



Hilton Toronto Airport Hotel, Ontario, Canada  
October 6 – 8, 2015

SUNDAY, OCTOBER 4, 2015

14:00 Field Trip - Environment Canada's Air Quality Research Facility in Ottawa, vehicle leaves conference hotel for Ottawa, and returns on Monday, October 5 by 18:00

TUESDAY, OCTOBER 6, 2015

07:30 – 08:30 WORKSHOP REGISTRATION & BREAKFAST  
08:30 – 16:30 WORKSHOP- NO<sub>2</sub> and DPM Measurement Techniques  
17:00 - 19:00 CONFERENCE PRE-REGISTRATION & NETWORKING  
18:00 – 22:00 EXHIBIT ROOM SET UP

WEDNESDAY, OCTOBER 7, 2015

07:30 CONFERENCE REGISTRATION AND BREAKFAST

08:30 SESSION 1: CONFERENCE OPENING CEREMONIES:

*Welcome: JP Ouellette (Kubota Canada Ltd.), Co-Chair MDEC Conference*

*Introduction of Keynote Speaker: David Young (Natural Resources Canada), Secretary MDEC*

*Keynote Address: NO<sub>2</sub> Underground: What Exposure Level is Safe? Prof. Krystal Pollitt, University of Massachusetts*

*Organization: Mahe Gangal (Natural Resources Canada), Co-Chair MDEC Conference*

10:00 COFFEE BREAK

10:30 SESSION 2: ALTERNATIVE ENERGY  
CHAIRPERSON: Evelyn Stirling (Cummins)

Battery powered LHD: Enhancements, paradigm shift and operational cost decrease, *Rémi Desrosiers (GE Mining)*

The eminent Demise of underground diesel power, *Mike Kasaba (Artisan Vehicle Systems)*

Kirkland Lake Gold's experience adding battery powered equipment to the mine, Andrew Schinkel (Kirkland Lake Gold)

Minecat UT150-eMV – Review of a battery electric underground mining utility vehicle, *Marcel Demers (Industrial Fabrication Inc.)*

**12:00 LUNCH**

**13:00 SESSION 3: EMISSION CONTROL TECHNOLOGIES**  
**CHAIRPERSON: David Young (CanmetMINING)**

Effects of mining continuously regenerated trap (MCRT) system on the aerosol and gaseous emissions from a heavy-duty diesel powered underground mining vehicle, Aleksandar D. Bugarski and Jon A. Hummer (NIOSH), and Jozef S. Stachulak (MIRARCO)

A history of diesel emission projects at Vale Ontario mines, Jozef Stachulak (MIRARCO) and Cheryl Allen (Vale)

Emissions reduction of a Toyota Land Cruiser with a sintered metal filter, Michael Mazzuca (T.F. Hudgins)

Evaluation of exhaust emissions from two passenger ferries: NYSERDA NYC private ferry fleet emissions reduction program – phase V durability testing, Jill Hendren, Eric Meloche, Danny Gosselin (Environment Canada); Don Ricciuti, Randy Verderame, Vincent Adinolfi (Rolls-Royce Marine North America) and Patrick Bolton (New York Energy Research and Development Agency (NYSERDA)), Presented by Brent Rubeli (CanmetMINING), paper not approved for proceedings

**14:30 COFFEE BREAK**

**15:00 SESSION 4: Fuels**  
**CHAIRPERSON: Glen Staskus (Ontario Ministry of Labour)**

Issues with using higher blends of biodiesel than B20, Evelynn Stirling (Cummins)

Hydrotreated vegetable oil renewable diesel as a control strategy to reduce exposure of underground miners to diesel aerosols and gases, Aleksandar D. Bugarski, Jon A. Hummer, and Shawn Vanderslice (NIOSH)

Diesel Fuel Additives for Underground Mining, Brent Rubeli, David Young, and Mahe Gangal (CanmetMINING)

Emissions based maintenance for fuel consumption reduction, Steve “Skinner” Forbush (Arch Coal)

**16:30 ADJOURNMENT**

**16:30 – 18:30 RECEPTION & NETWORKING**

### **THURSDAY, OCTOBER 8, 2015**

**07:30 REGISTRATION AND BREAKFAST**

**08:30 SESSION 5: HEALTH ISSUES**  
**CHAIRPERSON: Joe Stachulak (MIRARCO)**

**Keynote Address: Combustion-generated nanoparticles and their health effects**, Prof. Angela Violi (Departments of Mechanical Engineering, Chemical Engineering and Biomedical Engineering, University of Michigan)

Diesel emissions trends and technology and regulations, Timothy Johnson (Corning)

**10:00 COFFEE BREAK**

**10:30 SESSION 6: AIR QUALITY MEASUREMENT & NOISE**  
**CHAIRPERSON: Cheryl Allen (Vale)**

Diesel emission management plan, Jeanot Tourneur (*Barmenco, Australia*)

Opportunities and challenges managing diesel emissions at the source, Sean McGinn (*MKNIZD Factors Inc.*)

Status of CSA mining standards, Mike Dodd for *Oreste Simonetta (CSA)*

Diesel engine noise, Evelynn Stirling (*Cummins*)

**12:00 LUNCH - introduction of sponsors and award of draw prizes**

**13:00 SESSION 7: DPM MONITORING & MDEC PLENARY CONSULTATION**  
**CHAIRPERSON: Mahe Gangal (Natural Resources Canada)**

Real-time size distribution measurement of particulate matter in a mine, E. Lamminen (*Dekati Ltd., Kangasala, Finland*), F. Reyes and Y. Vasquez (*Mario Molina Center Chile, Santiago de Chile*), K. Teinilä, H. Timonen, M. Aurela, and S. Saarikoski (*Atmospheric Composition Research, Finnish Meteorological Institute, FI-00560, Helsinki, Finland*), R. O. Salonen (*Department of Environmental Health, National Institute for Health and Welfare, Kuopio, Finland*), M. Linnainmaa, and P. Oyola (*Mario Molina Center Chile, Santiago de Chile, Chile*), M. J. Cubison (*Finnish Institute of Occupational Health, Tampere, Finland*), D. R. Worsnop (*Aerodyne Research Inc., Billerica, MA, USA*) and R. Hillamo (*Atmospheric Composition Research, Finnish Meteorological Institute, FI-00560, Helsinki, Finland*)

Calibration of Australian Raw Exhaust DPM Measurement Instrumentation, Brian Davies & Jen Hines (*University of Wollongong, Australia*)

Assessment of a Diesel Particulate Monitor for Ventilation-on-Demand Applications, Stephen Hardcastle and Kevin Butler (*CanmetMINING*), Peter Knott (*Pinssar Pty Ltd, Australia*) and Derek Cummings (*Accutron Instruments Inc, Canada*), *paper not approved for proceedings*

**MDEC Plenary Consultation, Mahe Gangal (Co-Chair MDEC Conference)**

Summary of comments from MDEC 2014 survey  
Review of MDEC 2015  
Plans for MDEC 2016  
Final remarks

**14:30 COFFEE BREAK**

**15:00 SESSION 8: ROUNDTABLE FORUM**

**A – Underground Mobile Equipment Regulations**  
**Facilitator: Paul Summers (Miller Technology)**

**B – Alternative Fuels**  
**Facilitator: Brent Rubeli (CanmetMINING)**

**16:00 ADJOURNMENT**