

**Monday, July 8**

8 : 30 – 8 : 50 Registration  
 8 : 50 – 9 : 00 Opening Welcome Remarks

**Morning Session**

9 : 00 – 10 : 00 Martin Ziegler  
*Real Parameterized and Second-Order Complexity Theory:  
 from Computability in Analysis to Numerical Practice*

10 : 00 – 10 : 30 Hugo Férée and Mathieu Hoyrup  
*Higher-order complexity in analysis*

10 : 30 – 11 : 00 Coffee Break

11 : 00 – 11 : 30 Robert Rettinger  
*Complexity in Analysis*

11 : 30 – 12 : 00 Akitoshi Kawamura, Norbert Th. Müller, Carsten Rösnick and Martin Ziegler  
*Parameterized Uniform Complexity in Numerics: from Smooth  
 to Analytic, from NP-hard to Polytime*

12 : 00 – 12 : 30 Daniel S. Graça and Amaury Pouly  
*Computational complexity of solving polynomial differential equations  
 over unbounded domains*

**Monday, July 8 Afternoon Session**

2 : 00 – 3 : 00 Takayuki Kihara  
*From Classical Recursion Theory to Descriptive Set Theory  
 via Computable Analysis*

3 : 00 – 3 : 30 Arno Pauly and Matthew de Brecht  
*Towards Synthetic Descriptive Set Theory: An instantiation with  
 represented spaces*

3 : 30 – 4 : 00 Vassilios Gregoriades  
*Effective refinements of classical theorems in descriptive set theory*

4 : 00 – 4 : 30 Coffee Break

4 : 30 – 5 : 00 Eike Neumann  
*The Weihrauch Degree of the Browder-Ghde-Kirk Fixed Point  
 Theorem in Separable Hilbert Space*

5 : 00 – 5 : 30 Tahina Rakotoniaina  
*The Weihrauch degree of Ramsey's Theorem for two colors*

5 : 30 – 6 : 00 Takakazu Mori, Yoshiki Tsujii and Mariko Yasugi  
*Lévy computability of probability distribution functions*

**Tuesday, July 9 Morning Session**

9 : 00 – 10 : 00 Ulrich Berger  
*Program Extraction in Church's Theory of Simple Types with  
 applications to Computable Analysis*

10 : 00 – 10 : 30 Matthias Schröder  
*Admissible Kleene-Kreisel-based Representations*

10 : 30 – 11 : 00 Coffee Break

11 : 00 – 11 : 30 Tahereh Jafarikhah, Massoud Pourmahdian and Klaus Weihrauch  
*Computable Jordan Decomposition of Linear Continuous  
 Functionals on  $C[0; 1]$*

11 : 30 – 12 : 00 Konrad Burnik and Zvonko Iljazović  
*Topological Rays and Lines as co-c.e. Sets*

12 : 00 – 12 : 30 Massoud Pourmahdian, Nazanin Roshandel Tavana and Farzad Didehvar  
*Effective Metric Model Theory*

**Tuesday, July 9 Afternoon Session**

- 2 : 00 – 3 : 00 Daniel M. Roy  
*Exchangeable graphs, conditional independence,  
and computably-measurable samplers*
- 3 : 00 – 3 : 30 Bjørn Kjos-Hanssen, Paul K.L. Nguyen and Jason Rute  
*Algorithmic randomness for Doob's martingale convergence theorem  
in continuous time*
- 3 : 30 – 4 : 00 Coffee Break
- 4 : 00 – 4 : 30 Laurent Bienvenu, Rupert Hözl, Christopher Porter and Paul Shafer  
*Algorithmic randomness and semimeasures*
- 4 : 30 – 5 : 00 Robert Kenny  
*Approximability, compactness and random dense sequences*
- 6 : 00 Excursion - a guided tour in the town
- 8 : 00 Conference dinner

**Wednesday, July 10 Morning Session**

- 9 : 00 – 10 : 00 Cristóbal Rojas  
*Noise vs computational intractability in dynamics*
- 10 : 00 – 10 : 30 Olivier Bournez, Daniel S. Graça, Amaury Pouly and Ning Zhong  
*Computability and computational complexity of the evolution of  
nonlinear dynamical systems*
- 10 : 30 – 11 : 00 Coffee Break
- 11 : 00 – 11 : 30 Hugo Férée, Walid Gomaa and Mathieu Hoyrup  
*On the complexity of real functionals*
- 11 : 30 – 12 : 00 Akitoshi Kawamura, Florian Steinberg and Martin Ziegler  
*On the Computational Complexity of Laplaces and Poissons Equation*
- 12 : 00 – 12 : 30 Christoph Spandl  
*Computational complexity of iterated maps on points and sets  
over unbounded domains*

**Wednesday, July 10 Afternoon Session**

- 2 : 00 – 2 : 30 Klaus Ambos-Spies, Ulrike Brandt and Martin Ziegler  
*Real Complexity and Discrete Advice*
- 2 : 30 – 3 : 00 Benjamin Hellouin de Menibus and Mathieu Sablik  
*Characterizing possible asymptotic behaviours of cellular automata  
iterated on an initial probability measure*
- 3 : 00 – 3 : 30 Carsten Rösnick  
*Closed Sets and Operators thereon:  
Representations, Computability and Complexity*
- 3 : 30 – 4 : 00 Coffee Break
- 4 : 00 – 4 : 30 Robert Kenny  
*Zero-dimensional spaces and subspaces in computable analysis*
- 4 : 30 – 5 : 00 Ulrike Brandt and Hermann Walter  
*Cores in Promise and Classification Problems*
- 5 : 00 – 5 : 30 Christian Herrmann, Johanna Sokoli and Martin Ziegler  
*Satisfiability of cross product terms is complete for  
real nondeterministic poly-time Blum-Shub-Smale machines*
- 5 : 30 – 5 : 40 Closing Remarks