

## SFU develops super sensor devices

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(PhysOrg.com) -- Imagine being able to adjust your home furnace, check whether your arteries are plugging up and pinpoint the location of your child, all with a tap of the same quarter-sized brooch.

That's becoming doable with next-generation [wireless sensor](#) technology developed by SFU engineering professor Bozena Kaminska and CiBER (Centre for Integrative Bio-Engineering Research). Kaminska, a Canada Research Chair in Wireless Sensor Networks, founded the SFU-based, mixed-technology, electronics developer.

CiBER's work first made international news three years ago when it unveiled a wearable wireless cardiac monitoring and diagnostic sensor. The miniature device is embedded in a polymer-based Band Aid worn on the chest.

"Since then, we have further honed our miniature sensors for secure document storage and transmission," says Kaminska.

"They can be used to track and detect the identity of objects and people. At the National Research Council (NRC) in Ottawa, we're incorporating this ability into sensor-based wireless applications to create smart homes and save energy."

Not only do these sensors have highly sophisticated health, athletic, security and energy monitoring applications, they can also communicate with each other through a CiBER-created solar-powered, wireless, mesh network connected to the Internet.

Through a project led by Marcin Marzencki, a post-doctoral fellow in Kaminska's lab, CiBER has successfully tested several of its network installations in the Okanagan and at the NRC.

The Fraser Health Burnaby Hospital and other health care facilities are clinically testing CiBER's sensors and networking capabilities for medical purposes and evaluating them for athletic and fitness applications.

“Other research groups are using our technology as a platform to build their work on,” says Kaminska, “and that's largely thanks to CMC Microsystems.”

The Queens University-based, non-profit microelectronics fabricator and distributor helps university researchers, nationally, commercialize their inventions.

Provided by Simon Fraser University

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