ASSOCIATION FOR SYMBOLIC LOGIC
2010 NORTH AMERICAN ANNUAL MEETING

George Washington University
Washington DC

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/~asl2010 for additional information.

All lectures will be held in the MPA building 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.

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 \( \Pi^0_1 \) 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.

6:00 – 7:30 Welcoming Reception
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.

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 Melon University), Inner model theory
11:30 – 12:30 Invited Lecture: Tom Scanlon (University of California, Berkeley), The logic of differentiating numbers
Special Sessions on Categorical Logic

Session A, WEDNESDAY, MARCH 17
MPA 309
2:00 – 2:30 **Steve Awody** (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 arithmetic 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: 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 Yanofski (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 picturalism

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: Model Theory

Session A, WEDNESDAY MARCH 17
MPA 310

2:00 – 2:30 John Goodrick (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 (Oxford University), 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 Sessions on Set Theory

Session A, WEDNESDAY MARCH 17
MPA 305

2:00 – 2:30 Andreas Blass (University of Michigan), $\mathcal{F}_\tau$-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), 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), Homogeneous sets of outer measure one
CONTRIBUTED TALKS

Session A, WEDNESDAY, MARCH 17
MPA 310
4:00 – 4:25 William C. Calhoun Turing degrees of $K_m$-trivial reals
4:30 – 4:55 Mingzhong Cai Array nonrecursiveness and relative recursive enumerability
5:00 – 5:25 Paul Shafer Coding second-order arithmetic into the closed Medvedev degrees
5:30 – 5:55 Wesley Calvert, Russell Miller* BSS-reducibility and algebraic real numbers

Session B, WEDNESDAY, MARCH 17
MPA 309
4:00 – 4:25 Jean-Martin Albert Hilbert spaces over non-archimedean fields
4:30 – 4:55 Ahuva C. Shkop Schanuel’s conjecture and algebraic roots of exponential polynomials
5:00 – 5:25 Vincent Guingona Dependence, isolated extensions and definability of types
5:30 – 5:55 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 – 4:25 Martín Escardó, Paulo Oliva* Instances of bar recursion as products of selection functions
4:30 – 4:55 James Worthington Determinizing, forgetting, and automata in monoidal categories
5:00 – 5:25 Peter Lefanu Lumsdaine Fixed point theorems, constructively
5:30 – 5:55 François G. Dorais, Carl Mummert* Stationary and convergent strategies in Choquet games
Session D, THURSDAY, MARCH 18
MPA 310

4:00 – 4:25 Rodney G. Downey, Asher M. Kach, Steffen Lempp*, Daniel C. Turetsky* Comparing effective notions of categoricity, Part I
4:30 – 4:55 Rodney G. Downey, Asher M. Kach, Daniel C. Turetsky* Comparing effective notions of categoricity, Part II
5:00 – 5:25 Tyler Markkanen Separating the degree spectra of structures
5:30 – 5:55 Tamara Lakins Ramsey's theorem for trees

Session E, THURSDAY, MARCH 18
MPA 309

4:00 – 4:25 Justin Brody On rational limits of Shelah-Spencer graphs
4:30 – 4:55 Karel Hrbacek Nonstandard analysis based on the concept of level
5:00 – 5:25 Can Başkent Completeness of public announcement logic in topological spaces
5:30 – 5:55 Benedikt Löwe Patterns of cofinality and measurability on small uncountable cardinals

Session F, THURSDAY, MARCH 18
MPA 305

4:00 – 4:25 Jaakko Hintikka Definitions require quantifier independence
4:30 – 4:55 Matthew P. Szudzik The computable universe hypothesis
5:00 – 5:25 Katalin Bimbó Rational semantics for an extension of R+
5:30 – 5:55 Andrea Pedeferrì Second order categoricity and invariance