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U of G researches receive \$700K in government funding

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GUELPH

Plants were around long before tyrannosaurus rex roamed the Earth, but unlike the dinosaurs they survived large-scale global change, researcher Dr. Jaideep Mathur said.

Mathur hopes to learn how plants deal with stress. Among the many applications for his research, one would be keeping agriculture healthy as the climate changes.

The University of Guelph cell biologist was one of five researchers who yesterday received a total of \$700,000 in seed money from the provincial Ministry of Research and Innovation.

Mathur pointed to a large monitor positioned next to a specialized microscope and explained that the constellation of red and green splotches moving slowly across the screen were the live subcellular components of a plant.

With the help of a powerful microscope and a laser, Mathur can record the inner machinery of an individual cell in real time.

Thanks to genes added to the DNA of the plant, he can grow the small plants so each section of their cells show up separately under the laser.

"That's what has given us the edge," he said of the added colour coding.

Research and Innovation Minister John Wilkinson said the money aims to give young researchers, like Mathur, a startup boost.

"The world is looking for solutions that will come out of labs here," he said. "If labs offer solutions to global problems the global market will beat a path to our door."

The five scientists who received funding represent a cross-section of physics, chemistry and biology.

"All five projects are leading-edge research but it's quite an eclectic mix of disciplines," Guelph MPP Liz Sandals said, adding the variety of disciplines and the interconnectivity between research fields is a strength at the U of G.

"There is a huge capacity for collaboration between different life sciences and physical sciences."

The work of researchers like Mathur allows policy-makers to make more informed decisions and better prepare for the future, she said.

In total, \$9.2 million will go to 66 projects in laboratories across the province.

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five scientists

U of G researchers to receive funding:

Dr. Jaideep Mathur: By looking at plant life at the subcellular level, Mathur's team hopes to better understand how plants respond biologically to pollution and other stressors.

Dr. Ryan Norris: To understand why some migratory-bird populations are declining, better monitoring methods are needed. Norris's team hopes to develop methods of tracking birds over their entire life cycle as they travel thousands of kilometres. He is examining how global climate change affects migratory populations.

Dr. Paul Garrett: At the atomic level the laws of physics are different than those that govern our day-to-day lives. Garrett and his team study nuclear physics in an attempt to better understand the universe.

Dr. Chris Bauch: Using computer modelling, Bauch and his team are trying to find the best way of treating cervical cancer using combinations of a vaccine and screening.

Dr. Hafiz Maherali: An invasive weed, garlic mustard could potentially wreak havoc on Ontario forests. Maherali hopes to understand the long-term impact of invasive species on ecosystems.



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