

## Second Announcement and Call for Proposals

**CODING,  
COMPUTATIONAL  
MODELLING,  
& EQUITY  
IN MATHEMATICS  
EDUCATION**

SSHRC CRSH Callysto  
FIELDS Western University Brock University

PD Day & Symposium  
April 26, 27-29, 2023

Face-to-Face at Brock University

For more information, visit:  
[cpmath.ca/ccmeme2023](https://cpmath.ca/ccmeme2023)

## About the Symposium:

We are excited to announce an upcoming face-to-face Symposium on Coding, Computational Modeling, and Equity in Mathematics Education. Using a working group format, participants will be invited to work together to explore emerging issues and share experiences and perspectives on different timely topics. Participants must select their working group upon registration (limited spaces for each working group). The scientific program also features two keynotes, two discussion panels, a research or innovative practices poster session, where participants can share their own work, and a pre-symposium PD day with hands-on workshops for teachers.

See the event website for more details, including our invited contributors to the scientific program and the working group abstracts:

<https://cpmath.ca/ccmeme2023/>.

## Organization Committee:

The organization of the event brings together two SSHRC-funded research teams hosted at Brock University (led by Chantal Buteau) and Western University (led by Immaculate Namukasa), who work on programming and computational participation across all levels of mathematics education (PreK-16). It is overseen by Laura Broley (until June 2022), Chantal Buteau, Steven Khan, and Dorothy Levay from Brock University, and Immaculate Namukasa from Western University.

Please help us spread the word if you are aware of others who may be interested in the event. For any questions, email: [skhan6@brocku.ca](mailto:skhan6@brocku.ca), [cbuteau@brocku.ca](mailto:cbuteau@brocku.ca), [inamukas@uwo.ca](mailto:inamukas@uwo.ca) or [dlevay@brocku.ca](mailto:dlevay@brocku.ca).

Looking forward to welcoming you at Brock in April 2023!

## Funding:

The event is sponsored by the [Fields Institute for Research in Mathematical Sciences](#), [Social Sciences and Humanities Research Council of Canada \(SSHRC\)](#), [Callysto](#) project (through [CanCode](#)), and [Fields MathEd Forum](#).

## Scientific Program (see [here](#) for abstracts):

### ❖ Keynote Speakers:

- Dr. Andrea diSessa, University of California Berkeley, USA  
**Five Powerful Ideas About Technology and Education**
  - **Reactor:** Dr. Brent Davis (University of Calgary, Canada)
- Dr. Gideon Christian, University of Calgary, Canada  
**Coded Bias: Decoding Racism in AI Technologies**
  - **Reactor:** Ron Eglash (School of Information, University of Michigan)

### ❖ Working Groups:

- **Coding & computational modeling in early years/elementary math ed**, led by Iain Brodie, Dr. Steven Khan, & Dr. Sandy Youmans
- **Coding & computational modeling in secondary/university math ed**, led by Dr. France Caron, Dr. Steven Floyd, & Dr. Miroslav Lovric
- **Equity, diversity, and inclusivity in coding & computational modeling in math ed**, led by Dr. Annie Savard, Dr. Ricardo Scucuglia, & Dr. Diane Tepylo

### ❖ International Discussion Panels:

- **Mathematics Education incorporating Coding: Practical Challenges and Opportunities**  
Professor Dame Celia Hoyles (Chair), England  
Dr. George Gadanidis, Canada  
Dr. Oh Nam Kwon, South Korea  
Dr. Simon Modeste, France  
Dr. Elena Prieto-Rodriguez, Australia
  - **Reactor:** Dr. Richard Noss (England)
- **How do computational thinking and mathematical thinking interact (in terms of knowledge, ways of thinking, and competencies)?**  
Dr. Nathalie Sinclair (Chair), Canada  
Dr. Paul Drijvers, Netherlands  
Dr. Eirini Geraniou, England  
Dr. Elise Lockwood, USA

### ❖ Poster Session: Research and Innovative Practices

Those interested in presenting a poster must submit a poster proposal indicating the poster category and including a) title, and (b) 500-word abstract (references are not included in the word count). Submissions: Please fill out [this form](#)

Submission deadline: **Feb 10**

Decision and notification: **Feb 28**

For any questions, please contact: [Dr. Joyce Mgombelo](#) (jmgombelo[at]brocku.ca) or [Dr. Marisol Santacruz-Rodriguez](#) (marisol.santacruz[at]correounivalle.edu.co)

## PD Day (Pre-Symposium Event):

Our program will include workshop sessions covering K-12 learners, tangibles, robotics, block-based coding, AI and culturally responsive coding.

Coding, Computational Modeling and Equity in Mathematics Education – Professional Development Schedule.

12:00-12:50pm							
Registration, Directions, Welcome							
	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7
1:00-2:00 pm	Scratch & Scratch Jr (P/J) – Tess & Devin (UOIT)	Microbits meets Mathematics (P/J) Heidi Poltl (NCDSB)	AI & Scratch Li & Dmitri P/J/I) (UWO)	AI & Arduino (I/S) Duane & Murray	Integrating Coding in the Curriculum with TVO (Primary) – TVO Team	Incorporating Data Visualization Exercises Gr 5-12 Byron Chu (Callysto)	3D modeling with Tinker CAD Derek Tangredi
2:15-3:15 pm	Bloxel (P/J) Tess & Devin (UOIT)	Microbits meets mathematics (P/J) Heidi Poltl (NCDSB)	AI & Scratch Li & Dmitri P/J/I) (UWO)	AI & Arduino (I/S) Duane & Murray	Integrating Coding in the Curriculum with TVO (Junior) – TVO Team	Our Journey of Coding through Listening and Storytelling Joshua Charpentier, Kristin Manol, Genevieve O'Grady, Sarah Taylor	Micro:bits and STEM Derek Tangredi
3:30-4:00 pm							
Registration, Directions, Welcome [Coffee Break]							
	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7
4:00-5:00 pm	Micro:bit K-8 (P/J/I) Tess & Devin (UOIT)	Teaching Statistics in Math and Science with Code (I/S) – Byron Chu (Callysto)	Computer Science in the K-8 Canadian Curriculum Dr. Steve Floyd	The Art of Coding Fred & STEAM Centre	Integrating Coding in the Curriculum with TVO (Intermediate) – TVO Team	Our Journey of Coding through Listening and Storytelling Joshua Charpentier, Kristin Manol, Genevieve O'Grady, Sarah Taylor	3D modeling with Tinker CAD Derek Tangredi
5:15-6:15 pm	Cospaces AR/VR (K-8) (P/J) Tess & Devin (UOIT)	Introduction to Artificial Intelligence for Educators and Artists Gr 5-12 – Byron Chu (Callysto)	Micro:bit (I/S) Lisa Floyd	The Art of Coding Fred & STEAM Centre	Integrating Coding in the Curriculum with TVO (K-8) – TVO Team	Ozobots (J/I) Dave Potts (Brock)	Prognatics / Niagara Catholic (TBD)
6:15-6:30 pm							
Closing and symposium invitation / reminder							

## Program Schedule:

Pre-Symposium Professional Development Day for Teachers. Wednesday, April 26, 2023

- 1:00 pm-3:30 pm – PD Day Workshops – Session 1
  - 3:30 pm-4:00 pm – Coffee Break
  - 4:00 pm-6:30 pm – PD Day Workshops – Session 2
- Participants may register for either or both via the website.

Symposium Day 1. Thursday, April 27, 2023

- 12:00 pm – Registration + Coffee + Light Lunch
- 2:00 pm-3:00 pm – Introduction and Formation of Working Groups
- 3:15 pm-5:15 pm – Working Group Work
- 5:15 pm-7:00 pm – Dinner
- 7:00 pm-9:00 pm – Keynote: Andrea diSessa + Reaction + Q&A
- 9:00 pm – Reception

Symposium Day 2. Friday April 28, 2023

- 8:30 am – Registration
- 9:00 am-10:30 am – Working Group Work
- 10:30 am-11:00 am – Coffee Break
- 11:00 am-1:00 pm – Theory-Focused Panel Discussion\*: *How do computational thinking and mathematical thinking interact (in terms of knowledge, ways of thinking, and competencies)?*
- 1:00 pm-3:00 pm – Poster/Project Display + Lunch + Coffee
- 3:00 pm-4:30 pm – Working Group Work
- 4:30 pm-5:00 pm – Coffee Break
- 5:00 pm-7:00 pm – Keynote: Gideon Christian + Reaction + Q&A
- 7:00 pm – Dinner

Symposium Day 3. Saturday April 29, 2023

- 8:45 am-9:45 am – Working Group Work
- 10:00 am-11:30 am† – Practice-Focused Panel Discussion\*: What are the challenges and opportunities of integrating coding in mathematics classrooms? Video-based perspectives from around the world.
- 11:30 am-12:00 pm† – Reaction by Dr. Richard Noss\*. Past, Present, and Future: 1980s – 2020s – 2050s  
† *In-person and livestreamed in collaboration with the **Fields MathEd Forum April 2023 meeting.***
- 12:00 pm-1:00 pm – Quick Lunch
- 1:00 pm-2:00 pm – Working Group Work-Preparation for the report
- 2:15 pm-3:30 pm – Working Group Reports and Discussion
- 3:30 pm – End

*\*Some panelists may be presenting virtually*

## Registration:

Registrations will open [here](#) on **15 January 2023**. The fees include participation in the scientific program, as well as all coffee breaks, lunches, dinners, and the reception on Day 1 (Symposium).

- PD day: There is no registration fee, but you are required to register.
- Regular scholars (Symposium with/out PD day): \$380 (TBC)
- Emerging scholars (no more than 6 years after PhD), graduate students, or K-12 teachers (Symposium with/out PD day): \$300 (TBC)
- Others (Symposium with/out PD day): \$380 (TBC)
- Accompanying person (Thursday dinner & keynote & reception, Friday keynote & dinner, and Saturday discussion panel & coffee break): \$150 (TBC)

We are pleased to offer partial financial support to some [emerging scholars](#) and graduate students to participate in the symposium. For application by January 31, 2023, [please fill out the form](#). Decision letters will be sent mid-February. For any inquiry, please contact [Zeynep Gecu-Parmaksiz](#).

## Accommodation:

As the symposium takes place during the final week of exams and residence move-out weekend, there are no on-campus accommodations available.

Blocks of rooms have been reserved at the following 4 hotels (more details on our [website](#)):

- ❖ **[Four Points by Sheraton Hotel](#)** (1 km from Brock University)

Click here for a reservation: [Book your group rate for Brock Math Symposium](#)

- ❖ **[Best Western St. Catharines](#)** (7.6 km from Brock University)

Click [here](#) to book your reservation OR if you have any special requests, please call 1-877-688-2324 ext. 3.

- ❖ **[Stone Mill Inn](#)** (4.7 km from Brock University)

To book your reservation, please call 905-680-6455 and ask for Brock Math Symposium.

- ❖ **[Hampton Inn](#)** (7.6 km from Brock University)

Link to book reservation coming soon.