

ASSOCIATION FOR SYMBOLIC LOGIC
2022 NORTH AMERICAN ANNUAL MEETING

Cornell University
Ithaca, New York

April 7–10, 2022

Please note: This program is a draft for the upcoming ASL North American meeting. Please see covid.cornell.edu/visitors/ for the latest masking and vaccination requirements for visitors to Cornell University.

Program Committee: Wesley Calvert, Valentine Kabanets, Justin Moore, Rehana Patel, Sanford Shieh and Jindrich Zapletal (chair).

Local Organizing Committee: Bob Constable, Harold Hodes, Alexander Kocurek, Dexter Kozen, Justin Moore (chair), Anil Nerode and Slawomir Solecki.

All plenary and tutorial talks will be held in Rockefeller Hall 201. The special session and contributed talks will be held in rooms 102, 103, 104, 105, 112 and 115 of Rockefeller Hall. Coffee and registration will take place in the hallway outside 102-115 Rockefeller. The welcoming reception will be held at 6:00pm on Thursday April 7 in the Clark Atrium in the Physical Sciences Building.

THURSDAY, April 7

Morning

- 8:00 – 9:30 COVID check-in, registration and coffee.
9:30 – 10:30 Invited Lecture: **Alexander Razborov** (University of Chicago),
Continuous combinatorics.
10:30 – 11:00 Coffee and registration.
11:00 – 12:00 Tutorial Lecture 1: **Isaac Goldbring** (University of California, Irvine),
The Connes Embedding Problem, $MIP^ = RE$, and model theory, part 1*.

Afternoon

- 2:00 – 3:30 Special Session A1, B1, C1, D1 and E1. See pages 3–7.
3:30 – 4:00 Coffee and registration.
4:00 – 5:00 Tutorial Lecture 2: **Isaac Goldbring** (University of California, Irvine),
The Connes Embedding Problem, $MIP^ = RE$, and model theory, part 2*.
5:00 – 6:00 Retiring Presidential Address: **Julia Knight** (University of Notre Dame),
Generalizing a question of Gromov.
6:00 – 8:00 Welcoming Reception. Clark Atrium, Physical Sciences Building

FRIDAY, April 8

Morning

- 9:00 – 9:30 Registration and coffee
9:30 – 10:30 Invited Lecture: **Avi Wigderson** (Institute for Advanced Studies), *The value of errors in proofs (a fascinating journey from Turing’s 1936 seminal $R \neq RE$ to the 2020 breakthrough of $MIP^* = RE$).*
10:30 – 11:00 Registration and coffee.
11:00 – 12:00 Tutorial Lecture 3: **Isaac Goldbring** (University of California, Irvine), *The Connes Embedding Problem, $MIP^* = RE$, and model theory, part 3.*

Afternoon

- 2:00 – 3:00 Panel Discussion I. **Hélène Barcelo, Tomek Bartoszynski and Elvira Mayordomo** *Mathematical logic in the pandemic era, part 1.*
3:00 – 3:15 Coffee.
3:15 – 4:15 Invited Lecture: **Robin Tucker-Drob** (University of Florida), *Treeability and planarity in measured group theory.*
4:15 – 5:15 Invited Lecture: **Juliet Floyd** (Boston University), *Turing and Wittgenstein.*
5:15 – 5:30 Coffee.
5:30 – 7:00 Contributed Talks. See pages 7–8.

SATURDAY, April 9

Morning

- 9:00 – 9:15 Coffee.
9:15 – 10:45 Special Session A2, B2, C2, D2, E2 and F1. See pages 3–7.
10:45 – 11:00 Coffee.
11:00 – 12:00 Invited Lecture: **Will Boney** (Texas State University), *Compactness of strong logics and large cardinals.*

Afternoon

- 2:00 – 3:00 Panel Discussion II. **Philipp Hieronymi, Joel Ronnie Nagloo, Christopher Porter and Caroline Terry** *Mathematical logic in the pandemic era, part 2.*
- 3:00 – 3:15 Coffee.
- 3:15 – 4:15 Invited Lecture: **Mengche (Turbo) Ho** (California State University, Northridge), *Small cancellation groups in logic.*
- 4:15 – 5:15 Invited Lecture: **Michael Hrušák** (Universidad Nacional Autónoma de México), *Ultrafilters, MAD families and the Katětov order.*
- 5:15 – 5:30 Coffee.
- 5:30 – 7:00 Special Session B3, C3, D3, E3 and F2. See pages 3–7.

SUNDAY, April 10

Morning

- 9:00 – 9:15 Coffee.
- 9:15 – 10:45 Special Session B4, C4, D4, E4 and F3. See pages 3–7.
- 10:45 – 11:00 Coffee.
- 11:00 – 12:00 Invited Lecture: **Jerome Keisler** (University of Wisconsin), *Model theory for non-metric structures.*

SPECIAL SESSIONS

A. History and Philosophy of Logic

(Organized by Lydia Patton)

Session A1: Thursday, April 7 in room 102

- 2:00 – 2:40 **Alexander Kocurek** (Cornell University), *Axiomatizing hyperlogic.*
- 2:50 – 3:30 **Valérie Lynn Therrien** (McGill University), *The evolution of Cantor's proof of the non-denumerability of \mathbb{R} .*

Session A2: Saturday, April 9 in room 102

- 9:15 – 9:55 **Sun-Joo Shin** (Yale University), *Peirce's triadic logic: extension or deviation?*
- 10:05 – 10:45 **Justin Cavitt** (Harvard University), *The evidence for large cardinal axioms and the curious case of supercompactness.*

B. Set Theory

(Organized by Slawomir Solecki)

Session B1: Thursday, April 7 in room 103

2:00 – 2:40 **Jenna Zomback** (University of Illinois), *Pointwise ergodic theorems for semigroup actions.*

2:50 – 3:30 **Konstantin Slutsky** (Iowa State University), *L^1 full groups of flows.*

Session B2: Saturday, April 9 in room 103

9:15 – 9:55 **Victoria Gitman** (CUNY Graduate Center), *Jensen's forcing at an inaccessible.*

10:05 – 10:45 **Dima Sinapova** (University of Illinois at Chicago), *Combinatorial principles and singular cardinals.*

Session B3: Saturday, April 9 in room 103

5:30 – 6:10 **Dana Bartošová** (University of Florida), *Ramsey theory in ultraproducts of finite structures.*

6:20 – 7:00 **Aristotelis Panagiotopoulos** (Carnegie Mellon University), *Strong ergodicity phenomena for Bernoulli shifts of bounded algebraic dimension.*

Session B4: Sunday, April 9 in room 103

9:15 – 9:55 **Filippo Calderoni** (University of Illinois at Chicago), *Descriptive set theoretic rigidity and countable Borel equivalence relations.*

10:05 – 10:45 **Ruiyuan Chen** (McGill University), *A representation theorem for cardinal algebras.*

C. Models of Peano Arithmetic

(Organized by Roman Kossak)

Session C1: Thursday, April 7 in room 104

2:00 – 2:40 **Mateusz Lelyk** (University of Warsaw), *The Tarski Boundary: a cartographic report.*

2:50 – 3:30 **Bartosz Wcisło** (University of Gdańsk), *Properties characterising truth and satisfaction.*

Session C2: Saturday, April 9 in room 104

9:15 – 9:55 **Athar Abdul-Quader** (SUNY Purchase College), *Generic subsets of models of PA.*

10:05 – 10:45 **Laurence Kirby** (Baruch College), *Models of arithmetic: forty years on (again).*

Session C3: Saturday, April 9 in room 104

- 5:30 – 6:10 **Leszek Kołodziejczyk** (University of Warsaw), *An isomorphism theorem for models of Weak König's Lemma without Σ_1^0 induction.*
- 6:20 – 7:00 **Ali Enayat** (University of Gothenburg), *Surrounding the solidity of PA and Z_2 .*

Session C4: Sunday, April 10 in room 104

- 9:15 – 9:55 **Ken McAloon** (Brooklyn College), *Models of arithmetic - its long, slow development.*
- 10:05 – 10:45 **Haim Gaifman** (Columbia), *The conflict between mathematical beauty and realism in the foundations of mathematics.*

D. Computability Theory

(Organized by Antonio Montalbán)

Session D1: Thursday, April 7 in room 105

- 2:00 – 2:40 **Richard Shore** (Cornell University), *Theorems of hyperarithmetical analysis and almost theorems of hyperarithmetical analysis.*
- 2:50 – 3:30 **Matthew Harrison-Trainer** (University of Michigan), *How hard is it to find an atlas for a surface?*

Session D2: Saturday, April 9 in room 105

- 9:15 – 9:55 **Dino Rossegger** (University of California, Berkeley), *The structural complexity of models of arithmetic.*
- 10:05 – 10:45 **Mariya Soskova** (University of Wisconsin), *Enumeration pointed trees.*

Session D3: Saturday, April 9 in room 105

- 5:30 – 6:10 **Russell Miller** (Queens College CUNY), *Universal properties of differentially closed fields.*
- 6:20 – 7:00 **Linda Westrick** (The Pennsylvania State University), *Borel sets in reverse mathematics.*

Session D4: Sunday, April 10 in room 105

- 9:15 – 9:55 **Damir Dzhafarov** (University of Connecticut), *Some questions and observations about the structure of the Weihrauch degrees.*
- 10:05 – 10:45 **Jun Le Goh** (University of Wisconsin), *Extensions of embeddings in the Σ_2^0 enumeration degrees.*

E. Logic and Machine Learning

(Organized by James Freitag and Valentina Harizanov)

Session E1: Thursday, April 7 in room 112

2:00 – 2:40 **Michael C. Laskowski** (University of Maryland), *The more we talk together, the happier we'll be.*

2:50 – 3:30 **Hunter Chase** (University of Maryland), *No-clash teaching of some infinite classes.*

Session E2: Saturday, April 9 in room 112

9:15 – 9:55 **Matthew Harrison-Trainor** (University of Michigan), *Lowness notions in computer science.*

10:05 – 10:45 **Madeleine Udell** (Cornell University), *Automating machine learning.*

Session E3: Saturday, April 9 in room 112

5:30 – 6:10 **D. Gihanee Senadheera** (Southern Illinois University), *Effective concept classes of PAC and PAC_i incomparable degrees and jump structure.*

6:20 – 7:00 **Vince Guingona** (Towson University), *Model theory and differential privacy.*

Session E4: Sunday, April 10 in room 112

9:15 – 9:55 **Kevin Zhou** (University of Illinois at Chicago), *Query learning of automata.*

10:05 – 10:45 **Hunter Johnson** (John Jay College, CUNY), *Binary strings of finite VC dimension.*

F. Homotopy Type Theory

(Organized by Emily Riehl)

Session F1: Saturday, April 9 in room 115

9:15 – 9:55 **Jonas Frey** (Carnegie Mellon University), *An introduction to cohesive homotopy type theory.*

10:05 – 10:45 **Simon Henry** (University of Ottawa), *Homotopy invariant languages.*

Session F2: Saturday, April 9 in room 115

5:30 – 6:10 **Steve Awodey** (Carnegie Mellon University), *Kripke-Joyal semantics for type theory.*

6:20 – 7:00 **Sina Hazratpour** (Johns Hopkins University), *Kripke-Joyal semantics for Homotopy Type Theory.*

Session F3: Sunday, April 10 in room 115

9:15 – 9:55 **Chris Kapulkin** (University of Western Ontario), *Equivalences of dependent type theories.*

10:05 – 10:45 **Paige Randall North** (University of Pennsylvania), *The univalence principle.*

CONTRIBUTED TALKS

FRIDAY, April 8

Session A, 5:30-7:00

5:30 – 5:50 **Jarl G. Taxerås Flaten** (Western University), *Internal injectivity of modules in higher toposes.*

6:00 – 6:20 **Samson Leung** (Carnegie Mellon University), *Axiomatizing AECs and applications.*

6:30 – 6:50 **Matthew DeVilbiss** (University of Illinois at Chicago), *Strong minimality of generic differential equations.*

Session B, 5:30-7:00

5:30 – 5:50 **Vera Fischer and Michał Tomasz Godziszewski*** (University of Łódź and University of Warsaw), *Spectra of maximal almost orthogonal families of projections in the Calkin algebra.*

6:00 – 6:20 **Yuxin Zhou** (University of Florida), *Distinguish chromatic numbers for isosceles triangles in choiceless set theory.*

6:30 – 7:00 **Victoria Gitman, Michał Tomasz Godziszewski*, Toby Meadows and Kameryn Williams** (University of Łódź and University of Warsaw), *On axioms for multiverses of set theory.*

Session C, 5:30-7:00

5:30 – 5:50 **Robert Lubarsky** (Florida Atlantic University), *On winning strategies in Σ_2^0 games.*

6:00 – 6:20 **Shay Allen Logan** (Kansas State University), *Easy proofs of strong variable sharing theorems.*

6:30 – 6:50 **Katalin Bimbó** (University of Alberta), *Relational semantics for some classical relevance logics.*

Session D, 5:30-7:00

- 5:30 – 5:50 **Diego A. Rojas** (Iowa State University), *Effective vague convergence of measures on the real line.*
- 6:00 – 6:20 **David J. Webb** (University of Hawaii at Manoa), *Reducibilities between MLR and Either(MLR).*
- 6:30 – 6:50 **Omer Ben-Neria, and Thomas Gilton*** (University of Pittsburgh), *Club Stationary Reflection and the Special Aronszajn Tree Property.*