Programme on
“Tractability of High Dimensional Problems and Discrepancy”
September 11 – October 13, 2017
organized by
Josef Dick (U New South Wales, Sydney), Peter Grabner (TU Graz), Aicke Hinrichs (U Linz), Friedrich Pillichshammer (U Linz), Henryk Wózniakowski (Columbia U and U Warsaw)

Workshop 1 - Discrepancy theory and quasi-Monte Carlo methods
September 25 – 29, 2017

• Monday, September 25, 2017
  09:00 – 10:00 Registration
  10:00 – 10:30 Vladimir Temlyakov
  Universal discretization
  10:30 – 11:00 Coffee / Tea Break
  11:00 – 11:30 Benjamin Doerr
  A Sharp Discrepancy Bound for Jittered Sampling
  11:30 – 14:00 Lunch Break
  14:00 – 14:30 Daniel Rudolf
  An Upper Bound of the Minimal Dispersion via Delta covers
  14:30 – 15:00 Takashi Goda
  Richardson extrapolation of polynomial lattice rules for smooth functions
  15:00 – 15:30 Break
  15:30 – 16:00 Oliver Roche-Newton
  New bounds for the cardinality of the set AA+A

• Tuesday, September 26, 2017
  10:00 – 10:30 Mordechey Levin
  On $L_p$ low discrepancy sequences
  10:30 – 11:00 Coffee / Tea Break
  11:00 – 11:30 Ralph Kritzinger
  Point sets and sequences with the optimal order of $L_p$-discrepancy
  11:30 – 12:00 Stefan Steinerberger
  One Gaussian to rule them all: pair correlation, irregularities of distribution and quadratures
  12:00 – 14:00 Lunch Break
  14:00 – 14:30 Mike Giles
  QMC and thinning for empirical datasets
14:30 – 15:00 Martin Ehler  
Quasi-Monte Carlo methods and importance sampling on the Grassmannian

15:00 – 15:30 Break

15:30 – 16:00 Friedrich Pillichshammer  
Tractability properties of the weighted star discrepancy of regular grids

- **Wednesday, September 27, 2017**

  10:00 – 10:30 Dmitriy Bilyk  
  *On some problems of uniform distribution and energy minimization on the sphere*

  10:30 – 11:00 Coffee / Tea Break

  11:00 – 11:30 Ryan Matzke  
  *Stolarsky principle and the geodesic distance energy on the sphere*

  11:30 – 12:00 Johann Brauchart  
  *Hyperuniformity on the sphere: deterministic constructions*

  12:00 – 14:00 Lunch Break

  14:00 – 16:00 Informal Discussions

- **Thursday, September 28, 2017**

  10:00 – 10:30 Maxim Skriganov  
  *Point distributions in two-point homogeneous spaces*

  10:30 – 11:00 Coffee / Tea Break

  11:00 – 11:30 Bence Borda  
  *The discrepancy of random walks*

  11:30 – 12:00 Markus Passenbrunner  
  *A spline version of the Martingale Convergence Theorem*

  12:00 – 14:00 Lunch Break

  14:00 – 14:30 Arne Winterhof  
  *Measures of Pseudorandomness: A partial hierarchy*

  14:30 – 15:00 Radhakrishnan Nair  
  *Unique Ergodicity and two rotations*

  15:00 – 15:30 Break

  15:30 – 16:00 Gunther Leobacher  
  *On the length of arcs in labyrinth fractals*

- **Friday, September 29, 2017**

  10:00 – 12:00 Informal Discussions

  10:30 – 11:00 Coffee / Tea Break

---

**All talks take place at ESI, Boltzmann Lecture Hall!**