S GENERATOR
at Sheridan

Annual Showcase

Get inspired, forge collaborations
and explore opportunities with impact

Wednesday, October 23, 2024
Creativity Commons, Hazel McCallion Campus
4180 Duke of York Blvd., Mississauga, ON

Sheridan

Land acknowledgment

We acknowledge the land for sustaining us and providing us with the necessities of life. This territory is covered by the Dish with One Spoon treaty and the Two Row Wampum treaty, which emphasize the importance of joint stewardship, peace and respectful relationships. As we reflect on land acknowledgments, let us remember that we are all stewards of the land and of each other.

Sheridan campuses reside on land which has been and still is the traditional territory of several Indigenous nations, including the Anishinaabe, the Haudenosaunee Confederacy, the Wendat, the Métis and the Mississaugas of the Credit First Nation. Since time immemorial, numerous Indigenous nations and Indigenous Peoples have lived on and passed through this territory.

Sheridan affirms it is our collective responsibility to honour the land, as we honour and respect those who have gone before us, those who are here and those who have yet to come. We are grateful for the opportunity to be learning, working and thriving on this land.

Agenda

8:30 a.m.
Registration and breakfast

9:00 a.m.
Welcome and remarks

9:30 a.m.
Panel session: Accelerating impact –
research, innovation and entrepreneurship
driving social innovation

10:15 a.m.
Break and networking

10:35 a.m.
Lightning talks

11:05 a.m.
Break and networking

11:25 a.m.
Lightning talks continued

Noon
Lunch and marketplace

1:30 p.m.
Event concludes

Schedule details

Welcome
9:00–9:30 a.m.
(Creativity Commons, Main Stage)

| Event emcee:

Andrea England, Vice Provost, Research

| Opening remarks:

Mary Vaughan, Provost and Vice President, Academic

Panel session
9:30–10:15 a.m.
(Creativity Commons, Main Stage)

Accelerating impact — research,
innovation and entrepreneurship driving
social innovation

Gain insights from an experienced and passionate panel
that includes Sheridan faculty, students and research
and entrepreneurship centre members on how research,
innovation and entrepreneurship activities are pivotal in
addressing pressing social challenges as well as scaling social
impact to drive meaningful change in our communities.

| Moderated by:

Anne Cibola, Professor, Faculty of Animation, Arts & Design

| Panelists:

Dr. Ferzana Chaze, Professor, Faculty of Applied Health and
Community Studies

Dr. Michael McNamara, Professor, Faculty of Humanities
and Social Sciences

Genevieve Kenny, Professor, Faculty of Applied Science
and Technology

Noreen Javed, Interim Director, EDGE

Elaine Heung Ting Kwee, Student Researcher

Break and networking
10:15–10:35 a.m.
(Creativity Commons, Collaboration Corner)

Lightning talks
10:35–11:05 a.m. | 11:25 a.m.–Noon
(Creativity Commons, Main Stage)

Artificial intelligence-driven prediction for osteoporosis: the imminent fracture risk tool

Dr. Haruna Isah, Centre for Applied AI,
Dr. Volodymyr Voytenko, Faculty of Applied Science and Technology and **Patel Bhagyesh**, **Koya Pratham** and **Ruttansh Bhatelia**, Student Researchers

Osteoporosis, characterized by weakened bones and increased fracture risk, affects millions worldwide, posing a significant public health challenge. The Centre for Applied AI collaborated with Osteoporosis Canada on a project focused on the development of an AI-driven imminent fracture risk (IFR) prediction tool aimed at timely intervention, effective management and improving outcomes for osteoporosis patients.

Artificial intelligence imaging system for object defect detection

Dr. Ameera Al-Karkhi, Faculty of Applied Science and Technology with the Centre for Intelligent Manufacturing

How can an artificial intelligence (AI) inspection system perform visual inspections of machined parts to detect types of defects with high accuracy? This lightning talk explores the system developed to distinguish between approved and imperfect parts, classify them without the need for human intervention and improve the quality and accuracy of the final product.

Breaking barriers: advancing academic inclusion for students with disabilities

Nicholas Mitri, Student Affairs

Discover how Ontario college practitioners are reshaping academic inclusion for students with disabilities. Through a critical disability lens, this lightning talk uncovers transformative practices and key challenges in building truly accessible and equitable learning spaces.

Cultivating individual and collective wellness in teaching and learning spaces: a holistic toolkit

Lianne Kendall Perfect, Centre for Equity and Inclusion, **Elaine Heung Ting Kwee**, Student Researcher

How can we enhance awareness of wellness strategies for addressing burnout, compassion fatigue and other stressors? This lightning talk will introduce a new toolkit, "Cultivating Individual and Collective Wellness in Teaching and Learning Spaces," designed to promote resilience and well-being through evidence-based strategies.

Enhancing FAQ system with generative AI

Dr. Haruna Isah, Centre for Applied AI, **Dr. Nick Sajadi**, Faculty of Applied Science and Technology and **Jigneshkumar Patel Parth** and **Bajaj Kunal**, Student Researchers

The Centre for Applied AI collaborated with the Oakville Public Library to create a conversational AI chatbot to support frequently asked questions from patrons and guests using natural language processing capabilities. Learn more about how the chatbot leverages generative AI to bolster its decision-making prowess and elevate the provision of accurate, contextually relevant information to users.

Experimenting with small, open-source AI models for practical use

Lingling Jiang, Library and Learning Services

This lightning talk explores whether small, open-source language models can be used on less powerful servers for practical, real-world applications. The talk will share preliminary findings and discuss future directions, including exploring additional models and optimization techniques.

From field search to applied training: leveraging drones for rescue operations

Dr. Dalia Hanna, Information Technology Services

This lightning talk will introduce a set of innovative training modules for public safety teams, focusing on Search and Rescue (SAR) units using drones to locate individuals with dementia. The program, grounded in extensive research and an algorithm for optimizing drone operations, promotes an interactive, interdisciplinary approach to enhance SAR teams' skills through self-directed learning and collaboration.

Moving forward: redefining campus accessibility through innovative study abroad models

Dr. Genevieve Amaral, Faculty of Humanities and Social Sciences

This lightning talk explores an inclusive and innovative approach towards promoting student physical mobility, especially for historically underrepresented students, by designing "high credit value" study abroad programs. It also explores whether collaborative online international learning increases student likelihood of participating in physical mobility opportunities.

New economic order in making: going beyond service sector

Dr. Bamadev Paudel, Pilon School of Business

Are we now in a reflection point to transition into a new global economic order? What will this new order be like, particularly in the context of rapid technological advancements and evolving new sectors of the economies? This lightning talk investigates the expanding global economic landscape, emerging trends and how efficiency gains are poised to drive the next revolution in the business world and global economic order in making, particularly affecting supply chain management, business operation strategies and economic policymaking framework.

Nurturing innovation and entrepreneurship in students

Dr. Nadine Sinno, EDGE

EDGE offers Sheridan students a transformative experience to help shape future leaders through entrepreneurship and innovation. This lightning talk shares EDGE's approach to student engagement to equip students with the skills to lead and innovate.

Program-generated math assessments using python

Jacob Chodoriwsky, Faculty of Applied Science and Technology

Each term, a math professor will need to create, solve and refine math questions for paper assessments such as quizzes and exams — including different versions of equivalent length and difficulty. This lightning talk explores how the time-consuming process can be partially automated by using the Python code.
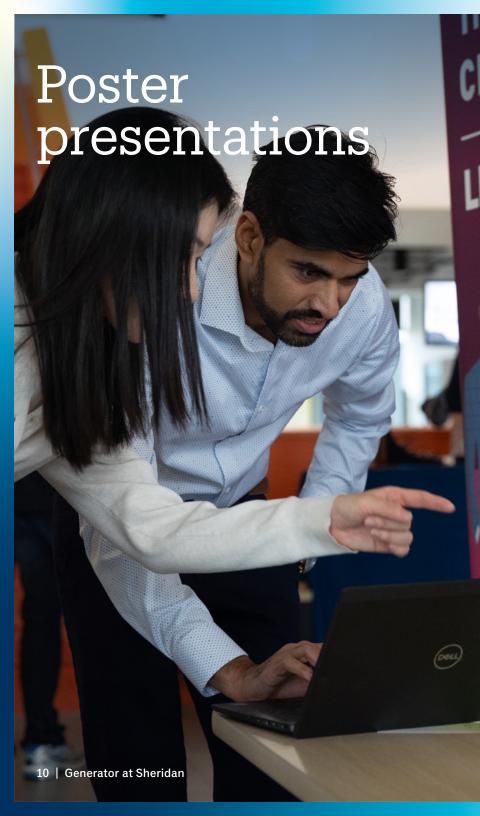
Robotic gait simulator: a novel approach for testing prosthetics

Dr. Nadim Arafa, Faculty of Applied Science and Technology

The robotic gait simulator is designed to support professionals in provision of prosthetic products and services to persons with amputation. It has the potential to allow longitudinal remote assessment and optimization of full-body mobility for prosthetic limb wearers. This lightning talk explores using an industrial robot for testing prosthetics to enhance the design, durability and end-user experience.

**Break and networking
(Creativity Commons, Collaboration Corner)
11:05–11:25 a.m.**

**Lunch and marketplace
(2nd Floor Creativity Commons and B-Wing)
Noon–1:30 p.m.**

Poster presentations

Benefits of visual art-making for Canadian older adults

Dr. Kate Dupuis, Faculty of Applied Health and Community Studies and Centre for Elder Research

Engaging in arts, creativity and self-expression opportunities can have health and well-being benefits for individuals across the lifespan. In collaboration with community partner Artfull Enrichment, with funding from the Retired Teachers of Ontario Foundation, a novel website and app were created to allow older adults to connect through the arts.

Building an OER handbook for faculty

Kathleen Oakey, Library and Learning Services

The OER handbook and toolkit focuses on best practices for developing critical information literacy skills through research-based assessments and offers timely advice and support for faculty who are looking to take their research-based assignments to the next level.

Design and manufacturability study of sensor enclosures for rehab tracking

Dr. Victor Bravo, Faculty of Applied Science and Technology, **Dr. Ethan Shen**, Centre for Intelligent Manufacturing and **Theodor (Ted) Nguyen**, Student Researcher

This project aimed at improving the design of the enclosure of a sensor intended to help therapists to monitor data containing body part motion from patients to assist in their physical rehabilitation. Design for manufacturability was looked upon to ensure that parts were ready for a large-scale production, while also ensuring that they meet all the established functionality requirements.

Difference Goggle: visual skills simply revealed

Naomi Wang, Centre for Intelligent Manufacturing and **Hassan Saleem** and **Nirav Mistry**, Student Researchers

Difference Goggle tracks eye movement with different applications. For disorders related to the eyes, data can be extracted to help monitor recovery and identify improvements after traumatic brain injuries. For athletes, eye tracking data can provide valuable insights into the correlation between sports performance and visual skill proficiency, with the potential for enhancing performance through vision therapy.

Fit optimization for chairs using artificial intelligence

Dr. Haruna Isah, Centre for Applied AI and **Zahaak Khan**, Student Researcher

The Centre for Applied AI collaborated with ergoCentric on a project to optimize the ergonomic chair fitting process by developing AI models using machine learning algorithms, relevant data on chair fittings and client preferences to streamline the chair fitting process.

Greenhouse energy analysis

Dr. Joaquin Moran and **Dr. Amin Ghobeity**, Faculty of Applied Science and Technology and **Daniel Ta**, Student Researcher

Explore a detailed energy analysis of a greenhouse system and model capable of predicting its internal temperature for various seasonal and diurnal environmental scenarios. This will allow for better and more energy efficient greenhouse control and set the foundations for intelligent management of greenhouses for crop maximization and energy consumption minimization.

M-body.ai: open source data and tools for generative animation

Stephan Kozak, **Valentina Bachkarova** and **Mike Darmitz**, Screen Industries Research and Training Centre

M-body.ai is a bilingual, open source applied research project to accelerate and support the advancement of AI application in the area of human motion and animation.

Understanding Canadian culture as a life skills project

Dr. Julianne DiSanto, Faculty of Applied Health and Community Studies, **Dr. Sara Cumming**, Faculty of Humanities and Social Sciences and **Lina Wang**, Student Researcher

A disproportionate number of newcomers (45.9%) and refugees (71.6%) are accessing shelters compared to just over 10% of Canadian citizens. Understanding Canadian culture as a life skill, inspired by findings and dialogue that emerged from "The Community Ideas Factory: The Life Skills Project," is a research project that proposes an innovative response to the need for more life skills programming specific to newcomers to Canada to maintain their housing status.

Interactive booths

Amplify your research and mobilize your knowledge with SOURCE

Adam Duguay, Library and Learning Services

Are you seeking new avenues to amplify the reach of your scholarly and creative works and to reach new audiences? Explore how SOURCE: Sheridan's institutional repository not only preserves your research but also enhances research discovery and accessibility and disseminates it to a global audience, thereby broadening visibility and impact for researchers. Bring a digital copy of your CV and the SOURCE team will help you identify what publications, presentations or other work you can share on SOURCE today.

Career tool for life: build your dream, one step at a time

Akeel Mohamed, Pilon School of Business

Learn more about a comprehensive career development tool focused on soft skills. Explore how it identifies the skills employers seek, assesses your proficiencies and provides recommendations on industries of best fit and suggestions on development plans.

Centre for Intelligent Manufacturing

Dr. Carolyn Moorlag and **Dr. Ethan Shen**, Centre for Intelligent Manufacturing

Learn more about how the Centre for Intelligent Manufacturing merges technology and innovation to drive forward manufacturing expertise, technology and real-world solutions with immediate impact.

Generator Support Office

Jennifer Ya-Ting Niu, **Laura St. Germain** and
Sarah Pollock, Generator Support Office

Learn more about Generator's impactful research, innovation and entrepreneurship (RIE) activities out of our faculty and research and entrepreneurship centres. In addition, learn how you can get involved in RIE activities at Sheridan, access research funding opportunities and more, by connecting with the Generator Support Office.

Improving urban planning through AI, simulation and visualization

Dr. Haruna Isah, Centre for Applied AI, **Dr. Haya El Ghalayini**, Faculty of Applied Science and Technology and
Liu Min, **Amanzai Rasheed** and **Dineshbhai Patel Hetkumar**, Student Researchers

Improving urban planning through AI, simulation and visualization involves leveraging cutting-edge technologies to create more efficient, sustainable and livable urban environments. Learn more about how the Centre for Applied AI collaborated with Naryant on a Town of Oakville urban planning project to better understand the utilization of the Oakville GO Station.

Inclusive community building at Sheridan: a wayfinding journey

Dr. Patricia Marshall, Faculty of Humanities and Social Sciences, **Angela Iarocci**, Faculty of Animation, Arts & Design, **Dr. Lia Tsotsos**, Centre for Elder Research and **Danielle Roberts**, Student Researcher

Explore how individuals aged 55+ of all abilities interact, access and navigate postsecondary built environments, as well as what is and what is not working. Learn how this contributes to Sheridan's campus planning processes and the improvement and expansion of existing wayfinding systems at Sheridan's Trafalgar Road Campus.

LUCID: A personalized intervention for persons living with dementia

Dr. Lia Tsotsos, Centre for Elder Research

LUCID, in partnership with the Centre for Elder Research and funded by an NSERC Applied Research and Technology Partnership 1 grant, collaborated on research that supported the development, refinement and implementation of LUCID's proprietary music recommendation system which can be used by individuals living with dementia and members of their care teams. You will have the opportunity to learn more about LUCID, their product and platform and the value of music for supporting individuals living with dementia.

M-body.ai: open source data and tools for generative animation

James Rowan, **Emerson Chan** and **Kevin Santos**, Screen Industries Research and Training Centre

M-body.ai is a bilingual, open source applied research project to accelerate and support the advancement of AI application in the area of human motion and animation. Learn more about the cutting-edge technology used and interact with the equipment first-hand to see how it works.

Mastering the power of data: explore data services at Sheridan Library

Nicole Zhang and **Gouthami Vigneswaran**, Library and Learning Services

Explore the exciting world of data. Sheridan Library's Data Connection team will be here to provide personalized advice on finding datasets, managing research data and much more. Visit to connect, network and share your experiences of working with data.

Real-time object tracking using deep learning

Dr. Haruna Isah, Centre for Applied AI, **Dr. Lubna Mohammed**, Faculty of Applied Science and Technology and **Akanbi Adegoke**, **Kaushik Priyanshu** and **Dohee Kim**, Student Researchers

The explosive growth in the number of vehicles in use today presents several societal and environmental challenges, especially in urban centres. Learn more about how the Centre for Applied AI collaborated with LocoMobi on a project that developed an algorithm to enhance the performance of a system that addresses the challenge of character misrecognition and errors in licence plate scanning.

Research Digital Wall pop-up

Sam Cheng and **Lingling Jiang**, Library and Learning Services

As a knowledge mobilization tool, the Research Digital Wall challenges you to consider opportunities to democratize research and engage different voices and perspectives. View exhibits, appreciate the impact of scholarly and creative works on our community and consider submitting your project for potential display on the Research Digital Wall.

Save the world: one pedal stroke at a time for clean drinking water

Craig Brazil, Faculty of Applied Science and Technology

Explore how human pedal power can produce a half litre of clean drinking water every 30 seconds.

Virtual Agent

Mohammad Moussa, **Khalil Shazam**, **Mike Darmitz** and **Wladyslaw Bronowicki**, Screen Industries Research and Training Centre

The Screen Industries Research and Training (SIRT) Centre's Virtual Agent is a cutting-edge virtual assistant powered by AI and Unreal Engine, designed to support partners and students. Learn more about how it helps industry partners and students navigate SIRT's technology, expertise and available research and co-op opportunities, fostering collaboration and innovation.

Stories of Home

Diana-Crina Catargiu and **Nataly Shaheen**, Faculty of Humanities and Social Sciences

Explore Stories of Home, a place for listening to and sharing the stories of students, faculty and staff in the ESL and TESOL Plus programs at Sheridan.

Media consent

Please be advised that photo and video recordings may be taken during this event. Your image may be used in printed and electronic publications for promotional and educational purposes and may be made available to the media and other third parties or published on the internet. If you have concerns about your image being used for these purposes, please speak with one of the event organizers.

Let's innovate together

SheridanRIE

Generator at Sheridan

generator@sheridancollege.ca

Generator Support Office
1430 Trafalgar Road
Room J103
Oakville, Ontario
L6H 2L1

sheridancollege.ca/generator