

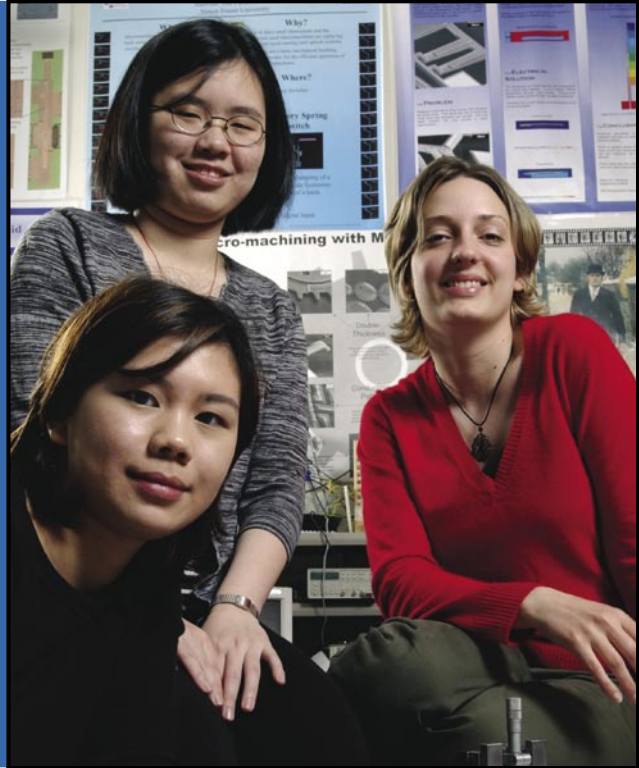


## Innovative DNA Identification to Keep Canada's Crops Healthy

Researchers at Simon Fraser University (SFU) will be using a new 'lab-on-a-chip' service provided by CMC to help farmers fight crop disease

*"Our goal is to combine a standard CD with microfluidics to create a device that can rapidly identify a pathogen—an innovation that has many potential applications in the biotech and health sectors. We are working with Agriculture and Agri-Food Canada as one of our first partners.*

**Dr. Ash Parameswaran**  
Professor  
School of Engineering Science  
Simon Fraser University



Mirela Cunjalo (right) is working with Mimi Wu (centre) and Linda Wu (left) on a new type of CD player at SFU—one that processes DNA samples to help farmers fight crop disease.

Engineers and chemists at SFU are building a new type of CD player—one that processes DNA samples rather than music. It is an innovation that could help farmers to instantly identify what is infecting their crops and act quickly to save them.

"Getting laboratory results from a DNA test can take weeks or even months in some cases," says Mirela Cunjalo, an engineering student at SFU. "By the time the results come back, farmers have lost their crops. Both the farmer and the Canadian economy suffer a loss—lost yield, profits and market opportunities."

Ms. Cunjalo is one of three researchers working under Dr. Ash Parameswaran and a team of chemists at SFU to build a DNA identification system using conventional CD technology. Reconfiguring a CD to 'read' biomaterial, rather than bits and bytes of data, is an emerging area of science that uses microfluidics. Tools and technologies provided by CMC have already contributed to the design of a biochip for the CD reading system.

The team will soon be using a new microfluidics fabrication service provided by CMC through Micralyne Inc. to develop a prototype. The Industry Liaison Office at the university has contributed \$30,000 in funding to help advance the research to this stage. A commercial product—one that is inexpensive, portable and easy-to-use could be available within five years. [cmc](http://cmc.com)