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## Food allergy testing device developed in Guelph could save lives

## Waterloo Region Record By Johanna Weidner 🖂

GUELPH - People with serious and potentially deadly food allergies could eat out safely with a handy new tool developed at the University of Guelph.

The device can detect allergens such as peanuts or gluten, allowing diners to learn in just minutes if the foods they're eating are safe.

"Right now, there is no tool or technology to know the results right away," said Prof. Suresh Neethirajan, director of the BioNano Laboratory that developed the apparatus.

"There is a genuine need."

About 400,000 schoolchildren in North America have a peanut allergy and 2.5 million Canadians have a food allergy, he said. A real-time testing device that's

convenient and anyone can use would bring peace of mind to many

"They can know themselves right way, almost immediately," Neethirajan said.

It would also be a boon to manufacturers and food safety inspectors, who now rely on slow and costly laboratory testing.

"There is no user-based, convenient tool," Neethirajan said.

The wallet-sized device's technology uses microfluidics and nano-equipment, requiring only a very small sample to test. Not only can it detect the type of allergen but also the concentration.

Reagents in the coated cartridge bind to the toxins and "the allergen starts glowing," he said. Travelling through a beam of light, a specialized camera picks up the telltale glow in the solution.

The device can now test for peanuts and gluten and the researchers are working to expand that to other food allergens, such as shellfish and shrimp and tree nuts.

Neethirajan expects it will be available to buy in about two years.

The device also connects with a mobile app, making it easy for the user to access and record the results.

"The invention has the ability to communicate and transmit the data," Neethirajan said.

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University of Guelph researchers Suresh Neethirajan and Xuan Weng show off a device they've developed, which can detect allergens, such as peanuts or gluten, in foods within minutes.





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