences in CDR regions). Reducing the complexity of polyclonal mixtures through stringent affinity selections improves *de novo* sequencing of the most valuable high-affinity clones. We believe that cutting-edge mass spectrometry instrumentation equipped with ion mobility and electron-based dissociation techniques (Bruker timsOMNI, the first of its kind in Canada) will generate substantially more informative four-dimensional proteomics data and facilitate *de novo* sequencing of monoclonal and polyclonal antibodies (Figure 3).

### Tissue-specific Proteins as Disease Biomarkers

Our translational studies focus on the discovery and development of novel biomarkers for prostate cancer and male infertility. Measurements of tissue-specific proteins are often hindered by the limited availability of immunoassays and high-quality antibodies, as well as by the low abundance of these proteins in biological fluids. The above-mentioned immunoaffinity-mass spectrometry assays provide practical alternatives for evaluating the diagnostic performance of low-abundance, tissue-specific protein biomarkers.



**Figure 3.** Multi-dimensional proteomics resolves single amino-acid substitutions (A) and facilitates sequencing of therapeutic monoclonal antibodies (B).

We previously discovered and developed two protein biomarkers for the differential diagnosis of male infertility: a testis-specific protein TEX101, and an epididymis-specific protein ECM1 (*Science Translational Medicine* 2013, 5, 212ra160). Likewise, we previously investigated numerous prostate-specific proteins as potential biomarkers of prostate cancer (*J. of Proteome Research* 2024, 3, 2013, *Molecular & Cellular Proteomics* 2019, 18, 1807). An exemplary proteogenomic study characterized in detail a prostate cancer-specific TMPRSS2-ERG fusion protein and its isoforms in prostate cancer cells and patient tissues (*Molecular & Cellular Proteomics* 2021, 20, 100075). Such studies cannot be readily performed with conventional immunoassays.

Overall, our research interests align closely with the missions of the Human Proteome Organization, Canadian National Proteomics Network, Canadian Society for Chemistry, and the American Society for Biochemistry and Molecular Biology. We publish our work in basic and translational research journals, including *Molecular & Cellular Proteomics*, *Analytical Chemistry*, *Clinical Proteomics*, *Journal of Proteome Research*, and others. We are fortunate to collaborate with numerous groups in our division and department, as well as with the Li Ka Shing Institute of Virology, SPP-ARC (Striving for Pandemic Preparedness) investigators, the Alberta Prostate Cancer Research Initiative, and others. We are excited to advance basic and translational research through our expertise in

proteomics and mass spectrometry, and we foresee broad applications of these technologies in diagnostic laboratories and industry.

## New Look!

The Department's 5th floor Kipnes Academy space is now more identifiable and distinct - please see photos below. We have also been able to expand our footprint in the area, to accommodate expansion in the educational group - including new ATS instructors.



Our Medical Laboratory Science space in the basement of the Clinical Sciences Building (CSB) also has a vibrant new look and is more identifiable.



# New Appointments

## The Department welcomes:

- **Dr. Fareed Rajack**, Clinical Lecturer – Anatomical and Molecular Pathologist, UAH & Royal Alexandra Hospitals
- **Ms. Yolanda Warkentin**, Clinical Lecturer – Pathologists' Assistant, Multiple hospital sites
- **Mr. Markian Zmewsky**, Clinical Lecturer – Pathologists' Assistant, Multiple hospital sites
- **Ms. Lauren Brown**, Clinical Lecturer – Pathologists' Assistant, Multiple hospital sites
- **Ms. Kelsey Racicot**, Clinical Lecturer – Pathologists' Assistant, Multiple hospital sites

## New Appointments for Faculty/Clinical Faculty:

### Dr. Marcia Abbott

- Program Director for the University of Calgary, Diagnostic and Clinical Pathology Program

### Dr. Anne Halpin

- Serving as the President of American Society for Histocompatibility and Immunogenetics (ASHI) from October 2026 to October 2027

# Welcome!

We are delighted to welcome **Celina Phan** as the Education Program Coordinator. Celina is a recent MSc graduate of our department and will support accreditation and evaluation activities for MLS and the graduate programs.

MLS hired a new instructor, **Erykah Simpson**. Erykah will mainly be teaching in year 3 of the program and brings her passion for Transfusion Medicine to the team.

Both Celina and Erykah are located on the 5th Floor of the Kipnes Academy (ECHA).

Welcome Celina and Erykah!

# Save the Date!



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**Laboratory Medicine & Pathology**

# DRIVE 2026

**Discovery, Research, Innovation and Education**

**Date: Fri, Apr 24 - Sat, Apr 25**

**Location: Lister Hall, 11613 87 Ave NW, Edmonton, AB**

## ***Keynote Speakers:***

**DR. JOHN W. MACGREGOR MEMORIAL LECTURE**

**Friday, April 24**

***Dr. Hanadi Sleiman***

***McGill University***

**DR. R.E. BELL MEMORIAL LECTURE**

**Saturday, April 25**

***Dr. Louis Hugo Francescutti***

***University of Alberta***



**Banff Pathology Course** - September 10-12, 2026, Gastrointestinal Pathology

## **LMP 2025-2026 Residents**



## Graduate Studies

### Awards

Congratulations to these students who received awards acknowledging their research and/or supporting their graduate programs:

Dean's Doctoral Student Award - **Jenny Chau**

2025-26 FOMD Graduate Student Recruitment Studentship - **Garrett Grubisa**

Alberta Graduate Excellence Scholarships

- **Jenny Chau**
- **Zoe Turner**
- **Gursevak Uppal**
- **Mahsa Yazdanbakhsh**
- **Ethan Simpson**

Alberta Innovates Graduate Student Scholarships

- **Zoe Elizabeth Turner**
- **Jenny Chau**
- **Juanjuan Fu**

Graduate Course-Based Master's Community Engagement Award - **Emmanuel Thomas**

LKSloV Graduate Studies Entrance Award - **Sharanya Das**

### Milestones & Updates

The LMP graduate program has completed the self study report of the 2026 Quality Assurance Review process. A virtual site visit is scheduled for March 16, during which the external review committee, comprised of faculty from the University of Toronto, the University of Manitoba, and the University of Alberta, will conduct interviews with members of the LMP Graduate Program community. A sincere thank you to all department members who have supported and continue to support this process.

The LMP graduate program is now focusing on the MSc Pathologists' Assistant program accreditation renewal with NAACLS, scheduled for later in 2026

## Scholarly Achievements

### October 1, 2025 to January 31, 2026

## Grants

### Dr. Gilbert Bigras

- Alberta Innovates (Digital Sandbox) Grant, Project Title: Optimizing Alberta's Cancer Care: Digital Pathology for Smarter Biomarker Decisions & Sustainable Healthcare, Term: March 2026 – July 2027, Value: \$300,000.00
- AstraZeneca Canada Grant, Project Title: Predicting HER2/neu Amplification in Invasive Breast Cancer using a Supervised Machine Learning Algorithm Based on Convolutional Neural Network, Term: January 2026 - December 2026, Value: \$40,000.00

### Dr. Janet Elliott

- Funding Agency: Canadian Institutes of Health Research, Title: Cryopreservation of In Vitro Models of the Blood-Brain Barrier, Term: 5 years (2026 – 2031), Amount: \$937,125

### Dr. Anne Halpin

- Role: Collaborator, Funding: GlycoNet Translational Grant, Total Funding: \$375,000, Project: Antigens and antibodies of the ABO system: designing a new paradigm toward precision in ABO-histocompatibility, March 2026-February 2028
- Role: Principal Applicant, Funding: CIHR, Planning and Dissemination Grant, Total Funding \$30,000, Project: From Bench to Business, Commercial Pathways in Immunology Diagnostics, November 2025-November 2026

### Dr. David Wishart

- Gerhard Herzberg Canada Gold Medal for Science and Engineering: Laying the Foundation for Metabolomics — NSERC, 2025–2030, \$545,500
- Advanced Blood Testing to Predict Menopausal-driven Diseases — WCHRI, 2025–2027, \$60,000
- Illuminating the Dark Matter of Food: Omics and AI for People and Planet — Google.org, 2025–2027, \$2,000,000(shared – 4)
- SAFE-HUB: A Data Coordination Centre to Benefit Alberta's Agri-Food Industry — Alberta Innovates, 2025–2028, \$300,000 (shared – 3)
- AI-Powered DrugBank — NSERC, 2026–2028, \$200,000
- AI-Powered DrugBank — MITACS, 2026–2028, \$160,000
- The Role of Chemical Exposures in Alzheimer's Disease (AD) and its Trajectory — NIH (Sub-award), 2025–2026, \$81,000 USD

- Development and Commercialization of Quantex-600: A Ready-To-Use Kit for High-Precision Quantitative Exposome Metabolomics — Genome Alberta, 2026–2028, \$150,000

## Recent Presentations

### Dr. Mathew Diggle

#### Poster Presentations:

1. Brent S. Weber, Ellen M. E. Sykes, David J. Marchant, D. Lorne Tyrrell, and Mathew A. Diggle "Microbes, Medicine, and Canadians: The Crucial Role of Clinical Microbiologists" SPP-ARC IGNITES INNOVATION Retreat. Banff, Nov. 13-15, 2025
2. Ellen M. E. Sykes, Brent S. Weber, Pranavi Thota, D. Lorne Tyrrell, Bruce Ritchie, and Mathew A. Diggle, "Biobanking for Breakthroughs: A Platform for Clinical and Academic Innovation." SPP-ARC IGNITES INNOVATION Retreat. Banff, Nov. 13-15, 2025

### Dr. Steven Drews

#### Abstracts:

1. Drews, SJ, Charlton, C, Ramirez-Arcos, S, Jenkins, C, Conrod, Todd, L, Osmond, L, O'Brien, SF, Pambrun, C. "Surveillance for Babesia in blood donors from Manitoba, Canada." AABB, San Diego, CA, USA, October 25-28, 2025
2. Charlton, CL, Conrod, V., Jenkins, V., Turnbull, I, Shokoples, s., Kariyawasam, r., Ramirez-Arcos, S, Goldman, M, Pambrun, C, Drews, SJ. "Lessons Learned From Assessing a Donor Screening Malaria Nucleic Acid Test With a Spike and Recovery Approach." AABB, San Diego, CA, USA, October 25-28, 2025.

#### Presentations:

1. "Overview of Infectious Disease Prevention Measures at the Blood Centre - National Rotation" With Carmen Charlton and Mark Bigham, National Transfusion Medicine trainees Virtual, November 17, 2024
2. "AM25-SN-05-L - Planning for Disease X: To Ensure a Safe and Sufficient Blood Supply During the Next Emerging Pathogen Event" AABB, San Diego, CA, USA, October 25-28
3. "The role of blood collection centers and transfusion services in preventing and responding to transfusion-transmitted malaria" Saudi International Conference on Blood Transfusion, Riyadh, Saudi Arabia, November 23-25 2025
4. "Tickborne surveillance and Babesia operationalization." Briefing note to Canadian Blood Services Scientific Research and Advisory Committee (SRAC), International advisory committee. October 15, 2025
5. "Hepatitis E virus: Evaluations and plans." Briefing note to Canadian Blood Services Scientific Research and Advisory Committee (SRAC), International advisory committee. October 15, 2025
6. "Human T-lymphotropic virus (HTLV-I): donor testing changes." Briefing note to Canadian Blood Services Scientific Research and Advisory Committee (SRAC), International advisory committee. October 15, 2025
7. "Evaluating syphilis risk in modern blood manufacturing." Briefing note to Canadian Blood Services Scientific Research and Advisory Committee (SRAC), International advisory committee. October 15, 2025
8. "Horizon scanning- getting going A Canadian Blood Services Approach, ISBT EPP quarterly meeting, November 6, 2025
9. "Hepatitis B exploratory work at Canadian Blood Services." ABO CMO, Global medical leaders and facing medical experts videoconference. December 15, 2025
10. "Babesia donor surveillance-Overview and 2026 Southwestern Ontario Implementation." Canadian Blood Services Staff, with Chantale Pambrun and Kay Romans. Online. October 3, 2025
11. "Key Performance Indicators (KPIs) related to Quality Control (QC) BACTALERT Positive results." Canadian Blood Services Laboratory Staff, October 16, 2025
12. "Quarterly Emerging Pathogens Report (Q1 FY25-26)" with Chantale Pambrun and Carmen Charlton, Canadian Blood Services, Executive Management Team, Online November 25, 2025

13. "Horizon scanning: A Canadian Blood Services approach." With Trevor Poole, December 18, 2025

### **Dr. Anne Halpin**

#### **Abstracts:**

1. A. Halpin, L. Rebellato, D.B. Leeson, C. Murphey, C. Li, T. Ellis, B. Motyka, E. Dijke, L.J. West. "Validation of a bead-based anti-ABO-A method between two centres: One of these things is a lot like the other." Human Immunology, Volume 86, Supplement, 2025 (presented as an invited poster presentation at the American Society for Histocompatibility and Immunogenetics (ASHI) 51st Annual Meeting)
2. B.D Lamarche, C. Lind, J. Payne, C. Li, B. Motyka, L.J. West, A. Halpin. "ABO genotyping under construction: three different typing methods, three different results." Human Immunology, Volume 86, Supplement, 2025 (presented as an invited oral presentation at the American Society for Histocompatibility and Immunogenetics (ASHI) 51st Annual Meeting)
3. A Landi, D. Tosczak, A. Halpin, E. Dijke. "Crossmatch Alarm, Liver Charm: A strong positive crossmatch complemented by more testing." Human Immunology, Volume 86, Supplement, 2025 (presented as an invited poster presentation at the American Society for Histocompatibility and Immunogenetics (ASHI) 51st Annual Meeting)
4. A. Almubarak, D. Tosczak, A. Halpin, E. Dijke. "Small surgery-big impact: development of HLA antibodies following scleral patch graft in a kidney-pancreas transplant candidate." Human Immunology, Volume 86, Supplement, 2025 (presented as an invited poster presentation at the American Society for Histocompatibility and Immunogenetics (ASHI) 51st Annual Meeting)

#### **Invited Talks:**

1. Transplant Grand Rounds, Centre hospitalier de l'Université de Montréal (CHUM) January 23rd, 2026, presented virtually, Title: "Moving forward with ABO histocompatibility: Defining immune risk"
2. 19th Congress of the Asian Society of Transplantation (CAST), Kuwait, November 27th-29th, 2025, Title: "ABO-incompatible Living Liver Donation"
3. 19th Congress of the Asian Society of Transplantation (CAST), Kuwait, November 27th-29th, 2025, Title: "Clinical Significance of Non-HLA Antibody Test"
4. 19th Congress of the Asian Society of Transplantation (CAST), Kuwait, November 27th-29th, 2025, Title: "ABO antibodies testing: Laboratory support for ABO incompatible transplant"
5. Association for the Advancement of Blood and Biotherapies (AABB), San Diego, USA, October 27th, 2025, AABB/ASHI Symposium: "Exploring Transplant Uncertainties/Conundrums in ABO"

### **Dr. Victoria Higgins**

#### **Oral Presentations:**

1. ADLM Rocky Mountain Section Webinar; 2025 November 19. Higgins V. "Laboratory investigation of multiple sclerosis: Harmonized reporting of CSF oligoclonal banding and emerging biomarkers"
2. OSCC Annual Scientific Meeting; 2025 October 23. Higgins V. "Tapping into the potential of CSF for the investigation of multiple sclerosis: Canadian harmonization initiative"

### **Dr. Linnet Immaraj**

#### **Abstract:**

1. "One Panel, Many Pathogens: Hybrid-Capture Wastewater Genomics for Pan-Viral Surveillance in Alberta Communities", Linnet Immaraj<sup>1</sup>, Qiang Jiang<sup>1</sup>, Fan Zhao<sup>1</sup>, Judy Qiu<sup>1,2</sup>, Tiejun Gao<sup>1</sup>, Michael Parkins<sup>3</sup>, Casey Hubert<sup>4</sup>, Bonita Lee<sup>5</sup>, Xiaoli Pang<sup>1</sup>  
  - 1 Department of Laboratory Medicine & Pathology, Faculty of Medicine & Dentistry, University of Alberta, Edmonton, Alberta, Canada
  - 2 Public Health Laboratory, Alberta Precision Laboratories, Edmonton, Alberta, Canada
  - 3 Departments of Medicine and Microbiology, Immunology and Infectious Diseases, University of Calgary, Calgary, Canada
  - 4 Department of Biological Sciences, University of Calgary, Calgary, Canada
  - 5 Department of Pediatrics, Faculty of Medicine & Dentistry, University of Alberta, Edmonton, Alberta, Canada

Canada

2025 SPP-ARC Ignites Innovation Retreat, Banff, Alberta. Thu, Nov 13, 2025 - Sat, Nov 15, 2025

#### **Dr. Thane Kubik:**

1. Chaired & presented: "Building a Translational Arm to Your Cellular Therapy Laboratory", Association for the Advancement of Blood and Biotherapies (AABB)'s annual meeting in San Diego, Oct 28, 2026, Authorship list: Thane Kubik, Diane Kadidlo, Joseph Gold and Drew Witter

#### **Dr. Judy Qiu**

##### **Abstracts:**

1. Nyblade C, Leruth A, Cuba FG, Zhou P, Lavoie L, Qiu JY, Pang XL, Yuan LJ. "Isolation, characterization, and cell-culture adaptation of human rotavirus VTR-1 strain". 15th international dsRNA virus symposium, Porto, Portugal, Nov 2025
2. Immaraj L, Jiang Q, Zhao F, Qiu JY, Gao TJ, Parkins MD, Hubert CRJ, Lee BE, Pang XL. "One Panel, Many Pathogens: Hybrid-Capture Wastewater Genomics for Pan-Viral Surveillance in Alberta Communities". SPP-ARC Ignites Innovation retreat, Banff, Canada, Nov 2025
3. Zhao F, Immaraj L, Bhavanam S, Jiang Q, Qiu JY, Parkins MD, Hubert CRJ, Lee BE, Pang XL. "Genomic analysis of influenza A in Alberta community wastewater using metagenomic sequencing from 2023-2025". SPP-ARC Ignites Innovation retreat, Banff, Canada, Nov 2025
4. Xu SZ, Immaraj L, Bautista MA, Acosta N, Bhavanam S, Qiu JY, Papparis C, Waddell BJ, McCaLder J, Du K, Clark R, Frankowski K, Lee BE, Hubert CRJ, Pang XL, Parkins MD. "Comparative validation of wastewater-based surveillance workflows for respiratory viruses monitoring during a 40-month longitudinal study in Alberta, Canada". SPP-ARC Ignites Innovation retreat, Banff, Canada, Nov 2025
5. Acosta N, Lo S, Waddell BJ, Bautista MA, Papparis C, McCaLder J, Espinoza D, Weyant RB, Southern D, Williamson T, Kuzma D, Dai X, Lu X, Clark R, Hu J, Cabaj JL, Kanji JN, Conly JM, O'Grady C, Lee BE, Qiu JY, Pang XL, Hubert CRJ, Parkins MD. "Wastewater-based surveillance of H5N1 and seasonal influenza viruses in Alberta, Canada from 2024 to 2025". SPP-ARC Ignites Innovation retreat, Banff, Canada, Nov 2025
6. Tyagi V, Qiu JY, Immaraj L, Christie E, Halloran K, Cervera C, Pang XL, Kabbani D, "Norovirus and Sapovirus Associated Chronic Diarrhea in SOT: Does Viral Load Correlate with Severity of Symptoms?" ID week, Atlanta, USA, Oct 2025

#### **Ms. Yvonne Rees**

##### **Accepted Abstract Poster:**

1. "Variation in Bivalirudin Requirements for Children with Ventricular Assist Devices", J. Livingston<sup>1</sup>, Y. Rees<sup>2</sup>, A. Szkotak<sup>2</sup>, K. Lee<sup>3</sup>, H. Buchholz<sup>4</sup>, J. Conway<sup>5</sup>; <sup>1</sup>University of Alberta, Edmonton, AB, Canada, <sup>2</sup>Alberta Health Services, Edmonton, AB, Canada, <sup>3</sup>Employee of Alberta Health Services, Edmonton, AB, Canada, <sup>4</sup>University of Alberta Hospital, Edmonton, AB, Canada, <sup>5</sup>Stollery Children's Hospital, Edmonton, AB, Canada, ISHLT 46th Annual Meeting and Scientific Sessions to be held 22-25 April 2026 at the Metro Toronto Convention Centre in Toronto, ON

#### **Dr. David Wishart**

##### **Abstracts:**

1. David S. Wishart, "Using Machine Learning to Facilitate the Identification of Harmful Chemicals", 15th CBRNe Protection Symposium, Malmo, Sweden, October 2, 2025
2. David S. Wishart, "Making MS-Based Metabolomics Matter to Medicine", ISMRM MMI Workshop 2025, Padova, Italy — October 16-18, 2025
3. David S. Wishart, "Artificial Intelligence in Clinical Metabolomics", Innovamed 2025, Chongqing, China — October 25, 2025
4. David S. Wishart, "Automating targeted and untargeted MS-based microbial metabolomics", Pacificchem Symposium on Mass Spectrometry in Microbiome Research, Hawaii — Dec 15-20, 2025

5. David S. Wishart, "AI: Innovation in Metabolomics", International Conference for Genomic Medicine, Riyadh, Saudi Arabia — January 19-23, 2026
6. David S. Wishart, "NMR Metabolomics: Databases, Tools and Applications for Drug Discovery and Personalized Medicine", NMR-based metabolomics, Jeddah, Saudi Arabia — January 23-27, 2026
7. David S. Wishart, "Applications of Metabolomics to Drug Discovery", NMR-based metabolomics, Jeddah, Saudi Arabia — January 23-27, 2026
8. David S. Wishart, "Modern Mass Spectrometry-Based Techniques for Detecting Toxins and Contaminants in Food", SFDA Workshop, Riyadh, Saudi Arabia — January 28, 2026

## Recent Publications

### Dr. Ben Adam

#### Peer-reviewed papers:

1. Adam BA, Watson K, Saini A, Dromparis P, Hildebrand A, Churngchow W, Koduru S, Riaz M, Barbour SJ, Mengel M. "Molecular Risk Prediction in Glomerulonephritis: Additional Prognostic Value over Clinical and Histological Parameters in ANCA-Associated Crescentic Glomerulonephritis". *Glomerular Dis.* 2025 Nov 13;5(1):454–469. doi:10.1159/000549541. PMID: 41384044
2. Eder M, Kozakowski N, Omic H, Mengel M, Cejka D, Adam BA, Clahsen-van Groningen MC, Kikic Z. "Molecular diagnostics supporting a  $\geq 35\%$  diffuse peritubular capillaritis extent threshold for diagnosis of AMR". *Int J Mol Sci.* 2025 Nov 12;26(22):10945. doi: 10.3390/ijms262210945. PMID: 41303426
3. Calabrese F, Hwang DM, Lunardi F, Iannaco R, Adam J, Akyürek LM, Adam BA, Balko J, Berry G, D'Sa L, Fabre A, Fattori A, Fishbein GA, Fredenburg KM, Romero TH, Husain AN, Jones K, Kern I, Lin C, Louis R, Mancheno N, Montero-Fernandez A, Oberndorfer F, Pal P, Pavlisko EN, Qureshi MR, Remmelink M, Roden A, Sica G, Vanstapel A, von der Thülen J, Wein A, Weynand B, Yap FHX, Westall GP, Levine DJ. "Pathologists' Experience and Routine Practice in High-Volume Lung Transplant Centers: An International Survey". *JHLT Open.* 2025 Oct 24;11:100415. doi: 10.1016/j.jhlto.2025.100415. eCollection 2026 Feb. PMID: 41321814

### Dr. Matthew Croxen

#### Peer-reviewed paper:

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### Dr. Steven Drews

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#### **Dr. Janet Elliott**

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#### **Dr. Anne Halpin:**

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#### **Dr. Victoria Higgins**

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#### **Dr. Michael Mengel**

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### **Dr. Albert Tsui**

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### **Dr. Frank van Landeghem**

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**Dr. David Wishart:**

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#### Dr. Janet Zhou

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1. Zhou, J., Tsoukalas, D., Chittiprol, N., Kavsak, P., Leung, F., Taher, J., Al-Mohammed, Z., Arnoldo, S., Tysick, H., Fu, L., Love, S.A., Selvaratnam, R. "Analytical Imprecision and Therapeutic Intervals for Lithium – Are there Implications for Old Age Patients with Bipolar Disorder?" *Clinical Biochemistry*, Volume 141, 2026, 111057



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