Women teaching unique mathematics
Les femmes qui enseignent des mathématiques originales
(Org: **Andie Burazin** (University of Toronto Mississauga), **Rebecca Carter** (Mount Royal University) and/et **Marie MacDonald** (Cornell))

ARIA BEAUPRÉ, Cornell University

GENERAL DISCUSSION,

GIZEM KARAALI, Pomona College
Utilitarian and Aesthetic Goals of Mathematics (Education): A Personal Story

This talk will explore different justifications mathematics instructors give themselves and their students (as well as university administrators and policy makers) for why mathematics should be taught, intertwined with my personal evolution around the theme. I will describe a handful of courses I have taught through the years that reflect this evolution.

SARAH MAYES-TANG, University of Toronto

DINUSHI MUNASINGHE, University of Toronto
Building Bridges: Foundations for the Mathematically Hesitant

The only prerequisite to learning should be willingness to learn.

In sports, arts, and even other STEM fields, it is accepted that despite difficulty, progress can be made with sufficient, sustained effort. Mathematics, on the other hand, has a peculiar reputation for being exclusively for those with some supposed innate talent; this is a systemic problem in education, and it has resulted in generations of students left behind.

The Academic Bridging Program at the University of Toronto provides the opportunity for mature students to try again — to complete prerequisites to start undergraduate studies with the Faculty of Arts and Science. Students come from a diverse range of backgrounds with different strengths and gaps in their education. The mathematics requirement is usually at best a roadblock to on the way to their program of choice. In some cases, they have an aversion to it from past academic trauma.

In this talk, I will discuss:

- Working with a class where some took math a year ago, and some may not have seen it in a decade: scaffolding and support vs engagement and extension.
- Building and optimizing a program that covers fractions to pre-calculus in one year.
- Learning mirroring the research process — properties are introduced through (curated) exploration. Students propose patterns.
- Rigour as a way to break through fear, not incite it — providing just enough of the "why" to have solid ground to stand on.
- Observations from the classroom over the past two years.

NANCY NEUDAUER, Pacific University

DORETTE PRONK, Dalhousie University

Flipped Classrooms, Problem Solving and Outreach

I will talk about my experience with flipped classroom practices in various second- and third-year courses and how I am combining competition training with outreach in our math club for junior high and high school students in a course of problem solving.

ANNIE SAVARD, McGill University