

Want a Faster Internet? How About 1000 Times Faster?

Photonics fabrication enabled by CMC is helping a University of Ottawa engineer to remove a key hurdle—Internet constraints—in the widespread deployment of tele-health and other bandwidth-hungry applications

“Until recently, there was no Canadian foundry that manufactured photonics chips. CMC identified a need and proactively investigated the best international suppliers to broker access for services that we could not have acquired on our own. The prototype has been instrumental to our research.”

Dr. Michael Cada
Canada Research Chair in Integrated Active Photonics
Professor
Electrical Engineering and Physics
University of Ottawa



Dr. Michael Cada, is working on a technology that will expand the pipeline for high bandwidth services such as tele-health and e-commerce.

Fibre optic networks are fast, but not fast enough for Dr. Michael Cada. He’s working on a technology that will expand the pipeline for high bandwidth services such as tele-health and e-commerce.

“The devices we are working on make it possible to utilize the fibre capacity that is already there and increase the total transmission throughput by ten, a hundred or even a thousand times,” explains Dr. Cada, a Canada Research Chair at the University of Ottawa.

Dr. Cada and his team of about 25 graduate students designed a WDM (wavelength division multiplexing) demultiplexer chip with photodetectors. The device is one of several competing technologies being developed to increase the information capacity in communications systems. Dr. Cada also plans to employ such a chip in measurement and instrumentation applications.

CMC’s contribution was critical to this project. In 2003, CMC partnered with international foundries to manufacture photonics devices for Canadian universities. Dr. Cada was among the first researchers to take advantage of this new service.

CMC will provide a similar service using the National Research Council’s new Canadian Photonics Fabrication Centre in 2004. Dr. Cada plans to work with CMC to manufacture a second generation of this device, in addition to others such as tunable and pulse semiconductor lasers. *cmc*



Tele-health could be one of the first applications to benefit from faster Internet speeds. In this demonstration at Centennial College, telenurse Kristen Desouza uses tele-homecare technology to check the vital signs of a patient in his home. PHOTO: Centennial College