

New research software automates DNA analysis

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At the core of medical research is problem-solving, which is exactly what two PhD scientists did when they set out to eliminate a common, time-consuming task performed in research laboratories around the world.

Bruno Fonseca, PhD scientist at the Children's Hospital of Eastern Ontario Research Institute and Riu Liu, PhD scientist at the University of Southampton (United Kingdom) collaborated over the past four years to develop a [software tool](#) that automates the design of primers for site-directed mutagenesis. Their new [software](#) program is called PrimerGenesis.

"We've automated a Nobel-prize winning research technique," says Bruno Fonseca, co-creator of the software. "Genome sequencing yields vast amounts of data on disease-causing [mutations](#) in DNA. Investigating each mutation by a common practice called site-directed mutagenesis is a laborious and time-consuming task. There's an appetite for automating this task in the field of molecular biology research, so it's been rewarding to develop this software."

Generating mutations in a gene typically requires a researcher to manually design a small strip of DNA called "primer". Instead of counting individual nucleotides within a strip of DNA, this time-consuming task can be completed computationally in a matter of seconds by using this new software program.

"We've aimed to make it as user-friendly as possible," said Rui Liu, co-creator of PrimerGenesis. "The software is extremely versatile and can be widely applied; yes, it can be used to generate mutations but it can also be used to introduce specific tags upstream or downstream of a gene."

PrimerGenesis is free and available globally without registration or download requirements at: <http://primergenesis.com>.

Provided by Children's Hospital of Eastern Ontario Research Institute

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