Post-secondary Mathematics and Statistics Education in the genAI Era: Adaptations and Impacts on Teaching and Learning, and Departmental Policies
L'enseignement des mathématiques et des statistiques dans l'enseignement supérieur à l'ère de l'IA générale : adaptations et répercussions sur l'enseignement et l'apprentissage, et politiques départementales
(Org: **Chantal Buteau** (Brock University), **Ami Mamolo** (Ontario Tech University), **Alejandro Martín-Gonzalez** (Université de Montréal) and/et **Kitty Yan** (University of Toronto))

JASON BRAMBURGER, Concordia University
From Solving Problems to Seeing the Mathematics: AI, Access, and Assessment in Applied Mathematics Teaching

Generative AI is creating new opportunities to improve accessibility, integrate computation into applied mathematics, and reconsider what students should learn. AI-generated transcripts and translations can make online course materials available to a much wider audience, while AI-assisted coding can turn computation into a stepping-stone toward deeper mathematical understanding rather than a separate technical prerequisite. AI can also support curriculum development by helping instructors refine learning goals and design exercises that emphasize comparison, interpretation, and synthesis instead of routine application. As conventional problems become easier to automate, greater emphasis can be placed on explaining definitions and results, connecting ideas across a course, and interpreting what computed answers mean. These changes encourage students to see the broader mosaic of modern applied mathematics rather than a collection of isolated techniques. At the same time, in-person tests and hard-copy assignments remain valuable for obtaining reliable evidence of individual learning.

CARMEN BRUNI, University of Waterloo
Let $\epsilon = 0$

CS116 is an imperative programming course taught online using Python at the University of Waterloo. Since 2025, advances in generative artificial intelligence have reached a point where questions that were previously assigned as homework in CS116 can now be completely solved using these tools. This has created several pressing issues related to student motivation and what the role of homework should be in this new age of intelligence.

In this talk, we present the history of the course, changes in student motivation and some of the approaches we have taken to encourage students to engage meaningfully with course content despite the ubiquity of generative artificial intelligence tools. We will also discuss how the course has been adapted to respond to this significant change as well as the pedagogical considerations that have guided these decisions about whether, where and how these tools should be integrated into teaching and learning.

Computer science, mathematics and statistics face a shared challenge. We conclude by dedicating time to discussing whether some of the competencies previously developed in this course remain fundamental and relevant in a world where generative artificial intelligence can solve many of the problems previously assigned to students as well as some of the opportunities this disruptive technology can bring to our classrooms.

CHANTAL BUTEAU AND ALEJANDRO MARTÍN-GONZALEZ, Brock University and Université de Montréal

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SCHINELLA D'SOUZA, University of Toronto

CODY HYNDMANN, Concordia University

JEAN-FRANÇOIS MAHEUX, UQAM

JÉRÔME PROULX, Université de l'Ontario français – UQAM
Some (naïve) reflections about mathematics in a GenAI era

In this presentation, I build on issues of the history of computer science to draw some parallels between the advent of computer science in mathematics and the current GenAI era (for mathematics) that we are actually living in. These parallels are addressed through raising a series of distinctions that were historically made in computer science and strongly grounded in mathematical issues and related technologies. The intention through these parallels and distinctions is to offer an occasion for reflecting on our current state of GenAI affair in mathematics and its potential for what might be a not-too-far future in (university) mathematics education and teaching.

CAMERON REDSELL-MONTGOMERIE, Mohawk College

ALISTAIR SAVAGE, University of Ottawa
From solution generator to learning partner

Rather than asking whether students should use AI, we are asking how AI can be designed to support the kind of learning we actually want. I will describe experiments with custom AI tutors for first-year mathematics and some of the opportunities and challenges we have encountered.