



**LOGIC  
COLLOQUIUM**

# LC 2015 Programme

## MONDAY 3 AUGUST

8.30AM–10.30AM

### Registration

Venue - Porthania Lobby

You will find the conference registration and information desk on the ground floor of Porthania (Yliopistonkatu 3).

The registration desk accepts ONLY CASH PAYMENTS. If you need to pay your registration fee or some other conference services by cash, please bring with you the exact sum.

10.30AM–12.00PM

### Special Session on Set Theory

Venue - PII

Chair:  
Heike Mildenberger, Universität Freiburg

**Reflection and antireflection at the successor of a singular cardinal**  
Laura Fontanella, Hebrew University of Jerusalem  
Einstein Institut of Mathematics, ISRAEL

**Condensation does not imply Square**  
Peter Holy, University of Bonn, GERMANY

10.30AM–12.00PM

### Special Session on Proof Theory

Venue - PIII

Chairs:  
Benno van den Berg, University of Amsterdam  
Michael Rathjen, University of Leeds

**Transfinite reflection principles and subsystems of second-order arithmetic**  
David Fernández Duque, Instituto Tecnológico Autónomo de México

**Atomic polymorphism: an overview**  
Gilda Ferreira, Faculdade de Ciências - Universidade de Lisboa, PORTUGAL

10.30AM–12.00PM

### Special Session on Logic and Quantum Foundations

Venue - PIV

Chair:  
Samson Abramsky, University of Oxford

**Quantum Team Logic and Bell's Inequalities**  
Gianluca Paolini  
University of Helsinki, FINLAND

**Strong Complementarity and Non-Locality**  
Ross Duncan, University of Strathclyde, UNITED KINGDOM

12.05PM–1.05PM

### Tutorial 1.1

Venue - PI

Chair:  
Jouko Väänänen, University of Helsinki and University of Amsterdam

**On the Set Theory of Generalized Logics**  
Menachem Magidor  
Einstein Institute of Mathematics, Hebrew University of Jerusalem, ISRAEL

1.05PM–2.30PM

### Lunch

Venue - Main Building Unicafe

Lunch at the Main Building Unicafe (Fabianinkatu 33, co-located with CLMPS 2015) for participants who have purchased the additional lunch package.

If you have not purchased the lunch package online while registering, please ask for lunch packages at the registration desk.

2.30PM–4.30PM

### Opening Ceremony

Venue - Great Hall, Main Building,

The opening ceremony is also open for avocs! The program includes welcome addresses by CLMPS 2015 and LC 2015 organizers and organizing institutions. The Classic University Choir, YL double quartet, will perform best pieces of their repertoire.

#### Detailed program:

14.30-14.35: Video on Finland / University of Helsinki

14.35-14.45 Anna Mauranen, Vice Rector, University of Helsinki

14.45-15.00 Music by YL Double Quartet

15.00-15.10 Elliott Sober, President, Division of Logic, Methodology and Philosophy of Science (DLMPS)

15.10-15.20 Alasdair Urquhart, President, Association for Symbolic Logic (ASL) and Patricia Blanchette, Association for Symbolic Logic (ASL), Membership committee

15.20-15.30 Gordon McBean, President, International Council for Science

15.30-15.50 Music by YL Double Quartet

15.50-16.00 Ilkka Niiniluoto, Chair of the Local Organizing Committee, CLMPS 2015

16.00-16.10 Hannes Leitgeb, Chair of the Programme Committee, CLMPS 2015

16.10-16.20 Jouko Väänänen, Chair of the Local Organizing Committee, LC 2015

16.20-16.30 Dag Westerståhl, Chair of the Programme Committee, LC 2015

4.30PM–5.00PM

**Coffee**

Venue - Great Hall Foyers, Main Building,

5.00PM–6.30PM

**Plenary Lecture: Johan van Benthem**

Venue - Great Hall, Main Building

Chair:  
Ilkka Niiniluoto, University of Helsinki**Logic in Play**  
Johan van Benthem,  
Amsterdam, Stanford and Tsinghua University,

6.30PM–8.00PM

**University Reception**Venue - University Main Building  
(Fabianinkatu33), Press Hall Foyer.

The Rector of the University of Helsinki welcomes the colloquium participants by treating them to a wine and salad buffet after the first colloquium-opening day.

The number of participants at the University Reception is **limited**. The earlier you register for LC2015, the more likely you can participate in the University Reception. The reception is also open for avecs!**TUESDAY 4 AUGUST**

9.00AM–10.00AM

**Plenary Lecture: Artem Chernikov**

Venue - PI

Chair:  
Max Dickmann, Paris Diderot University**Applications of model theory in extremal graph combinatorics**  
Artem Chernikov, Institut de Mathématiques de Jussieu - Paris Rive Gauche, FRANCE

10.00AM–10.30AM

**Coffee**

Venue - Porthania Lobby

10.30AM–11.30AM

**Tutorial 1.2**

Venue - PI

Chair:  
Jouko Väänänen, University of Helsinki and University of Amsterdam**On the Set Theory of Generalized Logics**  
Menachem Magidor  
Einstein Institute of Mathematics, Hebrew University of Jerusalem, ISRAEL

11.30AM-12.35 PM

**Break**

12.35PM–2.00PM

**Lunch**

Venue - Main Building Unicafe

Lunch at the Main Building Unicafe (Fabianinkatu 33, co-located with CLMPS 2015) for participants who have purchased the additional lunch package.

2.00PM–3.30PM

**Special Session on Set Theory**

Venue - PII

Chair:  
Heike Mildenberger, Universität Freiburg**Dynamics of the homeomorphism group of the Lelek fan**  
Aleksandra Kwiatkowska  
University of Bonn, GERMANY  
Dana Bartosova  
University of Sao Paulo, BRAZIL**Forcing and generic absoluteness without choice**  
Philipp Schlicht  
Universität Münster, GERMANY

2.00PM–3.30PM

**Special Session on Proof Theory**

Venue - PIII

Chairs:  
Benno van den Berg, University of Amsterdam  
Michael Rathjen, University of Leeds**Provability. Explicit proofs. Reflection.**  
Elena Nogina  
BMCC, City University of New York, UNITED STATES

**Proof-theoretic Approach to Craig Interpolation**  
Roman Kuznets  
TU Wien, AUSTRIA

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2.00PM–3.30PM

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## Special Session on Logic and Quantum Foundations

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Venue - PIV

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Chair: ‘  
Samson Abramsky, University of Oxford

### Entropy and Simulation of No-Signaling Models

Adam Brandenburger (NYU)

### Reasoning about Classical and Quantum Interaction

Sonja Smets

Amsterdam

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3.30PM–4.00PM

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## Coffee

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Venue - Porthania Lobby

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4.00PM–6.00PM

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## Contributed Talks 1

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Venue - PI

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Chair:  
Jonathan Kirby, UEA

### Applications of motivic integration to the fundamental lemma

Jorge Cely  
University of Pittsburgh, UNITED STATES

### Correlations between HS-derivations and the SCF\_{p,e}

Daniel Hoffmann  
Wroclaw University, POLAND

### On orthogonality of a family of convex components of a type in weakly circularly minimal structures

Aizhan Altayeva  
Institute of Mathematics and Mathematical Modelling, KAZAKHSTAN  
Beibut Kulpeshov  
International Information Technology University, KAZAKHSTAN

### ‘Generic’ functions over divisible ordered abelian groups

Alfred Dolich  
Kingsborough Community College and the CUNY Grad Center, UNITED STATES

### Robinson’s property and amalgamations of higher arities

David Nyiri  
Budapest University of Technology and Economics, HUNGARY

### On algebras of distributions for binary formulas of countably categorical weakly o-minimal theories

Beibut Kulpeshov  
International Information Technology University, Almaty, KAZAKHSTAN  
Institute of Mathematics and Mathematical Modeling, Almaty, KAZAKHSTAN

Sergey Sudoplatov  
Sobolev Institute of Mathematics, Novosibirsk, RUSSIAN FEDERATION  
Novosibirsk State Technical University, Novosibirsk, RUSSIAN FEDERATION  
Novosibirsk State University, Novosibirsk, RUSSIA FEDERATION  
Institute of Mathematics and Mathematical Modeling, Almaty, KAZAKHSTAN

Dmitriy Yemelyanov  
Novosibirsk State University, Novosibirsk, RUSSIA  
Institute of Mathematics and Mathematical Modeling, Almaty, KAZAKHSTAN

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4.00PM–6.00PM

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## Contributed Talks 2

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Venue - PII

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Chair:  
Annika Siders, University of Helsinki

### Confluence of cut elimination with respect to Herbrand disjunctions

Bahareh Afshari  
TU Wien, AUSTRIA

Stefan Hetzl  
Vienna University of Technology, AUSTRIA  
Graham Leigh  
Vienna University of Technology, AUSTRIA

### Gentzen’s ordinal collapsing function

Annika Siders  
University of Helsinki, FINLAND

### Constructive completeness and non-discrete languages

Henrik Forssell  
Stockholm University, SWEDEN

### A Uniform Idea behind Gentzen’s Three Consistency Proofs

Ryota Akiyoshi  
Waseda Institute for Advanced Study, JAPAN  
Yuta Takahashi  
Keio University, JAPAN

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4.00PM–6.00PM

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## Contributed Talks 3

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Venue - PIII

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Chair:  
Ralf Schindler, University of Münster

### Large cardinals and the ordinal topological completeness of GLP

Joan Bagaria,  
ICREA and Universitat de Barcelona, SPAIN

### Forcing, regularity properties and the axiom of choice

Haim Horowitz  
Hebrew university of Jerusalem, ISRAEL  
Saharon Shelah  
Hebrew university of Jerusalem, ISRAEL

### A generalisation of closed unbounded sets

Hazel Brickhill  
University of Bristol, UNITED KINGDOM

### Initial segments of models of set theory defined by non-trivial automorphisms

Zachiri McKenzie  
University of Gothenburg, SWEDEN

### On thin-tall and thin-thick Boolean spaces

Juan Carlos Martínez  
University of Barcelona, SPAIN

### Some applications of finite-support products of Jensen’s minimal $\delta_1^1$ -forcing

Vladimir Kanovei  
IITP, RUSSIAN FEDERATION

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4.00PM–6.00PM

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## Contributed Talks 4

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Venue - PIV

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Chair:  
Alasdair Urquhart, University of Toronto

### Yablo’s Paradox(es) as Theorem(s) in Temporal Logic

Ahmad Karimi  
Behbahan Khatam Alanbia University of Technology, IRAN

### Lockean danger zones and lossy inferences

Ted Shear  
University of California, Davis, UNITED STATE

### Towards a Formal Occurrence Logic based on Predicate Logic

Farshad Badie  
Aalborg University, DENMARK  
Hans Göttsche  
Aalborg University, DENMARK

### Epistemic logics for sceptical agents

Marta Bilkova  
Institute of Computer Science, Academy of Sciences of the Czech Republic, CZECH REPUBLIC  
Ondrej Majer  
Institute of Philosophy, Academy of Sciences of the Czech Republic, CZECH REPUBLIC

### Categories of first order quantifiers

Urszula Wybraniec-Skardowska  
Group of Logic, Language and Information, POLAND

### Quantum states by first order variables: some consequences

Giulia Battilotti  
Dept. of Mathematics, University of Padova, ITALY

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4.00PM–6.00PM

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## Contributed Talks 5

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 Venue - P617
 

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Chair:  
Paula Quinon, Lund University

**A formalization of Gödelian causal theory**

Srecko Kovac  
Institute of Philosophy, A public research institute,  
Zagreb, CROATIA

**Gödel's philosophy of mathematics and structural realism about empirical sciences**

Julia Jankowska  
University of Warsaw, POLAND

**Axiomatization of Renaissance Geometry**

Ryszard Mirek  
Pedagogical University of Krakow, POLAND

**A Generalization of the Cantor-Dedekind Continuum**

Jose Roquette  
Technico-Universidade de Lisboa, PORTUGAL

**Lingua characterica and calculus ratiocinator: the polemic between Frege and Schröder**

Joan Bertran-San Millán  
Universitat de Barcelona, SPAIN

**Axiomatic metatheory: A Fregean perspective on independence proofs**

Günther Eder  
Department of Philosophy, University of Vienna,  
AUSTRIA

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 4.00PM–6.00PM
 

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**Contributed Talks 6**


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 Venue - P673
 

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Chair:  
Esko Turunen, Tampere University of Technology

**On language fragments of propositional fuzzy logics**

Zuzana Hanikova  
Institute of Computer Science, Academy of  
Sciences of the Czech Republic, CZECH  
REPUBLIC

**Basic set-theoretical notions over fuzzy partial logic**

Martina Dankova  
IRAFM, University of Ostrava, CZECH REPUBLIC

**Towards fuzzy partial logic of the first and higher orders**

Libor Behounek  
Institute for Research and Applications of  
Fuzzy Modeling, University of Ostrava, NSC  
IT4Innovations, CZECH REPUBLIC

**Codensity and Stone spaces**

Andrei Sipos  
Institute of Mathematics of the Romanian  
Academy, ROMANIA

**Completeness theorem for first-order algebraizable logics**

Petr Cintula  
Institute of Computer Science, Czech Academy of  
Sciences, CZECH REPUBLIC  
Carles Noguera  
Institute of Information Theory and Automation,  
Czech Academy of Sciences, CZECH REPUBLIC

**Gödel's incompleteness property for a decidable fragment of arrow logic**

Mohamed Khaled  
Central European University, HUNGARY

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 4.00PM–6.00PM
 

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**Contributed Talks 7**


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 Venue - P674
 

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Chair:  
Juha Kontinen, University of Helsinki

**The expressive power of modal inclusion logic**

Lauri Hella  
University of Tampere, FINLAND  
Johanna Stumpf  
TU Darmstadt, GERMANY

**Dimension theory for modal logics**

Kerkko Luosto  
University of Helsinki, FINLAND

**A maximal semantics for dependence logic**

Fredrik Engström  
University of Gothenburg, SWEDEN

**Defining properties of teams in k-ary inclusion-exclusion logic**

Raine Rönholm  
University of Tampere, FINLAND

**Some proof theoretical results on propositional logics of dependence**

Rosalie Iemhoff  
Utrecht University, NETHERLANDS  
Fan Yang  
Utrecht University, NETHERLANDS

**Definability in modal logics with team semantics**

Jonni Virtama  
Leibniz Universität Hannover, GERMANY

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 4.00PM–6.00PM
 

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**Contributed Talks 8**


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 Venue - P722
 

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Chair:  
Ekaterina Fokina, Kurt Gödel Research Center

**Degree spectra of real closed fields**

Russell Miller  
Queens College and The Graduate Center –  
CUNY, UNITED STATES  
Victor Ocasio Gonzalez  
University of Puerto Rico at Mayaguez, UNITES  
STATES

**Degrees of autostability for prime Boolean algebras**

Margarita Marchuk  
Sobolev Institute of Mathematics, RUSSIAN  
FEDERATION  
Nikolay Bazhenov  
Sobolev Institute of Mathematics, RUSSIAN  
FEDERATION

**Effective categoricity on computable linear orderings**

Andrey Frolov  
Kazan Federal University, RUSSIAN  
FEDERATION

**The theory of projective planes is complete with respect to degree spectra and effective dimensions**

Nurlan Kogabaev  
Sobolev Institute of Mathematics, RUSSIAN  
FEDERATION

**Computable linear orders with some natural relations**

Ravil Bikmukhametov  
Kazan Federal University, RUSSIAN  
FEDERATION

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 4.00PM–6.00PM
 

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**Contributed Talks 9**


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 Venue - P723
 

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Chair:  
Damir Dzhabfarov, University of Connecticut

**Autostability relative to strong constructivizations of computable structures of nontrivial language**

Margarita Marchuk  
Sobolev Institute of Mathematics, RUSSIAN  
FEDERATION

**Flexible formulae and partial conservativity**

Rasmus Blanck  
University of Gothenburg, SWEDEN

**A hierarchy of uniformities between Medvedev and Muchnik reducibility**

Rutger Kuyper  
Radboud University Nijmegen, NETHERLANDS

**Universality, optimality, and randomness deficiency**

Paul Shafer  
Department of Mathematics, Ghent University,  
BELGIUM  
Rupert Hölzl  
National University of Singapore, SINGAPORE

**On the  $\Delta_0$  induction for the compositional truth predicate**

Mateusz Łełyk  
University of Warsaw, POLAND  
Bartosz Wcisło  
University of Warsaw, POLAND

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 4.00PM–6.00PM
 

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**Contributed Talks 10**


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 Venue - P724
 

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Chair:  
Ross Duncan, University of Strathclyde

**Nonstandard analysis approach to the mathematical foundations of quantum mechanics**

Evgeny Gordon  
Eastern Illinois University, UNITED STATES  
Pavol Zlatoš  
Comenius University, SLOVAKIA

**Contextuality, cohomology and paradox**

Samson Abramsky

Oxford University, UNITED KINGDOM  
 Kohei Kishida  
 Oxford University, UNITED KINGDOM  
 Raymond Lal  
 Oxford University, UNITED KINGDOM  
 Shane Mansfield  
 Oxford University, UNITED KINGDOM  
 Rui Soares Barbosa  
 Oxford University, UNITED KINGDOM

**A typed  $\lambda$ -calculus approach to photon polarization in quantum mechanics.**

M.A. Nait Abdallah  
 UWO, LONDON, CANADA  
 INRIA, Rocquencourt, FRANCE

**Temporal Logics for Continuous Collaborative Games**

Farn Wang  
 National Taiwan University, TAIWAN

**Homotopy Model Theory**

Brice Halimi  
 Department of Philosophy, University Paris Ouest  
 Nanterre La Défense. FRANCE

**Demuth's path to randomness**

Antonin Kucera  
 Charles University, CZECH REPUBLIC

6.10PM

**Conference photo**

Venue - In Front of Porthania

7.30PM–9.30PM

**City Visit**

Venue - Senate Square, next to Main Building

SOLD OUT! Ask for last minute cancellations at the registration desk

Starting point: Senate Square, next to Main Building

Price: 15 €

Choose either Helsinki City Walk or Helsinki Bus Tour

*WEDNESDAY 5 AUGUST*

9.00AM–10.00AM

**Plenary Lecture: Danielle Macbeth**

Venue - PI

Chair:  
 Dag Westerstahl, Stockholm University

**Logical Form, Mathematical Practice, and Frege's Begriffsschrift**

Danielle Macbeth  
 Haverford College, USA

10.00AM–10.30AM

**Coffee**

Venue - Porthania Lobby

10.30AM–11.30AM

**Tutorial 1.3**

Venue - PI

Chair:  
 Jouko Väänänen, University of Helsinki and  
 University of Amsterdam

**On the Set Theory of Generalized Logics**

Menachem Magidor  
 Einstein Institute of Mathematics, Hebrew  
 University of Jerusalem, ISRAEL

11.35AM – 1.05PM

**Special Session on Model Theory**

Venue - PII

Chair:  
 Dugald McPherson, University of Leeds

**Non-forking formulas in distal NIP theories**

Gareth Boxall  
 Stellenbosch University, SOUTH AFRICA

Charlotte Kestner  
 University of Leeds, UNITED KINGDOM

**Simple homogeneous structures**

Vera Koponen  
 Uppsala University, SWEDEN

11.35AM–1.05PM

**Special Session on Computability Theory**

Venue - PIII

Chairs:  
 Russell Miller, Queens College - CUNY  
 Alexandra Soskova, Sofia University

**The Strength of Turing Determinacy within Second Order Arithmetic**

Richard Shore  
 Cornell University, UNITED STATES

**Computable, uniform, and strong reductions**

Damir Dzhafarov  
 University of Connecticut, UNITED STATES

11.35AM–1.05PM

**Special Session on Philosophy of Mathematics and Logic**

Venue - PIV

Chairs:  
 Patricia Blanchette, University of Notre Dame,  
 Indiana  
 Penelope Maddy, University of California, Irvine

**Towards an understanding of mathematical understanding'**

Janet Folina  
 Macalester College, USA

**Logic and Invariance: take a step back, look at the bigger picture and devour the whale (one bit a time)**

Denis Bonnay  
 Paris Ouest University – IHPST, FRANCE

1:05AM–2:30PM

**Lunch**

Venue - Main Building Unicafe

Lunch at the Main Building Unicafe (Fabianinkatu 33, co-located with CLMPS 2015) for participants who have purchased the additional lunch package.

2.30PM–3.30PM

**Plenary Lecture: Kobi Peterzil**

Venue - PI

Chair:  
Zoe Chadzidakis, Ecole Normale Supérieure

**Topological groups and stabilizers of types (joint work with S. Starchenko)**  
Kobi Peterzil  
University of Haifa, ISRAEL

3.30PM–4.00PM

**Coffee**

Venue - Porthania Lobby

4.00PM–6.00PM

**Contributed Talks 11**

Venue - PI

Chair:  
Charles Steinhorn, Vassar College

**Fields in Zariski-like structures**  
Kaisa Kangas  
University of Helsinki, FINLAND

**On near model completeness of generic structures**  
Koichiro Ikeda  
Hosei University, JAPAN

**Generalised stability of pseudofinite residue rings**

Ricardo Bello Aguirre  
University of Leeds, UNITED KINGDOM

**Some dynamical approaches to NIP theories**

Alireza Mofidi  
Amirkabir University of Technology and IPM, IRAN

4.00PM–6.00PM

**Contributed Talks 12**

Venue - PII

Chair:  
Jaap van Oosten (TBC), University of Utrecht

**Parametric polymorphism and the completeness of type theory**

Paolo Pistone  
Università Roma Tre, ITALY

**Types and operations**

Stanislaw Ambroszkiewicz  
Institute of Computer Science, Polish Academy of Sciences, POLAND

**On some universal system for various propositional logics.**

Anahit Chubaryan  
Yerevan State University, ARMENIA  
Armine Chubaryan  
Yerevan State University, ARMENIA  
Hakob Nalbandyan  
Yerevan State University, ARMENIA  
Sergey Sayadyan  
Yerevan, ARMENIA

**Arithmetical Conservation Results and Goodman's Theorem**

Benno van den Berg  
ILLC, University of Amsterdam, NETHERLANDS

**Reverse mathematical bounds for the Termination Theorem**

Stefano Berardi  
University of Torino, ITALY  
Silvia Steila  
Dipartimento di Informatica, Università degli studi di Torino, ITALY  
Keita Yokoyama  
School of Information Science, Japan Advanced Institute of Science and Technology, JAPAN

**Completeness of the Universal Hybrid Calculus**

Bill Wadge  
University of Victoria, CANADA  
Omar Alaqeli  
University of Victoria, CANADA

4.00PM–6.00PM

**Contributed Talks 13**

Venue - PIII

Chair:  
Abdrew Brooke-Taylor, University of Bristol

**Class-Forcing in Class Theory**

Carolin Antos  
Kurt Gödel Research Center, University of Vienna, AUSTRIA

**On the relationship between proper classes and forcing extensions**

Neil Barton  
Birkbeck College, University of London, UNITED KINGDOM

**A theory of truth equi-consistent with Quine's New Foundations**

Graham Leigh  
Vienna University of Technology, AUSTRIA

**Completeness of infinitary intuitionistic logics**

Christian Espindola  
Stockholm University, SWEDEN

**On the naturalness of Forcing Axioms**

Giorgio Venturi  
Unicamp, ITALY

**Sets and Set Theoretic Foundations**

Mark Addis  
Birmingham City University, UNITED KINGDOM

4.00PM–6.00PM

**Contributed Talks 14**

Venue - P617

Chair:  
Juha Oikkonen, University of Helsinki

**Unifying Logic and Boolean Algebra**

Joachim Mueller-Theys  
Private, GERMANY

**Some infinitary paradoxes and undecidable sentences in Peano arithmetic**

Ka Yue Cheng  
Eötvös Loránd University, HUNGARY

**Peano arithmetic can well prove its own consistency**

Alexandr Bessonov  
Institute of Philosophy and Law, Siberian Branch, Russian Academy of Sciences, Novosibirsk State University, RUSSIAN FEDERATION

**Distributive normal forms 2015**

Jaakko Hintikka  
University of Helsinki, FINLAND

**Three kinds of mathematical naturalness**

Benedict Eastaugh  
University of Bristol, UNITED KINGDOM

**Varieties of Ramified-Type Assignment Systems**

Harold Hodes  
Cornell University, UNITED STATES

4.00PM–6.00PM

**Contributed Talks 15**

Venue - P673

Chair:  
Lauri Hella, University of Tampere

**First steps towards probabilistic justification logic**

Ioannis Kokkinis  
Universität Bern, SWITZERLAND

**A relational doxastic logic**

Thomas Benda  
National Yang Ming University, TAIWAN

**Effects in Modal Logics**

Alexandre Madeira  
HasLab - INESC TEC & Minho University, PORTUGAL  
Renato Neves  
HasLab - INESC TEC & Minho University, PORTUGAL  
Manuel A. Martins  
University of Aveiro, PORTUGAL  
Luis Barbosa  
Universidade do Minho, PORTUGAL

**On first-order temporal logics of spacetimes**

Attila Molnár, ELTE, HUNGARY

**Big Brother Logic: visual-epistemic reasoning in multi-agent systems**

Olivier Gasquet

IRIT, UPS, FRANCE

Valentin Goranko

Stockholm University, SWEDEN

Francois Schwarzentruber

École normale supérieure de Rennes, SWEDEN

4.00PM–6.00PM

**Contributed Talks 16**

Venue - P722

Chair:

Dietmar Berwanger, CNRS, Paris-Saclay

**Application of Jump inversion for structures in the context of omega-enumeration reducibilities**

Alexandra Soskova

Sofia University, BULGARIA

Stefan Vatev

Sofia University, BULGARIA

**Complexity of Orders on Groups**

Valentina Harizanov

George Washington University, UNITED STATES

**Lowness for isomorphism as restricted to classes of structures**

Jacob Suggs

University of Connecticut, UNITED STATES

**Algorithmic complexity of orders of groups**

Jennifer Chubb

University of San Francisco, UNITED STATES

Mieczyslaw Dabkowski

University of Texas, Dallas, UNITED STATES

Valentina Harizanov

George Washington University, UNITED STATES

**Local computability and hereditarily finite superstructures**

Svetlana Aleksandrova

Novosibirsk State University, RUSSIAN

FEDERATION

Nikolay Bazhenov

Sobolev Institute of Mathematics, Novosibirsk

State University, RUSSIAN FEDERATION

**Generalizing Godel's and Rosser's****incompleteness theorems for nonrecursively enumerable theories**

Payam Seraji

University of Tabriz, IRAN

Saeed Salehi

Tabriz university, IRAN

4.00PM–6.00PM

**Contributed Talks 17**

Venue - P723

Chair:

Antonin Kucera, Charles University in Prague

**There are no minimal pairs in  $\mathcal{L}[\{\mathbf{d}\}]$** 

Mars Yamaleev

Kazan Federal University, RUSSIAN

FEDERATION

**Universal enumerations of families and hyperimmunity**

Marat Faizrahmanov

Kazan (Volga Region) Federal University,

RUSSIAN FEDERATION

**Degree spectra of n-families**

Marat Faizrahmanov

Kazan Federal University, RUSSIAN

FEDERATION

Iskander Kalimullin

Kazan Federal University, RUSSIAN

FEDERATION

**Hierarchies of n-r.e. sets in every non-zero r.e. degree**

Dariusz Kalociński

Institute of Philosophy, University of Warsaw,

POLAND

**On limitwise monotonic reducibility of sets and sequences**

Damir Zainetdinov

Kazan Federal University, RUSSIAN

FEDERATION

6.30PM–9.00PM

**City Hall Reception**

Venue: City Hall, Pohjoisesplanadi 11-13

The City of Helsinki hosts a welcome reception for the colloquium guests at the heart of the historic centre next to the sea-side Market Square. After a welcome speech by a city representative, the guests have a chance to enjoy a light buffet dinner and the architecture of the City Hall.

8.00PM-11PM

**ASL Council Meeting**



**Runeberg Hall, Main Building Fabianinkatu 33**

The meeting is open to all ASL members! Please make sure that all participants enter the building as one group since officially Main Building is closed at the time of the meeting.

**THURSDAY 6 AUGUST**

9.00AM–10.30AM

**Plenary Lecture: Steve Awodey**

Venue - PI

Chair:

Jouko Väänänen, University of Helsinki and University of Amsterdam

**Cubical homotopy type theory and univalence**  
Steve Awodey  
Carnegie Mellon University, UNITED STATES

10.30AM–11.00AM

**Coffee**

Venue - Porthania Lobby

11.00AM–12.00PM

**Tutorial 2.1**

PI

Chair:

Jouko Väänänen, University of Helsinki and University of Amsterdam

**Dependence and Independence in Logic**  
Erich Grädel  
RWTH Aachen, GERMANY

12.05 PM–01.05 PM

**Plenary Lecture: Sebastiaan Terwijn**

Venue - PI

Chair:

Veronica Becher, University of Buenos Aires

**Probability Logic**  
Sebastiaan Terwijn

Radboud University Nijmegen, NETHERLANDS

1.05PM–2.30PM

**Lunch**

Venue - Main Building Unicafe

Lunch at the Main Building Unicafe (Fabianinkatu 33, co-located with CLMPS 2015) for participants who have purchased the additional lunch package.

2.30PM–7.30PM

**Excursion to Suomenlinna**

Start venue - Kauppatori

Start place: Kauppatori harbour  
Price: 70 €

The cruise operator Stromma organizes a special LC 2015 cruise to the Unesco World Heritage site, the Suomenlinna fortress island. The price includes a cruise to Suomenlinna and back on the ship M/S Aava, a guided tour on Suomenlinna, and a light on-board cruise dinner on the way back.

Programme:

14.30 M/S Aava departs from Kauppatori Market Square

14.45 Guided walk on Suomenlinna (1,5 hours)

16.15 Cruise and light dinner on board

19.30 M/S Aava arrives at Kauppatori Market Square

**FRIDAY 7 AUGUST**

9.00AM–10.00AM

**Plenary Lecture: Toshiyasu Arai**

Venue - PI

Chair:

Erik Palmgren, Stockholm University

**Proof theory of set theories**  
Toshiyasu Arai  
Chiba University, JAPAN

10.00AM–10.30AM

**Coffee**

Venue - Porthania Lobby

10.30AM–11.30AM

**Tutorial 2.2**

PI

Chair:

Jouko Väänänen, University of Helsinki and University of Amsterdam

**Dependence and Independence in Logic**  
Erich Grädel  
RWTH Aachen, GERMANY

11.35PM–12.35PM

**Plenary Lecture: Ralf Schindler**

Venue - PI

Chair:

Menachem Magidor, Hebrew University

**Martin's Maximum, Woodin's (\*), or both?**  
Ralf Schindler  
Institut für mathematische Logik und Grundlagenforschung, Fachbereich Mathematik und Informatik, Universität Münster, GERMANY

12.35PM–2.00PM

**Lunch**

Venue - Main Building Unicafe

Lunch at the Main Building Unicafe (Fabianinkatu 33, co-located with CLMPS 2015) for participants who have purchased the additional lunch package.

2.00PM–3.30PM

**Special Session on Model Theory**

Venue - PII

Chair:

Dugald McPherson, University of Leeds

**The field of p-adic numbers with a predicate for the powers of a natural number**  
Nathanaël Mariaule  
Napoli

**Imaginaries and definable types in valued differential fields**  
Sylvain Rideau  
École normale supérieure, Paris, FRANCE

2.00PM–3.30PM

**Special Session on Computability Theory**

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**Venue - PIII**


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Chairs:

Russell Miller, Queens College - CUNY  
Alexandra Soskova, Sofia University

**Bounded low and high sets**

Bernard Andersson  
Gordon State College, UNITED STATES  
Barbara Csima  
University of Waterloo, CANADA  
Karen Lange  
Wellesley College, UNITED STATES

**Computability-theoretic categoricity at levels 1 and 2**

Ekaterina Fokina  
Kurt Goedel Research Center, AUSTRIA

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 2.00PM–3.30PM
 

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## Special Session on Philosophy of Mathematics and Logic

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**Venue - PIV**


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Chairs:

Patricia Blanchette, University of Notre Dame,  
Indiana  
Penelope Maddy, University of California, Irvine

**Mathematical depth and Szemerédi's theorem**

Andrew Arana  
University of Illinois at Urbana-Champaign,  
UNITED STATES

**Instrumental nominalism about set-theoretic structuralism**

Richard Pettigrew  
University of Bristol, UNITED KINGDOM

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 3.30PM–4.00PM
 

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## Coffee

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**Venue - Porthania Lobby**


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 4.00PM–6.00PM
 

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## Contributed Talks 18

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**Venue - PI**


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Chair:

Tapani Hyttinen, University of Helsinki

**Cellular objects and Shelah's singular compactness theorem**

Tibor Beke  
University of Massachusetts Lowell, UNITED STATES  
Jiri Rosicky, Masaryk University Brno, CZECH REPUBLIC

**Locally projective modules and large cardinals**

Juan Nido  
Universidad Autónoma de la Ciudad de México,  
MEXICO  
Gabriel Salazar  
Institute of Mathematics, Polish Academy of  
Sciences, POLAND  
Luis Villegas  
Universidad Autónoma Metropolitana, MEXICO

**Topological dynamics and invariant equivalence relations**

Tomasz Rzepecki  
Uniwersytet Wrocławski, POLAND

**Around the set-theoretical consistency of  $d$ -tameness of metric abstract elementary classes**

Pedro Zambrano  
Universidad Nacional de Colombia, COLOMBIA  
Will Boney  
University of Illinois at Chicago, UNITED STATES

**On weakly generic automorphisms of homogeneous structures**

Gabor Sagi  
Alfred Renyi Institute of Mathematics, HUNGARY

**Metric AECs as accessible categories**

Michael Lieberman  
Masaryk University, CZECH REPUBLIC  
Jiri Rosicky  
Masaryk University, CZECH REPUBLIC

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 4.00PM–6.00PM
 

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## Contributed Talks 19

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**Venue - PII**


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Chair:

Toshiyasu Arai, Chiba University

**Some applications of dependently sorted logic in constructive mathematics**

Erik Palmgren  
Stockholm University, SWEDEN

**Justifying path induction**

Patrick Walsh  
Carnegie Mellon University, UNITED STATES

**Admissibility of the structural rules in Kanger's sequent calculus for first order logic with equality**

Franco Parlamento  
Università di Udine, ITALY  
Federico Munini  
Università di Udine, ITALY

**Rosser-type Henkin sentences and local reflection principles**

Taishi Kurahashi  
Kisarazu National College of Technology, JAPAN

**A simplification of the Theory of Constructions**

Walter Dean  
University of Warwick, UNITED KINGDOM  
Hidenori Kurokawa  
Kobe University, JAPAN

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 4.00PM–6.00PM
 

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## Contributed Talks 20

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**Venue - PIII**


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Chair:

Ilijas Farah, York University

**A dichotomy theorem for the generalized Baire space and elementary embeddability at uncountable cardinals**

Dorottya Sziraki  
Central European University, Department of

Mathematics, HUNGARY  
Jouko Väänänen  
University of Helsinki, FINLAND  
University of Amsterdam, THE NETHERLANDS

**Wadge hierarchy of differences of coanalytic sets**

Kevin Fournier  
UNIL - PARIS VII, SWITZERLAND

**A general extension theorem for complete partial orders**

Daniel Wessel  
University of Trento, ITALY  
Peter Schuster  
University of Verona, ITALY

**On the topological complexity of the density sets of the real line**

Gemma Carotenuto  
Università di Salerno, ITALY

**On equivalence relations generated by Schauder bases**

Longyun Ding  
Nankai University, CHINA

**Regularity properties on the generalized reals**

Yurii Khomskii  
University of Hamburg, GERMANY

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 4.00PM–6.00PM
 

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## Contributed Talks 21

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**Venue - PIV**


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Chair:

Kerkko Luosto, University of Tampere

**Computational Complexity of Barwise's Sentence and Similar Natural Language Constructions**

Michał Tomasz Godziszewski  
University of Warsaw, POLAND  
Dariusz Kalociński.  
Institute of Philosophy, University of Warsaw,  
POLAND

**Inside the second level of the Mostowski-index hierarchy of the  $\mu$ -calculus**

Jacques Duparc  
University of Lausanne, SWITZERLAND  
Alessandro Facchini  
IDSIA, SWITZERLAND  
Kevin Fournier  
UNIL - PARIS VII, SWITZERLAND  
Henryk Michalewski  
Faculty of Mathematics, Informatics and

Mechanics, University of Warsaw, POLAND

### Break 20 minutes

#### Some notes about lower bounds for steps and sizes of proofs in Frege systems.

Anahit Chubaryan  
Yerevan State University, ARMENIA  
Armine Chubaryan  
Yerevan State University, ARMENIA  
Arman Tshitoyan  
Yerevan State University, ARMENIA

#### Asynchronous automata transformations of prefix decidable and Buchi decidable infinite words

Natalia Korneeva  
Kazan (Volga Region) Federal University,  
RUSSIAN FEDERATION

#### Transfinite graded Turing progressions and modal logic

Eduardo Hermo Reyes  
University of Barcelona, SPAIN  
Joost J. Joosten  
University of Barcelona, SPAIN

4.00PM–6.00PM

## Contributed Talks 22

Venue - P617

Chair:  
Harold Hodes, Cornell University

#### Leon Chwistek's Rational Semantics and Contemporary Computation

Hubert Božek  
Pedagogical University of Cracow, POLAND

#### The Logic of Algorithmic Knowledge

Dariusz Surowik  
University of Białystok, POLAND

#### Hard and soft logical information

Patrick Allo  
Vrije Universiteit Brussel, BELGIUM

#### Default and non-monotonic spatial reasoning

Przemysław Wałęga  
University of Warsaw, POLAND

#### On the lattice structure of generic common knowledge fixed points

Evangelia Antonakos  
Bronx Community College, CUNY, UNITED STATES

4.00PM–6.00PM

## Contributed Talks 23

Venue - P673

Chair:  
Jonni Virtama, Leibniz Universität Hannover

#### A nonstandard model for an ill-posed parabolic equation

Emanuele Bottazzi  
University of Trento, ITALY

#### Communism and the incentive to share in science

Remco Heesen  
Carnegie Mellon University, UNITED STATES

#### Finitisations of second order principles

Florian Pelupessy  
Tohoku University, JAPAN

#### Some Conceptual Hypotheses on Information Entropy, Chaos and Implicit Contradictions.

Antonio Vincenzi  
ASFGP, ITALY

#### A Knowledge First Epistemic Logic of Knowledge and Belief

Syraya Chin-Mu Yang  
National Taiwan University, TAIWAN

4.00PM–6.00PM

## Contributed Talks 24

Venue - P674

Chair:  
Andrew Arana, University of Illinois

#### Continuous vs Discrete

Evgeny Gordon  
Eastern Illinois University, UNITED STATES

#### Exact Numerals as Vague Quantifiers

Paula Quinon  
Department of Philosophy, Lund University,  
SWEDEN  
Karolina Krzyżanowska  
Munich Center For Mathematical Philosophy,  
GERMANY

#### Is Separativity an Additional Constraint?

Ranjan Mukhopadhyay  
Visva-Bharati, INDIA

#### Librationist Capture and Domination of Definable Real Numbers

Frode Bjørdal  
The University of Oslo, NORWAY

#### The World of Logic

Jan Wolenski  
WSIZ Rzeszow, UJ Krakow, POLAND

#### Round squares are no contradictions

Jean-Yves Beziau  
UFRJ, BRAZIL  
UCSD, UNITED STATES

4.00PM–6.00PM

## Contributed Talks 25

Venue - P722

Chair:  
Vladimir Kanovei, IITP, Moscow

#### Universal binary relations, preorders, and graphs

Luca San Mauro  
Scuola Normale Superiore, ITALY

#### Computable numberings of partial computable functionals

Sergey Ospichev  
Novosibirsk State University, RUSSIAN FEDERATION  
Sobolev institute of mathematics, RUSSIAN FEDERATION

#### Reductions between Types of Numberings

Manat Mustafa  
Department of Mathematics of School of Science and Technology (SST), Nazarbayev University, KAZAKHSTAN

#### A-computable numberings of the families of total functions

Assylbek Issakhov  
Al-Farabi Kazakh National University, KAZAKHSTAN

#### Formalization of Ontology and its Algorithmic Properties

Jamalbek Tussupov  
Eurasian National University, KAZAKHSTAN  
Madina Sambetbaeva  
Eurasian National University, KAZAKHSTAN

#### Some new definability and complexity results in monadic second-order arithmetic

Stanislav Speranski

Sobolev Institute of Mathematics, RUSSIAN FEDERATION

4.00PM–6.00PM

## Contributed Talks 26

Venue - P723

Chair:  
Juliette Kennedy, University of Helsinki

#### Heyting duality as an application of fundamental categorical duality theorem

Mustafa Demirci  
Akdeniz University, TURKEY

#### Effective representation in point-free theories

Vladislav Nenchev  
Sofia University "St. Kliment Ohridski", BULGARIA

#### Suppes-style rules for probability logic

Marija Boricic  
Faculty of Organizational Sciences, University of Belgrade, SERBIA

#### Linear Logics of Agency

Daniele Porello  
Laboratory for Applied Ontology, Institute for Cognitive Sciences and Technologies, ISTC, CNR, ITALY

#### A proof-theoretic criterion of synonymy and the distinction between intensional and extensional harmony

Luca Tranchini  
Eberhard-Karls-Universität Tübingen, GERMANY

4.00PM–6.00PM

## Contributed Talks 27

Venue - P724

Chair:  
Zoe Chatzidakis, Ecole Normale Supérieure

#### Diagrams and small theories

Aida Alibek  
University of Illinois at Chicago, UNITED STATES  
Bektur Baizhanov  
Institute of Mathematics and Mathematical Modelling, UNITED STATES  
John Baldwin  
University of Illinois at Chicago, UNITED STATES  
Aisha Yershigeshova

Institute of Mathematics and Mathematical Modelling, UNITED STATES  
Tatyana Zambarnaya  
Institute of Mathematics and Mathematical Modelling, UNITED STATES

**Zero-one laws for edge weighted graphs**  
Caroline Terry  
University of Illinois at Chicago, UNITED STATES

**Integration on the Surreals: A Conjecture of Conway, Kruskal and Norton**  
Philip Ehrlich  
Ohio University, UNITED STATES  
Ovidiu Costin  
The Ohio State University, UNITED STATES

**Properties of central type for fragments of Jonsson sets**  
Aibat Yeshkeyev, Karaganda State University, KAZAKHSTAN

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7.30PM–12.00AM

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## Congress Dinner

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Venue - Restaurant Bank (Unioninkatu 20)

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The congress dinner is served at the Restaurant Bank, conveniently located a few blocks away from the colloquium venue. The dinner consists of a three course meal in the functionalist-style old bank building with unique wall paintings and ornaments. Restaurant Bank focuses on modern Finnish cuisine prepared from the best seasonal ingredients.

The Congress Dinner requires online preregistration. The price of the dinner is 50 € (incl. three courses and accompanying wines). There might be some extra dinner tickets for sale at the Congress Office (the Porthania lobby) during the first colloquium days.

## SATURDAY 8 AUGUST

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9.00AM–10.00AM

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### Plenary Lecture: Sergei Artemov

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Venue - PI

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Chair:  
Juliette Kennedy, University of Helsinki

**Constructive knowledge**  
Sergei Artemov  
CUNY, UNITED STATES

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10.00AM–10.30AM

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### Coffee

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Venue - Porthania Lobby

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10.30AM–11.30AM

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### Tutorial 2.3

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PI

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Chair:  
Jouko Väänänen, University of Helsinki and University of Amsterdam

**Dependence and Independence in Logic**  
Erich Grädel  
RWTH Aachen, GERMANY

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11.30AM–1.00PM

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### Lunch

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Venue - Main Building Unicafe

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Lunch at the Main Building Unicafe (Fabianinkatu 33, co-located with CLMPS 2015) for participants who have purchased the additional lunch package.

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1.00AM–2.00PM

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### Plenary Lecture: Andrei Morozov

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Venue - PI

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Chair:  
Tomek Bartoszynski, National Science Foundation

**Computable model theory over the reals: some results and problems**  
Andrei Morozov  
Novosibirsk, RUSSIAN FEDERATION

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2.05PM–3.35PM

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### Plenary Lecture: Ilijas Farah

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Venue: PI

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Chair:  
Tomek Bartoszynski, National Science Foundation

**Quantum ultrafilters**  
Ilijas Farah  
York University, CANADA

+ closing words (30 min)