

Is your job threatened by artificial intelligence?

by Heidi Riley

Self-driving cars, robotics for milking cows, and apps on your smart phone are all technologies known as artificial intelligence (AI). Many duties for jobs such as bank tellers, truck drivers, lab technicians, receptionists, and cashiers are changing as this technology grows.

But will AI ever really replace people? That's the question explored in a panel discussion at UPEI during Atlantic Canada Career Week. UPEI hosted a number of seminars and information sessions that urged students to explore new learning opportunities and new career developments on PEI and around the world.

UPEI faculty members discuss the trend of computers and artificial intelligence replacing workers now and in the future:

Greg Doran is Coordinator of Theatre Studies and Chair of the Department of English, UPEI.

"Many technologies have come and gone. The only constant with technology is change. The best way to prepare for a future made uncertain by technology is to get a liberal education, which is relevant to communication, collaboration, and critical thinking."

He says rapid technological changes will make some careers obsolete by the time students graduate. "A liberal arts education does not come with an expiry date, and it will give you the tools to deal with whatever comes next."

"You need to have digital literacy, but you don't have to know how to code. We should appreciate AI as a tool, not worry that we will lose our job to a robot."

"We need to consider the larger ethical decisions about the people who lose their jobs through automation. In the future, people will probably have many more careers in their lifetimes than their parents did. Critical thinking and learning how to learn are skills you will take with you after you graduate."

Trung Dung Ngo is Associate Professor, Robotics and Automation, Faculty of Sustainable Design Engineering, UPEI.

"I work on robots as assistive technology to help humans, not to replace humans. Robots are meant to serve people and to do dangerous tasks so that humans do not have to risk their lives."

"A few hundred years ago, most of the work our ancestors did was to produce food. Now, most people work at something else."

"Throughout history, as some jobs disappeared, many new types of jobs were created. What kinds of careers exist now and in the future, as computers and robots replace so many jobs? You can be the person who programs or builds the robots or writes the applications. Demand for more specialized jobs will continue to grow, so you need to watch where trends are going."

"AI is not something we should be threatened by. Computers can identify patterns much more easily and 3-D printing can produce results much more accurately than humans. But humans can solve problems and make cognitive decisions that robots cannot."

Gary Evans is Associate Professor, Faculty of Business, UPEI.

"Technological change is replacing both low level and high-level jobs. For example, stock brokers, who have million-dollar jobs, are being replaced by computer algorithms. But AI is still at a very low level. It will not write the next Shakespearean play."

He says technology is changing the nature of work. "Some jobs that are highly repetitious and can cause health issues are now being supplemented by technologies. For example, people don't have to enter data anymore. Data can be collected automatically and turned into reports, but humans decide what to do with the information."

"I embrace technology, and I think in the future, work will be different in a really positive way. It's about letting people do what they are good at: thinking outside the box and asking the hard questions. Technology is just a supplement."

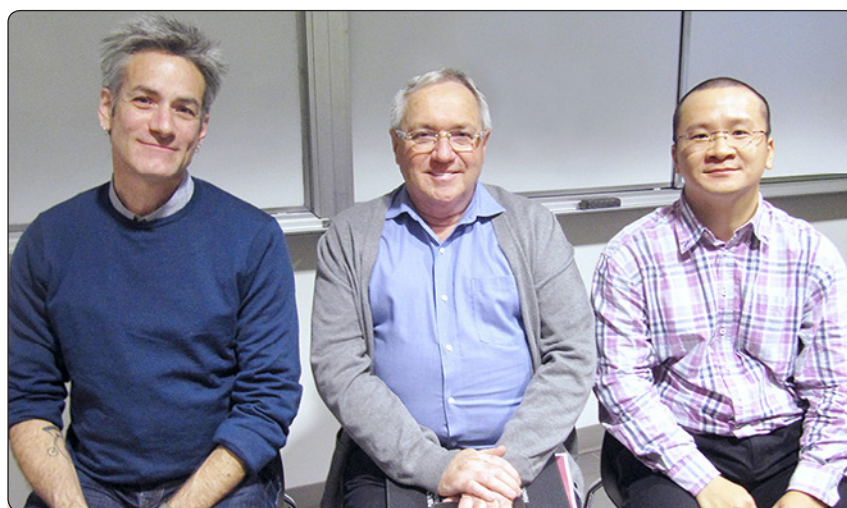
"AI will change our lives radically, but if we see it in a positive light, it will be a positive change. We can all be creative problem solvers. I rank creativity as the most critical skillset. If you are creative, you will have a job for life."

Bonnie Stewart is Assistant Professor of Online Pedagogy and Workplace Learning, Faculty of Education, University of Windsor, is a former Experiential Education and Adult Education Coordinator at UPEI. She joined the conversation via Skype.

"When it comes to AI, the popular narrative focuses on future innovation. No one wants to be left behind, but this creates stress - people feel that they must catch up and keep up to stay relevant."

"Another belief is that we need to teach every child how to code, or they will be unemployable. But will all future jobs be in coding? Coding jobs are increasingly precarious, and most coders are not the decision makers. We need to build human skills such as empathy and collaboration."

"To prepare for the future of work, take the time to understand how things operate. Learn how the Internet actually works. We can deal better with technology's hold on us by understanding how to collaborate with people, make connections, and get your message out there. These skills can't be replaced by automation."



UPEI faculty members Greg Doran, Gary Evans, and Trung Dung Ngo.

Bioscience company now part of international team and invests in robot technology

by Heidi Riley

The **Nautilus Biosciences Croda Centre of Innovation for Marine Biotechnology** was officially opened in the fall of 2018.

"This is a milestone event as we welcome Croda International as our latest international investor in the outstanding technology platform and brainpower centre that PEI's bioscience cluster has become," says **Rory Francis**, PEI BioAlliance.

"Croda and Nautilus have worked together closely over the past six years to develop actives with applications in skin care and hair care, and more recently, in crop care," says **Sandra Breene**, President, Personal Care, Croda International, PLC.

"Nautilus has 10 world-class scientists, each with unparalleled experience in blue biotechnology," says Sandra. "The team will be able to bring new patented products to market, along with Croda's biotechnology, giving us a wider spectrum of capabilities."

"Part of the reason I moved to PEI was because of how academia, industry, and government work side by side in this fantastic building," says **Dr. Russell Kerr**, Research Fellow, Nautilus Biosciences Croda.

"Our new state-of-the-art liquid handling robot allows Nautilus staff to get results much more quickly with much greater precision. Microbes are fermented, extracted, and screened for natural products that can be used as actives for use in a range of industries, including personal care, crop care, and areas we have not imagined yet."

"Adding this robot does not mean we are losing people. We are adding to the complement of employees as they acquire new skill sets in operating the robot."

About the staff

Most of the Nautilus staff has been with the company since it started. Staff have a variety of education backgrounds, such as Bachelors, Masters and PhDs in chemistry or microbiology, as well as Engineering and Bioscience Technology diplomas.

Stephanie Duffy, Research Scientist, has worked for Nautilus since 2011. She earned a double major in Biology and Chemistry at UPEI, and then took the bioscience technology course at Holland College. She works in the Nautilus fungal microbiology lab.



Brad Haltli and Martin Lanteigne work at the Nautilus-Croda lab. Behind them is the new robot, which performs multiple laboratory tasks.

Brad Haltli, Research and Technology Manager at Nautilus, earned his undergraduate degree at what is now Thompson Rivers University in Kamloops, British Columbia. He did his graduate research at Dalhousie University in Halifax. He worked in the natural products division of a pharmaceutical company in New York. On PEI, he was a research manager in a UPEI lab, and then began working with Nautilus.

Martin Lanteigne has been with Nautilus for 10 years. He earned a biotechnology diploma at New Brunswick Community College in Grand Falls. Martin was doing the testing manually before the robot was installed. Recently, he took in-depth training in the US to learn to operate and program the robot.

For more information, contact **Dr. Russell Kerr**, Research Fellow, **Nautilus Biosciences Croda**, at **902-566-0565** or email **russell.kerr@croda.com**

Visit **www.nautilusbiosci.net**

For more about PEI BioAlliance, visit **www.peibioalliance.com**

For the full interview, visit **www.employmentjourney.com** and search **Nautilus**.

