

Ground Breaking News



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CEMI's Rio Tinto Centre for Underground Mine Construction Broadens Capability with New Leadership

The Centre for Excellence in Mining Innovation (CEMI) has announced the succession plan for Dr. Peter K Kaiser, Founding Director of the Rio Tinto Centre for Underground Mine Construction (RTC-UMC) at CEMI. [WATCH VIDEO HERE](#)

Effective July 1st, 2014, **Dr. Matthew Pierce** of ITASCA (US) will be appointed as Director and **Dr. Erik Eberhardt** as the Associate Director of the RTC-UMC. In addition to taking on these very important leadership roles, both will retain their current employment positions. Dr. Pierce will remain a Principal Engineer with Itasca Consulting Group, Inc. and Dr. Eberhardt will continue as Director, Geological Engineering and Professor, Rock Mechanics & Rock Engineering at the UBC.

Dr. Peter K. Kaiser will return to Laurentian University as Chair for Rock Mechanics and Ground Control but will be seconded to the Centre for a short transition period and will then support the Centre as Technical Advisor. This new leadership team, with support from the current project and research groups, will accelerate work on ongoing projects and continue to produce value for the program sponsor, for the global mining industry, and for the development of highly qualified personnel.

RTC-UMC at CEMI was created in 2010 to complement Rio Tinto's research centre programs in Australia and the U.K. By focusing on "Underground Mine Construction", the RTC-UMC was created to undertake research in support of Rio Tinto's Mine of the Future™ programme and in support of Rio Tinto's underground mining operations. Specifically, the Centre was to add value through research in rapid mine construction and to enhance footprint reliability, including developing efficient and effective ground control measures. This state-of-the-art research and knowledge centre plays a role in the development and implementation of innovative step-change research and technology development for underground mines, designed to minimize delays and create value through speed and ge-risk mitigation. Research aims at overcoming key challenges in mine construction and mechanized excavation, and addresses the challenges related to the introduction of new technologies to perform in highly stressed and naturally variable ground.

[READ FULL PRESS RELEASE HERE](#)



L to R: Allan Moss (General Manager at Rio Tinto) with Dr. Erik Eberhardt, Dr. Matthew Pierce, Dr. Peter Kaiser and Mr. Douglas Morrison at the announcement event in Vancouver



Dr. Matthew Pierce



Dr. Erik Eberhardt

Lecture Series Online:

FOR INFORMATION ON
FUTURE EVENTS PLEASE
VISIT OUR WEBSITE:

www.miningexcellence.ca

CASL Legislation takes affect July 1st 2014

We value our relationship with you and would like to continue providing information that is relevant to you and your business.

We will be sending you an email over the next week requesting your consent to receive electronic communications.

Please contact **Courtney Folz** at cfolz@miningexcellence.ca should you have any questions or concerns with providing your consent.

 **Dr. Gordon Osinski** - The Beneficial Effects of Meteorite Impact Events and Implications for the origin of the Sudbury Structure

[WATCH VIDEO HERE](#)

 **Dr. John McGaughey** - Ancient Pillars of Active Seismic Wisdom

[WATCH VIDEO HERE](#)

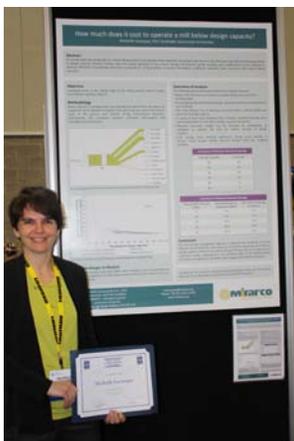
 **Dr. Ulrich Riller** - Geometric crater floor modification at Sudbury: Importance for Cu-Ni sulphide exploration

Awards and Recognition:

 **1. Ms. Michelle Levesque** – Received second prize in the student poster competition at the 2014 CIM Convention in Vancouver. Michelle is a contributing member of the CEMI SUMIT project.

 **2. Ms. Marika Moskalyk and Ms. Alexandra Millar** – Received the CEMI award at the 2014 Sudbury Regional Science Fair for their project, titled “Green Gold: Phytoremediation of the Long Lake Gold Mine. The CEMI award recognizes an innovative project that helps illustrate/underscore the importance of mining research & technology development within society and/or the best project that deals with or contributes to the fields of earth sciences, geology, and/or engineering. Marika and Alexandra attend Marymount Academy.

 **3. Mr. Allan Akerman** – Received the 2014 CIM Community Service Award in recognition for his commitment to the underground hard rock mining industry, his dedication to CEMI and CIM, and for his support to the CIM Sudbury Branch.



1. Michelle Levesque, PhD Candidate (Laurentian University) and Researcher with MIRARCO



2. Dr. Abou-Rabia, Dean of Science and Engineering, Laurentian University with Alexandra Millar and Marika Moskalyk



3. Bora Ugurgel, Harvey Parsons, Allan Akerman, Eric Maag, Debbie Akerman, Courtney Folz and Damien Duff celebrate at the CIM Awards gala in Vancouver

PROJECT PROFILES



SINGLE HEADING RAPID DEVELOPMENT

THE ISSUE: Underground mine development has historically been a linear process. With the use of a canopy, providing safe support to those working underneath the canopy will allow parallel development activities to occur – drilling of the next round at the same time as permanent ground support is being installed. In addition, use of a multi-purpose machine capable of drilling and charging the development face will reduce the time lost in transferring equipment back and forth to the face. Similarly, use of a continuous face mucking system will replace the traditional batch process. A means of “sizing” any oversized blasted material is also required. These improvements will result in a reduced overall cycle time, and increased advance rates.

THE SOLUTION: The Rapid Development Project consists of 3 research projects. These are: (1) Development of an advanced canopy designed to withstand falls of ground that will allow for parallel activities through the integration of Support & Drill processes; (2) Configuration of equipment to utilize Jumbo for load holes without disrupting the work of the bolter; (3) Development of a continuous mucking machine, where material removal is constant and the total mucking time is reduced.

PROGRESS: Phase 1 of the project is currently underway. A canopy prototype, fabricated by MTI, has been created and is presently being tested in an effort to determine the canopy’s functionality and strength. From the results of the testing, two canopies will be built and tested in a drift advance scenario at a yet to be determined mine site. For more information, please visit our website [HERE](#).

SUMIT – SMART UNDERGROUND MONITORING AND INTEGRATED TECHNOLOGIES FOR DEEP MINES

SUMMARY: The SUMIT program develops and advances smart engineering techniques, technologies and tools to facilitate step-change advances in productivity, efficiency and effectiveness of underground mining at depth in an economic and safe manner. SUMIT is completing its third year of a five year project.

Researchers: 15

Students: 41 (2 PDF; 14 PhD; 18 MSc and 7 undergraduate)

Researcher engineers: 4

HIGHLIGHTS:

48 conference presentations have been made by SUMIT researchers to date; 18 refereed conference papers accepted and 21 peer-reviewed journal articles published. A further 12 articles are currently in the review process.

Two new software tools have been developed and delivered as well as a workflow process for analysing lidar data.

Field work is currently proceeding at Creighton, Coleman and Nickel Rim South mines in Sudbury. As well, datasets from other international mines are forming the basis of ongoing work. For more information, please visit our website [HERE](#).

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Community Engagement:

CEMI continues to support and engage students in the Sudbury community. In addition to the Lo-Ellen and Modern Mining Technology Sudbury groups, CEMI has also lent support to the PEO Bridge Building Contest and is now working on a youth outreach initiative as part of SUMIT.



Lo-Ellen Robotics Team competes at the FIRST Robotics Competition



Modern Mining Technology Sudbury week students participate in MineOpportunity at Dynamic Earth

Conferences:

CEMI continues its presence at local, national and global conferences.

1. In May, Douglas Morrison presented as part of the “Cross-sector Innovation and the Convergence of Disruptive Technologies” panel at Discovery OCE in Toronto.
2. At the CIM conference in Vancouver, Damien Duff presented the paper, “Making Mines Safer through Innovative Approaches to Monitoring and Modifying Rockmass Behaviour during Extraction” and Allan Akerman presented the paper, “CEMI Rapid Development Program”. Copies of these presentations can be found [HERE](#).
3. In March at PDAC, CEMI hosted a FindMine Student Day to showcase the various FindMine research projects sponsored by CEMI. Students and researchers from Laurentian University, Acadia University and the University of Western Ontario participated in the event, drawing in industry representatives and CEMI stakeholders.



1. Discovery OCE – Douglas Morrison with fellow panelists Per Aage Lysaa, Gary Biermann, Brad Jackson and moderator Fred Christie.



2. CIM – CEMI staff Eric Maag, Courtney Folz, Harvey Parsons, Allan Akerman, Bora Ugurgel and Damien Duff on the CIM tradeshow floor in Vancouver.



3. PDAC – Students and Industry representatives at the CEMI FindMine Student Day event in Toronto.

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Special Guests and Events:



1

1. Vale operations and maintenance team from Carajás, Brazil



2

2. Dr. Ulrich Riller and his researchers with Damien Duff



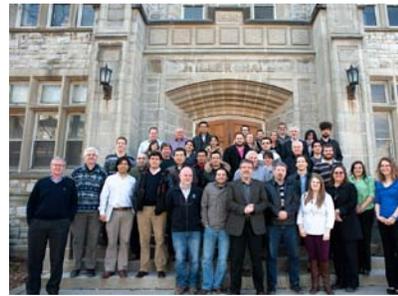
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3. CEMI working with Canadian R&D leaders



4

4. MIRARCO's Energy SUMIT students, leaders and industry



5

5. SUMIT AGM with Student & Researcher Presentations

Building Capacity at CEMI:



Eric Maag – Director of Innovation and Prosperity Office



Brian Jones – Business Innovation Officer



Vern Drylie – Director of Sustainability



Pat Dubreuil – UDMN Theme Leader