

Seminar 15391: Algorithms and Complexity for Continuous Problems

Monday, 21.09.2015, Hall Saarbrücken

Morning session

09:00 – 09:15	Opening
09:15 – 10:15	Ian Sloan <i>PDE with random coefficients – a survey</i>
10:15 – 11:00	Coffee break
11:00 – 11:30	Stefan Heinrich <i>Complexity of parametric SDEs</i>
11:30 – 12:00	Michael Gnewuch <i>On the universality of anchored and ANOVA spaces</i>

Afternoon session

14:30 – 15:00	Erich Novak <i>A universal algorithm for multivariate integration</i>
15:00 – 15:30	Mario Hefter <i>Optimal strong approximation of the one-dimensional squared Bessel process</i>
15:30 – 16:00	Pawel Przybylowicz <i>Optimal adaptive solution of piecewise smooth systems of IVPs with unknown switching hypersurface</i>
16:00 – 16:30	Coffee break
16:30 – 17:00	Daniel Rudolf <i>Perturbation theory for Markov chains</i>
17:00 – 17:30	Sergei Pereverzyev <i>A linear functional strategy for regularized ranking</i>

Seminar 15391: Algorithms and Complexity for Continuous Problems

Tuesday, 22.09.2015, Hall Saarbrücken

Morning session

- 09:00 – 10:00 Ingo Steinwart
Analysis of kernel based learning methods
- 10:00 – 10:30 Coffee break
- 10:30 – 11:00 Thomas Kühn
Approximation in periodic Gevrey spaces
- 11:00 – 11:30 Steffen Dereich
General multilevel adaptations for stochastic approximation algorithms
- 11:30 – 12:00 Leszek Plaskota
Linear versus nonlinear approximation in the average case setting

Afternoon session

- 14:30 – 15:00 Peter Kritzer
Efficient truncation for integration in weighted anchored and ANOVA spaces
- 15:00 – 15:30 Larisa Yaroslavtseva
On SDEs with arbitrary slow convergence rate for strong approximation at the final time
- 15:30 – 16:00 Coffee break
- 16:00 – 16:30 Markus Weimar
 (s,t) -weak tractability
- 16:30 – 17:00 Ronald Cools
On lattice rules, approximation and Lebesgue constants
- 17:00 – 17:30 Jeremy Staum
Multi-level Monte Carlo for parametric integration of a discontinuous function

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Wednesday, 23.09.2015, Hall Saarbrücken

Morning session

09:00 – 09:30	Jens Oettershagen <i>On tensor product approximation of analytic functions</i>
09:30 – 10:00	Thomas Müller-Gronbach <i>On tough quadrature problems for SDEs with bounded smooth coefficients</i>
10:00 – 10:30	Coffee break
10:30 – 10:40	Award ceremony
10:40 – 11:10	Dong Nguyen <i>Multivariate integration over the Euclidean space for analytic functions and r-smooth functions</i>
11:10 – 11:40	Pawel Siedlecki <i>Generalized solution operators and topology</i>
11:40 – 12:10	James Calvin <i>The expected improvement algorithm for global optimization</i>

Seminar 15391: Algorithms and Complexity for Continuous Problems

Thursday, 24.09.2015, Hall Saarbrücken

Morning session

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| 09:00 – 10:00 | Holger Rauhut
<i>Compressive sensing and function reconstruction in high dimensions</i> |
| 10:00 – 10:30 | Coffee break |
| 10:30 – 11:30 | Akitoshi Kawamura
<i>Reducibility in polynomial-time computable analysis</i> |
| 11:30 – 12:00 | Peter Hertling
<i>Topological complexity and topological Weihrauch degrees</i> |

Afternoon session

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| 14:30 – 15:00 | Alexander Keller
<i>Quasi-Monte Carlo conquers the rendering industry</i> |
| 15:00 – 15:30 | Sonja Cox
<i>Weak convergence for semi-linear SPDEs</i> |
| 15:30 – 16:00 | Coffee break |
| 16:00 – 16:30 | Mario Ullrich
<i>On numerical integration of functions with mixed smoothness</i> |
| 16:30 – 17:00 | Stefan Geiss
<i>On exit times of diffusions from a domain</i> |
| 17:00 – 17:30 | Dirk Nuyens
<i>Approximation with lattice rules</i> |

Seminar 15391: Algorithms and Complexity for Continuous Problems

Friday, 25.09.2015, Hall Saarbrücken

Morning session

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| 09:00 – 09:30 | Peter Mathé
<i>Minimax signal detection in statistical inverse problems</i> |
| 09:30 – 10:00 | Tino Ullrich
<i>Preasymptotic error bounds for a classical approximation problem</i> |
| 10:00 – 10:30 | Andreas Neuenkirch
<i>Optimal approximation of SDEs driven by fractional Brownian motion: an overview</i> |