



**Toronto Airport Marriott Hotel, Ontario, Canada  
October 7 – 9, 2014**

**SUNDAY, OCTOBER 5, 2014**

**16:00** Field trip to Vale Copper Cliff Mine in Sudbury, bus leaves hotel for Sudbury, and returns on Monday, October 6 by 17:00

**TUESDAY, OCTOBER 7, 2014**

**07:30 – 08:30** WORKSHOP REGISTRATION & BREAKFAST

**08:30 – 16:30** WORKSHOP- OEM Integration of Tier 4 Engines by industry experts (Atlas Copco, Cummins, Kubota, Sandvik, Volvo)

**17:00 - 19:00** CONFERENCE PRE-REGISTRATION & NETWORKING

**18:00 – 22:00** EXHIBIT ROOM SET UP

**WEDNESDAY, OCTOBER 8, 2014**

**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*

**S1P1 Keynote Address: Ontario's Ring of Fire-An Overview**, *Blaine Bouchard, Senior Policy Advisor, Ring of Fire Secretariat, Ministry of Northern Development and Mines*

**Vote of Thanks:** *Kalsi Harsim (Ontario Ministry of Labour), MDEC Advisory Committee*

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

**10:00** COFFEE BREAK

**10:30** SESSION 2: ALTERNATIVE ENERGY & LHD AUTOMATION

**CHAIRPERSON: Cheryl Allen (Vale)**

HyPM HD Fuel Cell Systems for Heavy Duty Green Mining, *Ryan Sookhoo (Hydrogenics)*

Minecat UT150-eMV - from concept to reality, *Dave Schmidt (Industrial Fabrication Inc.)*

Underground mining: Alternative to diesel-powered Load-Haul-Dump vehicles (LHD), *Rémi Desrosiers and David Willick (GE Mining)*

An overview of underground LHD automation, Mikko Koivunen & *Marty Adams (Sandvik Mining)*

**12:00 LUNCH**

**13:00 SESSION 3: EMISSION CONTROL TECHNOLOGIES - I**  
**CHAIRPERSON: Dale Rakochy (Sandvik)**

Effects of corn-based FAME biodiesels on particulate and gaseous emissions from naturally aspirated diesel engine, Aleksandar D. Bugarski, Jon A. Hummer, and Shawn Vanderslice (NIOSH)

CDPF solution considerations, Gary Robb (Airflow Catalyst Systems)

Evaluation a continuously regenerating DPF system, Joe Stachulak (MIRARCO), Cheryl Allen, and Kevin Watson (Vale)

Underground mining: Reduction of PM and NO<sub>2</sub> by SMF technologies of HJS/T.F. Hudgins, Michael Mazzuca (T.F. Hudgins) and Peter Neumann (HJS Emission Technology)

**14:30 COFFEE BREAK**

**15:00 SESSION 4: DIESEL PARTICULATE MATTER**  
**CHAIRPERSON: John Stekar (Catalytic Exhaust Products)**

The development of a new maintenance tool for raw DPM measurement, Sean McGinn (MKNIZD Factors) and Brian Davies (Australia)

NanoMet3, A new portable solid nanoparticle counter for vehicle exhaust emissions, Andreas Knecht, Luis Cachon and David Imhof (Matter Aerosol AG, Switzerland)

Role of environmental enclosures in reducing exposure of underground miners to diesel aerosols, Aleksandar D. Bugarski, and James D. Noll (NIOSH)

**16:30 ADJOURNMENT**

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

### **THURSDAY, OCTOBER 9, 2014**

**07:30 REGISTRATION AND BREAKFAST**

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

**Keynote Address: Diesel Exhaust: Human Health and the Workplace**, Joel Carr (Health and Safety Coordinator, Health Safety Industrial Relations Training Fund-Unifor)

**Vote of Thanks:** Jan Romo (CAW), MDEC Committee

Understanding emission profiles and health effects of biofuels, Krystal Pollitt (University of Toronto, University of Massachusetts)

**10:00 COFFEE BREAK**

**10:30 SESSION 6: EMISSION CONTROL TECHNOLOGIES - II**  
**CHAIRPERSON: Evelyn Stirling (Cummins)**

The Effect of Diesel Oxidation Catalysts on NO<sub>2</sub> emission from Mining Vehicles, Joe Stachulak (MIRARCO), Mahe Gangal (CanmetMINING), and Cheryl Allen (Vale)

Retrofit crankcase ventilation for diesel engines, John Stekar (Catalytic Exhaust Products Ltd.)

X-1R fuel additive for diesel emissions reductions, Brian Taylor, *Terry Craig*, Jeff Ketchledge and *John March* (X-1R Corporation)

Biodiesel as a control strategy for reducing exposure of underground miners to diesel aerosols: Toxicological properties of emitted aerosols, *Anna A. Shvedova*, *Mariana Farcas*, *Elena Kisin*, and *Naveena Yanamala*(NIOSH Morgantown), *M. Eileen Birch* (NIOSH Cincinnati), Aleksandar D. Bugarski and *Jon A. Hummer* (NIOSH Pittsburgh)

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

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

Ministry of Labour Underground Diesel Equipment Survey for Mine Operators and Contractors, Glenn Staskus (Ontario Ministry of Labour)

Status of CSA Mining Standards, Oreste Simonetta (Canadian Standards Association)

*Comparing the EPA Non-road Transient Cycle (NRTC) with CanmetMINING LHD test cycles.*, David Young, *Brent Rubeli*, and *Mahe Gangal* (CanmetMINING), *Lars Bark* (Volvo Penta), and *Denis Ward* (SwRI)

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

Summary of comments from MDEC 2013 survey

Review of MDEC 2014

Plans for MDEC 2015

Final remarks

**14:30 COFFEE BREAK**

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

**A – Revision of CSA Mining Diesel Standards**

**Facilitator: David Young (Natural Resources Canada)**

**B – Green Mining: Alternative Fuels and Vehicles**

**Facilitator: Glen Staskus (Ontario Ministry of Labour)**

**16:30 ADJOURNMENT**