

## Guelph opens first centre for DNA barcoding



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**Dr. Paul Hebert, proud owner of the world's first barcode factory.**

*CTV.ca News Staff*

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A Canadian institute working to compile a database of DNA barcodes for every species on earth officially opened on Wednesday.

The \$4.2 million The Biodiversity Institute of Ontario, at Guelph University, is the first of its kind in the world.

The barcode technology identifies species by analyzing short regions of their DNA instead of the whole genome.

"We are the world's first barcode factory," said Dr. Paul Hebert, director of the institute and the first scientist to propose DNA barcoding.

This process, which uses a short DNA sequence on a common gene to differentiate between multi-cellular living things, makes it possible to identify species much quicker than before.

The barcoding technique has already led to the discovery of new bird, butterfly and fish species.

"Less than one-millionth of all the DNA is enough for us to tell what species an organism belongs to," Hebert explained.

With old technology, the institute would have been able to identify about 1,000 species a year.

Once the institute is completely up and running, it could categorize up to 500,000 samples annually.

Hebert said that this technique could allow scientists to identify an estimated 10 million species in the next 20 years. Only 1.2 million have been formally categorized in the past 250 years.

Once a species is identified, its barcode is uploaded to Barcode of Life Data Systems, an online database, where it can be accessed by other scientists.

Researchers can enter a DNA barcode on the site. If there's match, the database can provide the corresponding species.

The institute has already described almost 28,000 species with barcodes, and they're getting tissue samples from around the world sent to them for quick analysis.

Hebert said he'd ultimately like to see DNA barcoding put to practical use for things like pest management, food safety and environmental monitoring.

*With a report by CTV's Michael Melling*