

Building a digital library for life on Earth

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The largest biodiversity genomics initiative ever undertaken - an international effort to build a digital identification system for all life on Earth - will be officially activated this week.

The International Barcode of Life Project (iBOL) will be launched by the Minister of Research and Innovation, Glen Murray, during an event at Toronto's CN Tower on Saturday, September 25 at 6:30 p.m.

By enabling automated, rapid and inexpensive species identifications, iBOL will transform biodiversity science and its applications throughout society. "We are witnessing alarming rates of [species extinction](#)," said iBOL Scientific Director Paul Hebert, "but efforts to reverse that trend are hampered by huge gaps in our knowledge about the distribution and diversity of life. DNA barcoding promises a future where everyone will have rapid access to the names and biological attributes of every species on Earth."

Dr. Hebert said that DNA barcodes will be a vital tool not only for conservation but also for monitoring species that have adverse impacts on human health and economic wellbeing. "We are only beginning to scratch the surface of how DNA barcoding will impact the way we live, work and play," he said.

[DNA barcoding](#) is a method for identifying species using a short DNA sequence from a standard location on the genome. The technique dramatically reduces the time and cost of species identification. Moreover, because DNA barcode libraries are in digital format, fully

automated identification is now possible for a growing number of species.

Work over the past five years has produced one million barcode records representing almost 80,000 species and provided the impetus for the launch of iBOL, the large-scale genomics project that will not only massively expand the DNA barcode reference library but also develop the technologies to read it, including a table-top barcoder.

iBOL has been established as a not-for-profit corporation overseen by an international board of directors representing funding organizations. More than 25 countries are involved and major commitments have been made toward the Phase 1 (2010-2015) operating budget of \$150 million. The Biodiversity Institute of Ontario at the University of Guelph will soon treble in size to both accommodate the iBOL secretariat and greatly expanded facilities for barcode analysis and data storage.

By the end of the first phase in 2015, consortium members will have entered DNA barcode records from five million specimens representing half a million species into the interactive Barcode of Life Data System (BOLD) databank, creating the launchpad for a subsequent push towards a DNA barcode reference library for all of Earth's animal, plant and fungal species.

"The International Barcode of Life is assembling a global network of taxonomists, biologists and geneticists to embark on the next great exploration of the natural world," said Dr. Christian Burks, President and CEO of the Ontario Genomics Institute and Chair of the iBOL Consortium board of directors. "It will bring about fundamental changes in the way we view Earth's biodiversity and our relationship to it."

Provided by International Barcode of Life

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