

Conference Program

**“Mathematical Physics of Disordered Systems –  
A Conference in Honor of Leonid Pastur”**

May 13 — May 17

at the FernUniversität in Hagen, Germany

Organizers:       Werner Kirsch, FernUniversität in Hagen  
                      Boris Khoruzhenko, University of London  
                      Peter Müller, Ludwig-Maximilians-Universität München

*All talks (except Wednesday afternoon) will take place at the  
FernUniversität Hagen, KSW-Seminargebäude Room 4/5, second floor*



## Monday, May 13

09:20 Registration

09:40 Opening

*Chairperson: Peter Müller*

09:50 **Ilya Goldsheid**, London

*Aspects of the asymptotic behaviour of Random Walks in Random Environments*

10:35 **Frédéric Klopp**, Paris

*Interacting quantum Fermions in a disordered background*

11:20 Coffee break

11:45 **Yan Fyodorov**, London

*Topology trivialization and large deviations for the minimum in the simplest random optimization*

12:30 Lunch break

13:30 Library Tour

*Chairperson: David Khmelnitski*

14:00 **Victor Tchoulaevski**, Reims

*Stochastic regularization of singular operator ensembles*

14:45 **Oleksiy Khorunzhiy**, Versailles

*On high moments of dilute Wigner matrices, Catalan trees and ternary trees*

15:30 Coffee break

15:55 **Daniel Lenz**, Jena

*Spectral properties of trees of finite cone type*

16:40 **Hatem Najjar**, Monastir

*Some results on the spectral theory of quantum waveguide*

18:00 Public Lecture by **Simone Warzel** (TU München):

*Helfen Quanten bei der Lösung komplexer Probleme?*  
(in German)

**Tuesday, May 14**

*Chairperson: Peter Stollmann*

- 09:20**     **Peter Hislop**, Lexington  
*Wegner estimates and the IDS for random N-body Schrödinger operators*
- 10:05**     **Alex Figotin**, UC Irvine  
*Some Mathematical Problems in a Neoclassical Theory of Electric Charges*
- 10:50**     Coffee break
- 11:20**     **Gian-Michele Graf**, ETH Zürich  
*Bulk-edge duality for topological insulators*
- 12:05**     **Hermann Schulz-Baldes**, Erlangen  
*The density of surface states as the total time delay*
- 12:50**     Lunch break

*Chairperson: Wolfgang Spitzer*

- 14:00**     **Giuseppe de Nittis**, Erlangen  
*Topological piezo-currents in graphene*
- 14:45**     **Roland Speicher**, Saarbrücken  
*Calculation of asymptotic eigenvalue distribution for polynomials in several random matrices*
- 15:30**     Coffee break
- 16:00**     **James A. Mingo**, Kingston  
*Asymptotic Freeness of Orthogonally and Unitarily Invariant Ensembles*
- 16:45**

## Wednesday, May 15

*Special day in honor of Leonid Pastur*

- 09:20** Welcome address by the Rector of the FernUniversität  
**Prof. Dr. Helmut Hoyer**
- 09:30** **Michael Aizenman**, Princeton  
*Resonant delocalization over some infinite and finite graphs*
- 10:15** **Francesco Guerra**, Rom  
*The pioneering work of Leonid Pastur and Masha Scherbina on spin glasses: an historical perspective*
- 11:00** Coffee break
- 11:30** **Shinichi Kotani**, Osaka  
*Limit set of KdV flow*
- 12:15** Lunch break

*The afternoon session and the conference dinner will take place at the castle "Schloss Hohenlimburg"*

- 14:00** Departure of bus to the castle  
*Chairperson: Boris Khoruzhenko*
- 15:00** **Abel Klein**, UC Irvine  
*The ac-conductivity in the Anderson model*
- 15:45** Coffee break
- 16:15** **Mikhail Sodin**, Tel Aviv  
*Random nodal portraits*
- 17:00** Guided Tour through the castle
- 19:00** Reception
- 19:30** Dinner
- 23:00** Return by bus

**Thursday, May 16**

*Chairperson: Alan Huckleberry*

- 09:20**     **Masha Shcherbina**, Kharkov  
*Entropy and the Shannon-McMillan-Breiman theorem for classical random matrix ensembles*
- 10:05**     **Stanislav Molchanov**, Charlotte  
*Localization for the non-percolating potentials on the graphs*
- 10:50**     Coffee break
- 11:20**     **Bob Sims**, Arizona  
*Dynamical Localization in disordered quantum spin systems*
- 12:05**     **Nariyuki Minami**, Keio University  
*Definition and self-adjointness of the stochastic Airy operator*
- 12:50**     Lunch break

*Chairperson: Dirk Hundertmark*

- 14:00**     **Martin Venker/Friedrich Götze**, Bielefeld  
*Local Universality of Repulsive Particle Systems and Random Matrices*
- 14:45**     **Wolfgang König**, Berlin  
*Eigenvalue order statistics and mass concentration in the parabolic Anderson model*
- 15:30**     Coffee break
- 16:00**     **Stephane Ouvry**, Paris  
*Arithmetic area covered by  $m$  Brownian planar walkers*
- 16:45**

**Friday, May 17**

*Chairperson: Hajo Leschke*

- 09:20**      **Krishna Maddaly**, Chennai  
*Local statistics for the Anderson model with decaying randomness*
- 10:05**      **Ivan Veselic**, Chemnitz  
*Alloy potentials on the lattice:  
(absence of) monotonicity, regularity, and spectral averages*
- 10:50**      Coffee break
- 11:20**      **Günter Stolz**, Birmingham Alabama  
*Entanglement bounds in disordered quantum oscillator systems*
- 12:05**      **Jeff Schenker**, Michigan State  
*Diffusion of waves in fluctuating random media*
- 12:50**      Lunch break