

### LMP Chair's Report - June 2024

**Dr. Benjamin Adam** <a href="mailto:limpadmin@ualberta.ca">limpadmin@ualberta.ca</a> To: - Impadmin <a href="mailto:limpadmin@ualberta.ca">limpadmin@ualberta.ca</a>

Tue, Jun 25, 2024 at 11:23 AM

No images? Click here

# **Laboratory Medicine & Pathology**

Chair's Report June 2024

Dear Colleagues, Learners & Friends!

Welcome to the pre-summer 2024 Chair's report. This is my first report as Chair, and I would like to start by thanking everyone for their support (and patience!) over the last few months as I have settled into the role. Despite being a member of the Department for over 15 years as a student, resident, and faculty member, I continue to be amazed on a daily basis by the remarkable people and contributions that LMP has to offer.

In this Chair's report, we are highlighting our graduating learners and welcoming our new trainees. On April 26-27, 2024, we held our annual **DRIvE Days** at Lister Centre, during which our trainees presented the products of many months and years of scholarly work, the quality and breadth of which was truly remarkable. On June 6, 2024, we held our annual **Graduation Celebration** at the University Club and had a great turnout from Department members to celebrate the achievements of our graduates, as well as recognize our outstanding preceptors, instructors and teachers (see photos below!). We also took the opportunity to congratulate many Department members receiving academic promotions this year, and thank **Dr. Michael Mengel** for his 13 years of service as Chair (including a heartfelt <u>poem</u> written by Dr. Kim Solez).

This quarter's **Spotlight on Education is an update from our Medical Laboratory Science program**. This thriving undergraduate program has multiple positive developments to share, including new leadership under Ms. Rhonda Pouliot, as well as being the recipient of a Targeted Enrolment Expansion (TEE) grant to help expand training capacity and address increasing workforce demands for medical laboratory technologists. Expanding enrolment has presented some challenges, but thanks to the hard work of the MLS team and a strong partnership with Alberta Precision Laboratories, this important project promises to be a success.

I encourage you to review the impressive compilation of scholarly achievements from LMP members over the last quarter, including numerous presentations, publications, grants, and peer recognitions. In particular, I would like to highlight **Dr. Chris Le** and colleagues for receiving over \$12 million in funding related to a Canadian Biomedical Research Fund (CBRF) program to develop "Innovative techniques and diagnostic tests for pandemic preparedness and health equity". This is a major achievement for the University and the Department. Congratulations!

Please mark your calendars for the **2024 Banff Pathology Course (Endocrine Pathology)** on October 9-12, 2024, which again promises to be a fantastic opportunity for education and collaboration, with several outstanding local and international speakers: <a href="https://banffpathologycourse.com/">https://banffpathologycourse.com/</a>.

Finally, I would like to wish you all a happy and healthy summer. Please take some time to recharge over the next couple of months so you can return with renewed vigor to continue your valuable contributions to the Department. Thanks for all you do!

Sincerely,

Benjamin Adam, MD, FRCPC

Associate Professor and Chair

Department of Laboratory Medicine & Pathology

# **Spotlight on Education**

Medical Laboratory Science
Ms. Rhonda Pouliot, Program Director

Expanding Horizons: The Evolution of the Medical Laboratory Science Program at the University of Alberta

In the realm of healthcare, precision is paramount, and behind every accurate medical diagnosis lies the expertise of Medical Laboratory Professionals. Nestled within the academic tapestry of the University of Alberta (U of A), the Medical Laboratory Science (MLS) program stands as a beacon of excellence, its impact echoing far beyond the borders of the institution.

Since its inception in 1958, the MLS program at the U of A has been a cornerstone of academic rigor and practical skill development in everything laboratory. Despite its modest size, the program has consistently produced graduates who excel in the dynamic landscape of healthcare.

#### Ch-ch-ch-changes:

The winds of change have swept through the program in the past few years, ushering in a new era of growth and innovation. Since 2019 the program has created and implemented a new curriculum (Curriculum 2020), hired four new instructional staff and one new laboratory coordinator, been through a successful accreditation, graduated 155 students, seen a change in the director and chair, all while experiencing a pandemic!

In 2023 the MLS program applied for and was awarded the Targeted Enrolment Expansion (TEE) grant. This funding is meant to support post-secondary institutions to increase enrolment and build capacity in the workforce to meet the increasing labor market demands. The awarding of the funding to the MLS program not only speaks to the program's reputation but also reflects a broader recognition of the vital role medical laboratory professionals play in modern healthcare systems.

With increased enrolment comes increased need for support in enticing excellent applicants to apply to the program as well as support for the student learning journey. We have been fortunate in that we were able to partner with internal experts from the University of Alberta including those who are specialists in marketing, communication, and recruitment. These folks know their stuff and have been real assets to the efforts of the MLS program to increase our application pool. They have helped us develop a recruitment strategy and have provided support in creating materials that can be used to market the program including a revamp of our website, photos that can be used to help promote the program (included in this article), postcard handouts highlighting the program, a back wall (display) for promotional events, and a full year-long recruitment strategy, just to name a few items. These efforts have paid off as we have seen a 40% increase in the number of applications this year and we were only able to run the recruitment strategy for six months. We anticipate great things for next year as we will run the full year-long recruitment cycle.

We would be remiss if we didn't highlight the role that the MLS students played this past year in recruitment. Year four students were invited to create a one-minute TikTok-like video that expresses their positive spin on the MLS experience, the world of laboratory medicine, or any other aspect that would encourage people to join our laboratory world. The videos needed to appeal to a younger crowd; so the students of Michael Phair junior high judged the videos. The <u>video compilation</u> was shared at <u>DRIvE</u> days in April and prizes were awarded to the first, second and third place entries at that event.

Another important partner in supporting the expansion of the program is the leadership and staff of Alberta Precision Laboratories (APL). APL staff have participated in oncampus recruitment events adding an employer's perspective to the information we provide potential students. APL leaders (who are also alumni of the program) have provided online interviews describing their experience with the program, two of which have been published to the new <a href="website">website</a>. Speaking of alumni, some (who are also APL staff) also participated in a lab mingle event held during <a href="National Medical Laboratory Week">National Medical Laboratory Week</a> where current and prospective students did rounds of "speed dating" with program alumni.

Of course one of the major impacts MLS enrolment expansion will have is increased strain on our clinical partners, APL. As staff shortages and changes to laboratory testing

structures continue, the staff of APL are doing their best to balance their patient care duties with training their future co-workers - our students. Thankfully Edmonton does have a dedicated space located at the Edmonton General Hospital for training MLS year three (clinical) students prior to them entering "live" laboratory testing space, and with this space comes instructional expertise in the form of APL clinical instructors (Note that MLS instructors teach year threes in this space too). These instructors have worked hard to create a clinical rotation schedule using feedback from MLS instructors and APL site staff, that will be, not ideal, but manageable for everyone. MLS in coordination with APL has also agreed to shorten the time the students will spend in the "live" laboratory testing spaces opting for shortening the rotations in each discipline and incorporating more simulation activities to ensure quality educational experiences are maintained.

The impact on the increased student load will also be felt by the years two and four instructional and support staff. Our team has banded together to develop strategies to mitigate the impact. The instructors are looking at improving efficiencies and synergy in the courses, identifying crossover in content and finding the best way to manage the increase. They have also been looking at space utilization in the basement of the Clinical Sciences Building (where the majority of years two and four laboratory training is done), identifying areas that could be utilized temporarily and surplusing unused and outdated equipment. Classroom space limitations in CSB are being addressed by the University of Alberta space planning team. We are grateful that we were able to hire another Laboratory Coordinator (LC). Both LCs are working hard at ensuring the lab spaces are clean and prepped for the incoming students and ensuring all additional equipment is ordered and placed in time for the students' arrival.

#### A Thriving Community:

As you can infer from the details shared above, at the heart of the MLS program lies a vibrant community of instructors and researchers, clinical partners, students, support staff, and alumni-united by their passion for scientific inquiry, patient care, and commitment to excellence. All of the work being done ensures that the students are able to be nurtured in an environment that fosters intellectual curiosity and encourages hands-on learning. Through didactic learning, experiential training, and clinical experiences, they acquire the skills and knowledge necessary to thrive in the fast-paced world of medical laboratory science, and all of this is only possible through the collaboration and cooperation of all of the partners mentioned previously.

#### Looking Ahead:

As the MLS program continues to evolve, the future brims with promise and possibility. With expanded capacity and a steadfast dedication to innovation, the program is poised to meet the growing demand for highly skilled Medical Laboratory Professionals. Armed with a wealth of knowledge and a spirit of collaboration, graduates will embark on their professional journeys, equipped to make a meaningful impact on the world of healthcare.

In the ever-changing landscape of healthcare, our program remains a beacon of excellence, shaping the future of diagnostic medicine one student at a time.





L to R: Elizabeth Kwong, Anna Nevesinjac

L to R: Arthur Macatangay, Hardeep Gill



### **MLS Team**

(Foreground) Kim Thompson, Front row L to R: Hardeep Gill, Rhonda Pouliot, Kristi Lew, Christina Lau, Krystine Valenciano Back row L to R: Benjamin Adam, Ben Bablitz, Anna Nevesinjac, Karen Matejka, Chris Ward, Amanda VanSpronsen, Lisa Purdy, Roberta Martindale

# **New Appointments**

### The Department welcomes:

- · Ms. Alexis Roy Clinical Lecturer Forensic Pathology Technician, OCME Edmonton
- · Mr. Jack Lacroix Clinical Lecturer Forensic Pathology Technician, OCME Edmonton
- · Ms. Tanya Podilchak Clinical Lecturer Forensic Pathology Technician, OCME Edmonton
- · Ms. Alyccia Cote Clinical Lecturer Forensic Pathology Technician, OCME Edmonton
- · Ms. Clair Baron Clinical Lecturer Forensic Pathology Technician, OCME Edmonton
- · Dr. Nizar Belgasem Clinical Lecturer Dermatopathologist, APL Base Lab
- · Dr. Daniel Smyk Clinical Lecturer Forensic Pathologist, OCME Edmonton
- · Dr. Judy Qiu (PhD) Assistant Professor, Special Continuing Program Lead, APL

#### **New Appointments for Faculty/Clinical Faculty:**

#### Dr. Andrei Drabovich

· Full Member, Li Ka Shing Institute of Virology, University of Alberta

#### Dr. Steven Drews

- · As of May 2024, Steven Drews was appointed to lead a collaborative group of microbiologists and technologists in a newly formed Microbiology team at Canadian Blood Services
- · As of February 2024, Steven Drews has led a collaborative group of scientists and laboratory technologists in developing an Innovation Laboratory Space at the Canadian Blood Services Head Office in Ottawa, ON

#### Dr. Anne Halpin

· GlycoNet Network Investigator

### **Promotions**

#### FEC Promotions effective July 1, 2024

Dr. Jelena Holovati - Promoted to Professor

#### Clinical Faculty Promotions effective July 1, 2024

- Dr. Mathew Estey Promoted to Clinical Professor
- Dr. Hanan Armanious Promoted to Associate Clinical Professor
- Dr. Sumit Das Promoted to Associate Clinical Professor
- Dr. Erene Farag Promoted to Associate Clinical Professor
- Dr. June Hwang Promoted to Associate Clinical Professor
- Dr. Laura Schmitt Promoted to Associate Clinical Professor
- Dr. Justin Bateman Promoted to Assistant Clinical Professor
- Dr. Victoria Higgins Promoted to Assistant Clinical Professor
- Dr. Ola Ismail Promoted to Assistant Clinical Professor
- Ms. Brittney Madden Promoted to Assistant Clinical Professor
- Dr. William Stokes Promoted to Assistant Clinical Professor
- Dr. Peet van der Walt Promoted to Assistant Clinical Professor
- Dr. Natalia Volodko Promoted to Assistant Clinical Professor
- Dr. Brian Wong Promoted to Assistant Clinical Professor

# **Grants**

#### Dr. Esmé Dijke

· One Child Every Child Strategic Catalyst Award: "Practical Application of HLA Eplet Matching in Pediatric Kidney Transplantation: Towards Precision Medicine and Improved Long-Term Outcomes". Funding: \$200,000 total; period: March 15, 2024 - March 31, 2027; role: Co-applicant

### **Summer Studentships:**

· WCHRI Summer Studentship: "Keeping it cool: freezing regulatory immune cells for cell therapy". Funding: \$1000 total; period: May 1 – Aug 31, 2024; role: Supervisor (Student:

#### Sarjana Alam)

· URI Summer Studentship: "Keeping it cool: freezing regulatory immune cells for cell therapy" Funding: \$7500 total: May 1 – Aug 31, 2024; role: Supervisor (Student: Sarjana Alam)

#### Dr. Andrei Drabovich

#### **Peer-Reviewed Grants**

- · NSERC Discovery Grants (individual) program, "Affinity selection, characterization and sequencing of high-affinity immunoglobulins", 2024-2028, \$157,500
- · Canada Biomedical Research Fund (CBRF) Operating grant "Innovative Techniques and Diagnostic Tests for Pandemic Preparedness and Health Equity", 2024-2027, \$9,482,666. Role: Co-PI. Director: X.C. Le
- · Biosciences Research Infrastructure Fund (BRIF) grant "Innovative Techniques and Diagnostic Tests for Pandemic Preparedness and Health Equity", 2024-2027, CFI amount: \$2,543,752. Role: Co-PI. Director: X.C. Le

#### Dr. Anne Halpin

· Alberta Innovates Summer Research Studentship award (for undergraduate student Francis Leier) Project Title: Innovation after a century: Bead-based assay for ABO antibody detection, Value of award: \$1875/month for 4 months

#### Dr. Chris Le

- · Dr. Chris Le received a five-year Discovery Grant (\$690,000) from the Natural Sciences and Engineering Research Council (NSERC) to develop "Bioanalytical techniques for studying DNA mutations and molecular interactions"
- · Dr. Chris Le and a group of 12 team members received \$9,482,666 from the Canadian Biomedical Research Fund (CBRF) program to develop "Innovative techniques and diagnostic tests for pandemic preparedness and health equity"
- · Dr. Chris Le and a group of 12 team members received \$2,543,752 from the Bioscience Research Infrastructure Fund (BRIF) and Canada Foundation for Innovation (CFI) Canadian Biomedical Research Fund (CBRF) program to support the CBRF research

#### Dr. Amanda VanSpronsen

· Co-lead on \$10,000 grant from Choosing Wisely Canada to help develop a prototype of a cost calculator widget to promote the uptake of Choosing Wisely Canada recommendations

### **Awards**

#### Dr. Siddhartha Dalvi

· Honorary Fellowship of the Royal College of Physicians of Ireland

# **PGME Awards 2024**

#### Dr. T A Kasper Resident Excellence Scholarship

· Sivanthini Palanivetpillai

- · Conrad Moher
- · Sameh Mikhail
- · Nancy Hua

#### Dr. Theodor K Shnitka Memorial Award

- · Saadiya Umar
- · Candy Niu
- · Emeka Enwere

# Summer Studentship Stipend Recipient 2024

Kayla LaPorte (supervisor Dr. Chris Le)

# Save the Date!

Banff Pathology Course October 9-12, 2024



For practicing general and anatomic pathologists, pathologist assistants, endocrine surgeons, clinicians specializing in endocrinology and oncology, as well as residents and fellows pursuing training in any of these specialties



# **Graduate Studies**

#### **New Students**

We are pleased to welcome the following students:

- · Qingyu Zhang, PhD Spring 2024
- · Juanjuan Fu, PhD Fall 2024
- · Xiaotian Ma. PhD Fall 2024

- · Skyler Ngo, MSc Fall 2024
- · Emmanuel Thomas, MSc PA Fall 2024
- · Weijun Zhu, MSc PA Fall 2024

#### Awards

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

- · Mahsa Yazdanbakhsh, PhD Graduate Student Travel Award 2024/25
- · Zoe Turner, MSc CGS-M (CIHR) & Walter H Johns Fellowship Top Up 2024/25
- · Celina Phan, MSc CGS-M (CIHR) & Walter H Johns Fellowship Top Up 2024/25
- · Camille Huang, MSc Graduate Student Travel Award 2024/25

### **DRIvE 2024 Presentation Winners**

#### **Oral Presentation Awards**

Kerrylei Jabilona - Best MLS Student Sarjana Alam - Best MSc or Summer Student Jeffrey Tao - Best Grad Student - PhD Emeka Enwere - Best Resident or Postdoctoral Research Fellow

#### **Poster Presentation Awards**

Priscilla Salaveria - Best MLS Student
Rafay Osmani - Best Grad Student - MSc
Huyan Xiao - Best Grad Student - PhD
Surangi Thilakarathna - Best Postdoctoral Research Fellow
Candy Niu - Best Resident
Gilbert Bigras - Best Academic/Clinical Professional

#### **Grad Student Awards**

Jeffrey Tao - Bell McLeod Educational Fund Graduate Research Prize Huyan Xiao - Bell McLeod Educational Fund Graduate Research Prize Alexa Thompson - Bell McLeod Educational Fund Graduate Research Prize Joelle Kasongo - Bell McLeod Educational Fund Citizenship Award

### Minute to Win it - MLS Promotional Video Competition

Janika Reyes - First place Prescilla Elemento - Second place Richen Basig - Third place



Left to right: Rafay Osmani, Priscilla Salveria, Joelle Kasongo, Alexa Thompson, Jeffrey Tao, Huyan Xiao



Left to right: Kerrylei Jabilona, Emeka Enwere, Sarjana Alam, Jeffrey Tao



Janika Reyes and Rhonda Pouliot



Prescilla Elemento and Rhonda Pouliot



Richen Basig and Rhonda Pouliot



Surangi Thilakarathna and Dr. Ben Adam

### Congratulations to all!

# LMP Graduation Celebration June 6, 2024



Diagnostic & Molecular Pathology (DMP) graduate: Dr. Conrad Moher (right) with Program Director, Dr. Kerri Chung (left)



Dr. Emeka Enwere (DMP R3) received the Shnitka Award for Excellence in Research with DMP Program Director, Dr. Kerri Chung (left)



Dr. Lovejeet Bajwa (DMP R3) presented the Diagnostic & Clinical Pathology Teacher of the Year Award to Dr. Josh Raizman (right)



Hematological Pathology graduate: Dr. Sima Zolfaghari (middle) with Dr. Bryony Walker, Program Director (left) and Dr. Salwa El Malti (right)



Dr. Rebecca Brassington presented the Diagnostic and Molecular Pathology Teacher of the Year Award to Dr. Jake Mandziuk (right)



Dr. Candy Niu (left) received the Shnitka Research Award in Hematological Pathology and Resident of the Year Award, presented by Dr. Bryony Walker, Program Director



Dr. Sivanthini Palanivetpillai received the Dr T A Kasper Resident Excellence Scholarship award in Medical Microbiology, presented by Dr. Nathan Zelyas, Program Director (right)



Gynecologic Pathology Graduating Fellow:

Dr. Sumaih Ahmed A Shinawi with Dr. Soufiane El Hallani,

Program Director (left)



Dr. Petrus van der Walt (left) received Medical Microbiology's Teaching Award, presented by Dr. Sivanthini Palanivetpillai



Lymphoproliferative Disorders Graduating Fellow: Dr. Fatimah Alturkistani (right) with

Dr. Dalila Villalobos Nieto (left)

# Congratulation to all LMP Graduates and Award Winners!

# 2024 New Residents and Fellows

### **Diagnostic and Molecular Pathology**

Dr. Osayuki Iyawe

Dr. Davide Marchese

### **Diagnostic and Clinical Pathology**

Dr. Robina Hanna

Dr. Chukwunonso Ibe

### **Medical Microbiology**

Dr. Yuan (Shawn) Xu

### **Histocompatibility and Immunogenetics Fellowship Program**

Dr. Asra Almubarak

Dr. Amir Landi

# **Recent Presentations**

#### Dr. Ben Adam:

1. Cutting Edge of Transplantation Meeting, Phoenix AZ, February 23, 2024: "New Molecular Approaches to Assess Immune Status: Finding the Right Balance"

#### Dr. David Beyer

#### Abstracts:

- 1. Emeka Enwere, Gilbert Bigras, David Beyer, USCAP Annual Meeting 2024, "Using Machine Learning to Predict Oncotype DX Risk-of-Recurrence Categories in Early-Stage Breast Cancer", March 2024
- 2. Nina Esfandiari, David Beyer, USCAP Annual Meeting 2024, "Validation of a Virtual Reality Display for Digital Pathology Sign-Out", March 2024

#### Dr. Matthew Croxen:

1. "Modernizing Alberta's Public Health Laboratory using Genomics". Invited Speaker – TARRANT Annual General Meeting, 2024; Edmonton Alberta

#### Dr. Esmé Dijke

#### Abstracts:

- 1. Alam S, Mercier R, Ionescu L, West L, Acker J, Dijke E. "Defining the optimal cryoprotectant agent (CPA) conditions for cryopreservation of regulatory T cells for tolerogenic therapy". Poster presentation at the Annual Conference of Cell Therapy Transplant Canada, Victoria BC, May 1 -3, 2024
- 2. Ivison S, MacDonald K, Sanderink L, Leung M, Mojibian M, Qing Huang J, Fung V, West L, Dijke E, Bleker E, Campbell A, Al Aklabi M, Kosuska J, Piat G, Hay K, Levings M. "Thymus-derived regulatory T cells as a universal off-the-shelf anti-inflammatory therapy: technology transfer in preparation for a phase I clinical trial". Poster presentation at the Annual Conference of Cell Therapy Transplant Canada, Victoria, BC, May 1 3, 2024
- 3. Alam S, Mercier R, Ionescu L, West L, Acker J, Dijke E. "Defining optimal cryopreservation conditions of regulatory T cells for tolerogenic cell therapy in transplantation". Poster presentation at the Alberta Transplant Institute Research Day, Edmonton AB, May 15, 2024
- 4. Halpin A, Leier F, Motyka B, Li C, Urschel S, Pearcey J, Dijke E, West L. "Exploring ABO-

histocompatibility: Luminex assay allows detection and characterization of endothelial-targeted ABO antibodies". EFI Abstracts Oral and Posters. HLA, 103: 7-144, 2024

5. Halpin A, Leier F, Motyka B, Li C, Urschel S, Pearcey J, Dijke E, West L. "ABO-incompatible transplantation immune risk assessment: expanding horizons with better tools". American J Transplant, Volume 24, Issue 6, Supplement 1, Pages S-S1172, 2024

#### Dr. Andrei Drabovich:

1. Invited speaker. Talk: "Precision Serology: Quantification of Human Polyclonal Antibodies by Proteomics", Immunology Network Seminars, University of Alberta, March 14, 2024

#### Dr. Steven Drews:

- 1. "Increased rates of laboratory confirmed cases of syphilis in Western Canadian vs Eastern Canadian blood donors: 2022-2023." Rapid Fire Oral Presentation, AMMI/CACMID, Vancouver, BC, Canada, April 10, 2024
- 2. "Vigilance for emerging pathogens: Methods of surveillance for Canadian blood operators" Canadian Blood Services Research Day, Saskatoon, SK, Canada, May 23, 2024
- 3. "How influenza and SARS-CoV-2 genomic drift impacts on molecular diagnostics" Danaher Diagnostics Medical and Scientific Affairs, April 4, 2024
- 4. "SARS-CoV-2 genomic drift impacts on AZD7442 tixagevimab/cilgavimab efficacy in immunocompromised patients", AstraZeneca Canada Inc. Scientific/Medical liaison team, Vancouver, BC, Canada, April 10, 2024
- 5. "Donor re-entry for transmissible disease markers at Canadian Blood Services." Steven Drews with Sheila O'Brien and Mark Bigham, 4 March 2024, Medical Affairs and Innovation, Canadian Blood Services
- 6. "Donor re-entry for transmissible disease markers at Canadian Blood Services" Canadian Blood Services Laboratory Staff Brampton and Calgary, February 8, 2024

#### **Sessions Moderated:**

1. Blood Health and Anemia Management" Session Moderator CTSM, Saskatoon, SK, Canada, May 23-26, 2024

#### Abstracts presented by Dr. Drews or trainee/staff:

- 1. "Increased rates of laboratory confirmed cases of syphilis in Western Canadian vs Eastern Canadian blood donors: 2022-2023". Drews, S.J., Charlton, C., Tran, V., Zhou, H.Y., Hawes, G., Resz, I., O'Brien, S.F. AMMI/CACMID, Vancouver, BC, Canada, April 9-12
- 2. "Detecting Hepatitis A Virus in a donor specimen linked to plasma and cellular products: What does it mean?" Drews, S.J., Bruenau, L., Hawes, G., Tang, E., Charlton, C., Bigham, M. CTSM, Saskatoon, SK, Canada, May 23-26, 2024
- 3. "Donor re-entry following deferral for false reactive human immunodeficiency virus-1/2, hepatitis B virus, hepatitis C virus, syphilis and human T-cell lymphotropic virus-1/2 is effective". Drews, S.J., Bigham, M. Uzicanain, Charlton, C., Huppe, P., MacDonald, K., O'Brien, S.F. CTSM, Saskatoon, SK, Canada, May 23-26, 2024
- 4. "Evaluation of the cobas® DPX Duplex Hepatitis A Virus and Parvovirus B19 Nucleic Acid Test (NAT) Assay at Canadian Blood Services". Bruneau, L., Hawes, G., Tang, E., Charlton, C,. Drews, S.J. CTSM, Saskatoon, SK, Canada, May 23-26, 2024

#### Dr. Janet Elliott:

- 1. Janet A. W. Elliott, "Thermodynamics in cell and tissue cryopreservation: How math can save knees", Canadian Society of Senior Engineers, Online, April 18, 2024
- 2. Janet A. W. Elliott, "Cryopreservation of cells, monolayers, and tissues", Alberta Transplant Institute Seminar Series and Society of Cryobiology Webinar Series, Online, May 1, 2024

#### Dr. Anne Halpin

#### Abstracts:

- 1. Anne Halpin, Francis Leier, Bruce Motyka, Caisun Li, Simon Urschel, Jean Pearcey, Esme Dijke, Lori West. "Exploring ABO-histocompatibility: Luminex assay allows detection and characterization of endothelial-targeted ABO antibodes". EFI Abstracts Oral and Posters. HLA, 103: 7-144, 2024. Poster Presentation, Presented at the European Federation of Immunogenetics conference Geneva, Switzerland, May 21, 2024, Received Best Poster Award for this abstract
- 2. Anne Halpin, Francis Leier, Bruce Motyka, Caisun Li, Simon Urschel, Jean Pearcey, Esme Dijke, Lori West. "ABO-incompatible transplantation immune risk assessment: expanding horizons with better tools". AJT, Volume 24, Issue 6, Supplement 1, Pages S-S1172, June 2024, Oral abstract presentation, Presented at the American Transplant Congress conference, Philadelphia, PA, USA Jun 3rd, 2024 Invited Presentation:
- 1. St. Michael's Hospital, Transplant Lunch and Learn Seminar (virtual), Title: "Time for ABO Histocompatibility"

#### Dr. Judy Qiu

#### Abstracts:

- 1. Immaraj L, Wilson M, Jiang Q, Qiu JY, Croxen M, Parkins M, Hubert C, Frankowski K, Hrudey S, Bautista M, England W, Lee BE, Pang XL. "Monitoring of SARS-CoV-2 variants in wastewater using whole genome sequencing." The AMMI Canada CACMID Annual Conference. Vancouver, Canada. April 2024
- 2. Immaraj L, Bhavanam S, Jiang Q, Brand L, Qiu JY, Parkins MD, Hubert CRJ, Frankowski K, Gao TJ, Lee BE, Pang XL. "Comprehensive viral pathogen detection in wastewater using hybrid enrichment and whole genome sequencing." Association of Public Health Laboratories annual conference, Milwaukee, USA, May 2024

#### Dr. Kim Solez:

1. American Transplant Congress in Philadelphia June 1, 2024, Session Type: In-Depth, Session Title: Engineered Organs and Cells in Transplantation, Presentation Title: "The Ethics of Regenerative Medicine in the Al-Enhanced Future"

## **Recent Publications**

#### Dr. Ben Adam

#### Peer-reviewed papers:

- 1. Mengel M, Adam BA. "Emerging Phenotypes in Kidney Transplant Rejection". Curr Opin Organ Transplant. 2024 Apr 1;29(2):97-103. PMID: 38032262. [IF 2.200]
- 2. Naesens M, Roufosse C, Haas M, Lefaucheur C, Mannon RB, Adam BA, Aubert O, Böhmig GA, Callemeyn J, Clahsen-van Groningen M, Cornell LD, Demetris AJ, Drachenberg CB, Einecke G, Fogo AB, Gibson IW, Halloran P, Hidalgo L, Horsfield C, Huang E, Kikić Z, Kozakowski N, Nankivell B, Rabant M, Randhawa P, Riella LV, Sapir-Pichhadze R, Schinstock C, Solez K, Tambur AR, Thaunat O, Wiebe C, Zielinski D, Colvin R, Loupy A, Mengel M. "The Banff 2022 Kidney Meeting Report: Re-Appraisal of Microvascular Inflammation and the Role of Biopsy-Based Transcript Diagnostics". Am J Transplant. 2024 Mar;24(3):338-349. PMID: 38032300. [IF 9.369]
- 3. Pavlisko EN, Adam BA, Berry GJ, Calabrese F, Cortes-Santiago N, Glass CH, Goddard M, Greenland JR, Kreisel D, Levine DJ, Martinu T, Verleden SE, Weigt SS, Roux A. "The 2022 Banff Meeting Lung Report". Am J Transplant. 2024 Apr;24(4):542-548. PMID: 37931751. [IF 9.369]

#### Dr. Matthew Croxen:

1. Gill EE, Jia B, Murall CL, Poujol R, Anwar MZ, John NS, Richardsson J, Hobb A, Olabode AS, Lepsa A,

Duggan AT, Tyler AD, N'Guessan A, Kachru A, Chan B, Yoshida C, Yung CK, Bujold D, Andric D, Su E, Griffiths EJ, Van Domselaar G, Jolly GW, Ward HKE, Feher H, Baker J, Simpson JT, Uddin J, Ragoussis J, Eubank J, Fritz JH, Gálvez JH, Fang K, Cullion K, Rivera L, Xiang L, Croxen MA, Shiell M, Prystajecky N, Quirion PO, Bajari R, Rich S, Mubareka S, Moreira S, Cain S, Sutcliffe SG, Kraemer SA, Joly Y, Alturmessov Y, Consortium C, Consortium C; VirusSeq Data Portal Academic and Health network; Fiume M, Snutch TP, Bell C, Lopez-Correa C, Hussin JG, Joy JB, Colijn C, Gordon PMK, Hsiao WWL, Poon AFY, Knox NC, Courtot M, Stein L, Otto SP, Bourque G, Shapiro BJ, Brinkman FSL. "The Canadian VirusSeq Data Portal & Duotang: open resources for SARS-CoV-2 viral sequences and genomic epidemiology". ArXiv [Preprint]. 2024 May 8:arXiv:2405.04734v1. PMID: 38764594; PMCID: PMC11100916

2. Long R, Croxen M, Lee R, Doroshenko A, Lau A, Asadi L, Heffernan C, Paulsen C, Egedahl ML, Lloyd C, Li V, Tyrrell G. "The association between phylogenetic lineage and the subclinical phenotype of pulmonary tuberculosis: A retrospective 2-cohort study". J Infect. 2024 Feb;88(2):123-131. doi:10.1016/j.jinf.2023.12.006. Epub 2023 Dec 15. PMID: 38104727

#### Dr. Esmé Dijke

#### Peer-reviewed papers:

1. Davoodi S, Gongal P, Delaney S, Acker JP, Boulet B, Boulet T, Dijke E, Elliott JAW, Halloran K, Halpin A, Hartell D, Kemp L, Kramer A, Lam N, Mager D, Mokoena T, Pepper A, Powell L, Tandon P, Wilson M, Wilkins R, Woolfsmith J, West L. "Alberta's research priorities to advance donation and transplantation: an ecosystem-based and consensus-driven approach to strategic research planning". Canadian Health Policy 2024; https://doi.org/10.54194/PVBQ287

#### Dr. Andrei Drabovich:

1. Rais, Y. and Drabovich, A.P. "Identification and Quantification of Human Relaxin Proteins by Immunoaffinity-Mass Spectrometry". Journal of Proteome Research, 2024, accepted May 13, doi: 10.1021/acs.jproteome.4c00027

#### **Dr. Steven Drews**

#### **Peer-Reviewed Publications:**

- 1. Drews, S.J., Charlton, C., O'Brien, S.F., Burugu, S., Denomme, G.A. "Decreasing parvovirus B19 and hepatitis A nucleic acid test positivity rates in Canadian plasma donors following the initiation of COVID-19 restriction in March 2020". Vox Sang. 2024 Mar 14. doi: 10.1111/vox.13616. Epub ahead of print. PMID: 38482941
- 2. O'Brien SF, Deeks SL, Hatchette T, Pambrun C, Drews SJ. "SARS-CoV-2 seroprevalence in Nova Scotia blood donors". J Assoc Med Microbiol Infect Dis Can. 2024 Mar 29;9(1):32-45. doi: 10.3138/jammi-2023-0017. PMID: 38567363; PMCID: PMC10984316
- 3. Renaud C, Lewin A, Gregoire Y, Simard N, Vallières É, Paquette M, Drews SJ, O'Brien SF, Di Germanio C, Busch MP, Germain M, Bazin R. "SARS-CoV-2 immunoassays in a predominantly vaccinated population: Performances and qualitative agreements obtained with two analytical approaches and four immunoassays". Vox Sang. 2024 Apr 5. doi: 10.1111/vox.13625. Epub ahead of print. PMID: 38577957
- 4. Thornton CS, Waddell BJ, Congly SE, Svishchuk J, Somayaji R, Fatovich L, Isaac D, Doucette K, Fonseca K, Drews SJ, Borlang J, Osiowy C, Parkins MD. "Porcine-derived pancreatic enzyme replacement therapy may be linked to chronic hepatitis E virus infection in cystic fibrosis lung transplant recipients." Gut. 2024 Apr 15:gutjnl-2023-330602. doi: 10.1136/gutjnl-2023-330602. Epub ahead of print. PMID: 38621922
- 5. O'Brien SF, Ehsani-Moghaddam B, Goldman M, Osmond L, Fan W, Drews SJ. "Prevalence of human T-cell lymphotropic virus-1/2 in Canada over 33 years: A unique contribution of blood donors to public health surveillance". Can J Public Health. 2024 May 14. doi: 10.17269/s41997-024-00886-6. Epub ahead of print. PMID: 38743354

6. O'Brien SF, Goldman M, Ehsani-Moghaddam B, Fan W, Osmond L, Pambrun C, Drews SJ. "SARS-CoV-2 vaccination in Canadian blood donors: Insight into donor representativeness of the general population." Vaccine X. 2024 May 12;18:100498. doi: 10.1016/j.jvacx.2024.100498. PMID: 38800670; PMCID: PMC11127215

#### Dr. Janet Elliott

#### Peer-reviewed journal papers:

- 1. Leah A. Marquez-Curtis, Janet A.W. Elliott, "Mesenchymal stromal cells derived from various tissues: Biological, clinical and cryopreservation aspects: Update from 2015 review", Cryobiology 115, Article No.: 104856 (2024), <a href="https://doi.org/10.1016/j.cryobiol.2024.104856">https://doi.org/10.1016/j.cryobiol.2024.104856</a>
- 2. MingHan Yu, Leah A. Marquez-Curtis, Janet A.W. Elliott, "Cryopreservation-induced delayed injury and cell-type-specific responses during the cryopreservation of endothelial cell monolayers", Cryobiology 115, Article No.: 104857 (2024), <a href="https://doi.org/10.1016/j.cryobiol.2024.104857">https://doi.org/10.1016/j.cryobiol.2024.104857</a>
- 3. Mary Crisol, Kezhou Wu, Barry Congdon Jr., Tamara D. Skene-Arnold, Leila Laouar, Janet A. W. Elliott, Nadr M. Jomha, "Chondrocyte viability of particulated porcine articular cartilage Is maintained in tissue storage after cryoprotectant exposure, vitrification, and tissue warming", Cartilage 15(2):139-146 (2024). <a href="https://doi.org/10.1177/19476035221118656">https://doi.org/10.1177/19476035221118656</a>
- 4. Elham Ashrafi, Milica Radisic, Janet A. W. Elliott, "Systematic cryopreservation study of cardiac myoblasts in suspension", PLoS One 19(3), Article No.: e0295131 (2024). <a href="https://doi.org/10.1371/journal.pone.0295131">https://doi.org/10.1371/journal.pone.0295131</a>
- 5. Faranak Yadegari, Laura A. Gabler Pizarro, Leah A. Marquez-Curtis, Janet A. W. Elliott, "Temperature dependence of membrane permeability parameters for five cell types using nonideal thermodynamic assumptions to mathematically model cryopreservation protocols", Journal of Physical Chemistry B 128(5), 1139–1160 (2024). <a href="https://doi.org/10.1021/acs.jpcb.3c04534">https://doi.org/10.1021/acs.jpcb.3c04534</a>
- 6. S. Davoodi\*, P. Gongal\*, S. Delaney, J. P. Acker, B. Boulet, T. Boulet, E. Dijke, J. A.W. Elliott, K. Halloran, A. Halpin, D. Hartell, L. Kemp, A. Kramer, N. Lam, D. Mager, T. Mokoena, A. Pepper, L. Powell, P. Tandon, M. Wilson, R. Wilkins, J. Woolfsmith, L. West, "Alberta's research priorities to advance donation and transplantation: an ecosystem-based and consensus-driven approach to strategic research planning", Canadian Health Policy Journal March 2024. <a href="https://www.canadianhealthpolicy.com/product/albertas-research-priorities-to-advance-organ-donation-and-transplantation-an-ecosystem-based-and-consensus-driven-approach-to-strategic-research-planning/?brief=yes</a>

#### Dr. Anne Halpin

#### Peer-reviewed paper:

1. Saeideh Davoodi, Patricia Gongal, Sean Delaney, Jason P. Acker, Bernadine Boulet, Toby Boulet, Esme Dijke Janet A.W. Elliott, Kieran Halloran, Anne Halpin, David Hartell, Lindsey Kemp, Andreas Kramer, Ngan Lam, Diana Mager, Tumelo Mokoena, Andrew Pepper, Linda Powell, Puneeta Tandon, Murray Wilson, Rachel Wilkins, Jennifer Woolfsmith, Lori West. "Alberta's research priorities to advance organ donation and transplantation: an ecosystem-based and consensus-driven approach to strategic research planning". Canadian Health Policy, MAR 2024. https://doi.org/10.54194/PVBQ287

#### Dr. Victoria Higgins

#### Peer-reviewed publications:

1. Higgins V, White-Al Habeeb NMA, Bailey D, Beriault DR, Blasutig IM, Collier CP, Venner AA, Adeli K. "Canadian Society of Clinical Chemists Harmonized Pediatric Lipid Reporting Recommendations for Clinical Laboratories". Can J Cardiol. 2024 Feb. S0828-282X(24)00071-0

#### Dr. Chris Le:

1. Feng, W.; Peng, H.; Zhang, H.; Weinfeld, M.; Le, X.C. "A sensitive technique unravels the kinetics of activation and trans-cleavage of CRISPR-Cas systems". Angewandte Chemie International Edition, 2024, 63 (22). DOI: 10.1002/anie.202404069

- 2. Tao, J.; Zhang, H.; Weinfeld, M.; Le, X.C. "Detection of uracil-excising DNA glycosylases in cancer cell samples using a three-dimensional DNAzyme walker". ACS Measurement Science Au, 2024, DOI: 10.1021/acsmeasuresciau.4c00011
- 3. Zhao, Y.; Zhao, X.; Duan, L.; Hou, R.; Gu, Y.; Liu, Z.; Chen, J.; Wu, F.; Yang, L.; Le, X.C.; Wang, Q.; Yan, X. "Reinvent aliphatic arsenicals as reversible covalent warheads toward targeted kinase inhibition and non-acute promyelocytic leukemia cancer treatment". Journal of Medicinal Chemistry, 2024, 67 (7), 5458–5472. DOI: 10.1021/acs.jmedchem.3c02076
- 4. Hu, J.; Yan, X.; Le, X.C. "Label-free detection of biomolecules using inductively coupled plasma mass spectrometry (ICP-MS)". Analytical and Bioanalytical Chemistry, 2024, 416, 2625-2640. <u>DOI:</u> 10.1007/s00216-023-05106-7
- 5. Kumblathan, T.; Liu, Y.; Crisol, M.; Pang, X.; Hrudey, S.E.; Le, X.C.; Li, X.-F. "Advances in wastewater analysis revealing the co-circulating viral trends of noroviruses and omicron subvariants". Science of the Total Environment, 2024, 920, 170887. DOI: 10.1016/j.scitotenv.2024.170887
- 6. Peng, H.; Yuan, A.; Xiao, H.; Ye, Z.; Liao L.; Zhao, S.; Le, X.C. "DNA Nanomotors for Bioimaging in Living Cells". In Nie, Z. (Ed) DNA Nanotechnology for Cell Research: From Bioanalysis to Biomedicine. Wiley. February 2024. Chapter 7. Pages 169-188. DOI: <a href="https://doi.org/10.1002/9783527840816.ch7">10.1002/9783527840816.ch7</a>

#### Dr. Roger Leng:

H. Wu, S. Leng, C. Sergi, and R. Leng, "How MicroRNAs Command the Battle Against Cancer", International Journal of Molecular Sciences Int. J. Mol. Sci. 2024, 25(11), 5865-5891; <a href="https://doi.org/10.3390/ijms25115865">https://doi.org/10.3390/ijms25115865</a>(Submission received: 24 April 2024 / Revised: 23 May 2024 / Accepted: 26 May 2024 / Published: 28 May

#### Dr. Michael Mengel

#### Peer-reviewed publications:

1. Mengel M, Mannon RB, Feng S. "The Banff process-Reloaded: A joint initiative from the Banff Foundation for Allograft Pathology and the American Journal of Transplantation". Am J Transplant. 2024 Mar;24(3):325-327

#### Dr. Judy Qiu

#### Peer-reviewed publication:

1. Hachad M, Burnet JB, Sylvestre E, Duy SV, Villemur R, Sauvé S, Prévost M, Qiu JY, Pang XL, "Dorner S. β-D-glucuronidase activity triggered monitoring of fecal contamination using microbial and chemical source tracking markers at drinking water intakes." Water Research. 2024. 254: 121374

#### Dr. Kim Solez:

#### Peer-reviewed papers:

- 1. Roufosse C, Naesens M, Haas M, Lefaucheur C, Mannon RB, Afrouzian M, Alachkar N, Aubert O, Bagnasco SM, Batal I, Bellamy COC, Broecker V, Budde K, Clahsen-Van Groningen M, Coley SM, Cornell LD, Dadhania D, Demetris AJ, Einecke G, Farris AB, Fogo AB, Friedewald J, Gibson IW, Horsfield C, Huang E, Husain SA, Jackson AM, Kers J, Kikić Ž, Klein A, Kozakowski N, Liapis H, Mangiola M, Montgomery RA, Nankinvell B, Neil DAH, Nickerson P, Rabant M, Randhawa P, Riella LV, Rosales I, Royal V, Sapir-Pichhadze R, Sarder P, Sarwal M, Schinstock C, Stegall M, Solez K, van der Laak J, Wiebe C, Colvin RB, Loupy A, Mengel M." The Banff 2022 Kidney Meeting Work Plan: Data-driven refinement of the Banff Classification for renal allografts". Am J Transplant. 2024 Mar;24(3):350-361. doi: 10.1016/j.ajt.2023.10.031. Epub 2023 Nov 4.PMID: 37931753
- 2. "The Banff 2022 Kidney Meeting Report: Reappraisal of microvascular inflammation and the role of biopsy-based transcript diagnostics". Naesens M, Roufosse C, Haas M, Lefaucheur C, Mannon RB, Adam BA, Aubert O, Böhmig GA, Callemeyn J, Clahsen-van Groningen M, Cornell LD, Demetris AJ, Drachenberg CB, Einecke G, Fogo AB, Gibson IW, Halloran P, Hidalgo LG, Horsfield C, Huang E, Kikić Ž, Kozakowski N, Nankivell B, Rabant M, Randhawa P, Riella LV, Sapir-Pichhadze R, Schinstock C, Solez

- K, Tambur AR, Thaunat O, Wiebe C, Zielinski D, Colvin R, Loupy A, Mengel M. Am J Transplant. 2024 Mar;24(3):338-349. doi: 10.1016/j.ajt.2023.10.016. Epub 2023 Oct 28.PMID: 38032300
- 3. Solez K, Eknoyan G. "<u>Transplant nephropathology: Wherefrom, wherein, and whereto</u>". Clin Transplant. 2024 Apr;38(4):e15309. doi: 10.1111/ctr.15309.PMID: 38619321
- 4. Farris AB, Alexander MP, Balis UGJ, Barisoni L, Boor P, Bülow RD, Cornell LD, Demetris AJ, Farkash E, Hermsen M, Hogan J, Kain R, Kers J, Kong J, Levenson RM, Loupy A, Naesens M, Sarder P, Tomaszewski JE, van der Laak J, van Midden D, Yagi Y, Solez K. "Banff Digital Pathology Working Group: Image Bank, Artificial Intelligence Algorithm, and Challenge Trial Developments" Transpl Int. 2023 Oct 16;36:11783. doi: 10.3389/ti.2023.11783. eCollection 2023.PMID: 37908675
- 5. Shoji J, Goggins WC, Wellen JR, Cunningham PN, Johnston O, Chang SS, Solez K, Santos V, Larson TJ, Takeuchi M, Wang X. "Efficacy and Safety of Bleselumab in Preventing the Recurrence of Primary Focal Segmental Glomerulosclerosis in Kidney Transplant Recipients: A Phase 2a, Randomized, Multicenter Study". Transplantation. 2024 Apr 1. doi: 10.1097/TP.00000000000004985. Online ahead of print. PMID: 38564451
- 6. Ghimire A, Brassington R, Solez K, Bello A. "<u>Chronic thrombotic microangiopathy presenting as acute nephrotic syndrome in a patient with renal cancer receiving tyrosine kinase inhibitor therapy</u>". BMJ Case Rep. 2024 Jan 5;17(1):e255841. doi: 10.1136/bcr-2023-255841.PMID: 38182165

#### Dr. Iveta Sosova:

- 1. Sosova, Iveta, Alyssa Archibald, Erik W. Rosolowsky, Sarah Rathwell, Susan Christian, and Elizabeth
- T. Rosolowsky. 2024. "Evaluation of the First Three Years of Treatment of Children with Congenital Hypothyroidism Identified through the Alberta Newborn Screening Program" International Journal of Neonatal Screening 10, no. 2: 35. https://doi.org/10.3390/ijns10020035
- 2. Almenabawy N, Hung C, Sosova I, Mercimek-Andrews S. "Importance of the biochemical investigations for the functional characterization of a NPC1 variant identified by exome sequencing". Am J Med Genet A. 2024 Mar 29:e63595. doi: 10.1002/ajmg.a.63595. print. PMID: 38549495
- 3. Nihal Almenabawy, Shalini Bahl, Alyssa-Lyn Ostlund, Shailly Ghai-Jain, Iveta Sosova, Alicia Chan, Saadet Mercimek-Andrews. "Clinical and biochemical phenotypes, genotypes, and long-term outcomes of individuals with galactosemia type I from a single metabolic genetics center in Alberta". Molecular Genetics and Metabolism Reports 38 (2024) 101055, ISSN 2214-4269, <a href="https://doi.org/10.1016/j.ymgmr.2024.101055">https://doi.org/10.1016/j.ymgmr.2024.101055</a>.

#### Dr. Albert Tsui:

- 1. Kavsak PA, Mills NL, Clark L, Ko DT, Sharif S, Chen-Tournoux A, Friedman SM, Belley-Cote EP, Worster A, Cox J, Thiruganasambandamoorthy V, Lou A, Taher J, Scheuermeyer F, McCudden C, Abramson BL, Eintracht S, Shea JL, Yip PM, Huang Y, Chen M, Tsui AKY, Thorlacius L, Aakre KM, Raizman JE, Fung AWS, Humphries KH, Arnoldo S, Bhayana V, Djiana R, Beriault DR, St-Cyr J, Booth RA, Blank DW, Sivilotti MLA, Jaffe AS. "Assay precision and risk of misclassification at rule-out cut-offs for high-sensitivity cardiac troponin". Can J Cardiol. 2024 May 13:S0828-282X(24)00361-1
- 2. Newbigging A, Landry N, Brun M, Proctor D, Parker M, Zimmer C, Thorlacius L, Raizman JE, Tsui AKY. "New solutions to old problems: A practical approach to identify samples with intravenous fluid contamination in clinical laboratories". Clin Biochem. 2024 May; 127: 100763
- 3. Hill J, Yang EH, Lefebvre D, Doran S, Van Diepen S, Raizman JE, Tsui AKY, Rowe BH. "The impact of an accelerated diagnostic protocol using conventional troponin I for patients with cardiac chest pain in the emergency department". CJC Open March 22 2024 (In Press)
- 4. Orton DJ, Gifford JL, Raizman JE, Pearson GJ, Tsui AKY. "Increased Lp(a) Workload Volumes Reflect Uptake of the 2021 Canadian Cardiovascular Society Guidelines for Management of Dyslipidemia". Can J Cardiol. 2024 Mar 1:S0828-282X(24)00184-3
- 5. Kavsak PA, Clark L, Arnoldo S, Lou A, Shea JL, Eintracht S, Lyon AW, Bhayana V, Thorlacius L, Raizman JE, Tsui A, Djiana R, Chen M, Huang Y, Haider A, Booth RA, McCudden C, Yip PM, Beriault D, Blank D, Fung AWS, Taher J, St-Cyr J, Sharif S, Belley-Cote E, Abramson BL, Friedman SM, Cox JL,

Sivilotti MLA, Chen-Tournoux A, McLaren J, Mak S, Thiruganasambandamoorthy V, Scheuermeyer F, Humphries KH, Worster A, Ko D, Aakre KM, Mills NL, Jaffe AS. "Imprecision of high-sensitivity cardiac troponin assays at the female 99th-percentile". Clin Biochem. 2024 Mar;125:110731



Department of Laboratory Medicine & Pathology
5-411 Edmonton Clinic Health Academy
11405 87 Avenue NW
Edmonton Alberta Canada T6G 1C9
www.uab.ca/LMP

The University of Alberta respectfully acknowledges that we are situated on Treaty 6 territory, traditional lands of First Nations and Métis people.

You are receiving this message as a member of the Department of Laboratory Medicine & Pathology.

Unsubscribe