

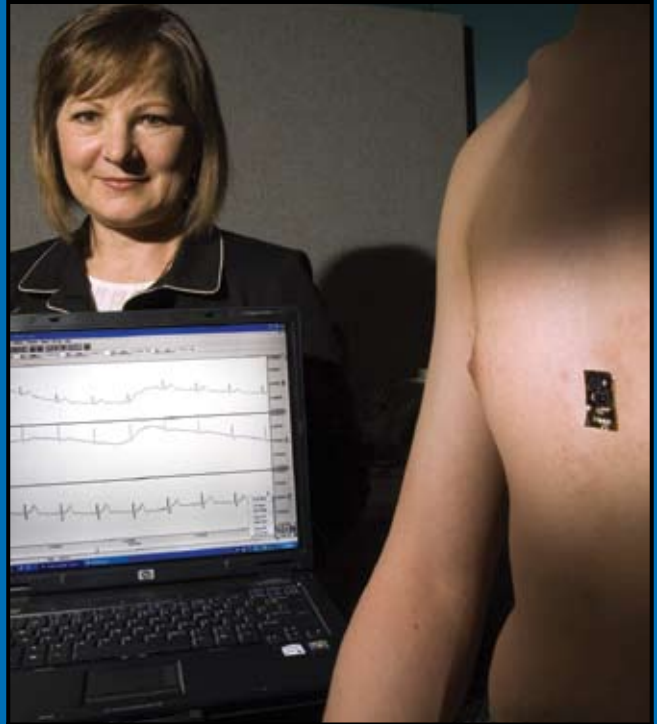


## New Wireless Heart Monitor Promises to Improve Quality of Life for Patients with Heart and Stroke Disease

Researchers at the Centre for Integrative Bioengineering Research (CIBER) at Simon Fraser University and doctors at Burnaby Hospital in British Columbia are testing a wireless device that monitors the physiological changes in the heart of a patient, identifies the early warning signs of heart attack or stroke and, if required, calls 9-1-1 for help.

*“CMC provided access to design and test tools during the initial stages of the project. The corporation is now playing an even greater role in the integration and miniaturization of the device. We are working with CMC to develop a new prototyping platform that will enable us to further validate our concept. This will accelerate the commercialization of this life-saving technology.”*

**Dr. Bozena Kaminska**  
Canada Research Chair in Wireless Sensor Networks  
Simon Fraser University;  
Chief Technology Officer  
Adigy Canada



Dr. Bozena Kaminska of Simon Fraser University has developed a wireless heart monitor that promises to improve the treatment of cardiovascular patients, while reducing the need for long-term care in hospitals or other facilities.

Every seven minutes, a Canadian dies of heart disease or stroke. The total cost of these diseases to the Canadian economy is about \$18.4 billion annually<sup>1</sup>. Dr. Bozena Kaminska's goal is to create new devices and computer-based techniques that will help doctors identify potential heart problems as early as possible, reduce the risk of heart attack or stroke, and enable the delivery of new preventative techniques. With the support of CMC, she has developed a wireless heart monitor that promises to improve the treatment of cardiovascular patients, while reducing the need for long-term care in hospitals or other facilities.

Dr. Kaminska, Canada Research Chair in Wireless Sensor Networks at Simon Fraser University, has developed an unobtrusive biosensor that can be worn by a patient to monitor heart rate, cardiac strength and other related health indicators. The device can measure physiological changes in the heart of the patient and initiate the corrective action required. Such actions could include providing the patient with a recorded, verbal reminder to take medication or dispatching an ambulance. The biosensor taps into a wireless network connecting a hospital or nursing facility and a patient's home, and enables the transmission of real-time medical data to health providers for analysis.

CMC has played an instrumental role throughout all stages of the project. “We are currently working with CMC to combine off-the-shelf and custom-designed sensors on a polymer substrate. Once completed, this will lead to the development of a new prototyping platform that can be distributed by CMC to other researchers across Canada.”

Adigy Canada, a Vancouver-based company, is aiming to commercialize the device in the coming year. Dr. Kaminska, who also performs the role of Chief Technology Officer for the company, is now preparing to apply for U.S. regulatory approval for the device.

The company has secured its first customer and will begin clinical trials of the heart monitor at Burnaby Hospital this fall. [cmc](#)

<sup>1</sup> 2004 QuickFacts, Heart and Stroke Foundation of Canada Web Site, [www.heartandstroke.ca](http://www.heartandstroke.ca).