# 30th Foundational Methods in Computer Science Program

### Mount Allison University, June 7th - 11th, 2023

Locations (click here for the campus map):

- The reception is in Tweedie Hall in the Wallace McCain student centre (number 12 on the campus map).
- The BBQ on Friday evening is in Gracie's in the Wallace McCain student centre.
- All talks are in Dunn 106 (number 18 on the campus map).

Schedule:

#### Wednesday June 7th

6:00-8:00 Reception and registration (Tweedie Hall, Wallace McCain student centre)

### Thursday June 8th

0.00 0.20	$\mathbf{D}_{\mathbf{r}}$
9:00-9:30	Registration (if not done on Wednesday night)
9:30-9:35	Welcome and opening remarks
9:35-10:25	Peter Selinger: Introduction to the stabilizer calculus (tutorial, part 1)
10:30-10:50	Coffee break
10:50-11:40	Dorette Pronk: Double fibrations, double Grothendieck, and double colimits
	(tutorial, part 1)
11:45-12:10	Frank Fu : Towards an induction principle for nested data types
12:15-1:45	Lunch (on own)
1:45-2:35	Peter Selinger: Introduction to the stabilizer calculus (tutorial, part 2)
2:40 - 3:05	Rory Lucyshyn-Wright: Symmetric multicategories arising from base-valued
	enriched functors
3:10-3:30	Coffee break
3:30-3:55	Geoff Vooys: Tangent Ind-categories
4:00-4:25	Marcello Lanfranchi: Algebraic Deformation and tangent categories

## Friday June 9th

9:00-9:50	Dorette Pronk: Double fibrations, double Grothendieck, and double colimits
	(tutorial, part 2)
10:00-10:25	Xiaoning Bian: Generators and relations for 3-qubit Clifford+CS operators
10:30-10:50	Coffee break
10:50-11:40	Priyaa Srinivasan: Message passing logic for categorical quantum mechanics
	(tutorial, part 1)
11:45-12:10	Jason Parker: Initial algebras for topologically enriched multi-sorted algebraic
	theories
12:15-1:45	Lunch (on own)
1:45-2:35	Michael Lambert: Cartesian double categories (tutorial, part 1)
2:40 - 3:05	Rose Kudzman-Blais : Quantale-valued relations and cartesian quantaloids
3:10-3:30	Coffee break
3:30-5:30	Waterfowl Park walk (weather permitting) or Research discussion sessions
6:00-7:00	Evening BBQ (Gracie's Cafe, Wallace McCain student centre)

## Saturday June 10th

9:00-9:50	Priyaa Srinivasan: Message passing logic for categorical quantum mechanics
	(tutorial, part 2)
10:00-10:25	JS Lemay: Classical Distributive Restriction Categories
10:30-10:50	Coffee break
10:50-11:40	Michael Lambert: Cartesian double categories (tutorial, part 2)
11:45-12:10	Jean-Baptiste Vienney: String diagrams for symmetric powers
12:15-1:45	Lunch (on own)
1:45-2:40	Robin Cockett: Categories of resistors (tutorial)
2:45 - 3:10	Saina Daneshmandjahromi: Introduction to CaMPL: tutorial, part 1
3:15-3:30	Coffee break
3:30-5:30	Waterfowl Park walk (weather permitting) or Research discussion sessions

### Sunday June 11th

9:00-9:25	Melika Norouzbeygi: An Introduction to Categorical Message Passing Lan-
	guage (tutorial, part 2)
9:30 - 9:55	Alexanna Little: Semantics for Non-Determinism in Categorical Message
	Passing Language by Sup-Lattice Enrichment
10:00-10:25	Braden Foxcroft: Developing a module system for CaMPL
10:30-10:50	Coffee break
10:50-11:15	Amelie Comtois: Profunctors and promonoidal categories
11:20-11:45	Florian Schwartz: Partial monoids