Dear Colleagues, Learners & Friends!

Welcome to the October 2022 Chair’s Report. I hope you all had a good start into the new academic year and could enjoy the wonderful Fall in Edmonton and Alberta. All classes started back in person and we welcomed many new learners to our programs. Also, most conferences are back to in person and at least myself needed to get used to presenting again in front of colleagues in the room. As it appears from the Report, many of you had similar experiences with numerous presentations at national and international conferences. Fall also means that many of you are working on grants and new projects for research and education, are busy with teaching and supervising learners. Without your countless hours put towards our academic mission, this report would be empty – Thank you for all your contributions! In this context I would like to highlight Dr. Judy Hannon’s contributions. After many years at Canadian Blood Services, and as a Clinical Professor in the Department Dr. Hannon retired at the end of September 2022. Judy is a part of a long-standing tradition of excellence in transfusion medicine practice at the U of A hospital and has been a clinical educator and mentor to many learners and colleagues. I thank Judy and wish Dr. Hannon all the best in her next chapter of life. On the research side I would like to highlight Dr. Jason Acker for his recent appointment as Associate Vice President (Research Integrity Support), Office of the Vice-President (Research and Innovation). This appointment is a reflection of the major contributions Jason has made to research and innovation himself and we are lucky to have such an experienced colleague in this role.

In this Chair’s Report the Spotlight on Research is on Dr. Steven Drews, Associated Professor in our Department. Dr. Drews is a clinical microbiologist and the Associate Director, Canadian Blood Services in Donation Policy and Studies. At Canadian Blood Services Dr. Drews leads the national efforts for transmissible diseases testing, microbiology and infectious diseases surveillance in transfusion and transplantation. During the COVID-19 pandemic Steve led a successful CIHR proposal entitled Title: “Population-based seroprevalence of prior infection with COVID-19 in Canada: implications for testing, economic revitalization and population health.” This work contributed to the FDA issuing an Emergency Use Authorization for the use of COVID-19 convalescent plasma for treating hospitalized patients with COVID-19. Dr. Drew’s work is another example of how our research in Laboratory Medicine & Pathology can have direct impact on patient care.

With entering into the 4th quarter of 2022, start marking your calendars for our 2023 educational events:

The 2023 DRivE Days will be held April 21 & April 22, 2023 at Lister Hall.

The 2023 Banff Pathology Course will focus on Gynecological Pathology (https://banffpathologycourse.com/) and will be held Aug 30 - Sept 2, 2023.

Get your Flu shot and COVID booster to stay safe and protect others!

Michael

Dr. Michael Mengel, MD
Professor and Chair
Department of Laboratory Medicine & Pathology, University of Alberta
North Sector Medical Director, Alberta Precision Laboratories (APL)
I am a Clinical Microbiologist and the Associate Director, Canadian Blood Services in Donation Policy and Studies. I am also an Associate Professor, Division of Diagnostic and Applied Microbiology, Department of Laboratory Medicine and Pathology. At Canadian Blood Services I provide guidance on transmissible diseases testing, microbiology and infectious diseases surveillance issues. Currently, I am a co-chair for the International Society of Blood Transfusion: ISBT transfusion transmitted infectious diseases (TTID) working party and lead discussions on transfusion-transmittable disease risks among international peers and create products with an international focus. I am also a member of the Member COVID-19 Immunity Task Force Immune Science and Testing Working party. I have also acted as a paid consultant to Roche on emerging arboviruses and malaria and the impact of the pathogens on the blood supply.

Prior to joining Canadian Blood Services, I was a Clinical Virologist at the Provincial Laboratory for Public Health (ProvLab) Alberta, and the head of the province-wide influenza and acute respiratory viral diagnostics program. Prior to moving to Alberta, I held a position as Head of Molecular Diagnostics for the Public Health Ontario Laboratories. Prior to joining the University of Alberta, I have held faculty positions at both the University of Toronto and the University of Calgary.

As with the clinical and administrative activities described above, much of my research has been focused on enabling Canada and the international community to respond to infectious diseases agents that cause outbreaks, epidemics, and pandemics. This broad focus has allowed me to publish extensively and as of October 2022, I am an author on 158 peer reviewed publications, 7 papers related to clinical trials, 13 invited reviews and editorials, and 8 book chapters. In 2019, I was senior author for a “Clinical Microbiology Reviews” publication “Practical guidance for clinical microbiology laboratories: viruses causing acute respiratory tract infections.” Recently I worked as a sole author to publish Chapter 80, “A Practical Guide to the Taxonomy, Classification, and Characterization of Clinically Important Viruses” for the Manual of Clinical Microbiology, American Society for Microbiology Press Washington D.C. This chapter is in press and is within one of the leading clinical microbiology textbooks published.

When the pandemic arose in 2020, I was asked by Canadian Blood Services to investigate approaches to determine anti-SARS-CoV-2 neutralizing antibody in donor plasma. This work allowed me to identify and collaborate with multiple investigators across North America and led to several early publications focused on SARS-CoV-2 immunity. I built collaborations with Dr. Anne-Claude Gingras (Lunenfeld-Tanenbaum Research Institute at Mt. Sinai Hospital, Sinai Health, Toronto, Ontario, Canada), Dr. Sheila O’Brien (Epidemiology and Surveillance, Canadian Blood Services, Ottawa, Ontario, Canada) and Dr. David Evans (Department of Medical Microbiology & Immunology, University of Alberta, Edmonton, Alberta, Canada). In 2020, I led a successful Canadian Institutes of Health Research proposal entitled Title: “Population-based seroprevalence of prior infection with COVID-19 in Canada: implications for testing, economic revitalization and population health.” We also received in-kind funding from Abbott. Recently some of this work was highlighted by the COVID-19 Immunity Task Force posting “The promise held by quantitative immunoassays to identify antibody-rich donor plasma” (https://www.covid19immunitytaskforce.ca/the-promise-held-by-quantitative-immunoassays-to-identify-antibody-rich-donor-plasma/).

This most recent work is important because in August 2020, the United States Food and Drug Administration (FDA) issued an Emergency Use Authorization (EUA) for the use of COVID-19 convalescent plasma (CCP) to
Spotlight on Research (cont’d)

treat hospitalized patients with COVID-19 in August 2020. With emerging data from clinical trials, the FDA later revised the convalescent plasma EUA in 2021. The focus was then on using CCP to for restricted patient groups including hospitalized patients with impaired humoral immunity. Identifying high-titer CCP for clinical trials was challenging as early on in the pandemic we utilized 50% plaque reduction/neutralization titer (PRNT50) assays to qualify CCP in Canada. However, in our recent study, we characterized the ability of the Abbott SARS-CoV-2 IgG II Quant assay (Abbott, Chicago IL) to identify high- and low-titer plasma for wild-type and variant SARS-CoV-2.


Although my career journey has had some very different arcs, which I often thought were quite discordant, I now realize that the administrative, clinical and research components of what I ‘do” have solidified around a theme where I have focused on enabling Canada and the international community to respond to infectious diseases agents that cause outbreaks, epidemics, and pandemics.
New Appointments

The Department welcomes:

- **Dr. Dustin Proctor** – Clinical Lecturer – Clinical Biochemist, Grande Prairie and Calgary
- **Ms. Debra Eleniak** – Clinical Lecturer – Forensic Pathology Technician, Office of the Chief Medical Examiner of Alberta, Edmonton
- **Mr. Kevin Denniss** – Clinical Lecturer – Forensic Pathology Technician, Office of the Chief Medical Examiner of Alberta, Edmonton
- **Ms. Caroline Livesey** – Clinical Lecturer – Forensic Pathology Technician, Office of the Chief Medical Examiner of Alberta, Edmonton
- **Mr. Mathieu Petit** – Clinical Lecturer – Forensic Pathology Technician, Office of the Chief Medical Examiner of Alberta, Edmonton
- **Ms. Melissa Barber** – Clinical Lecturer – Forensic Pathology Technician, Office of the Chief Medical Examiner of Alberta, Edmonton
- **Dr. David Beyer** – Clinical Lecturer – Lab & Path Informatics Fellow, UAH
- **Dr. Robby Wang** – Assistant Clinical Professor – General Pathologist, Red Deer Hospital
- **Dr. Peter Dromparis** – Clinical Lecturer – Pathologist, RAH
- **Dr. Ruwandi Kariyawasam** – Assistant Professor, Special Continuing – Clinical Microbiologist, UAH
- **Dr. Imran Chaudhry** – Assistant Clinical Professor – Consultant Pathologist/Hematopathologist, DynaLife

Dr. Jason Acker

New Appointments:

- Associate Vice President (Research Integrity Support), Office of the Vice President Research and Innovation
- Board of Directors, Institute for Health Economics
- Member, Li Ka Shing Institute of Applied Virology Oversight Committee
- Associate Editor, Frontiers in Physiology, Red Blood Cell Physiology
- Board of Directors, Canadian Glycomics Network (GlycoNet)
- Executive Committee, Alberta SPOR Support Unit (AbSPORU)
- Board of Directors, Genome Alberta
- Board of Directors, The Metabolomics Innovation Centre
- VPRI Representative, UA Biosafety Committee
- Chair, Clinical Trials Advisory Committee
- Chair, Research Ethics Board Oversight Committee (REBOC)
- VPRI representative, Risk Assessment Subcommittee on Safeguarding Research Working Group (SRWG)
- Chair, Safeguarding Research Working Group

Dr. Jelena Holovati

New Appointments:

- Health Education Accreditation Surveyor, Equal Accreditation Canada
- General Faculties Council, Faculty of Medicine representative
- General Faculties Council Executive Committee member

Grants

Dr. Roger Leng

1. Title: “The role of Pirh2 in medulloblastoma and potential therapeutic application” Funding agency: the Kids with Cancer Society in July, one year (2022-2023), $60,000.00
PGME Awards

The recipients of the Dr. T A Kasper Resident Excellence Scholarship are:

- Dr. Heather Glassman
- Dr. Devin Godfrey
- Dr. Sophia Peng
- Dr. Eric Chen

The recipients of the Dr. Theodor K Shnitka Memorial Award are:

- Dr. Conrad Moher
- Dr. Heather Glassman

Awards

Congratulations to Dr. Janet A. W. Elliott for being selected as a Fellow of the Royal Society of Canada, the country's most prestigious scholarly institute.


Congratulations to Dr. Kathleen Wong for receiving the following University of Alberta’s Medical Students Association (MSA) Teaching Awards:

- 2021 Most Outstanding Block Coordinator as voted by the Class of 2023
- 2022 Most Outstanding Block Coordinator as voted by the Class of 2024

Graduate

Dr. David Beyer is the first individual to successfully complete the APL Clinical Informatics Fellowship program as of July 2022. During his training period, Dr. Beyer has been involved in many of the APL informatics activities within Connect Care, patient portals, EMR validation, data analytics and digital pathology. He has presented the projects he has been involved in at both CAP-ACP and the Pathology Informatics Summit in the United States. He was also a successful candidate in receiving a travel award to attend the Pathology Informatics Summit. Fortunately, APL has been able to recruit Dr. Beyer into a new provincial role as a 0.5 FTE clinical informatician.
Graduate Studies

New Students
We are pleased to welcome **7 new students** this September (four MSc students, two PhD students, and one course-based Pathologists’ Assistant Master’s student).

Milestones
We are proud to announce that the following students have completed their programs:

- **Wei Feng** (supervisor: Chris Le) completed her PhD program. Her thesis is titled: *Understanding the trans-cleavage Activity of CRISPR-Cas Systems for RNA Detection Applications*.

- **Delaram Dara** (supervisors: Andrei Drabovich, Chris Le) completed her PhD program. Delaram’s thesis is titled: *Development of Immuno-affinity Mass Spectrometry Assays for the Detection and Quantification of Viral Antigens and Antibodies*.

- **Xiaoyu (Jason) Jiang and Min Hsuan (Michelle) Wu** have completed the Pathologists’ Assistant (PA) MSc program.

Congratulations to **Wenhui Li** (supervisor Jason Acker) on her successful doctoral Candidacy exam.

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

- **Alexa Thompson** – Vanier Canada Graduate Scholarship (CGS) and President’s Doctoral Prize of Distinction
- **Jingyang (Peter) Xu** – President’s Doctoral Prize of Distinction
- **Nicholas Wawryk** – President’s Doctoral Prize of Distinction
- **Kristin Carroll** – Alberta Innovates Graduate Student Scholarship
- **Serena Li** – J. Gordin Kaplan Graduate Student Award

**Teresa Kumblahan** of our Analytical and Environmental Toxicology Division presented “Bridging the Gap: The TRC and Healthcare Professionals” at the Education on Truth and Reconciliation webinars hosted by the College of Medical Laboratory Technologists of Alberta (CMLTA) in recognition of the National Day for Truth and Reconciliation. The article expanding on the presentation can also be found on the Canadian Society for Medical Laboratory Science (CSMLS) website under the Resource of Indigenous Health tab.

Congratulations to All!
After many years at Canadian Blood Services, and as a Clinical Professor in the Department of Laboratory Medicine and Pathology, Dr. Judy Hannon retired at the end of September 2022. Given her years of service as a transfusion medicine physician and educator in Alberta, many at the U of A have had a chance to work with her and learn from her; She is a part of a long tradition of excellence in transfusion medicine practice at the U of A and has been a mentor to many.

She has deep expertise in perinatal testing and has been at the forefront of many leading innovations in perinatal testing. Her many other academic interests, accomplishments and presentations over the years are too numerous to mention.

Judy, we will miss your acerbic wit, your reading recommendations and seeing your great shoes!

**Congratulations on your retirement!**
Presentations

Dr. Jason Acker

Presentations:

Other:
1. Contributor US FDA "Considerations for the Development of Chimeric Antigen Receptor T Cell Products; Draft Guidance for Industry" (FDA-2021-D-0404); Comments from the Society for Cryobiology / ISBER; June 17, 2021

Abstracts:
2. Mykhailova, O., Olafson, C., Xu, A. and Acker, J.P. "Age-profiling of red cell concentrates from female and male donors during 42-day hypothermic storage period". ISBT 2022 Conference; Virtual (Jun 4-8, 2022). poster
6. Yazdanbakhsh, M., Osmani, R., Olafson, C., Xu, A., Kanias, T., Mykhailova, O. and Acker, J.P. "Assessment of hemoglobin-oxygen affinity of RBCs of different senescence levels during hypothermic storage in old senior and teenage donors". CSTM Annual Meeting; Toronto, ON (May 26-29, 2022). Submitted March 20, 2022. oral (This abstract was selected as one of the Top 4 Abstracts presented at the 2022 CSTM Meeting, Toronto, ON.)

Dr. Acker (cont’d)
11. Li, W., Mykhailova, O., and Acker, J.P. "CEC enrichment is dependent on blood donor- specific density profile: Correlation with mononuclear cell population". CSTM Annual Meeting; Toronto, ON (May 26-29, 2022). Poster

Dr. Ben Adam

Invited presentations:
1. Pulmonary Pathology Society Biennial Meeting, Cork, Ireland, June 25, 2022: "Molecular diagnostics in heart and lung transplantation"
Dr. Ben Adam (cont’d):

Dr. Matthew Croxen
Poster Presentations:
4. Williams AN, Croxen MA, Demczuk WHB, Martin I, Tyrrell GJ. "Analysis of emerging Group B Streptococcus serotype VIII in Alberta, Canada”. 21st Lancefield International Symposium on Streptococci and Streptococcal Disease, June 7-10 2022, Stockholm, Sweden

Dr. Sumit Das:
1. S. Nazarali, S. Das, A. Chan. “A Rare Case of an Intraocular Meningioma and 37 Years of Follow-Up.” Canadian Ophthalmological Society Annual Meeting. Halifax 2022

Dr. Andrei Drabovich:
1. Invited Speaker. Talk: "Rational design and development of serological diagnostics by immunoprecipitation-targeted proteomics”. 64th International Conference on Analytical Sciences and Spectroscopy (ICASS2022), August 9, 2022, Kingston, ON, Canada (in-person meeting)

Dr. Steven Drews:
Presentations:

Dr. Steven Drews (cont’d):
2. “Malaria and blood transfusion” with Dr. Mindy Goldman, Canadian Blood Services Executive Management Team. Virtual. June 2, 2022
5. “Emerging Pathogens Report (Q1 FY22-23)” Canadian Blood Services Executive Management Team, Online, August, 23, 2022
6. “COVID-19 and immunity: Where are we?” University of British Columbia Centre for Blood Research. Online May 18, 2022
7. “Malaria and blood transfusion.” Canadian Blood Services Staff Calgary. Calgary, AB, July 12, 2022
9. “Malaria and blood transfusion.” Canadian Blood Services Staff Brampton, Brampton ON, July 26, 2022

Dr. Janet Elliott:
Oral presentations (In person and virtual meeting CYRO2022, July 19-22, 2022, Dublin, Ireland)

Dr. Jelena Holovati:
2. “Volume Reduction Processes in stem cell biomanufacturing” Cell Therapy Transplant Canada Laboratory Committee Webinar Sept 2022

Dr. Michael Mengel
Invited Lectures:
Presentations continued

Dr. Michael Mengel (cont’d):

2. 16th Banff Conference on Allograft Pathology (September 19 – 23.) 2022. Banff, Canada: "Developing a validation plan for molecular diagnostics in transplant pathology"

3. 16th Banff Conference on Allograft Pathology (September 19 – 23.) 2022. Banff, Canada: "Invasive Monitoring: Comparison of the Different mRNA Expression Profiles"

Dr. Kim Solez:


Recent Publications

Dr. Jason Acker:

(* trainees)


Dr. Matthew Croxen:

Recent Publications continued...

Dr. Matthew Croxen (cont’d):

Dr. Andrei Drabovich:
1. Fu, Z.; Rais, Y.; Dara, D.; Jackson, D; Drabovich, A.P. “Rational Design and Development of SARS-CoV-2 Serological Diagnostics by Immunoprecipitation-Targeted Proteomics”. Analytical Chemistry 2022, Epub September 12; doi: https://doi.org/10.1021/acs.analchem.2c03125

Dr. Steven Drews
Peer-reviewed papers:


Dr. Steven Drews (cont’d):


Dr. Janet Elliott
Peer-reviewed journal papers:

2. Mary Crisol, Kar Wey Yong, Kezhou Wu, Leila Laouar, Janet A.W. Elliott, and Nadir M. Jomha “Effectiveness of clinical-grade chondroitin sulfate and ascorbic acid in mitigating cryoprotectant toxicity in porcine articular cartilage”, Biopreservation and Biobanking, 20(4), 401-408 (2022)

Dr. Victoria Higgins
Peer-reviewed papers:


Dr. Roger Leng:
Recent Publications continued...

Dr. Cheryl Mather:

Dr. Michael Mengel
Peer-reviewed Publications:

Dr. William Stokes
Peer-reviewed Journal Articles:

Dr. Elona Turley:
Save the Dates

DRIvE
Discovery, Research, InnoVation and Education
DRIvE 2023 will be held on Friday, April 21 and Saturday, April 22, 2023

The Banff Pathology Course
Aug 30 - Sept 2, 2023
Gynecological Pathology