



## Computational Approaches to the Foundations of Mathematics

11 to 13 April 2018

International Workshop organized by Sam Sanders, (LMU), Peter Schuster (University of Verona), and Helmut Schwichtenberg (LMU)

### Wednesday, 11 April 2018 (Center for Advanced Studies, LMU Munich)

- 18:00            Keynote Lecture by **Matthias Baaz** (TU Vienna)  
                    The Concept of Proof
- 19:30            Conference Dinner (Gasthaus Weinbauer)

### Thursday, 12 April 2018 (Mathematisches Institut, room B349, LMU Munich)

- 09:00 – 10:00    **Ulrich Kohlenbach** (TU Darmstadt)  
                    Proof-Theoretic Methods in Convex Optimization
- 10:00 – 10:45    **Michael Rathjen** (University of Leeds)  
                    Definite Mathematical Problems, Indefinite Extensibility and Semi-  
                    Intuitionistic Theories of Sets
- 10:45 – 11:15    Coffee Break
- 11:15 – 12:00    **Joost J. Joosten** (University of Barcelona)  
                    The Turing Jump Interpretation of Transfinite Provability Logic
- 12:00 – 12:45    **Benno van den Berg** (University of Amsterdam)  
                    Homotopy Type Theory with Explicit Conversions
- 12:45 – 13:45    Lunch Break
- 13:45 – 14:30    **Silvia Steila** (University of Bern)  
                    Computing the Least Fixed Point in Weak Set Theories
- 14:30 – 15:15    **Anton Freund** (University of Leeds)  
                    On Polynomial Consistency Proofs
- 15:15 – 15:45    Coffee Break
- 15:45 – 16:30    **John Longley** (University of Edinburgh)  
                    Separating Sublanguages of PCF
- 16:30 – 17:00    **Bruno Dinis** (University of Lisbon)  
                    Intuitionism, Nonstandard Arithmetic and Functional Interpretations

**Friday, 13 April 2018 (Mathematisches Institut, room B349, LMU Munich)**

- 09:00 – 10:00 **Douglas Cenzer** (University of Florida)  
Algorithmically Random Continuous Functions
- 10:00 – 10:45 **Thomas Powell** (TU Darmstadt)  
Ideal Objects and Abstract Machines
- 10:45 – 11:15 Coffee Break
- 11:15 – 12:00 **Sam Sanders** (Postdoc-Fellow CAS/MCMP)  
On the Mathematical and Foundational Significance of the Uncountable
- 12:00 – 12:45 **Imme van den Berg** (University of Evora)  
On Convergence in Finite Time
- 12:45 – 13:45 Lunch Break
- 13:45 – 14:30 **Fernando Ferreira** (University of Lisbon)  
On the Removal of Weak Compactness Arguments
- 14:30 – 15:15 **Dag Normann** (University of Oslo)  
A Comparative Study of the Heine-Borel Theorem, the Lindelöf Lemma  
and Non-Monotone Inductive Definitions of Sets of Integers
- 15:15 – 15:45 Coffee Break
- 15:45 – 16:30 **Reinhard Kahle** (New University of Lisbon)  
Computations in Mathematical Foundations - How did we get lost  
here?
- 16:30 – 17:00 **Pedro Pinto** (University of Bucharest)  
Concrete Examples on the Elimination of Weak Compactness

**Keynote Lecture on Wednesday:**

Center for Advanced Studies, Seestraße 13, 80802 München

**Workshop on Thursday and Friday:**

Mathematical Institute, Room B349, Theresienstraße 39, 80333 München

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