

## **Foreword**

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When NSERC developed the Centres for Research in Youth, Science Teaching and Learning (CRYSTAL) program, we were responding to concerns about students' levels of science literacy. Our goal was simple: to research ways of improving the quality of science and math teaching in Canadian schools and increasing the resources available to teachers. We felt that NSERC was not only in a unique position to bring together the appropriate organizations and people to address this problem but that the program would ultimately serve the broader needs of the research community.

CRYSTAL was created in the context of a new vision that NSERC adopted in 2003, which is to help make Canada a country of discoverers and innovators for the benefit of all Canadians. Through this program and others, we want to foster the development of Canada's next generation of researchers.

Excellence in research and innovation is widely regarded as a key requirement of maintaining a healthy economy and society. Work done by our scientists and engineers provides a foundation of knowledge that in turn helps solve important problems and enables the development of new products and services.

A healthy research community depends in part on a steady influx of new people – researchers who can learn from today's scientists and who can look at problems from fresh perspectives. Each of these people needs support and encouragement to pursue a career in science or engineering. For many students, an inspiring teacher or an innovative curriculum can generate the crucial first spark of interest.

Following consultations with universities, education ministries, schools, and the science promotion community, we launched CRYSTAL in 2004. The following year, funding was approved for centres based at 5 universities: the University of New Brunswick, Université de Sherbrooke, the University of Manitoba, the University of Alberta, and the University of Victoria. The various projects being conducted at these centres involve researchers from a total of 18 universities and more than 100 partner organizations.

This was new territory for NSERC, but also for some of those involved in the research projects. At the university level, relationships had to be built between science and engineering faculties and their education and social

science counterparts. Research styles and approaches needed to be coordinated. Relationships also needed to be built between post-secondary researchers and those responsible for delivering primary and secondary education. With the various research projects approaching their mid-point, I am pleased to see some of the results published in this issue of the *CJSMTE*. The papers that appear here reflect the diversity of the research projects currently under way. The topics include the challenges of delivering science education in minority linguistic and cultural settings, the factors influencing teachers' ability to improve their effectiveness, and curriculum development. But publication is only the first step. Success will ultimately be measured by the degree to which the knowledge generated by this research impacts the ultimate end user: the students.