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# **FINAL PROGRAM**

## National Molecular Microbiology Diagnostic Users Group Annual Fall Meeting (NMG)

**Auditorium**

**Peter Gilgan Research and Learning Centre**

**660 Bay Street, Toronto ON**

**The Hospital for Sick Children**

**Monday November 6, 2017**

8:00-9:00 am **Breakfast sponsored by altona Diagnostics in the Gallery**

8:00-9:00 am **Registration outside the 2nd Floor Gallery**

9:00-9:10 am **Welcome and Introduction**

Dr. Astrid Petrich, NMG Meeting Chair

9:10-10:10 am **Workshops sponsored by Integrated DNA Technologies**

**Optimized Target Detection in PCR: Better Sensitivity Through New Probe and Primer Chemistries**

Mitch Gore, PhD

 Field Application Manager, IDT

 Objectives:

1. Introduce internally quenched PCR probes and how they can improve signal to noise.
2. Explain the use of Locked Nucleic Acids to modulate Tm and improve specificity
3. Describe the use of RNAase HII-mediated PCR to improve PCR sensitivity and specificity

Adam Chernick, PhD

Business Development, IDT

Objectives:

1. Describe the key steps in an NGS experiment and where IDT can help
2. Introduce custom target enrichment for focused NGS experiments
3. Introduce the range of options for NGS adapters and the importance of choosing the right design for your needs

10:10-10:40 am **Workshop sponsored by Roche Diagnostics**

 **The diagnostic accuracy of novel and traditional rapid tests for influenza infection compared to RT-PCR: a systematic review and meta-analysis**

Chelsea Caya, BSc, MScPH

Research Coordinator

McGill University Health Centre

 Objectives:

1. Estimate and compare the diagnostic accuracy of commercialized traditional rapid influenza diagnostic tests (RIDTs), digital immunoassays (DIAs), and nucleic acid amplification tests (NAATs) for detecting influenza A and influenza B in patients with suspected influenza infection compared to a RT-PCR reference standard.
2. Determine what factors (e.g., patient age, duration of symptoms, point-of-care testing, etc.) are associated with diagnostic test accuracy within each of the three classes of rapid tests.

10:40-11:10 am **Coffee Break sponsored by Luminex Corp. in the Gallery**

10:40-11:10 am **Exhibits in the Gallery**

* **Abbott Molecular**
* **Accelerate Diagnostics**
* **ACGT**
* **Alere Canada**
* **altona Diagnostics Canada**
* **BD**
* **Beckman Coulter**
* **bioMérieux Canada**
* **Bio Nuclear Diagnostics**
* **Cedarlane**
* **Copan Diagnostics Inc**
* **Fusion Genomics Corporation**
* **Gold Standard Diagnostics**
* **Integrated DNA Technologies**
* **Inter Medico**
* **Phoenix Airmid Biomedical**
* **Promega Corporation**
* **Qnostics Inc.**
* **Quidel Corporation**
* **Roche Diagnostics**
* **Seegene Canada**
* **Somagen Diagnostics**
* **Zeptometrix**

11:10-12:10 pm **Workshop sponsored by Promega**

 **cGMP – grade Reagents for Development of an Optimized qPCR Assay**

Leta Steffens PhD

Senior Applications Scientist

Promega Corp

Madison, WI USA

Objectives:

1. Understand how to assess qPCR assay performance
2. Discuss how reagents and cycling conditions affect assay performance and robustness
3. Learn best practices for developing and optimizing qPCR assays
4. Outline assay development with the PCR Optimization Kit

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12:10-1:30 pm **Lunch in the Gallery**

12:10-1:30 pm **Exhibits in the Gallery**

1:30-2:00 pm **Workshop sponsored by Quidel**

**Molecular Detection of Group A Streptococcus from Pharyngeal ESwabs™**

Patricia Ferrieri, M.D.

Professor

Chairman's Fund Endowed Chair in Laboratory Medicine and Pathology
Professor, Dept of Pediatrics, Division of Infectious Diseases
University of Minnesota Medical School
Director, Infectious Diseases Diagnostic Laboratory
University of Minnesota Medical Center

Objectives:

1. Present a brief overview of group A Streptococcus (GAS) , its importance in pharyngitis and complications
2. Discuss rationale for implementing molecular detection of GAS
3. Present results of our post-implementation study of the SOLANA® GAS assay
4. Review briefly other molecular platforms for GAS pharyngeal detection

2:00-3:00 pm **Workshop sponsored by BD**

 **A Rational Approach to Managing Enteric Diseases**

Craig Whiteford

Director, Development

BD Life Sciences

Objectives:

1. Describe the Flexibility of the BD MAXTM System (including IVD testing and Open System customization)
2. Review of the BD MAXTM Enteric Suite and approach to panel design for molecular Enteric Testing
3. Overview of the BD MAX Enteric Viral Panel and its potential value

3:00-3:30 pm **Coffee Break sponsored by Zeptometrix in the Gallery**

3:00-3:30 pm **Exhibits in the Gallery**

3:30-4:00 pm **Workshop sponsored by altona Diagnsotics**

**Challenges in the diagnosis of neglected tropical parasitic and viral disease.**

Dr. Leonie Hecht PhD

altona Diagnostics Hamburg

Objectives:

1. Molecular Diagnostics
2. Diagnosis of tropical Diseases
3. Future directions

4:00-4:30 pm **Workshop sponsored by Fusion Genomics**

 **Towards a Cost-Effective Next-Generation Sequencing-based Comprehensive Human Pathogen Testing.**

Mohammad Qadir PhD.

 President and CSO

Fusion Genomics Corporation

Objectives:

1. Provide an overview of the ONETest technology platform that includes molecular target capture and bioinformatics analysis.
2. Illustrate the key advantages of a target capture-based next-generation sequencing approach using data derived from archived hepatitis C virus specimens that failed front-line testing and from swine flu virus-contaminated bio-aerosol samples.
3. Introduce the ONETest PathoGenome, a comprehensive typing assay for all clinically important human pathogens.

4:30-5:00 pm **Workshop sponsored by Gold Standard Diagnostics**

**RIDA®SEEK – a new standard in fully automated interpretation of molecular diagnostic analyses**

Dr. Lena Kastl

Global Key Account Manager MD

Objectives:

1. Regulations, standards and hurdles for molecular diagnostics in the routine laboratory

2. Presentation of comprehensive software solution for RIDA®GENE result interpretation



**Auditorium**

**Peter Gilgan Research and Learning Centre**

**The Hospital for Sick Children, Toronto ON**

**Tuesday November 7, 2017**

8:00-9:00 am **Breakfast in the Gallery**

8:00-9:00 am **Exhibits in the Gallery**

9:00-10:00 am **Regulations of IVDD in Canada: Requirements that clinical labs should know**

**Speaker:** Patrice Sarrazin

Senior Scientific Evaluator/Évaluateur scientifique principal
In Vitro Diagnostic Devices/Instruments diagnostiques in vitro
Device Evaluation Division/Division d'évaluations des matériaux
Medical Devices Bureau/Bureau des matériaux médicaux
Health Canada/Santé Canada

 **Objectives:**

 After this presentation, participants will have better understanding of:

* the regulations and process for Investigational Testing Authorization (ITA)
* what is a significant change and how it affects the regulatory status
* how databases used with an IVDD (e.g. HLA Typing) are regulated
* the use of Research Use Only test kits in a clinical labs

10:00-11:00 am **Coffee Break and Exhibits**

11:00-12:00 pm **Results of the 2017 National Challenge Panel for 16SrRNA Gene Sequencing and/or MALDI-TOF**

 **Update on Implementation of a National Maldi-TOF Database**

**Speaker:** Kathryn Bernard

Head, Special Bacteriology

National Microbiology Laboratory

Winnipeg, MB

**Objectives:**
1.  Describe need for an external challenge test for 16S rRNA gene sequencing and MALDI-TOF instrumentation

2. Describe 4 bacteria and a bonus bug selected for the panel associated with different degrees of complexity for accurate identification

3. Present results of participant laboratories for each of the 4 test bacteria and bonus bug, striated down by method; nuances regarding use of both identification methods will be reviewed.

4. Discuss progress on implementation of a national Maldi-TOF database

12:00-1:00 pm **Lunch in the Gallery**

12:00-1:00 pm **NMG AGM (All participants are invited to attend)**

Auditorium

1:00-2:00 pm **Analysis of the human microbiota as a clinical diagnostic: What clinicians (like me) might want to know from the micro lab**

**Speaker:** Bryan Coburn

 Assistant Professor

 University of Toronto

2:00:3:30 pm **Tell Us About Your Laboratory. A Chance to Describe Testing in Your Laboratory, Trouble-shooting/Interesting Cases**

**Objectives:**

1. To allow laboratories across Canada to showcase new molecular assays/technologies employed in their laboratory and indicate their clinical impact.
2. To allow laboratories to share their experiences with molecular assays including trouble-shooting.
3. To create an opportunity for sharing of ideas and experience for laboratories across Canada using molecular technologies.

**1) Biolab - A Platform for Turning Ideas into Impacts**

M. Sharifahmadian

District 3 Innovation Center, Concordia University, Montreal, Quebec

**2) Rectal swab screening assays of public health importance in molecular diagnostics: sample adequacy control**

S. Glisovic2, S. Eintracht1,2, Y. Longtin2, M. Oughton2 and **I. Brukner1,2**

1OPTILAB, Medical Faculty, 2McGill University, SMBD-Jewish General Hospital, Montreal, Quebec

**3) Introduction of a gastrointestinal pathogen multiplex panel and selective culture (GPMP&SC) testing algorithm to identify the causative agents of gastroenteritis in Island Health.**

Holfeld L, Isberg B, Kibsey PC and Galbraith JC.

Royal Jubilee Hospital, Victoria, BC

**4) Cell culture for respiratory viruses among children with a negative multiplex RT-PCR result**

M. Alghounaim, MDa, Y. Xiaob, C. Caya, MScPHc, **J. Papenburg** MD MSca, c, d

a Departments of Pediatrics and Microbiology, The Montreal Children’s Hospital, McGill University Health Centre, Montreal, Quebec, Canada

b Faculty of Medicine, McGill University, Montreal, Quebec, Canada

c Research Institute of the McGill University Health Centre, Montreal, Quebec, Canada

d Department of Epidemiology, Biostatistics and Occupational Health, McGill University, Montreal, QC, Canada

**5)** **Evaluation of a Laboratory Developed Multiplex Gastroenteritis Assay and SeeGene Allplex Gastrointestinal Full Panel**

R. Needle1, C. Phillips 2,3, D. Haldane 3, G. Zahariadis1

1Public Health Laboratory, St. John’s, NL 2.National Microbiology Laboratory, Winnipeg, MB 3Provincial Public Health Laboratory Network of Nova Scotia, Nova Scotia Health Authority, Halifax, NS

**6) Bordetella pertussis IS481 Contamination Event in a Public Health laboratory**

**V. Tang1**, A. Paccagnella1, L. Hoang1

1 BCCDC Public Health Laboratory, Vancouver, British Columbia

3:30 pm **Official Close of Meeting**