

**SPECIAL
POINTS OF
INTEREST:**

- The 2013 annual conference, in review
- Let's move the strategic plan into action!
- The first laboratory profile is included
- CACMID has a new logo

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A Note from the President

Dear CACMID members,

For all of you who were there to experience it and for those of you who were unable to attend this year, I'm happy to say that the 2013 annual conference was a fabulous success. We had great plenaries (Hepatitis C Update, Vaccine Preventable Diseases, What's Hot in Pediatric, Adult Infectious Diseases and in Diagnostic Microbiology), state of the art clinical lectures (Case Study Approach for the Application of Next Generation Genomic Platforms and HIV Pre-Exposure Prophylaxis Debate), as well as the exciting and engaging Innovation Academy and Clinical Vignettes. The great work of Drs. Jeff Fuller and Isabelle Chiu (co-chairs) and

all the members of the Scientific Planning Committee led to these wonderful sessions and I'd like to take this opportunity to thank them for the successful meeting. We also enjoyed 156 abstracts (65 presented in the oral sessions and 91 presented as posters). Thank you to Dr. Tim Karnauchow (chair) and the entire Abstract Review Committee for putting together a great program.

After all the learning was complete, the 2013 meeting culminated with an incredible performance by Painchaud Productions during the closing dinner at the National Assembly of Québec. We were entertained and amazed by the family's musical ability and theatrics:

"Top Gun" guitar playing 6' up in the air, tap dancing on his hands, simultaneously fiddling & playing the keyboard, and the list could go on and on!



Painchaud Productions at the Closing Dinner

I had a fabulous time at the conference. I hope you did too!

Sincerely,
Heather Adam

Strategic Planning

The strategic plan, including the new mission statement and slogan, was unanimously approved by the voting members at the Annual General Meeting. Now, the real work begins of turning the plan into action!

If you are interested in chairing or working with a team in any of the strategic initiatives or would like a copy of the strategic plan, please contact Drs. Heather Adam or Matthew Gilmour. The 5 initiatives are:

1. Education
2. Clinical Community
3. Scholarship and Research
4. Expert Consultancy
5. Laboratory Guidelines & Working Groups

2013 Awardees

**Congratulations to
all the 2013 Award
Recipients!**

The 2013 John G. Fitzgerald – CACMID Outstanding Microbiologist Award recipient was Dr. Don Low. Dr. Low is a world-renowned medical microbiologist. He is recognized by the scientific community and the general public as an expert microbiologist. Dr. Low was presented with this award in recognition of his outstanding accomplishments as a medical microbiologist leading both diagnostic and public health microbiology laboratories, his exceptional research career and his devotion as an educator and mentor. Dr. Tony Mazzulli graciously accept- ed the award on behalf of Dr. Low.

There were so many wonderful posters this year that the judges had an incredibly difficult task of selecting winners. This year's CACMID poster awardees were:

Tracie EisBrenner (SP38: The Mars Pilot Project: Using Laboratory Data to Estimate the Performance of National Measles and Rubella Surveillance).

Manal Tadros (SP24: Recurrent Genital Chlamydial Infections: A Novel Method for Typing and Molecular Detection of Azithromycin Resistance).

Additionally, a joint CACMID - AMMI poster award was created and awarded to Guillaume Polquin (SP16: Isolation of Vancomycin Heteroresistant *Staphylococcus capitis* in a Canadian Neonatal Intensive Care Unit).

Photographs of the award recipients are displayed below. Please note, Manal Tadros was not onsite to receive her award; no photograph is available.



Heather Adam and Tony Mazzulli (accepting on behalf of Don Low.)



Heather Adam and Tracie EisBrenner



Mark Joffe, Guillaume Polquin and Heather Adam

Provincial Laboratory for Public Health - Alberta Laboratory Profile:

Submitted by:

Gregory J. Tyrrell, PhD, FCCM,
D(ABMM) – Clinical Microbiologist

Lab title & location:

Provincial Laboratory for Public Health – Alberta, (ProvLab) is a laboratory comprised of two sites: one located in Edmonton and the other located in Calgary. Both laboratories are geographically located within large University based teaching hospitals (Walter Mackenzie Centre in Edmonton and the Foothills Hospital in Calgary) which are part of the University of Alberta (Edmonton) and University of Calgary (Calgary).

What population does your laboratory serve?

ProvLab provides a provincial program delivering public health microbiology services from two operational sites: one in Edmonton and one in Calgary to a population of close to 4 million. Four pillars encompass its core functions—surveillance, specialized / reference testing, education and research.

The ProvLab also provides acute care, diagnostic clinical microbiology services for the University of Alberta Hospital (~740 beds), the Cross Cancer Institute

and other hospitals in the Edmonton area as required.

We also collaborate with the other provincial and territorial, national and international public health and emergency response agencies as required.

What principal and specialized services are offered by your laboratory?

The laboratory provides a full complement of microbiological services in an integrated service (Acute and Public Health) that includes diagnostics for bacterial, viral, fungal, and parasitic investigations. Our specialized testing includes pneumococcal serotyping, Group A streptococcus emm typing, Group B streptococcus serotyping, viral quantitation and genotyping (eg, HIV, Hepatitis B and C, CMV, EBV etc.), norovirus PCR, fungal reference identification, antifungal susceptibility testing, serology and antigen detection, malaria detection and species identification, a full complement of mycobacterial assays ranging from PCR detection to culture to susceptibility assays to species identification via pyrosequencing

and quantiferon measurements.

A major role within the ProvLab is to provide molecular epidemiology and surveillance services through typing of enteric bacteria such as *E. coli*, *Salmonella* and *Shigella*. We are also a member of PulseNet Canada, and we are actively involved in all outbreak investigations local, provincial and national in scope. In Alberta, we also have 2 unique Provlab IT systems for capturing data. They are termed “Exposure Investigation” (EI) (a web based tracking system for all microbiological outbreaks) and DIAL (data integration for Alberta laboratories) (used to monitor microbiological trends).

We are also a member of the Laboratory Response Network (LRN) providing the laboratory with the ability to perform bioterrorism agent detection. The Provlab also performs investigations targeting unusual diseases acquired through travel, eg. detection of unusual flaviviruses (eg, Murray Valley virus, Zika virus).

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Provlab Edmonton



Provlab Calgary

Provincial Laboratory for Public Health – Alberta Laboratory Profile:

The Provlab also has an extensive molecular typing section facilitating the typing of organisms such as MRSA, VRE, *E. coli* 0157, Salmonella, and other organisms as required.

To highlight the laboratory activities of our members across the country, CACMID will publish a laboratory profile in each Newsletter. Please contact the CACMID President or Secretary if you wish to provide a profile for future editions of the Newsletter!

Who are the other microbiologists on staff at your laboratory?

Name	Title	Base Location
Graham Tipple	Medical/Scientific Director; Clinical Microbiologist	Edmonton
Marie Louie	Associate Medical Director; Medical Microbiologist	Calgary
Kinga Kowalewska	Medical Microbiologist	Edmonton
Kevin Fonseca	Clinical Virologist	Calgary
Robert Rennie	Clinical Microbiologist	Edmonton
Greg Tyrrell	Clinical Microbiologist	Edmonton
Norman Neumann	Environmental Microbiologist	Edmonton
Jeff Fuller	Clinical Microbiologist	Edmonton
Steve Drews	Clinical Microbiologist	Calgary
Raymond Tellier	Medical Microbiologist	Calgary
Natalia Solomon	Medical Microbiologist	Edmonton
Julian Tang	Medical Virologist	Edmonton
Linda Chui	Molecular Microbiologist	Edmonton
Lilly Pang	Molecular Virologist	Edmonton
Stephanie Yanow	Molecular Microbiologist	Edmonton
Sylvia Checkley	Environmental Epidemiologist	Calgary

How many technologists are employed by your laboratory?

There are over 300 employees shared between the Edmonton and Calgary Provlab sites.

Is your laboratory actively engaged in research? If so, what are the primary research interests of the group?

The Provlab has an extensive interest in *Streptococcus pneumoniae* and *Streptococcus pyogenes* epidemiology. This stems from the lab's ongoing interest in serotype characterization of these streptococcal species.

Members of the Provlab are also engaged in host-pathogen interactions in relation to group B streptococcus, TB molecular epidemiology, vaccine efficacy studies, development of enteric virus detection methodologies as well as enteric virus epidemiology.

Provincial Laboratory for Public Health - Alberta Laboratory Profile:

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We also study antifungal resistance in *Candida* and *Aspergillus* species as well as antimicrobial susceptibility testing for various bacterial species.

We are also exploring new methodologies for enhancing our outbreak investigation capabilities, detection and tracking of shiga-toxin producing *E. coli* (STEC). Members of the lab also are developing new ways of exploring the identification of bacterial signature profiles as well as characteristics of bacterial heat resistance with respect to the survival of STEC particularly as this relates to the production of shiga toxin.

Members of the lab are also part of a national team involved in whole genome sequencing of *L. monocytogenes* with the goal of creating a rapid identification laboratory chip.

We are also working towards the development of molecular serotyping tools for *Salmonella* to replace conventional assays for this bacterial pathogen.

As one health concept, there is a collaborative pilot study with Alberta Agriculture to merge typing data for *Salmonella* Enteritidis, *Salmonella* Typhimurium from

animals and environmental isolates with clinical isolates at the ProvLab. The goal is to compare the trends and fingerprinting profiles of these pathogens.

Investigators have also been actively engaged in the ongoing development of molecular based assays for the detection of flaviviruses and upcoming influenza A viruses as they arise.

In addition, we have also been involved in the development of sensitive malaria detection assays and development of novel assays such as lab-on-a-chip assays for the detection of malaria.

Are there innovative initiatives that you would like to highlight?

Researchers in the lab have struck a collaboration with researchers in France to study the correlation of disease outcome in relation to the STEC profile signature from cases of STEC disease. This project is ongoing in collaboration with Dr. Patrick Fach at the French Agency for Food Environmental and Occupational Health (ANES) in Maisons-Alfort in France.

Members of the lab have also lead the creation of a national team (ProvLab, Listeria Reference Service, Health Canada, National Microbiology Laboratory, Alberta Innovates and Technology Futures, Laboratoire de santé publique du Québec, INSPQ, BC Public Health and Microbiology Reference Laboratory, McMaster University, University of BC, CFIA and Maple Leaf Foods) focused on the use of

whole genome sequencing of *L. monocytogenes* for the development of a rapid chip assay for the diagnosis of Listeria infections.

A collaboration with US based researchers regarding the transcontinental outbreak of the Group A streptococcus M59 clone was undertaken. This involved the use of whole genome sequencing of over 600 isolates during analysis of the outbreak.

Members of the Provlab have also been involved in the development of IT based tools to aid in the laboratory phases of outbreak investigations and monitoring disease trends in Alberta.

The first is a Laboratory based Outbreak Investigation tool which is a web based tool that has allowed both external investigators (MOH's, PHI's etc) and microbiologists to better manage outbreak investigations in Alberta.

The second is the development and use of the Data Integration for Alberta Laboratories (DIAL) IT tool for analysis of trends, specimen numbers, epidemiological investigations etc. of Provlab data. This is also a web based tool that allows the laboratory to analyze Provlab data to look for trends, changes in prevalence, analysis of specimen submissions etc.

Members of the Provlab have also lead the development of a unique lab-on-a-chip technology for the detection of malaria from clinical specimens.

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Current CACMID Board

Meet the CACMID Board

A number of changes were made to the CACMID board at the Annual General Meeting. The long-time contribution of Dr. Tim Karnauchow as Meeting Secretary was recognized. The Meeting Secretary position will now be filled by Dr. Paul Levett. Additionally, two councillors completed their 2 year terms: Christine Fleming and Dr. Linda Hoang. The new incoming councillors are: Dr. Jessica Minion and Meghan Day.

The continuing 2nd year councillors are: Drs. Michael Drebot, Samir Patel and Lourens Robberts.

The executive board for this year includes: Drs. Heather Adam (President), Jeff Fuller (Vice-President), Greg Tyrrell (Past-President) and Matthew Gilmour (Secretary Treasurer).



Left to right: Greg Tyrrell, Matthew Gilmour, Heather Adam, Jeff Fuller

Laboratory Profile Con't:

What are the preferred courses, conferences or other means that your lab engages for continuing education?

Conferences: CACMID-AMMI, ECCMID, ICAAC, ASM, Clinical Virology Symposium, International Symposium on Pneumococci and Pneumococcal Diseases (ISPPD), Lancefield Streptococcal Symposium, Canadian Association of HIV Clinical Laboratory Specialists (CAHCLS).

Other CME: Infectious Diseases rounds, Microbiology Laboratory bench rounds, on line microbiology courses, manuscript reviews, Medical Microbiology Residency Teaching Program.

What makes your laboratory a great place to work?

The people and the collaborations we have with other microbiologists worldwide.

Constant engagement and interaction with clinical stakeholders and the concomitant quality enhancements that result. These interactions have provided access to a wealth of data and expertise in the province. In addition, the infrastructure of Alberta health care delivery has enabled us to participate and lead population-based studies and research to enhance our understanding of population and public health.

Logo Design Contest

A new CACMID logo was selected at the Annual General Meeting. From the 5 series presented, the new logo was selected by both the most first place votes (13 of 27 ballots) and the highest cumulative score using the

preferential balloting system.

This logo design was submitted by our President, Dr. Heather Adam, whom receives a lifetime membership for the contribution.



2014 Conference



The 2014 annual conference will be held in Victoria, BC from April 2nd – 5th. The Central Planning Committee and the Scientific Planning Committee will soon begin preparations for the meeting to ensure it builds on the success of 2013.

We are looking forward to the meeting and hope you'll be able to attend!



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CACMID operates under the following Mission Statement:

We advance the fields of clinical microbiology and infectious diseases in Canada through education, scholarship, advocacy and the promotion of best practices.