Workshop Programme

(location: University Trier, Campus 2
building HZ, lecture hall HS13)

Monday, 2012-05-28

from 18:00   "**Get Together**" at the restaurant

Weinstube Kesselstatt
Liebfrauenstraße 10, Trier
(www.weinstube-kesselstatt.de)

Tuesday, 2012-05-29

09:15 – 10:00   **Registration**

09:45 – 10:00   **Welcome**

10:00 – 11:00   **Invited lecture**

Effective topology from the eyes of a logician   (Giovanni Sambin)

11:00 – 12:00   **Session 1** (regular talks)

Uniform Polytime Computable Operators on Univariate Real Analytic Functions
                                            (Kawamura / Müller / Rösnick / Ziegler)

Some steps into verification of exact real arithmetic   (Müller / Uhrhan)

12:00 – 13:30   **Lunch**

13:30 – 15:10   **Session 2** (informal talks)

R.e.subsets of represented spaces   (Klaus Weihrauch)

Memoization in higher types   (Ulrich Berger)

Computation over algebraic structures and the Turing reduction (Christine Gaßner)

Representations of Curves and the Continuity Theorem   (Robert Rettinger)

15:10 – 15:40   **Coffee Break**

15:40 – 17:00   **Session 3** (informal talks)

On the computability relative to non-constructive principles   (Takayuki Kihara)

From Bolzano-Weierstrass to Arzelà-Ascoli   (Alexander P. Kreuzer)

Real Number Computation with a Calculus of Bottomed Sequences (Kei Terayama / Hideki Tsuiki)

Wednesday, 2012-05-30

09:15 – 10:45   **Tutorial**

        Effective Brownian Motion I   (Willem Fouché)

10:45 – 11:15   **Coffee Break**

11:15 – 12:15   **Invited lecture**

        Representations for polynomial-time computability   (Akitoshi Kawamura)

12:15 – 14:00   **Lunch**

14:00 – 15:30   **Session 3** (regular talks)

        Variations on a theme by Ishihara   (Hannes Diener)

        Homotopy constructively   (Andrej Bauer)

        When is the denial inequality an apartness relation?   (Josef Berger)

15:30 – 16:00   **Coffee Break**

16:00 – 17:20   **Session 4** (informal talks)

        On the computability of fixed points   (Petrus Potgieter)

        Cardinality vs dimension of convex sets   (Arno Pauly / Stephane LeRoux / Vasco Brattka)

        From determinacy to Nash equilibrium   (Stephane LeRoux)

Thursday, 2012-05-31

09:15 – 10:45   **Tutorial**

        Effective Brownian Motion II   (Willem Fouché)

10:45 – 11:15   **Coffee Break**

11:15 – 12:15   **Invited lecture**

        A common framework for domains and complete metric spaces (Matthew deBrecht)

12:15 – 14:00   **Lunch**

14:00 – 17:00   **Excursion: Toga-Tour through Trier**
                (guided tour, including visits of "Porta Nigra" and "Kaiserthermen")

from 17:30   **Workshop-Dinner** (at your own expense) at the restaurant

<div align="center">

Cum Vino
Weberbach 75, Trier
(www.cumvino-trier.de)

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Friday, 2012-06-01

09:15 – 10:45 **Tutorial**

The proofs-as-programs paradigm in computable analysis (Ulrich Berger)

10:45 – 11:15 **Coffee Break**

11:15 – 12:15 **Invited lecture**

Descriptive set theory for computable analysis (Victor Selivanov)

12:15 – 14:00 **Lunch**

14:00 – 15:30 **Session 5** (regular talks)

Kolmogorov Complexity, Brownian motion and countable dense random sets (Willem Fouché)

Computability on structures and function spaces (Oleg Kudinov)

Domain Representations induced by Dyadic Subbases (Hideki Tsuiki)

15:30 – 16:00 **Coffee Break**

16:00 – 17:00 **Session 6**
Collapse results for some probabilistic hierarchies (Stanislav O. Speranski)
Some decidable elementary theories of function spaces (Vladislav Amstislavskii)
then: **Meeting of the project comittee**

Saturday, 2012-06-02 (dedicated to the 65th Birthday of Dieter Spreen)

09:15 – 10:30 **Session 7**

Opening

Reachability Analysis of Safety Critical Systems (Margarita Korovina)

On total representations (Victor Selivanov)

10:30 – 11:00 **Coffee Break**

11:00 – 12:00 **Session 8**

Some conservative extension results of classical logic over intuitionistic logic
(Hajime Ishihara)

Proofs by Induction (Peter Schuster)

12:00 – 13:30 **Lunch**

13:30 – 14:30 **Session 9**

Computation over algebraic structures and finitary domains (Christine Gaßner)

Interval domains and exact real arithmetic (Jens Blanck)

14:30 – 15:00 **Break**

15:00 – 16:00 **Session 10**

The uniform objects in constructive set theory (Giovanni Curi)

- to be announced - (Helmut Schwichtenberg)

from 16:00 **BBQ**