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COVID-19 Driving Ontario's Recovery Partnering to Help Ontario Making an Impact Resources News & Updates

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Partnering to Empower Women and Girls in STEM

DATE
February 11, 2022

TOPICS
Access, Diversity, Research & Innovation,

The International Day of Women and Girls in Science is a day to celebrate the many women who have, and continue to, make outstanding achievements and contributions across science, technology, engineering and math (STEM)

fields.

According to recent Ontario university enrollment data, 33 per cent of all women students were enrolled in STEM programs in 2020-21 – an increase from 25 per cent in 2011-12. Women now account for almost 48 per cent of enrolment in these programs. The remarkable leadership by these women has helped increase representation in STEM.

Across all levels of STEM – some of the fastest-growing and in-demand fields in the province – gender disparity persists and women remain under-represented in these fields. According to Stokes Economics, Ontario will see 233,000 job openings within STEM from now until 2030 that will require a university education. Ensuring women and girls have equal access to these education and career opportunities is critical to creating a diverse workforce that can solve complex challenges through unique perspectives.

As leaders in STEM education, Ontario's universities recognize the important role they play in helping increase gender diversity across the sector. Universities are helping bridge the gender gap by creating mentorship and networking opportunities, funding women-led student groups, reaching out to young women and girls in their local communities and creating safe environments where women can thrive.

Additionally, to help meet a growing demand, and fill critical gaps, for jobs in sectors such as health care, engineering and computer science, universities continue to partner to increase access to STEM education and provide the resources that support the inclusion and success of women in STEM.

Below are more examples of some of the ways universities

are partnering to support and increase the participation of women and girls in STEM across the province.

Students making an impact

🐾 Lakehead University

By working with girls across northwestern Ontario, Lakehead University student, Nicole Costanzo, is helping inspire their interest in STEM. As the coordinator of the Girls Club program at Superior Science, a science camp for elementary school students in northwestern Ontario, she taught students about the different applications of chemistry through interactive online activities, such as making their own hand sanitizer.

To learn more, visit Lakehead University.

🐾 McMaster University

With the goal of empowering individuals with limited hand mobility, McMaster University biomedical engineering student, Lianna Genovese, invented, patented and commercialized Guided Hands – an award-winning device that helps increase hand mobility so individuals can write, draw or access a touchscreen.

To learn more, visit McMaster University.

🐾 OCAD University

Cervical cancer screening can be an uncomfortable experience for some women. To address this, OCAD

University graduate Nancy Seto designed and commercialized a self-sampling medical device called HerSwab. HerSwab enables women to collect and mail in their own samples, which are then sent to a lab to be screened for potentially life-threatening diseases, such as HPV, chlamydia and gonorrhea.

To learn more, visit OCAD University.

🐾 Ryerson University

By leveraging her skills and knowledge in data analytics and artificial intelligence, Alice Rueda, an engineering graduate student at Ryerson University, designed and developed critical voice-assistive technology that will help patients with Parkinson's disease lead more independent lives.

To learn more, visit Ryerson University.

🐾 Trent University

Effective public policy can help reduce human impact on the environment. Katy Hynes, a graduate of Trent University's Master of Bioenvironmental Monitoring and Assessment degree, is applying the skills she learned during the program to help develop and inform environmental policy in Canada.

To learn more, visit Trent University.

Helping create equal access to STEM education

🐾 Brock University

To help women pursuing or thinking about a career in STEM

learn more about different opportunities, Brock University is hosting the virtual event "Meet a STEM Professional". During the event, individuals can connect directly with women currently working in the field, such as engineering, academia, industry or research, to learn more about their experiences.

To learn more, visit Brock University.

🐾 Carleton University

With the goal of closing the gender gap in STEM, the Women in Engineering & IT Program at Carleton University works closely with industry partners to provide students and graduates with career-boosting opportunities. This includes networking events, mentorship programming and access to skills development resources to help them succeed in their careers.

To learn more, visit Carleton University.

🐾 University of Guelph

Creating a supportive network for women in STEM can help increase inclusion and retention in the sector. The Guelph Women in Computer Science (GWiCS) at the University of Guelph is a student-run organization that aims to build community for women, transwomen and non-binary individuals studying computer science, software engineering and other computing degrees through activities, such as networking, trivia nights and workshops.

To learn more, visit the University of Guelph.

🐾 University of Toronto

To help build an inclusive campus community for women graduate students studying engineering, the student-run Graduate Super Women Engineers (GradSWE) program at the University of Toronto is hosting open discussions about diversity and mental health and wellness in STEM.

To learn more, visit the University of Toronto.

🐾 **York University**

Connecting underrepresented groups, such as young women and girls, with access to STEM education and experiences is the driving force behind the Kindergarten to Industry (K21) Academy at York University. K21 Academy programming is designed by engineering faculty, undergraduate students, industry partners and teachers to create a real-world and inclusive learning environment.

To learn more, visit York University.

Engaging women and girls in STEM through community outreach

🐾 **Laurentian University**

To inspire young women and girls in the local community to pursue careers in STEM, Laurentian University is hosting the Women and Girls in Science Symposium. The symposium brings together diverse speakers and activities to help showcase the opportunities that are possible for women in the sector.

To learn more, visit Laurentian University.

🐾 **Ontario Tech University**

By helping women in STEM programs refine their skills and develop confidence, the Women in STEM Mentorship program at Ontario Tech University connects students with STEM professionals in the local community through mentorship and networking opportunities.

To learn more, visit Ontario Tech University.

🐾 **University of Ottawa**

For the first time in Canada, the contributions of women in STEM will be made available to researchers in an effort to document their history. In collaboration with national partners, the University of Ottawa is helping establish a permanent archive that will help researchers discover and celebrate the history of Canadian women who have made an impact in STEM fields.

To learn more, visit the University of Ottawa.

🐾 **University of Waterloo**

By providing young women in high school with access to hands-on learning experiences and workshops in computer science, the Seeing Possibilities and Rewards in Computer Science (SPARCS) program at the University of Waterloo is helping students across the country explore and consider a career in STEM.

To learn more, visit the University of Waterloo.

🐾 **Western University**

To help young women living in rural Ontario learn more about opportunities and careers in STEM, Western

University engineering graduate student, Sadaf Mehrabi, visits communities as a mentor to share her experiences as an environmental engineer.

For more information, visit Western University.

Women-led ground-breaking research and innovation

🐾 **Algoma University**

Advancing key research in regenerative medicine has the potential to create innovative and life-changing treatments in health care. A research team led by Dr. Nirosha Murugan at Algoma University has found a way to regrow frog legs that could one day be used on humans.

To learn more, visit Algoma University.

🐾 **Nipissing University**

Studying water can provide critical insights into climate change. Dr. April James and her team at Nipissing University are studying the movement of water, which can help shed light on the relationship between water quality and human impact on the environment in northern Ontario communities.

To learn more, visit Nipissing University.

🐾 **Queen's University**

Everyday activities, such as taking public transit or using a smartphone, rely on the strength and resilience of metals. That's why Dr. Cathleen Crudden and her team at Queen's

University are developing unique molecular coatings designed to significantly extend the lifespan of these vital metals. Advances in this area have the potential to reduce costs in infrastructure, manufacturing and health care.

To learn more, visit Queen's University.

🐾 Wilfrid Laurier University

To help limit the spread of respiratory diseases, as well as control air pollution, Dr. Hind Al-Abadleh and her team at Wilfrid Laurier University are studying the significance of short-term events, such as COVID-19 lockdowns, on air pollution levels. The results of this research will deepen our understanding of the factors that contribute to air pollution and respiratory diseases, helping inform government measures and regulations.

To learn more, visit Wilfrid Laurier University.

🐾 University of Windsor

As vehicles become more technologically advanced, they become vulnerable to cyberattacks. Engineering and computer science researchers, Dr. Mitra Mirhassani and Dr. Ikjot Saini at the University of Windsor, are leading Canada's first research centre dedicated to countering these threats. Their research will help prevent harmful cybersecurity attacks that could compromise vehicle safety and personal information.

To learn more, visit the University of Windsor.

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