# Foundational Methods in Computer Science 2012 Dalhousie University, Halifax, Canada

June 14–17, 2012

Program

### Wednesday, June 13

5:30 – 8:00: Welcome reception, 319 Chase Building

### Thursday, June 14

8:30 - 9:00:	Coffee and Breakfast
9:00 - 9:45:	Ernie Manes (Massachusetts):
	More work for Robin: Universal algebra in everyday programming logic, and con-
	comitant challenges for restriction categories (part 1)
9:45 - 10:30:	Takeo Uramoto (Kyoto):
	On Tannaka dualities
10:30 - 10:55:	Break
10:55 - 11:40:	Willem Heijltjes (LIX):
	Proof nets and semi-star-autonomous categories
11:40 - 12:25:	Keith O'Neill (Ottawa):
	Differential Forms for T-Algebras in a Kahler Category
12:25 - 2:00:	Lunch
2:00 - 2:45:	Ernie Manes (Massachusetts):
2:00 - 2:45:	Ernie Manes (Massachusetts): More work for Robin: Universal algebra in everyday programming logic, and con-
2:00 - 2:45:	Ernie Manes (Massachusetts): More work for Robin: Universal algebra in everyday programming logic, and con- comitant challenges for restriction categories (part 2)
2:00 - 2:45: 2:45 - 3:30:	Ernie Manes (Massachusetts): More work for Robin: Universal algebra in everyday programming logic, and con- comitant challenges for restriction categories (part 2) Subashis Chakraborty (Calgary):
2:00 - 2:45: 2:45 - 3:30:	Ernie Manes (Massachusetts): More work for Robin: Universal algebra in everyday programming logic, and con- comitant challenges for restriction categories (part 2) Subashis Chakraborty (Calgary): The proof theory of message passing with protocols
2:00 - 2:45: $2:45 - 3:30:$ $3:30 - 3:55:$	Ernie Manes (Massachusetts): More work for Robin: Universal algebra in everyday programming logic, and con- comitant challenges for restriction categories (part 2) Subashis Chakraborty (Calgary): The proof theory of message passing with protocols Break
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## Friday, June 15

8:30 - 9:00:	Coffee and Breakfast
9:00 - 9:45:	Robin Cockett (Calgary):
	Can you differentiate a polynomial? (part 1)
9:45 - 10:30:	Robert Seely (McGill):
	Towards a notion of Cartesian differential storage category
10:30 - 10:55:	Break
10:55 - 11:40:	Brett Giles (Calgary):
	Linear Quantum Programming Language (LPQL) and implementing a Quantum
	Stack
11:40 - 12:25:	Susan Niefield (Union):
	A double approach to variation for bicategories
12:25 - 2:00:	Lunch

2:00 - 2:45:	Geoff Cruttwell (Ottawa):
	Differential structure, tangent structure, and SDG
2:45 - 3:30:	Jonathan Gallagher (Calgary):
	Differential combinatory algebras
3:30 - 3:55:	Break
3:55 - 4:40:	Philip Mulry (Colgate):
	An Overview of Some Categorical Approaches to Computation
4:40 - 5:25:	Pieter Hofstra (Ottawa):
	Isotropy and Crossed Toposes
5:25 - 5:40:	Ernie Manes (Massachusetts):
7:00 - :	Dinner

# Saturday, June 16

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8:30 - 9:00:	Conee and Breaklast
9:00 - 9:45:	Simona Paoli (Leicester):
	Categorical models of homotopy types (part 1)
9:45 - 10:30:	Laura Scull (Fort Lewis):
	Equivariant homotopy and diagram categories
10:30 - 10:55:	Break
10:55 - 11:40:	Jeff Egger (Dalhousie):
	A categorical look at Fourier transforms
11:40 - 12:25:	Peter LeFanu Lumsdaine (Dalhousie):
	Fibrations as Types — a categorical road to intensional type theory (part 1)
12:25 - 2:00:	Lunch
2:00 - 2:45:	Simona Paoli (Leicester):
	Categorical models of homotopy types (part 2)
3:00 - :	Excursion/Hike/free afternoon

## Sunday, June 17

8:30 - 9:00:	Coffee and Breakfast
9:00 - 9:45:	Peter LeFanu Lumsdaine (Dalhousie):
9:45 - 10:30:	Fibrations as Types — a categorical road to intensional type theory (part 2) Micah McCurdy (Dalhousie):
	Introduction to Adiabatic Quantum Computing
10:30 - 10:55:	Break
10:55 - 11:40:	Francisco Marmolejo (UNAM):
	No-iteration pseudomonads
11:40 - 12:25:	Robin Cockett (Calgary):
	Can you differentiate a polynomial? (part 2)
12:25 - 2:00:	Lunch