

## 9. Globalization

Engineers play a fundamental role in advancing a country's economic growth and improving the quality of life for its citizens. Increasingly, this role transcends national boundaries. Globalization trends highlight how engineering and technology can influence the course of human development around the globe.

Today, the world's population is linked across geographic space as never before – disparate populations live in similar environments and climates, use the same energy resources, and share interlinked economies and sociopolitical systems. Recognizing that globalization brings new challenges as well as new opportunities, the Faculty is developing an educational paradigm that will prepare graduates to work across cultures and disciplines. We are educating the next generation of engineers to meet the unparalleled possibilities, responsibilities, and challenges they will face in the future.

This past year, the Faculty created Canada's first Centre for Global Engineering (CGEN), led by Professor Yu-Ling Cheng as Director, and we appointed Dr. Murray Metcalfe as Professor, Globalization. CGEN will serve as the focal point to showcase, invigorate and expand our globalization activities. The Centre will engage the resources of our alumni and faculty, who continue to be invaluable in advancing Canada's innovation agenda and in collaborating with other institutions and individuals – both nationally and internationally – on our shared goals.

## Task Force on Globalization and Engineering

A decanal Task Force on Globalization and Engineering was established in January 2008 to explore how Engineering at U of T could better prepare graduates for a global workplace and how our research initiatives should be influenced by and proactively address global challenges. The Task Force concluded that globalization is a reality that needs to be addressed in our educational and research initiatives, and identified the following key dimensions of globalization relevant to the work of this Faculty: competitiveness/collaboration; sustainability; and international development. Our graduates will collaborate and compete with engineers from around the world, and engineers should engage with the world's most urgent problems including poverty, hunger, environment and energy. For the full report, please see: [www.eneews.engineering.utoronto.ca/\\_Volume3/Issue2/Issue2.html](http://www.eneews.engineering.utoronto.ca/_Volume3/Issue2/Issue2.html)

## Academic Initiatives

Based on the recommendations of the Task Force, the following academic initiatives are in development:

- Creation of a Minor in Global Engineering.
- Introduction of a course for Spring 2010: Technology, Engineering and International Development.
- Planning for a graduate certificate program in Global Engineering.
- Ongoing collaborations to infuse a global perspective into existing courses.
- Working with major international Engineering and Technical Universities (National University of Singapore, Tsinghua University in China, Monterrey Institute of Technology in Mexico, KAIST [Korea Advanced Institute of Science and Technology], IIT Kanpur, India) to provide meaningful exchange opportunities for our students, in addition to opportunities available in 130 universities in 40 countries through the U of T student exchange program: [www.utoronto.ca/student.exchange](http://www.utoronto.ca/student.exchange)

The following academic initiatives have been completed:

- Created Centre for Global Engineering (CGEN).
- Appointed Dr. Murray Metcalfe, MIE 7T7, to the position of Professor, Globalization.
- Introduced Spring 2009 course: Global Energy Systems.
- Implemented a Seminar Series on Engineering Globalization with a variety of topics at the intersection of technology and globalization, with renowned speakers from MIT and U of T. CGEN will continue to recruit top global leaders for the speaker series each semester.
- Appointed Yu-Ling Cheng Director, CGEN.

**Figure 9.1**  
**Cultural Heritage of Current Students and World Distribution of Alumni**  
**2008–2009**

