



(Left) Ontario Premier Dalton McGuinty, Minister of Northern Development and Mines Rick Bartolucci, and CEMI Founding Executive Director Dr. Peter K. Kaiser connect at the Prospectors and Developers Association of Canada (PDAC) conference in Toronto on March 6. Dr. Kaiser presented Premier McGuinty with a framed certificate of appreciation for the Ontario government's generous contribution of \$10 million in support of CEMI.

## CEMI: Moving forward in Innovation

The Centre for Excellence in Mining Innovation (CEMI) continues to gain support and momentum from the community, industry and government as it develops into a world-class centre for mining research and innovation.

CEMI is a new mineral sector research institution in Northern Ontario, led jointly by industry and Laurentian University in collaboration with regional, national, and

by  
**Shannon Katary**

international research and development partners. It is located on the campus of Laurentian University.

In Dec. 2006, Xstrata Nickel announced its support for CEMI with a contribution of \$5 million.

"Xstrata Nickel is a company focused on value-creating growth in Sudbury and around the world," said Mike

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Romaniuk, vice-president, Sudbury Operations for Xstrata Nickel. "Advanced research and innovation at CEMI will enhance our competitiveness in Sudbury and at our projects and operations globally."

In March, Sudbury MPP Rick Bartolucci announced on behalf of the Ontario government an \$8 million investment to support mine productivity and safety research at Laurentian University. The funding, which flows through the government's Ontario Research Fund (ORF), will go toward research that will lead to safer, more productive mining, under the Productivity Enhancement and Risk Management for Underground Construction and Mining (PERM) initiative, led by the Mining Innovation, Rehabilitation and Applied Research Corporation (MIRARCO).

To date, programs led by Laurentian University and CEMI have received \$28 million from industry and government to pursue research projects in exploration, deep mining, integrated mine process engineering, telerobotics and automation, and environment and reclamation. In addition to Xstrata Nickel's contribution, the Ontario government has invested \$18 million, while CVRD Inco has contributed \$5 million.

CEMI pursues a vision of becoming an international centre for world-class, industry-driven research, advancing state-of-the-art concepts, processes and methodologies in support of the regional, national and international exploration and mining industries, and providers of mining services and supplies.

Earlier this year, Dr. Peter K. Kaiser was appointed the founding executive director and CEO of CEMI. Dr. Kaiser is a nationally and internationally recognized expert in geomechanics research. He already has a strong Sudbury connection as a professor of Mining Engineering and chair for Rock Mechanics and Ground Control at Laurentian University. He is also president of Laurentian University's MIRARCO, which gives him a solid background in industry-driven and industry-funded research.

"The vision for CEMI is one that I have shared since arriving in Sudbury two decades ago," Dr. Kaiser states. "I see the founding executive director as responsible for delivering a research centre that becomes the backbone of an industrial cluster, a centre of excellence in applied research and innovation, advancing the state of knowledge and creating value through innovation. In this manner, my role is to indirectly assist in creating a globally competitive mining cluster."

CEMI is mandated to undertake research in support of the mining industry, but also to support the communities that depend and service this industry, by creating new knowledge and innovative solutions, by developing expertise in key areas of mining, and by developing highly qualified human resources in and for the North.

CEMI taps into the existing mining-related research expertise of Laurentian University and is built on a platform of established research centres whose mandates intersect with those of CEMI. The CEMI Advisory Board has approved \$1.8 million in project start-up funds.

The Mineral Exploration Research Centre (MERC) is creating a new graduate curriculum in mineral exploration. The new program is jointly funded by CEMI and Natural Resources Canada through their targeted Geoscience Program, and will be administered through MERC and delivered through the Department of Earth Sciences at Laurentian University and other Ontario universities. The key objective of this initiative is to increase the number of graduate geoscience students in Ontario universities by offering high-quality programs with excellent career prospects in the mining sector, government and research.

MIRARCO, in conjunction with CEMI, is moving ahead

with a comprehensive "Integrated Mine Process Engineering" (IMPE) program aimed at enhancing productivity and risk management, as well as environmental performance in Northern Ontario mines. This research program is comprehensive and investigates the total "mining sequence," from exploration through mine development and operation to mine decommissioning and closure. Projects that have been selected in the program will lead to greater efficiencies, improved safety and lower investor risk in underground mining.

CEMI and MIRARCO are also moving ahead with another new research initiative designed to improve efficiency and add value to underground mining operations. This initiative is called "Planning and Rapid Integrated Mine Optimization" or "PRIMO." According to Dr. Paul Dunn, director of the Centre for Mine Technology at MIRARCO, "PRIMO will create improved software tools to support the planning, design and operation of underground mining operations."

CEMI is launching a new initiative to accelerate research aimed at safe and efficient mining at depth. This CEMI initiative is a joint venture of Xstrata, CVRD Inco and the Government of Ontario, and is focused on the design and development of mines at depths greater than 2,000 metres.



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"Industry has told us that deep mining is a major research priority for them," said Dr. Kaiser. "Answers to particular research problems are required within a relatively short time frame to keep several mines operating as upper level ore is depleted."

CEMI plans to support various projects in conjunction with Laurentian University's School of Engineering to launch the deep mining initiative. These projects will be co-ordinated by Dr. Vassilios Kazakidis in close collaboration with the industry.

"The researchers will be challenged to focus on research that produces value for these investors. Producing results must become CEMI's trademark and form its sustainability strategy," Dr. Kaiser commented.

CEMI is now in business and will offer unique opportunities for graduate students and postdoctoral fellows to work on challenging projects. Potential graduate students are encouraged to contact CEMI and to sign up for MSc and PhD degree programs at Laurentian University.

Those interested in postdoctoral research as research engineers or scientists should visit CEMI's website at [www.cemi.laurentian.ca](http://www.cemi.laurentian.ca) for more information.

# More women entering careers in mining

by  
**Lynda Frappier**

Tamara Perreault isn't following a traditional woman's career path: she's carving out one her own.

As one of three females graduating this spring from Cambrian College's Mining Engineering Technology Program, Perreault is pursuing a career in the male-dominated mining field.


And she wouldn't have it any other way.

"The whole gender thing doesn't bother me. I like mining engineering because of the variety of things you can do. It's challenging and I've always been up for challenges," Perreault said.

In her first year of the Mining Technician program, there were six females in her class.

"I was expecting an all-male class," Perreault said.

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