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The Natural Sciences and Engineering Research Council of Canada's (NSERC) InPartnership bi-monthly e-bulletin showcases the many ways Canadian business can connect and collaborate with researchers, and prosper as a result.

Latest News

New Networks Advance Leadership in Biofuels, Marine Emergency Response and Eldercare

Three new Networks of Centres of Excellence were awarded $73.8 million over five years by the Government of Canada, to support cross-sector research and development in biofuels, marine emergency response and eldercare. BioFuelNet, MEOPAR and The Technology Evaluation in the Elderly Network offer opportunities for private sector involvement and collaboration.

BioFuelNet will connect various elements of the Canadian biofuels and bioproducts sector, to explore the next generation of biofuel development, including topics such feedstock development, the conversion process and end user needs. Scientific Director Dr. Don Smith wants advanced biofuels to supply a quarter of Canada's fuel needs within the next two decades. "We are looking at sources for fuel that are as varied as forestry and agricultural residue and fast-growing plants such as switchgrass, as well as those from algae, processed paper waste, sewage, and trash," said Smith.

The Marine Environmental Observation, Prediction and Response Network aims to improve Canada's capacity to monitor its oceans and respond to marine emergencies, whether caused by extreme weather, rising ocean levels or environmental disasters. The Technology Evaluation in the Elderly network focuses on various technologies used in the care of seriously ill elderly patients, specifically those generally excluded from clinical trials.

Contact each individual network or the NCE secretariat for collaboration information.

Strategic Project Grants Receive Positive Evaluation

The evaluation report and NSERC's management response for the Strategic Project Grants (SPG) are now available on the Program Evaluations page on NSERC's Web site. The evaluation found that SPGs benefit Canada by supporting high risk, early stage research through collaborative projects that produce research results used by industry and government partners alike.

NSERC would like to thank the researchers, partners, students, postdoctoral fellows, and research staff who participated in the evaluation for their important contributions to the report.

If your business is interested in how you can manage the risk associated with leading-edge research by participating in these grants, visit our Web site.

Successful Partnerships

Interested in partnering? Wondering about the return on investment? Learn how companies across Canada are working with researchers to advance their products or processes by participating in an NSERC partnership.

Mining for Information

Mining companies operate in an uncertain, high-risk global environment. That's why a consortium of six global mining companies—BHP Billiton, AngloGold Ashanti, Barrick Gold, De Beers, Newmont and Vale—turned to Roussos Dimitrakopoulos, leader of McGill University's COSMO Stochastic Mine Planning Laboratory to help them make the best possible decisions. Their collaboration has earned them an NSERC 2011 Synergy Award for Innovation.

"The laboratory generates new ideas, new methods and a new technical-scientific paradigm for addressing the sustainable development of mineral resources," says Dimitrakopoulos, one of the world's foremost experts in mathematical and computing modelling. "This is an area of critical importance to society, ensuring the supply of raw materials, metals and energy that support jobs and economic growth."

Working with its industry partners, COSMO is generating insights the companies can adopt and put to use, and a steady stream of talented graduates they can hire.

"The stochastic mine planning optimization approach has the potential to improve our ability to better predict the best outcome while minimizing the risks associated with

implementing new mining projects," says Jean-Yves Cloutier, Director Mineral Resources Mineral Reserves Group, Vale Corporate Office Base Metals.

"One of the main benefits to our company has been the early access to the lab's new concepts for planning our mines in Canada and in other countries in which we operate," says Chris Ryder, Vice President, External Affairs, Diamonds and Specialty Products at BHP Billiton Canada. "Canada has a reputation for producing talented mining graduates and the COSMO laboratory has produced many such high quality graduates to contribute to this legacy."

Pizza Pizza Invests in a "Hot" Idea

As the saying goes, "If you can't stand the heat, get out of the kitchen." What about capturing that heat to get a lower electricity bill? Professor at McMaster University, Dr. Jim Cotton worked with Thermal Electronics Corp. to ask that question of Pizza Pizza Limited—and found enough interest from the company to get the idea into development.

"Thanks to programs like NSERC's Engage Grants, we've already established a good working relationship with Thermal Electronics," says Dr. Cotton. "By bringing in another company's expertise, Acrolab, we were able to approach Pizza Pizza with more than just the germ of an idea—the whole supply chain is already in place."

Pizza Pizza has been an early adopter of energy efficiency: from patented thermal bags that keep delivery pizza warm, to installing solar panels and wind turbines at their headquarters. In this case, they provided financial and technical support and donated an oven.

"Without using academic researchers, it would be difficult for a smaller company to engage in R&D at this level of innovation," says Gerard Campeau, CEO of Thermal Electronics Corp. "Working with students also helps us to spot promising new employees with expertise that's well matched to our business needs."

Cotton estimates the Pizza Oven Waste Energy Recovery Power technology they are creating could capture enough wasted heat from pizza ovens to power a store's lights, hot water and perhaps more. Nevertheless, he points out that approaching private-sector partners—even companies with a reputation for innovation—takes patience and a strategic approach.

"Businesses work on a shorter horizon than universities, so we move research projects forward in stages, showing results as we progress," says Cotton. "Trying to push a technology through the door is hard, you have to find the right point of entry and create a pull."

NSERC partnership opportunities via the Engage Grant help companies solve their pressing R&D challenges. Learn more about NSERC's Industry-Driven Collaboration Program.