

ASSOCIATION FOR SYMBOLIC LOGIC
2013 NORTH AMERICAN ANNUAL MEETING

University of Waterloo
Waterloo, ON

May 8 – May 11, 2013

Program Committee: S. Awodey, I. Farah (Chair), A. Kanamori, R. Moosa, J. Reimann, P. Scott.

Local Organizing Committee: S. Ben-David, B. Csima (Chair), D. DeVidi, R. Moosa, and R. Willard.

Please see <http://www.math.uwaterloo.ca/~asl2013/> for additional information.

All activities for the meeting will take place on the campus of the University of Waterloo. The plenary lectures will be in the lecture hall QNC 1102/1103 of the Quantum–Nano building (QNC) and special sessions will be in Math & Computer Building (MC) and QNC. Registration, book exhibits, and morning coffee and refreshments will be in the QNC 1501. The welcome reception will be held on Wednesday May 8 at 6:30pm in the QNC atrium.

WEDNESDAY, MAY 8

Morning, QNC

- 9:30 – 10:10 Registration, coffee and snacks (QNC 1501).
- 10:10 – 10:20 Opening remarks.
- 10:20 – 11:10 Invited Lecture: **Vladimir Voevodsky** (IAS), *Univalent foundations and set theory*.
- 11:20 – 12:10 Invited Lecture: **Dima Sinapova** (UIC), *Collapsing singular cardinals*.

Afternoon

- 2:00 – 3:30 Special Sessions: Univalent Foundations, session A (page 7); Computable Structure/Model Theory, session A (page 4); Set Theory, session A (page 3); Model Theory, session A (page 5).
- 3:30 – 4:00 Coffee, MC 5158.
- 4:00 – 5:30 Special Sessions: Set Theory, session B (page 3); Model Theory, session B (page 5); Computable Structure/Model Theory, session B (page 4); Differential Categories and Differential Lambda Calculi, session A (page 6).
- 5:40 – 6:25 Contributed Talks: sessions A, B, and C (page 8).
- 6:30 – 8:00 Welcome Reception in the QNC atrium.

THURSDAY, MAY 9

Morning, QNC

- 8:30 – 9:00 Coffee and Snacks, QNC 1501.
9:00 – 9:50 Invited Lecture: **Rick Blute** (University of Ottawa), *The syntax and semantics of differentiation: differential linear logic and lambda-calculus*.
9:50 – 10:20 Coffee, QNC 1501.
10:20 – 11:10 Invited Lecture: **Frank Wagner** (Université de Lyon), *Reducts and reducibility*.
11:20 – 12:10 Invited Lecture: **David Kerr** (Texas A&M, University of Tokyo), *Turbulence and classification in dynamics and operator algebras*.

Afternoon

- 2:00 – 3:30 Special Sessions: Univalent Foundations, session B (page 7); Set Theory, session C (page 3); Computable Structure/Model Theory, session C (page 4); Applications of Logic to Operator Algebras, session A (page 6).
3:30 – 4:00 Coffee, MC 5158.
4:00 – 5:30 Special Sessions: Applications of Logic to Operator Algebras, session B (page 6); Differential Categories and Differential Lambda Calculi, session B (page 7); Computable Structure/Model Theory, session D (page 4).
5:40 – 6:25 Special session Applications of Logic to Operator Algebras, session C (page 6); Contributed Talks: sessions D, E, and F (page 8).

FRIDAY, MAY 10

Morning, QNC

- 8:30 – 9:00 Coffee and Snacks, QNC 1501.
9:00 – 9:50 Invited Lecture: **Uri Andrews** (UW–Madison), *Spectra of theories and structures*.
9:50 – 10:20 Coffee, QNC 1501.
10:20 – 11:10 Gödel Lecture: **Kit Fine** (NYU), *Truthmaker semantics*.
11:20 – 12:10 Invited Lecture: **Matthias Aschenbrenner** (UCLA), *Definable extension theorems in o-minimal structures*.

Afternoon

- 2:00 – 3:30 Special Sessions: Univalent Foundations, session C (page 7); Computable Structure/Model Theory, session E (page 5); Model Theory, session C (page 5).
3:30 – 4:00 Coffee, QNC 1501.
4:00 – 4:50 Invited Lecture: **Matteo Viale** (University of Torino), *Generic absoluteness for models of strong forcing axioms*.

5:00 – 5:45 Contributed Talks: sessions G, H, I and J (page 9).

SATURDAY, MAY 11

Morning, QNC

8:30 – 9:00 Coffee and Snacks, QNC 1501.

9:00 – 9:50 Invited Lecture: **Colin McLarty** (Case Western Reserve), *Proving Fermat's Last Theorem in PA: situation and prospects*.

9:50 – 11:20 Special Sessions: Model Theory, session D (page 5); Set Theory, session D (page 4); Differential Categories and Differential Lambda Calculi, session C (page 7).

11:20 – 11:50 Coffee, QNC 1501.

11:50 – 12:40 Invited Lecture: **Theodore A. Slaman** (UC Berkeley), *The Metamathematics of Ramsey's Theorem for pairs*.

Special Session on Set Theory

(Organized by James Cummings and Menachem Magidor)

Session A, WEDNESDAY, MAY 8

Room MC 1056

2:00 – 2:40 **Anush Tserunyan** (UCLA), *Generic finite generators*.

2:50 – 3:30 **Marcin Sabok** (Polish Academy of Sciences), *Ergodicity and canonization*.

Session B, WEDNESDAY, MAY 8

Room MC 2065

4:00 – 4:40 **Laura Fontanella** (KGRC), *Strong combinatorial properties at small cardinals*.

4:50 – 5:30 **Sean Cox** (Virginia Commonwealth University), *Some consistency results about saturated ideals*.

Session C, THURSDAY, MAY 9

Room MC 2017

2:00 – 2:40 **Natasha Dobrinen** (University of Denver), *Initial structures in the Tukey types of non- p -points*.

2:50 – 3:30 **Dilip Raghavan** (NUS), *Combinatorial dichotomies and cardinal invariants*.

Session D, SATURDAY, MAY 11

Room QNC 1506

- 9:50 – 10:30 **Miguel Angel Mota** (University of Toronto), *On a question of Abraham and Cummings.*
- 10:40 – 11:20 **John Krueger** (UNT), *Forcing with adequate sets of models as side conditions.*

Special Session on Computable Structure/Model Theory

(Organized by Julia Knight and Antonio Montalban)

Session A, WEDNESDAY, MAY 8

Room MC 4040

- 2:00 – 2:40 **Richard Shore** (Cornell), *Theories, structures and morphisms: leveling the playing field.*
- 2:50 – 3:30 **Denis Hirschfeldt** (University of Chicago), *Leftmost-path approximable isomorphisms.*

Session B, WEDNESDAY, MAY 8

Room MC 2066

- 4:00 – 4:40 **Alexander Melnikov** (Victoria University, Wellington), *Applications of computable model theory to computable analysis.*
- 4:50 – 5:30 **Dan Turetsky** (KGRC), *Uncountable linear orders and Watnik's theorem.*

Session C, THURSDAY, MAY 9

Room MC 4059

- 2:00 – 2:40 **Alexandra Shlapentokh** (East Carolina University), *Some questions of definability and decidability over infinite algebraic extensions of \mathbb{Q} .*
- 2:50 – 3:30 **Karen Lange** (Wellesley College), *An algebraic characterization of recursively saturated real closed fields.*

Session D, THURSDAY, MAY 9

Room MC 4059

- 4:00 – 4:40 **Russell Miller***, **Alexey Ovchinnikov**, and **Dmitry Trushkin** (CUNY), *Constraint sets in differential fields.*
- 4:50 – 5:30 **Iskander Kalimullin** (Kazan Federal University), *Degree spectra and ideals of degrees.*

Session E, FRIDAY, MAY 10

Room QNC 1507

- 2:00 – 2:40 **Sy-David Friedman** (KGRC), *The completeness of isomorphism.*
2:50 – 3:30 **Steffen Lemp* and Uri Andrews** (UW Madison), *Spectra of computable models of disintegrated strongly minimal theories in a computable binary language.*

Special Session on Model Theory

(Organized by Rahim Moosa and Dave Marker)

Session A, WEDNESDAY, MAY 8

Room MC 4042

- 2:00 – 2:40 **James Freitag** (UC Berkeley), *Connected superstable groups.*
2:50 – 3:30 **Joel Nagloo** (University of Leeds), *More on geometric triviality of the second Painlevé equation.*

Session B, WEDNESDAY, MAY 8

Room MC 4042

- 4:00 – 4:40 **Omar Leon Sanchez** (Waterloo), *The model-companion of partial differential fields with an automorphism.*
4:50 – 5:30 **William O. Simmons** (UIC), *Model theory and completeness of differential varieties.*

Session C, FRIDAY, MAY 10

Room QNC 2501

- 2:00 – 2:40 **Philipp Hieronymi**, (UIUC), *Coincidence of dimensions in expansions of the real field.*
2:50 – 3:30 **Maryanthe Malliaris** (University of Chicago), *Ultrapowers of graphs: theorems, examples, questions.*

Session D, SATURDAY, MAY 11

Room QNC 1502

- 9:50 – 10:30 **Alex Rennet* and Clifton Ealy** (University of Toronto), *The first-order \mathcal{L} -theory of o -minimality.*
10:40 – 11:20 **Jana Maříková** (Western Illinois University), *Model completeness of o -minimal fields with convex valuations.*

Special Session on Applications Of Logic To Operator Algebras
(Organized by Bradd Hart and Asger Törnquist)

Session A, THURSDAY, MAY 9

Room MC 4045

- 2:00 – 2:40 **David Sherman** (University of Virginia), *Some model-theoretic results about operator algebras.*
2:50 – 3:30 **Isaac Goldbring** (UIC), *Recent developments in the model theory of tracial von Neumann algebras.*

Session B, THURSDAY, MAY 9

Room MC 4045

- 4:00 – 4:40 **An Speelman** (KU Leuven), *The classification of Cartan subalgebras up to automorphisms can be complete analytic.*
4:50 – 5:30 **Martino Lupini** (York University), *Unitary equivalence of automorphisms of C^* -algebras.*

Session C, THURSDAY, MAY 9

Room MC 4045

- 5:40 – 6:20 **Tristan Bice** (York University), *Traces and ultrapowers.*

Special Session on Differential Categories and Differential
Lambda Calculi

(Organized by Phillip Scott and Robert Seely)

Session A, WEDNESDAY, MAY 8

Room MC 2054

- 4:00 – 4:40 **Lionel Vaux** (IML, Luminy), *Web based models of differential linear logic: an introduction.*
4:50 – 5:30 **Laurent Regnier** (IML, Luminy), *Higher order differentiation and Taylor expansion.*

Session B, THURSDAY, MAY 9

Room MC 4060

- 4:00 – 4:40 **Geoffrey Cruttwell** (Mt. Allison), *Differential categories and differential algebra.*

4:50 – 5:30 **Giulio Manzonetto** (LIPN, Université Paris-Nord), *Weighted relational differential categories*.

Session C, SATURDAY, MAY 11

Room QNC 1507

9:50 – 10:30 **Christine Tasson***, **T. Ehrhard**, and **M. Pagani** (PPS, U. Paris-Diderot), *Probabilistic coherent spaces are fully abstract*.

10:40 – 11:20 **Robin Cockett** (Calgary), *The road from Cartesian to tensor differential categories*.

Special Session on Univalent Foundations (Organized by Steve Awodey and Thierry Coquand)

Session A, WEDNESDAY, MAY 8

Room QNC 2501

2:00 – 2:40 **Steve Awodey** (IAS and CMU), *Univalent foundations and homotopy type theory*.

2:50 – 3:30 **Guillaume Brunerie** (IAS), *A type-theoretic definition of weak ∞ -groupoids*.

Session B, THURSDAY, MAY 9

Room QNC 2501

2:00 – 2:40 **Peter LeFanu Lumsdaine** (IAS), *Higher inductive types*.

2:50 – 3:30 **Daniel Licata** (IAS), *Computer-checked proofs in the logic of homotopy theory*.

Session C, FRIDAY, MAY 10

Room QNC 1506

2:00 – 2:40 **André Joyal** (IAS and UQAM), *What is categorical type theory?*

2:50 – 3:30 **Michael Warren** (IAS), *Linear type theory*.

CONTRIBUTED TALKS

Session A, WEDNESDAY, MAY 8

Room MC 4058

- 5:40 – 6:00 **Kohei Kishida**, *Autonomy of substructures and the converse Barcan formula.*
6:05 – 6:25 **Spencer Breiner**, *Scheme representation for logical theories.*

Session B, WEDNESDAY, MAY 8

Room MC 4060

- 5:40 – 6:00 **Achilles A. Beros**, *Anomalous vacillatory learning.*
6:05 – 6:25 **Victor Ocasio-Gonzalez**, *Categoricity in the class of real closed fields and its relation with linear orders.*

Session C, WEDNESDAY, MAY 8

Room MC 4063

- 5:40 – 6:00 **Katalin Bimbó*** and **J. Michael Dunn**, *Inhabitants of T_{\rightarrow}^t -theorems.*
6:05 – 6:25 **Thomas Macaulay Ferguson**, *Duality in many-valued extensions of Heyting-Brouwer Logic.*

Session D, THURSDAY, MAY 9

Room MC 4021

- 5:40 – 6:00 **Brian Rice**, *The thin set theorem for pairs implies DNR.*
6:05 – 6:25 **David Belanger**, *Reverse mathematics and theories with finitely many models.*

Session E, THURSDAY, MAY 9

Room MC 4059

- 5:40 – 6:00 **Christopher Eagle**, *Omitting types in infinitary $[0, 1]$ -valued logic.*
6:05 – 6:25 **Hunter Johnson**, *Vapnik-Chervonenkis density on indiscernible sequences, stability, and the maximum property.*
6:30 – 6:55 **Jizhan Hong**, *Immediate expansions by valuation over fields.*

Session F, THURSDAY, MAY 9

Room MC 4061

- 5:40 – 6:00 **Polina Vinogradova**, *Formalizing abstract computability: Turing categories in Coq.*
6:05 – 6:25 **Jonathan Gallagher**, *Differential combinatory algebras.*

Session G, FRIDAY, MAY 10

Room MC 4021

- 5:00 – 5:20 **Timothy O. Trujillo**, *A new Ramsey classification theorem with an application to the Tukey theory of ultrafilters.*
5:25 – 5:45 **Roger Villemaire**, *Characterising homogeneous structures for which Forth suffices.*

Session H, FRIDAY, MAY 10

Room MC 4045

- 5:40 – 6:00 **Will Boney**, *Tameness from large cardinal axioms.*
6:05 – 6:25 **Konstantinos A. Beros**, *Universal subgroups of Polish groups.*

Session I, FRIDAY, MAY 10

Room MC 4059

- 5:00 – 5:20 **Joseph W. Norman**, *Probabilistic Syllogistics: A methodical model for Aristotle.*
5:25 – 5:45 **Clayton Peterson*** and **Jean-Pierre Marquis**, *Non Kripkean semantics for deontic logic.*

Session J, FRIDAY, MAY 10

Room MC 4061

- 5:00 – 5:20 **Stanley Burris*** and **H. P. Sankappanavar**, *Boole's foundation principle.*
5:25 – 5:45 **Carrie Knoll**, *Complexity of classes of structures.*