

# Canadian Colleges and International Research



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force they need to succeed and, more recently, with applied research capabilities to help them develop their next product, service, or productivity improvement. All of this activity supports these companies in their next evolutionary steps, which often include opening up to international markets. As Canadian companies continue to look at these international markets to offer their products and services, Canadian colleges should also explore international research opportunities.

There are several ways through which a college can engage in international research, among which, for example, are projects involving:

- 1) Canadian industry partners, to increase the Canadian companies' markets
- 2) International companies, to help them develop operations in Canada and create jobs here
- 3) International development, to support quality-of-life improvement in developing countries
- 4) Collaborations with international education institutions, on curiosity-driven research.

Which type of project is favoured by each post-secondary institution is likely to vary, and highlight the different roles that colleges and universities can play in international research. For Niagara College's Research & Innovation Division, the order of priority follows the list from 1) to 4).

Niagara College has had success in developing and conducting international research projects throughout the world. Three examples from Korea, Brazil, Argentina are outlined below.

In 2006-8, Niagara College partnered with an Ontario company and HOSEO University in South Korea to develop organic light-emitted devices (OLEDs). The devices were built at the college by our Photonics students and faculty in collaboration with our industry partner, and were tested in equipment simulating accelerated aging conditions in Korea. There were two-way exchanges of students, a new product was developed, and the Canadian industry partner was able to access highly specialized, dif-

ficult-to-find test equipment. This work was funded by the Ontario Centres of Excellence and the South Korean government.

More recently, we were the first college in Canada to receive funding from the International Development Research Centre (IDRC) for the Mulheres Mil project. The project's objective was to bring education and training to 1,000 under-privileged Brazilian women (and was then expanded by Brazilian President Lula to 100,000 women). Niagara College led the project to develop a sustainable framework and methods of evaluating the impact of the program, as well as to conduct workshops to train the Brazilians who would be administering it. This two-year project was a resounding success, with 7 Niagara College staff and students working in Brazil with our partners and contributing to a better life for these Brazilian women.

A final example involves the need to feed the world's ever-increasing population with our limited resources. Dr. Mike Duncan, Niagara

College's NSERC Industrial Chair in Precision Agriculture and Environmental Technologies, is working with companies in Ontario and in Argentina on improving the yield of grain crops, like corn, wheat and soy. By devising methods to better address a grower's field, Dr. Duncan is reducing the cost to the farmer and increasing the bounty from the ground, while minimizing unwanted fertilizer run-offs that can lead to algae blooms and dangerously affect biodiversity. Because the growing seasons in the northern and southern hemispheres are opposite, the work in Argentina enables Dr. Duncan and his research team to test their solutions twice as frequently as if they were only being implemented in Canada. Dr. Duncan's work has been noticed by scientists associated with the Food and Agriculture Organization of the United Nations, and could bring great relief in more challenging zones such as sub-Saharan Africa.

Niagara College and its partners have been fortunate to reap the benefits of international research collabo-

rations: student exchanges, access to world-class equipment for our local partners, help for other countries in need, an acceleration of some of our research, and making the world a better place. Our students are getting crucial international experience, helping make them "world ready" upon graduation, and our faculty are afforded interesting development experiences.

International research for Canadian colleges continues to evolve. The Canadian Bureau of International Education (CBIE) and Colleges and Institutes Canada (CICan) are working to promote new opportunities.

International research and partnerships can be challenging. This is why it is important to choose one's international partners carefully and to stick to a manageable number of institutions or countries. A key consideration for Niagara College is the benefit to our students, faculty and local industry partners. Although the work in finding the right international project may seem daunting, the rewards are worth the hard work.