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More information

Logic Colloquium 2007

The Annual European Meeting of the Association for Symbolic Logic, also known as the Logic Colloquium, is among the most prestigious annual meetings in the field. The current volume, *Logic Colloquium 2007*, with contributions from plenary speakers and selected special session speakers, contains both expository and research papers by some of the best logicians in the world. This volume covers many areas of contemporary logic: model theory, proof theory, set theory, and computer science, as well as philosophical logic, including tutorials on cardinal arithmetic, on Pillay's conjecture, and on automatic structures.

This volume will be invaluable for experts as well as those interested in an overview of central contemporary themes in mathematical logic.

Françoise Delon was Directrice d'études at the Centre de Formation des PEGC of Reims and Humboldt Stipendiatin at Freiburg and is presently a Directrice de Recherche at Centre National de la Recherche Scientifique.

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Frontmatter
More information

CONTENTS

Introduction ix

Speakers and Titles xi

Vedran Čačić, Pavel Pudlák, Greg Restall, Alasdair Urquhart, and Albert Visser
Decorated linear order types and the theory of concatenation 1

Andrés Eduardo Caicedo
Cardinal preserving elementary embeddings 14

Fernando Ferreira
Proof interpretations and majorizability 32

Philipp Gerhardy
Proof mining in practice 82

Steve Jackson
Cardinal structure under AD 92

Bakhadyr Khoussainov and Mia Minnes
Three lectures on automatic structures 132

Ya'acov Peterzil
Pillay's conjecture and its solution—a survey 177

Greg Restall
Proof theory and meaning: On the context of deducibility 204

Marcus Tressl
Bounded super real closed rings 220

Andreas Weiermann
Analytic combinatorics of the transfinite: A unifying Tauberian perspective 238

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INTRODUCTION

The Logic Colloquium 2007, the European Summer Meeting of the Association for Symbolic Logic, was held in Wrocław, Poland, from 14 to 19 July 2007. It was colocated with the following events: The thirty-fourth International Colloquium on Automata, Languages and Programming (ICALP), the twenty-second Annual IEEE Symposium on Logic in Computer Science (LICS) and the ninth ACM-SIGPLAN International Symposium on Principles and Practice of Declarative Programming (PPDP). There was an agreement with LICS on running joint sessions for one day.

More than 200 participants from all over the world took part in the Logic Colloquium. The programme consisted of 3 tutorials, 11 invited plenary talks, 6 joint talks with LICS (2 long, 4 short) and 21 talks in 5 special sessions on set theory, proof complexity and nonclassical logics, philosophical and applied logic at the JPL, logic and analysis and model theory. In addition to these invited talks, there were 63 contributed talks.

The programme committee consisted of Alessandro Andretta (Turin), Françoise Delon (Paris 7), Ulrich Kohlenbach (Darmstadt), Steffen Lempp (Madison, Chair), Penelope Maddy (UC Irvine), Jerzy Marcinkowski (Wrocław), Ludomir Newelski (Warsaw), Andrew Pitts (Cambridge), Pavel Pudlák (Prague), Sławomir Solecki (Urbana-Champaign), Frank Stephan (Singapore) and Göran Sundholm (Leiden). The local organizing committee consisted of Tobias Kaiser, Piotr Kowalski, Jan Kraszewski, Amador Martin-Pizarro, Serge Randriambololona and Roman Wencel.

The Logic Colloquium 2007 wants to acknowledge its sponsors for their generous support of the event: the Association for Symbolic Logic, the Polish Academy of Sciences and the University of Wrocław.

The next pages give an overview of the programme of the meeting; in addition to the talks listed, there were contributed talks from all fields of mathematical logic. Speakers invited to give a plenary or special session talk were also

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invited to contribute to this volume. The contributions handed in were refereed according to the high standards of logic journals. We would like to thank the authors for their excellent contributions as well as the referees for their diligent work to review and evaluate the submissions.

The Editors
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More information

SPEAKERS AND TITLES

Tutorials

Steve Jackson (North Texas): Cardinal arithmetic in $L(R)$.

Bakh Khoussainov (Auckland): Automatic structures.

Kobi Peterzil (Haifa): The infinitesimal subgroup of a definably compact group.

Invited Plenary Talks

Albert Atserias (Barcelona): Structured finite model theory.

Matthias Baaz (Vienna): Towards a proof theory of analogical reasoning.

Vasco Brattka (Cape Town): Computable analysis and effective descriptive set theory.

Zoé Chatzidakis (Paris 7): Model theory of difference fields and some applications.

Gabriel Debs (Paris 6): Coding compact spaces of Borel functions.

Fernando Ferreira (Lisbon): On a new functional interpretation.

Andrzej Grzegorczyk (Warsaw): Philosophical content of formal achievements.

Bjørn Kjos-Hanssen (Hawaii): Brownian motion and Kolmogorov complexity.

Piotr Kowalski (Wrocław): Definability in differential fields.

Paul Larson (Miami U): Large cardinals and forcing-absoluteness.

Tony Martin (UC Los Angeles): Sets and the concept of set.

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LICS Joint Long Talks

Martin Hyland (Cambridge): Combinatorics and proofs.

Colin Stirling (Edinburgh): Higher-order matching, games and automata.

LICS Joint Short Talks

Cristiano Calcagno (Imperial College): Can logic tame systems programs?

Martín Escardó (Birmingham): Infinite sets that admit exhaustive search.

Rosalie Iemhoff (Utrecht): Skolemization in constructive theories.

Alex Simpson (Edinburgh): Non-well-founded proofs.

Special Session Set Theory

Organized by Ilijas Farah and Joel Hamkins.

Márton Elekes (Hungarian Academy of Sciences): Partitioning κ-fold covers into κ many subcovers.

Gunter Fuchs (Münster): Maximality principles for closed forcings.

Victoria Gitman (City University of New York): Scott's problem for proper Scott sets.

Lionel Nguyen Van The (Calgary): The Urysohn sphere is oscillation stable.

Asger Tornquist (Toronto): Classifying measure preserving actions up to conjugacy and orbit equivalence.

Matteo Viale (Vienna): The constructible universe for the anti-foundation axiom system ZFA.

Special Session Proof Complexity and Nonclassical Logics

Organized by Pavel Pudlák.

Emil Jerábek (Prague): Proof systems for modal logics.

George Metcalfe (Vanderbilt): Substructural fuzzy logics.

Alasdair Urquhart (Toronto): Complexity problems for substructural logics.

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Special Session Philosophical and Applied Logic at the JPL

Organized by Penelope Maddy.

Aldo Antonelli (UC Davis): From philosophical logic to computer science.

Horacio Arlò Costa (Carnegie-Mellon): Philosophical logic meets formal epistemology.

Greg Restall (Melbourne): Proof theory and meaning: three case studies.

Albert Visser (Utrecht): Interpretations in philosophical logic.

Special Session Logic and Analysis

Organized by Itaï Ben Yaacov and Ulrich Kohlenbach.

Philipp Gerhardy (Pittsburgh/Oslo): Local stability of ergodic averages.

Peter Hertling (Univ. der Bundeswehr München): Computability and non-computability results for the topological entropy of shift spaces.

Julien Melleray (Urbana-Champaign): Geometry of the Urysohn space: A model-theoretic approach.

Andreas Weiermann (Ghent): Analytic combinatorics of the transfinite.

Special Session Model Theory

Organized by Françoise Delon and Ludomir Newelski.

Vera Djordjevic (Uppsala): Independence in structures and finite satisfiability.

Amador Martin-Pizarro (Lyon 1): Some thoughts on bad objects.

Ziv Shami (Tel Aviv): Countable imaginary simple unidimensional theories.

Marcus Tressl (Regensburg): Super real closed rings.

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