

Fifth International Conference on  
**Computability and Complexity in Analysis**  
August 21-24, 2008, Hagen, Germany  
provisional programme

**CCA**  
**2008**

---

**Thursday, August 21**

- 08:45 Welcome: **Vasco Brattka**
- 09:00 Invited Talk: **Ker-I Ko**, *Computational Complexity of Continuous Geometric Problems*
- 10:00 **Volker Bosserhoff**, *On the Effective Existence of Schauder Bases*
- 10:30 Coffee Break
- 11:00 **Valentin Andreev, Dale Daniel and Timothy McNicholl**, *Technical Report: computation on the extended complex plane and conformal mapping of multiply-connected domains*
- 11:30 **Manuel Campagnolo, Kerry Ojakian**, *Characterizing Computable Analysis with Differential Equations*
- 12:00 **Pieter Collins**, *Computability and Representations of the Zero Set*
- 12:30 Lunch Break
- 14:00 Retirement Celebration for Prof. Dr. Klaus Weihrauch at the Informatikzentrum, University of Hagen
- 14:30 Invited Talk: **Douglas Bridges**, *Dynamical systems, compact orbits, and continuous group homomorphisms*
- Coffee Break
- 16:30 Invited Talk: **Peter Hertling**, *Topology and Computation*

---

**Friday, August 22**

- 08:30 Invited Talk: **Jeffery Zucker**, *A formalisation of the theory of synchronous concurrent algorithms*
- 09:30 **Arno Pauly**, *Representing Measurement Results*
- 10:00 **Ruth Dillhage, Vasco Brattka**, *Computability of the Metric Projection Onto Finite-dimensional Linear Subspaces*
- 10:30 Coffee Break
- 11:00 **Guido Gherardi and Alberto Marcone**, *How much incomputable is the separable Hahn-Banach theorem?*
- 11:30 **Pieter Collins and Daniel S. Graça**, *Effective Computability of Solutions of Ordinary Differential Equations – The Thousand Monkey Approach*
- 12:00 **Willem Fouché**, *An algorithmic construction of quantum circuits of high descriptive complexity*
- 12:30 Lunch Break
- 14:00 Invited Talk: **Martín Escardó**, *Exhaustible sets in higher-type computation*
- 15:00 **Zvonko Iljazovic**, *Chainable and Circularly Chainable Co-Recursively Enumerable Sets*
- 15:30 **Margarita Korovina and Oleg Kudinov**, *Towards Computability over Effectively Enumerable Topological*
- 16:00 Coffee Break
- 16:30 **Davorin Lešnik**, *Constructive Urysohn's Universal Metric Space*
- 17:00 **Jens Blanck, Viggo Stoltenberg-Hansen, John Tucker**, *Stability for effective algebras*
- 17:30 **Christine Gaßner**, *On Relativizations of the  $P = ? NP$  Question for Several Structures*

---

**Saturday, August 23**

- 08:30 Invited Talk: **Xizhong Zheng**, *A Computability Theory of Real Numbers*
- 09:30 **Robert Rettinger**, *Lower Bounds on the Continuation of Holomorphic Functions*
- 10:00 **Victor Selivanov**, *On the Difference Hierarchy in Countably Based  $T_0$ -Spaces*
- 10:30 Coffee Break
- 11:00 **Norbert Müller and Xishun Zhao**, *Jordan Areas and Grids*
- 11:30 **Petrus H. Potgieter**, *Sets deemed recursive in Euclidean space*
- 12:00 **Robert Rettinger, Klaus Weihrauch and Ning Zhong**, *Complexity of Blowup Problems*
- 12:30 Lunch Break
- 14:00 **Takakazu Mori, Mariko Yasugi and Yoshiki Tsujii**, *Integral of two-dimensional Fine-computable functions*
- 14:30 **Hideki Tsuiki and Shuji Yamada**, *On Finite-time Computability Preserving Conversions*
- 15:00 excursion

---

**Sunday, August 24**

- 08:30 Invited Talk: **Andrej Bauer**, *Efficient Computation with Dedekind Reals*
- 09:30 **Matthias Schröder**, *An Effective Tietze-Urysohn Theorem for QCB-Spaces*
- 10:00 **Svetlana Selivanova and Victor Selivanov**, *Computing Solutions of Symmetric Hyperbolic Systems of PDE's*
- 10:30 Coffee Break
- 11:00 **Jöran Mielke**, *Refined Bounds on Kolmogorov Complexity of  $?$ -Languages*
- 11:30 **Martin Ziegler and Wouter M. Koolen**, *Kolmogorov Complexity Theory over the Reals*
- 12:00 **Dieter Spreen**, *On the Continuity of Effective Multifunctions*
- 12:30 Lunch Break
- 14:00 Invited Talk: **Sebastian Terwijn**, *Reductions by computable functionals*
- 15:00 **Ludwig Staiger**, *On Oscillation-free  $e$ -random Sequences*
- 15:30 Closing of the Conference

---

All talks excepting on Thursday 21 afternoon will be held in the ARCADEON (bus 515, 522,526).  
The talks on Thursday 21 will be held in the Informatikzentrum, FernUniversität Hagen.