

ZiF WORKSHOP

Mathematical Technology of Networks - QGraphs 2013

Convenor: Delio Mugnolo (Ulm, Germany)

4 – 7 December 2013



Wednesday, December 4

9:00	<i>registration</i>	
9:50	<i>opening</i>	
10:10-10:45	Pavel Kurasov	Spectral surgery of graphs
10:50	<i>coffee break</i>	
11:10-11:45	Shariefuddin Pirzada	Strong double graphs, properties, energy and Laplacian energy
11:50-12:25	Matthias Keller	Intrinsic metrics on graphs
12:30	<i>lunch</i>	
14:00-14:35	Felix Ali Mehmeti	Time asymptotics for dispersive waves on star shaped networks with tunnel effect
14:40-15:15	Ram Band	Finite Pseudo Orbit Expansions for Quantum Graphs
15:20-15:55	Semra Demirel-Frank	Perturbation determinant for quantum star graphs and applications
16:00	<i>coffee break</i>	
16:30-17:05	Evgeny Korotyaev	Schrödinger operators on periodic discrete graphs
17:10-17:45	Natalia Saburova	Spectral estimates for Schrödinger operators on periodic equilateral metric graph

Thursday, December 5

9:15-9:50	Uzy Smilansky	Tournament graphs and their spectra
9:55-10:30	Stefan Rotter	Spike Train Correlations Induced by Anatomical Microstructure
10:35	<i>coffee break</i>	
11:05-11:40	Joachim von Below	Instability of Stationary Solutions of Reaction-Diffusion-Equations on Graphs
11:45-12:20	Jens Bolte	Many-particle Quantum Systems on Graphs and Bose-Einstein Condensation
12:30	<i>lunch</i>	
14:00-14:35	Svetlana Pastukhova	Korn-type inequalities and derivation of limit elasticity theory equations on thin networks

Friday, December 6

9:15-9:50	Wolfgang Woess	Laplacians on strip complexes - the example of treebolic space	
9:55-10:30	Pavel Exner	Strong coupling asymptotics in leaky graphs	
10:35	<i>coffee break</i>		
11:05-11:40	Claudio Marchi	The vanishing viscosity limit for Hamilton-Jacobi equations on networks	
11:45-12:20	Riccardo Adami	Nonlinear stationary states on star graphs	
12:30	<i>lunch</i>		
14:00-14:35	Olaf Post	Spectral gaps of magnetic Laplacians on graphs	
14:40-15:15	Jiří Lipovský	Eigenvalue asymptotics for the damped wave equation on metric graphs	
15:20-15:55	Christian Himpe	Model Reduction for Inverse Network Models	
16:00	<i>coffee break</i>		
	<i>short communications</i>		
	<i>Plenary Hall</i>	<i>Long Table Room</i>	<i>Corner Room</i>
16:30-16:50	Gabriela Malenová	Martin Adler	Mehrdad Agha Mohammad Ali Kermani
	Numerical methods for computing spectra of quantum graphs	Perturbing the boundary of a network	Identifying key node in social networks using MCDM methods
16:55-17:15	Khidir R. Sharaf	Muhammad Imran	José Casadiego
	Nullity of Expanded Graph	Metric dimension and exchange property for resolving sets of graphs	Network Dynamics as an Inverse Problem: Parametrization of Different Networks with Identical Dynamics
17:20-17:40	Nikita Evseev	Ralf Rückriemen	Fereshteh Lagzi
	Composition Operators in Sobolev Spaces on a Carnot group	Quasi-isospectrality on quantum graphs	Nonlinear stochastic mean-field dynamics of interacting populations of spiking neurons
18:30	<i>social dinner</i>		

Saturday, December 7

9:15-9:50	Hans Weidenmüller	Universal quantum graphs
9:55-10:30	Gianfausto Dell'Antonio	"Zero-energy" resonances determine the boundary conditions at the vertices for the resolvent limit as $\varepsilon \rightarrow 0$ of the Dirichlet Laplacian on an ε -neighborhood of a (star) graph
10:35	<i>coffee break</i>	
11:05-11:40	Diego Noja	Nonlinear Schrödinger equation on graphs with nontrivial topology
11:45-12:20	Anton Kutsenko	Periodic Lattice with Defects
12:30	<i>lunch</i>	
13:45-14:20	Dimitri Volchenkov	Random Walks for Data Analysis
14:25-15:00	Annemarie Luger	Eigenvalues and Jordan Chains in Terms of Weyl-function