

ASSOCIATION FOR SYMBOLIC LOGIC
2010 NORTH AMERICAN ANNUAL MEETING

George Washington University
Washington, D.C.

March 17-20, 2010

Program Committee: W. Gasarch, J. Hamkins, A. Kolesnikov, R. Rynasiewicz, P. Selinger, R. Solomon (Chair).

Local Organizing Committee: J. Chubb, A. Enayat, A. Eskandarian, M. Friend, J. Goodrick, V. Harizanov (Chair), A. Kolesnikov.

Please see www.gwu.edu/~as12010 for additional information.

All lectures will be held in the Media and Public Affairs (MPA) building (805 21st Street, NW) on the campus of George Washington University. Registration and the book exhibit will be in Room 267 Monroe Hall (2115 G Street, NW). Coffee and refreshments will be in the 2nd Floor Lobby of Monroe Hall.

The welcoming reception will be held on Wednesday, March 17 in the Meridian Room, One Washington Circle Hotel, One Washington Circle, NW. The conference banquet will be held on Friday, March 19 at the Old Ebbitt Grill, 675 15th Street, NW.

WEDNESDAY, MARCH 17

Morning, MPA B07

- 8:15 – 8:45 Registration (267 Monroe Hall), Coffee and Snacks (2nd Floor Lobby Monroe Hall)
- 8:45 – 9:00 Opening Remarks
- 9:00 – 10:00 Invited Lecture: **Dilip Raghavan** (University of Toronto), *Cofinal types of ultrafilters*.
- 10:15 – 11:15 Invited Lecture: **Rebecca Weber** (Dartmouth College), *Degree invariance in the Π_1^0 classes*.
- 11:30 – 12:30 Tutorial Lecture 1: **Bob Coecke** (Oxford University), *Quantum information processing: a new light on the quantum formalism and quantum foundations*.

Afternoon, MPA 305, 309, 310

- 2:00 – 3:40 Special sessions: Categorical Logic, Model Theory, Set Theory. *See pages 3, 4, 5.*
- 4:00 – 6:00 Contributed talks: Sessions A, B, C. *See page 6.*
- 6:30 – 8:00 Welcoming Reception, Meridian Room, One Washington Circle Hotel

THURSDAY, MARCH 18

Morning, MPA B07

- 8:30 – 9:00 Registration, Coffee and Snacks (Monroe Hall)
9:00 – 10:00 Invited Lecture: **Zoé Chatzidakis** (Université Paris 7), *Some consequences of the Canonical Base Property*.
10:15 – 11:15 Invited Lecture: **Bjørn Kjos-Hanssen** (University of Hawai'i at Mānoa), *Democracy is the best form of randomness extraction*.
11:30 – 12:30 Tutorial Lecture 2: **Bob Coecke** (Oxford University), *Quantum information processing: a new light on the quantum formalism and quantum foundations*.

Afternoon, MPA 305, 309, 310

- 2:00 – 3:40 Special Sessions: Categorical Logic, Logic and Foundations of Physics. *See pages 3, 4*.
4:00 – 6:00 Contributed talks: Sessions D, E, F. *See page 7*.
8:30 – 11:00 ASL Council Meeting, Monroe Hall (2115 G Street, NW), Room 253

FRIDAY, MARCH 19

Morning, MPA B07

- 8:30 – 9:00 Registration, Coffee and Snacks (Monroe Hall)
9:00 – 10:00 Invited Lecture: **Lawrence S. Moss** (Indiana University), *Natural logic*.
10:15 – 11:15 Invited Lecture: **Henry Towsner** (University of California, Los Angeles), *Infinite models for finite combinatorics*.
11:30 – 12:30 Tutorial Lecture 3: **Bob Coecke** (Oxford University), *Quantum information processing: a new light on the quantum formalism and quantum foundations*.

Afternoon, MPA B07, 305, 309, 310

- 2:00 – 3:00 Gödel Lecture (MPA B07): **Alexander Razborov** (University of Chicago), *Complexity of propositional proofs*.
3:30 – 5:50 Special Sessions: Computational Complexity, Logic and Foundations of Physics, Model Theory, Set Theory. *See pages 3, 4, 5*.

SATURDAY, MARCH 20

Morning, MPA B07

- 8:30 – 9:00 Registration, Coffee and Snacks (Monroe Hall)
9:00 – 10:00 Invited Lecture: **Nicolaas P. Landsman** (Radboud University Nijmegen),
Intuitionistic quantum logic.
10:15 – 11:15 Invited Lecture: **Ernest Schimmerling** (Carnegie Mellon University),
Inner model theory.
11:30 – 12:30 Invited Lecture: **Tom Scanlon** (University of California, Berkeley), *The
logic of differentiating numbers.*

Special Session on Categorical Logic

Session A, WEDNESDAY, MARCH 17

MPA 309

- 2:00 – 2:30 **Steve Awodey** (Carnegie Mellon University), *Homotopy type theory.*
2:35 – 3:05 **Robin Cockett*** and **Xiuzhan Guo** (University of Calgary),
Reconstructing a theorem of Boris Schein.
3:10 – 3:40 **Robert Paré** (Dalhousie University), *Double categories of models.*

Session B, THURSDAY, MARCH 18

MPA 309

- 2:00 – 2:30 **Michael Shulman** (University of Chicago), *Unbounded quantifiers via
2-categorical logic.*
2:35 – 3:30 **Michael Makkai** (McGill University), *Model theory for essentially
algebraic 2-dimensional categories.*

Special Session on Computational Complexity

FRIDAY, MARCH 19

MPA 309

- 3:30 – 4:00 **Jin-Yi Cai** (University of Wisconsin–Madison), *Computational complexity
theory and holographic algorithms.*
4:05 – 4:35 **Kenneth W. Regan** (University of Buffalo), *High-degree polynomials and
arithmetical lower bounds.*
4:40 – 5:10 **Ryan Williams** (IBM Almaden Research Center), *Time-space lower
bounds for NP-hard problems.*
5:15 – 5:45 **Nisheeth Vishnoi** (Microsoft Research), *Computational models optimal
assuming the unique games conjecture.*

Special Session on Logic and Foundations of Physics

Session A, THURSDAY MARCH 18

MPA 310

- 2:00 – 2:30 **Samson Abramsky** (Oxford University), *Coalgebras, Chu spaces, and representations of physical systems.*
- 2:35 – 3:05 **Maarten Van den Nest** (Max Planck Institute), *Quantum computations that can be simulated classically.*
- 3:10 – 3:40 **Noson S. Yanofsky** (Brooklyn College), *An operadic view of computation.*

Session B, FRIDAY, MARCH 19

MPA B07

- 3:30 – 4:00 **Bob Coecke** (Oxford University), *Quantum structuralism and pictorialism.*
- 4:05 – 4:35 **John Harding** (New Mexico State University), *Daggers, kernels, Baer *-semigroups, and orthomodularity.*
- 4:40 – 5:10 **Peter Selinger** (Dalhousie University), *Planar traced categories.*
- 5:15 – 5:45 **Allen Stairs** (University of Maryland), *Could logic be empirical?*

Special Session on Model Theory

Session A, WEDNESDAY MARCH 17

MPA 310

- 2:00 – 2:30 **John Goodrick*** and **Michael C. Laskowski** (University of Maryland), *The Schröder-Bernstein property for weakly minimal theories.*
- 2:35 – 3:05 **Jana Maříková** (Western Illinois University), *Valuations on o-minimal fields.*
- 3:10 – 3:40 **Salih Azgin** (McMaster University), *Reverse quantifier elimination for valued fields.*

Session B, FRIDAY, MARCH 19

MPA 310

- 3:30 – 4:00 **Alice Medvedev** (University of Illinois at Chicago), *Groups in T_A .*
- 4:05 – 4:35 **Alex Wilkie** (University of Manchester), *Semi-germs of definable holomorphic functions.*
- 4:40 – 5:10 **Alf Dolich** (East Stroudsburg University), *On notions of “dependence minimality”.*
- 5:15 – 5:45 **Sergei Starchenko** (University of Notre Dame), *On definability of Riemann theta functions.*

Special Session on Set Theory

Session A, WEDNESDAY MARCH 17

MPA 305

- 2:00 – 2:30 **Andreas Blass** (University of Michigan), *F_σ -generic ultrafilters.*
2:35 – 3:05 **Bart Kastermans** (University of Colorado, Boulder), *Formalizing set theory.*
3:10 – 3:40 **Joel David Hamkins** (The College of Staten Island and CUNY Graduate Center), *Set-theoretic geology.*

Session B, FRIDAY, MARCH 19

MPA 305

- 3:30 – 4:00 **Natasha Dobrinen** (University of Denver), *Tukey types of ultrafilters.*
4:05 – 4:35 **John Krueger** (University of North Texas), *On the weak reflection principle.*
4:40 – 5:10 **Martin Zeman** (University of California, Irvine), *Inner model reflection.*
5:15 – 5:45 **Jindrich Zapletal** (University of Florida and Czech Academy of Sciences), *Homogeneous sets of outer measure one.*

CONTRIBUTED TALKS

Session A, WEDNESDAY, MARCH 17

MPA 310

- 4:00 – 4:20 **William C. Calhoun**, *Turing degrees of K_m -trivial reals.*
4:30 – 4:50 **Mingzhong Cai**, *Array nonrecursiveness and relative recursive enumerability.*
5:00 – 5:20 **Paul Shafer**, *Coding second-order arithmetic into the closed Medvedev degrees.*
5:30 – 5:50 **Wesley Calvert and Russell Miller***, *BSS-reducibility and algebraic real numbers.*

Session B, WEDNESDAY, MARCH 17

MPA 309

- 4:00 – 4:20 **Jean-Martin Albert**, *Hilbert spaces over non-archimedean fields.*
4:30 – 4:50 **Ahuva C. Shkop**, *Schanuel's conjecture and algebraic roots of exponential polynomials.*
5:00 – 5:20 **Vincent Guingona**, *Dependence, isolated extensions and definability of types.*
5:30 – 5:50 **Lynn Scow**, *The relationship of Ramsey classes to the modeling property for certain generalized indiscernible sequences.*

Session C, WEDNESDAY, MARCH 17

MPA 305

- 4:00 – 4:20 **Martín Escardó and Paulo Oliva***, *Instances of bar recursion as products of selection functions.*
4:30 – 4:50 **James Worthington**, *Determinizing, forgetting, and automata in monoidal categories.*
5:00 – 5:20 **Peter Lefanu Lumsdaine**, *Fixed point theorems, constructively.*
5:30 – 5:50 **François G. Dorais and Carl Mummert***, *Stationary and convergent strategies in Choquet games.*

CONTRIBUTED TALKS (continued)

Session D, THURSDAY, MARCH 18

MPA 310

- 4:00 – 4:20 **Rodney G. Downey, Asher M. Kach, Steffen Lempp* and Daniel C. Turetsky**, *Comparing effective notions of categoricity, Part I.*
4:30 – 4:50 **Rodney G. Downey, Asher M. Kach and Daniel C. Turetsky***, *Comparing effective notions of categoricity, Part II.*
5:00 – 5:20 **Tyler Markkanen**, *Separating the degree spectra of structures.*
5:30 – 5:50 **Tamara Lakins**, *Ramsey's theorem for trees.*

Session E, THURSDAY, MARCH 18

MPA 309

- 4:00 – 4:20 **Justin Brody**, *On rational limits of Shelah-Spencer graphs.*
4:30 – 4:50 **Karel Hrbacek**, *Nonstandard analysis based on the concept of level.*
5:00 – 5:20 **Can Başkent**, *Completeness of public announcement logic in topological spaces.*
5:30 – 5:50 **Benedikt Löwe**, *Patterns of cofinality and measurability on small uncountable cardinals.*

Session F, THURSDAY, MARCH 18

MPA 305

- 4:00 – 4:20 **Jaakko Hintikka**, *Definitions require quantifier independence.*
4:30 – 4:50 **Matthew P. Szudzik**, *The computable universe hypothesis.*
5:00 – 5:20 **Katalin Bimbó**, *Relational semantics for an extension of R_+ .*
5:30 – 5:50 **Andrea Pedferri**, *Second order categoricity and invariance.*