Stefan Banach International Mathematical Center
Institute of Mathematics Polish Academy of Sciences

Conference

OTAMP 2004

OPERATOR THEORY AND APPLICATIONS IN MATHEMATICAL PHYSICS

Satellite conference of the European Congress of Mathematics

Supported by European Science Foundation via the programme
Spectral Theory and Partial Differential Equations (SPECT)

July 6 – 11, 2004

Będlewo

PROGRAMME

On each day between July 6 and July 10, lunch will be served at 12:45 and dinner at 7:00. There will be coffee breaks from 11:00 to 11:30 and 5:00 to 5:15.

Tuesday, July 6

Invited Lectures (50 minutes)

9:00 W. Van Assche (Belgium):
Orthogonal polynomials with discrete spectrum and converging recurrence coefficients

10:00 V. Adamyan (Ukraine):
Perturbation theory for a class of close selfadjoint extensions

11:30 J. Schenker (Switzerland):
Spectral theory of time dispersive and dissipative systems

3:00 P. Exner (Czech Republic):
Vertex coupling approximations in quantum graphs

Contributed Lectures (25 minutes)

Session 1

4:00 S. Kupin (France):
Non-Szegő asymptotics for orthogonal polynomials on the unit circle

4:30 G. Teschl (Austria):
Scattering theory for Jacobi operators with quasi-periodic background

5:15 A. Luger (Austria):
Reflectionless point interactions

5:45 S. Kondej (Poland):
Schrödinger operators with singular interactions: a resonance model

6:15 M. Wojtylak (Poland):
Algebras dense in L^2 spaces

Session 2

4:00 G. Zhislin (Russia):
Spectral properties of pseudorelativistic Hamiltonians of atoms and positive ions with nuclei of finite masses

4:30 F. Truc (France):
Remarks on the spectrum of the Neumann problem with magnetic field in the half space

5:15 M. Moszyński (Poland):
On some unbounded tridiagonal matrices generating C_0 semigroups in l^p spaces

5:45 H. Schulz-Baldes (Germany):
Weak disorder expansion for localization lengths of quasi-1D systems

6:15 H. Cornean (Denmark):
One dimensional models of excitons in carbon nanotubes

Wednesday, July 7

Invited Lectures (50 minutes)

9:00 O. Safronov (USA):
On the absolutely continuous spectrum of multi-dimensional Schrödinger operators

10:00 F. Klopp (France):
Adiabatic quasi-periodic Schrödinger operators. Interactions between spectral bands

11:30 A. Shkalikov (Russia):
Spectral portraits and pseudospectrum for the Orr-Sommerfeld equation and associated model problem

Contributed Lectures (25 minutes)

Session 1

13:30 R. Shterenberg (Sweden):
Periodic magnetic Schrödinger operator with degenerate lower edge of the spectrum

4:00 B. Metzger (Germany):
The parabolic Anderson model: The asymptotic of the statistical moments, Lifshitz tails and related topics

4:30 A. Kiselev (Ireland):
Weak annihilators for non-self-adjoint operators with almost Hermitian spectrum

5:15 L. Cattaneo (Germany):
Mourre's inequality and embedded bound states

5:45 P. Yuditskii (Austria):
On generalized sum rules for Jacobi matrices

Session 2

3:30 B. Zakhariev (Germany):
New results in control of discrete, continuous and band spectra of Schrödinger equation in inverse problem and supersymmetry approach

4:00 P. Cojuhari (Poland):
Spectral analysis of Dirac operators

4:30 A. Khosravi (Iran):
C^*_ρ*-algebras and functional calculus homomorphism*

5:15 E. Korotyaev (Germany):
Inverse problem for the discrete 1D Schrödinger operator with periodic potentials

5:45 R. Frank (Sweden):
On the Laplacian on the halfplane with a periodic boundary condition

6:15 L. Silva (Mexico):
Absence of accumulation points in the pure point spectrum of Jacobi matrices

Thursday, July 8

Invited Lectures (50 minutes)

9:00 P. Stollmann (Germany):
Generic singular continuous spectrum for geometric disorder

10:00 I. Herbst (USA):
Absence of quantum states corresponding to unstable classical channels

11:30 S. Denissov (USA):
On new developments in the spectral analysis of the Schrödinger and Dirac operators

3:00 R. Szwarc (Poland):
Kaczmarz algorithm in Hilbert space

Contributed Lectures (25 minutes)

Session 1

4:00 A. Kozhevnikov (Israel):
On isomorphism of elliptic operators

4:30 A. Teta (Italy):
Analysis of decoherence in a two-particle system

5:15 M. Combescure (France):
Around the semiclassical behavior of "Quantum Fidelity"

5:45 A. Tikhonov (Ukraine):
Functional model for operators with spectrum on a curve and its applications

6:15 G. Ducati (Brazil):
Quaternionic potentials in quantum mechanics

6:45 R. Hryniv (Germany):
Inverse spectral problems for Sturm-Liouville operators in impedance form

Session 2

4:00 R. Romanov (UK):
The phenomenon of instability of the absolutely continuous spectrum of non-self-adjoint ordinary differential operators

4:30 Y. Mykytyuk (Ukraine):
An inverse scattering problem for Sturm-Liouville operators on semiaxis

5:15 M. Malejki (Poland):
Asymptotic behaviour of eigenvalues of some Jacobi matrices

5:45 V. Geyler (Germany):
Selberg zeta function and geometric scattering on compact manifolds

8:00 M. Nowaczyk (Sweden):
Inverse spectrum problem for quantum graphs

6:45 K. Pankrashkin (Germany):
Point perturbations as pseudopotentials

8:00 Banquet

Friday, July 9

Invited Lectures (50 minutes)

9:00 B. Pavlov (New Zealand):
Transport properties and modelling of quantum networks

10:00 H. Langer (Austria):
The generalized Schur algorithm and inverse spectral problems

11:30 Y. Berezansky (Ukraine):
Spectral theory of commutative Jacobi fields and its some applications

Contributed Lectures (25 minutes)

Session 1

3.30 W.Majdak (Poland):
Local lifting theorems for subnormal operators

4:00 F. Menéndez Conde (Mexico):
Eigenfunction expansions and spectral projections for isotropic elasticity outside an obstacle

4:30 A. Borisovich (Poland):
Fredholm operators and bifurcations in Plateau problem

5:15 A. Zlatos (USA):
Sum rules for Jacobi matrices and divergent Lieb-Thirring sums

5:45 D. Cichoń (Poland):
Selfadjointness of non-Jacobi infinite matrices

6:15 W. Ichinose (Japan):
A mathematical theory of the phase space Feynman path integral of the functional

Session 2

4:00 B. Mityagin (USA):
Simple and double eigenvalues of the Hill operator with a two term potential

4:30 A. Pulemyotov (Ukraine):
Subfields of a Jacobi field

5:15 V. Koshmanenko (Ukraine):
Singular perturbations given by Jacobi matrices

5:45 L. Zieliński (France):
On the asymptotic behaviour of the number of eigenvalues for a class of weakly regular elliptic operators

6:15 L. Golinskii (Ukraine):
Discrete spectrum of complex Jacobi matrices and Pavlov's theorems

Saturday, July 10

Invited Lectures (50 minutes)

9:00 A. Pushnitskii (UK):
Trace formula and high energy spectral asymptotics for the Landau Hamiltonian

10:00 M. Marletta (UK):
Eigenproblems on exterior domains and approximation of DN maps

11:30 R. Minlos (Russia):
Two-particle bounded states of transfer-matrix for Gibbsian fields (high temperature regime)

Saturday afternoon

Excursion

Sunday, July 11

Reserved for informal talks and discussions.