Dear Friends & Colleagues!

I hope you all made it through one of the longest cold snap periods in history. It ends right on time for allowing us to break ground for the Edmonton Lab Hub. Now that the Schematic Design is completed, excavation and foundation work can start as soon as the weather permits. The strategic plan and business plan for the integrated translational research space is finalized and will now enter its implementation phase with the first step being the recruitment of a Director for Operations. The development of a large-scale CFI grant application has been approved by the faculty and the central Vice President Research office. Together these will position the Hub Lab as a state-of-the-art, fully integrated, transformative research, innovation, and clinical care facility.

After the recent transition to Alberta Public Laboratories (APL) the new organizational structure becomes operational step by step with the dyad leadership positions medically and operationally now being filled and the new reporting and governance structure becoming effective.

The Implementation Phase of EPIC as the new provincial electronic health record ‘Connect Care’ is now underway. Individuals undergoing advanced training have been identified and will soon enter the training courses with the aim of supporting the general training of all staff in late summer and early fall, i.e. right before Wave 1 goes live in the Edmonton Zone.

I sincerely thank you and appreciate your ongoing commitment, time, energy, and tremendous effort to move these large scale transformative projects forward successfully!

Please join me in congratulating Dr. Jason Acker for his exceptional achievement in receiving an Annual Killam Professorship. Only eight of these prestigious awards are given across the whole university. The Killam Annual Professorships were established in 1991 and are granted to faculty members based on the exceptional quality of their scholarly activities such as teaching, research, publications, creative activities, presented papers, and supervision of graduate students (see page 6). In addition, Jason together with his long-term collaborator Dr. Janet Elliott, were named Fellows of the International Society for Cryobiology and will be receiving the prestigious Basile J. Luyet medal at the 2019 Annual Meeting of the Society in San Diego. This is the highest honour given by the Society and is awarded to individuals who have made outstanding contributions to the field. Way to go Jason and Janet!
Letter from the Chair (cont’d)

Please review our Spotlight on Education. In this issue we feature the up-coming transition to Competency by Design (CBD) postgraduate medical training. This represents a major shift in how we will train and evaluate the progress of our residents. All our residency programs will transition to CBD over the next three years and it will affect all our preceptors across the department. Our Programs Directors and CBD Leads have provided an overview of the changes and will serve as the resource for guiding our department through this transition. Please take some time to check out the additional resources provided in their article!

I hope to see you all at our 2019 DRIvE Days (April 12.-13.2019) and please mark your calendars for the 2019 Banff Pathology Course, the latter again planned and organized together with our colleagues from the University of Calgary and in partnership with the Canadian Association of Pathologists. It will be held on September 05. - 07. 2019 – topic will be Breast Pathology!

Sincerely,

Dr. Michael Mengel, MD
Professor and Chair
Department of Laboratory Medicine & Pathology, University of Alberta
North Sector Medical Director, Alberta Public Laboratories

Smile, Spring is coming soon.
Spotlight on Education

Update on Competency by Design

Residency Program Directors:
Drs. Will Chen, Kerri Chung, Andrea Macyk-Davey & Kathleen Wong

Competency by Design (CBD) is the Royal College implementation of competency-based medical education (CBME). CBD will be officially starting in July 2019 for the Anatomical (AP) and General Pathology (GP) residency training programs, with Hematopathology (HP) anticipated to follow in 2020/2021 and Medical Microbiology (MM) in 2021. Residents already in our training programs will continue with the current system, while all new residents starting after their program’s launch date will be trained with the CBD model. These are exciting times!

As everyone is aware, current residency training in Canada is a time-based system, organized around the assumption that time spent doing something is a valid surrogate for competence. Although this system has trained many competent laboratory professionals, it has limitations including infrequent, delayed feedback, and difficulty in addressing residents’ individual difficulties as they arise.

CBME is founded on the premise that medical training should be based on demonstration and documentation of achieving competence. Rather than organizing training by the post-graduate year (PGY), CBD is divided into “stages” (Figure 1): Transition to discipline (TTD), Foundations of discipline (FD), Core of discipline (CD) and Transition to practice (TTP). The table below compares the current organization by PG-year with its approximate equivalent in CBD, along with the approximate expected length of each stage (which will differ between our various programs). Under the CBD system it is theoretically possible to complete AP or GP training in a shortened time frame, but the vast majority of trainees will still take 5 years to complete their training.

<table>
<thead>
<tr>
<th>Current Format - PG-year</th>
<th>CBD - Stages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior Resident/PGY1</td>
<td>Transition to Discipline (TTD) (1-3 months) and some Foundations (FD)</td>
</tr>
<tr>
<td>Junior Resident/ PGY2</td>
<td>Foundations of Discipline (FD) (6-12 months)</td>
</tr>
<tr>
<td>Senior Resident PGY3-4, Subspecialty Rotations</td>
<td>Core (C) (36-42 months)</td>
</tr>
<tr>
<td>Chief Resident (roughly PGY5)</td>
<td>Transition to Practice (TTP) (6-12 months)</td>
</tr>
</tbody>
</table>
The certification exam is expected to take place earlier in training, ideally after completing Core and prior to beginning TTP. The content/logistics of the new exam has yet to be determined by the Royal College exam committee.

An overview of how residents are evaluated in both systems is shown below.

<table>
<thead>
<tr>
<th>Current Format</th>
<th>CBD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotations</td>
<td>Rotations or Modules</td>
</tr>
<tr>
<td>Rotation Objectives</td>
<td>EPAs/Milestones</td>
</tr>
<tr>
<td>FITER</td>
<td>Portfolio</td>
</tr>
<tr>
<td>One ‘BIG’ Exam at the end of Residency</td>
<td>Performance Exam at the end of Core</td>
</tr>
<tr>
<td></td>
<td>Oral Exam or other CheckPoint at the end of Transition to Practice</td>
</tr>
</tbody>
</table>

Each stage in the CBD program is composed of a number of entrustable professional activities (EPAs), each of which is in turn composed of several milestones (Figure 2). An EPA is defined as a key task of a discipline (i.e. specialty or subspecialty) that an individual can be trusted to perform in a given health care context, once sufficient competence has been demonstrated (1). A milestone is an observable marker of an individual’s ability and is mapped to one or more CanMEDS roles. An analogy from daily life may help illustrate this concept: to be a competent driver, one has to achieve the EPA of parallel parking, which is composed of many milestones, including proper checking of blind spots, appropriate signaling, appropriate turning of the steering wheel, etc.

### How you will/can be involved

**a) Evaluations**

Once CBD launches in AP and GP in July 2019, all preceptors will be involved in filling out frequent and regular (ideally daily) evaluation forms via an app developed by PGME called CBME.med. For programs which have not yet launched (eg. HP and MM), teaching faculty will still complete CBD evaluations for residents whose home programs have transitioned (eg. GP). Extensive training for the app will be given by PGME and the residency programs. A preview of what the app looks like can be found at [https://bit.ly/2RINcRz](https://bit.ly/2RINcRz).

Most importantly, the most visible impact of CBD on preceptors will be residents requesting frequent evaluations using the app, ideally on a daily basis. The evaluations will be limited to a single “encounter” or component of a case; they will not be a summative evaluation over a period of time, as is currently done with end-of-rotation ITERs which compile feedback from the entire rotation. The evaluation will consist of a numerical score using a 5-point system, as well as any pertinent narrative feedback. Stay tuned for much more information and training on the evaluations and how they work in the coming months!

The benefit of CBD is that a resident will have many of these single evaluations, which will be compiled to assess and inform performance and achievement of EPAs over time. The Competence Committee is tasked with reviewing the compiled data and making decisions regarding promotion, rather than the front-line teaching faculty.
b) Competence Committee (CC)
http://www.royalcollege.ca/rcsite/cbd/assessment/competence-committees-e

The CC reviews residents on a quarterly basis and makes recommendations to the residency program committee (RPC) as to whether a resident is progressing as expected and should be promoted to the next stage of training. Each resident will be assigned to a CC faculty member, who is tasked with reviewing the resident’s file in the CBD dashboard. Separate CCs will be established for each residency program, although an individual faculty member can participate in more than one CC.

We are actively recruiting CC members and will need at least 3-4 per program by July 2019. The Royal College provides more details on how the CC functions at the following site: http://www.royalcollege.ca/rcsite/cbd/assessment/competence-committees-e

Do not hesitate to approach the program director for the CC in which you are interested for more details!

Next steps

In the coming months prior to July 2019 CBD kickoff, we will be approaching rotation coordinators and training sites to plan our CBD curriculum. Also expect many more sessions on the nitty-gritty of CBD, and particularly training on using the evaluation app. Those interested in serving as CC members will receive additional training on using dashboard and how to do integrative reviews of residents using the cumulative data.

Resources:
1. Video Understanding EPAs: https://www.youtube.com/watch?v=sJWIzIzg1bM
4. U of A CBD website: https://sites.google.com/ualberta.ca/pgme

Figures:

Figure 1

Figure 2
Awards & Honours

Dr. Jason Acker was presented with the “Killam Annual Professorship” on Nov 20.

Dr. Janet A. W. Elliott was:
– Renewed as “Tier 1 Canada Research Chair in Thermodynamics” (April 2018)
– Appointed as “Fellow of the Society of Cryobiology” (December 2018)

Dr. Jason Acker and Dr. Janet Elliott have been named “Fellows of the International Society for Cryobiology” and will receive the prestigious Basile J. Luyet medal at the 2019 annual meeting of the Society in San Diego. This is the highest honour given by the Society and is awarded to members of the Society and individuals from the cryobiology community who have made an outstanding contribution to the field. This honour has only been awarded 25 times in the Society’s 56-year history. Drs. Acker and Elliott will join only two other Canadians who have been named Fellows of the Society for Cryobiology.

Grants

Dr. Tanis Dingle received a University Hospital Foundation Grant entitled “Mycobiome Characterization in Cystic Fibrosis Patients”, $34,290, Jan 1, 2019-Dec 31, 2019

New Appointments

Dr. Michael Mengel was appointed as “Abstract Review Section Chair” at the 2019 American Society of Transplantation Annual Meeting: Acute Cellular Rejection.

The Department welcomes:
– Dr. Tambirajah Balachandra - Associate Clinical Professor, Office of the Chief Medical Examiner, Edmonton
– Dr. Eric Bol - Clinical Lecturer / Forensic Pathologist, Office of Chief Medical Examiner, Calgary
– Dr. Erin Chapman - Clinical Lecturer / Anatomical Pathologist, UAH
– Dr. Srinivasa Chekuri - Clinical Lecturer / Anatomical Pathologist, RAH
– Dr. Akmal Coetzee-Khan - Assistant Clinical Professor / Forensic Pathologist, Office of Chief Medical Examiner, Calgary
– Dr. Andy De Souza - Assistant Clinical Professor / Laboratory Scientist, Newborn Metabolic Screening, UAH
– Dr. Tara Dixon - Clinical Lecturer / Forensic Pathologist, Office of Chief Medical Examiner, Calgary
– Dr. Andrei Drabovich - Assistant Professor
– Dr. Soufiane El Hallani - Assistant Professor / Staff Pathologist, RAH
– Mr. Michael Gerling - Clinical Lecturer / Education Coordinator, Pathologists’ Assistant Program
– Ms. Brittney Loney - Clinical Lecturer / Departmental Autopsy Pathology Lead, UAH
– Dr. Xuemei Wu - Assistant Clinical Professor / Staff Pathologist, RAH
– Dr. Ying Zhang - Clinical Lecturer / Pathologists’ Assistant, GNH

Promotions

Please join us in congratulating Dr. Hongquan Zhan on his promotion to Associate Professor, effective July 1, 2019.

Dr. Carolyn O’Hara was recently promoted to Clinical Professor (Secondary) in the Department of Oncology.
Medical Microbiology Residency Program

Medical Microbiology Residents Thank Staff at DynaLife Lab ...

Medical Microbiology residents spend a portion of their residency training at DynaLife’s Microbiology Lab, located in downtown Edmonton. DynaLife employs more than 700 lab professionals and in an average week processes 25,000 samples from across Northern and Central Alberta. The microbiology lab processes approximately 900,000 samples each year. On Friday January 25, the Med Micro residents held an appreciation event at DynaLife, to thank all DynaLife staff for their dedication and commitment to the University of Alberta Medical Microbiology Residency Program.

Have you heard of ROCA?

ROCA refers to the Regional On Call Application System. ROCA takes out the middle person (switchboard) and allows doctors and staff to communicate in a more direct manner. ROCA was implemented at Prov Lab in the South Zone fifteen years ago and is also used in the Central Zone. North Zone implementation started with the Royal Alexandra Hospital in 2016 and in the coming months ROCA will be rolled out in Microbiology/Provincial Lab at the University of Alberta Hospital. The Medical Microbiology Residents and the Clinical Microbiology Fellow participate in On Call duties throughout their training. They received their ROCA orientation in January and are ready to go with the new system.

Where can you find out more about ROCA?

Visit Insite at https://insite.albertahealthservices.ca/tools/Page6492.aspx

Continued …
LETAL VIRUS LOCKDOWN

On Tuesday January 8, The Medical Microbiology Residents and the Clinical Microbiology Fellow went face to face with an evil scientist attempting to control the human race. The mad scientist was about to release a highly contagious virus to destroy the world. Being experts in the treatment and eradication of infectious diseases, the UofA Micro team battled the mad scientist and were able to eliminate the lethal virus and save the world! Their advice to anyone faced with the same challenge – be sure to take time to have some fun! Post-graduate wellness is an important component of the residency and fellowship programs.

_Microbiologists Save the World!_
Graduate Studies

Milestones

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

Doctoral:

Yung-Hsing Huang (Raymond Lai, supervisor). His thesis is titled “Unmasking the in vivo importance of STAT3 in multiple myeloma using three-dimensional culture and nanoparticle drug delivery system.”

Anthony Reardon (Jonathan Martin, supervisor). His thesis is titled “Developmental Toxicity from Perfluoroalkyl Acid and Mercury Co-exposure in Experimental and Epidemiological Models.”

Michael Zielinski (Janet Elliott, Locksley McGann, John Nychka, supervisors). His thesis is titled “Non-Ideal Thermodynamic Models of Cryobiological Solutions in the Intracellular Space.”

Yiren Cao passed his doctoral candidacy examination.
**Graduate Studies (Cont’d)**

**Master’s Students, Pathologists’ Assistant Program:**

**Ian Gault** (Jonathan Martin, Xing-Fang Li, supervisors). His thesis is titled “Oil Sands Process-Affected Water Toxicity Attribution and Evaluating Ageing as a Remediation Strategy.”

**Betty Kipkeu** (Jelena Holovati, Jason Acker, supervisors). Her thesis is titled “New Approaches to Evaluate the Immune and Endothelial Modulation Potential of Stored Red Blood Cell Concentrates”.

**Ian Vander Meulen** (Xing-Fang Li, supervisor). His thesis is titled “Assessing The N-Nitrosamine Formation Potential Of Selected Ionic Liquids, 1-Ethyl-3-Methylimidazolium Bromide And 1-Ethyl-1-Methylpyrrolidinium Bromide, Treated With The Drinking Water Disinfectant Monochloramine.”

**Awards**

- Sara Fontes, Moinul Haque, Nicholas Wawryk and Jing Yang Xu were each awarded a “Queen Elizabeth II Graduate Scholarship – Master’s”.
- Angela Ma and Evelyn Asiedu were each awarded a “Queen Elizabeth II Graduate Scholarship – Doctoral”.
- Ashley Newbigging received the “John & Rose McAllister Graduate Scholarship”.
- Bhumi Bhatt received a “75th Anniversary Graduate Student Award”.
- Gurnit Kaur was awarded a “Medical Sciences Graduate Program Scholarship”.
- Nicholas Wawryk and Nishaka William were each awarded a “Faculty of Medicine & Dentistry / Alberta Health Services Graduate Student Recruitment Studentship”.
- Jing Yang Xu received a “Faculty of Medicine Dean’s Doctoral Student Award”.

**New Student**

We welcomed Chuquan Shang (supervisor, Raymond Lai) to our doctoral program in January.
Presentations

Dr. Jason Acker:

Dr. Ben Adam:
   - “Acute and Chronic Alloimmune Injury: Clinicopathology”. Presentation.
2. 2018 Canadian Transplant Summit, Ottawa ON, October 16-20, 2018.

Dr. Hakan Aydin:
28th National Pathology Congress, October 27-31, Ankara, Turkey.
2. “Case presentations of rare tumors in kidney: renal synovial sarcoma and renal neuroendocrine tumour”.

Dr. Matthew Croxen:
Abstract
Jia, B., Fornika, D., Croxen, M., Hsiao, W. and Hoang.
1. “Tracking the spread of carbapenemase producing organisms using genomic information: From raw reads to phylogenetic trees”. BC CDC Research Week Vancouver, British Columbia. October 29 – Nov 1, 2018

Dr. Sumit Das:
Conference Presentations and Posters

Mr. Trefor Higgins:
Presentations
2. “Reference intervals: Should we pay more attention to how they are calculated?” Synevo Clinical Trials Symposium, Bucharest, November 9 2018

Dr. Jelena Holovati:
Abstracts and Presentations:
1. “Effective Communication for Leaders: Lessons from an ESL Prof” Invited presentation, Canadian Centre for Women in Science, Engineering, Trades and Technology Conference (Edmonton, November 2018)

Dr. Chris Le:
Presentations (cont’d)

Dr. Chris Le (cont’d):

Dr. Nausherwan Mahmood:

Dr. Michael Mengel:
Keynote lectures:

Recent Publications

Dr. Jason Acker:
Publications

Published Abstracts

Dr. Ben Adam:
Peer-reviewed papers

Dr. Sumit Das:
Peer-reviewed publications

Dr. Tanis Dingle:
Papers
Recent Publications Cont'd ...

Dr. Tanis Dingle (cont’d):

Drs. Janet Elliott & Locksley McGann:

Dr. Jelena Holovati:
Publications:

Dr. Chris Le:
4. Reid, M.S.; Paliwoda, R.E.; Zhang, H.; Le, X.C. “Reduction of background generated from template-template hybridizations in the exponential amplification reaction”. Analytical Chemistry, 2018, 90, 11033–11039. DOI:

Recent Publications cont’d ... 

Dr. Chris Le (cont’d):

Dr. Michael Mengel:
Peer-reviewed publications

Dr. Consolato Sergi:

Dr. Elona Turley:

Always be kind ...
If you see someone falling behind,
Walk beside them.

If someone is being ignored,
Find a way to include them.

If someone has been knocked down,
Lift them up.
Always remind people
Of their worth.
Be who you needed
When you were going through hard times.
Always remember ...
Just one small act of kindness could mean the world to someone!
The Banff Pathology Course is a collaborative effort of the Canadian Association of Pathologists (CAP-ACP), Department of Laboratory Medicine and Pathology, University of Alberta and the Department of Pathology and Laboratory Medicine, University of Calgary to provide a continuing medical education activity for practicing pathologists, residents and pathologists’ assistants.

Banff Centre for Arts and Creativity
107 Tunnel Mountain Dr,
Banff, AB T1L 1H5

Banff Centre for Arts and Creativity, formerly known as The Banff Centre, located in Banff, Alberta, was established in 1953 as the Banff School of Drama.

COURSE DATES

Register

Next course:
Sept 5-7, 2019 - Breast

Future Courses:
Sept. 3-5, 2020
Sept. 9-11, 2021
Sept. 8-10, 2022