

Thursday, July 15

Plenary Lecture MA 001

9:00	S. Verduyn-Lunel Calculating Hausdorff dimensions of invariant sets using spectral theory
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10:00	Meeting of the GAMM Activity Group <i>Applied Operator Theory</i>
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10:00 *Coffee break*

MA 004

Semiplenary Lectures

MA 005

10:30	H. Bart Spectral regularity of Banach algebras and non-commutative Gelfand theory	B. Gramsch Oka's principle in the Fredholm theory for Frechet algebras of Fourier operators
11:15	B. Jacob Weighted interpolation in Paley-Wiener spaces and finite-time controllability	M. Langer Two-dimensional Hamiltonian systems with two singular endpoints, part one
12:00	A. Lunardi Dirichlet problems for Ornstein-Uhlenbeck operators in subsets of Hilbert spaces	H. Woracek Two-dimensional Hamiltonian systems with two singular endpoints, part two

12:45 *Lunch break*

Special Sessions and Contributed Talks

	MA 004	MA 005	MA 001	MA 649	MA 650	MA 651	MA 749	MA 750	MA 751
14:45	Speck	Adamyany	Derkach	Ryan	Y. Savchuk	Sikolya	Fleige	Kostenko	ter Horst
15:10	Nolasco	Alpay	Hassi	Colombo	Fialkow	Farkas	Boulton	Krüger	Volok
15:35	Picard	Dijksma	Malamud	Sabadini	Douglas	Eisner	Schmidt	Grunert	Boquet
16:00	Castro	Dym	Mogilevskii	De Schepper	Vinnikov	Zagrebnov	Ben Amara	Hryniv	Melnikov
16:25	Villalba-Vega	Kaashoek	Yakubovich	Sommen	Klep	Batkai		Zhuk	Vinnikov

16:50 *Coffee break*

17:30	Alber	Lancaster	Neidhardt	Freiling	Molyboga	Engel	Bolte	Rybkin	Trent
17:55	Stephan	Markus	Rohleder	Potapov	Nowak	Bayazit	Brasche	Gekhtman	Kimsey
18:20	Santos	Matsaev	Tsekanovskii	Bouikhalene	Kushel	Kerbal	Mugnolo	Schiebold	Pickering
18:45	Sprößig	Shkalikov	Wietsma	Sasane	Voytitsky	Vogt	Haeseler	Sakhnovich	Kaptanoglu
19:10		Sásvari	Winkler	Sadovnichaya	Winklmeier	Klöss	Nowaczyk		
19:35				Berkani			Post		

Thursday Room 004

Operator Theoretical Methods in Mathematical Physics, on the Traces of Erhard Meister

Chair: R. Duduchava

- 14:45 – 15:10 **F.-O. Speck**
Progress in wedge diffraction
- 15:10 – 15:35 **A.P. Nolasco**
Wedge diffraction problems with angle $2\pi/n$ and Dirichlet and Neumann conditions
- 15:35 – 16:00 **R. Picard**
An evolutionary problem with an impedance type boundary condition
- 16:00 – 16:25 **L. Castro**
Electromagnetic scattering by cylindrical orthotropic waveguide irises
- 16:25 – 16:50 **T.J. Villalba-Vega**
On the Neumann problem for the Helmholtz equation in a plane angle

Operator Theoretical Methods in Mathematical Physics, on the Traces of Erhard Meister

Chair: C.G. Hsiao

- 17:30 – 17:55 **H.-D. Alber**
Reduction of the plasticity model to an operator equation and regularity
- 17:55 – 18:20 **E.P. Stephan**
Solution procedures for frictional contact
- 18:20 – 18:45 **P.A. Santos**
Galerkin method with graded meshes for Wiener-Hopf operators with PC symbols in L^p spaces
- 18:45 – 19:10 **W. Sprößig**
Electrodynamics with quaternions

Thursday Room 005

Spectral Theory of Linear Operators and Operator Functions – Dedicated to Heinz Langer on his 75th Birthday –

Chair: C. Tretter

- 14:45 – 15:10 **V. Adamyan**
Trace formula in perturbation theory
- 15:10 – 15:35 **D. Alpay**
A Schur algorithm for a large class of functions
- 15:35 – 16:00 **A. Dijksma**
Self-adjoint linearizations of eigenvalue problems with boundary conditions which depend polynomially on the eigenvalue parameter
- 16:00 – 16:25 **H. Dym**
Some inverse problems for Krein-Dirac systems
- 16:25 – 16:50 **M.A. Kaashoek**
Discrete skew self-adjoint canonical systems with rational Weyl functions

Spectral Theory of Linear Operators and Operator Functions – Dedicated to Heinz Langer on his 75th Birthday –

Chair: C. Tretter

- 17:30 – 17:55 **P. Lancaster**
Quadratic matrix polynomials: solvents and inverse problems
- 17:55 – 18:20 **A. Markus**
A theorem of Heinz Langer on the factorization of selfadjoint operator polynomials
- 18:20 – 18:45 **V. Matsaev**
Linearization and factorization of singular operator functions
- 18:45 – 19:10 **A. Shkalikov**
Invariant subspaces, definitizable operators and operator matrices
- 19:10 – 19:35 **Z. Sasvari**
Selected topics on the extension problem for positive definite functions

Thursday Room 001

Extension Theory and Applications

Chair: H.S.V. de Snoo

- 14:45 – 15:10 **V.A. Derkach**
Regularity of critical points of nonnegative operators in Krein spaces
- 15:10 – 15:35 **S. Hassi**
Boundary relations and generalized resolvents of symmetric operators
- 15:35 – 16:00 **M. Malamud**
Perturbation determinants and trace formulas for non-additive perturbations
- 16:00 – 16:25 **V. Mogilevskii**
Minimal spectral functions of an ordinary differential operator
- 16:25 – 16:50 **D. Yakubovich**
Spectral properties of nonselfadjoint one-dimensional singular perturbations of unbounded selfadjoint operators

Extension Theory and Applications

Chair: S. Hassi

- 17:30 – 17:55 **H. Neidhardt**
On the unitary equivalence of absolutely continuous parts of self-adjoint extensions
- 17:55 – 18:20 **J. Rohleder**
Spectral theory for elliptic differential operators and Dirichlet-to-Neumann maps
- 18:20 – 18:45 **E. Tsekanovskii**
On Weyl's commutation relations in infinitesimal form
- 18:45 – 19:10 **H.L. Wietsma**
Products of Nevanlinna functions with symmetric rational functions
- 19:10 – 19:35 **H. Winkler**
Factorizations of maximal sectorial relations

Thursday Room 649

Hypercomplex Operator Theory

Chair: I. Sabadini

- 14:45 – 15:10 **J. Ryan**
On Rarita-Schwinger type operators
- 15:10 – 15:35 **F. Colombo**
Recent notions of spectra for n -tuples of operators in Clifford Analysis
- 15:35 – 16:00 **I. Sabadini**
A functional calculus based on axially monogenic functions
- 16:00 – 16:25 **H. De Schepper**
The Cauchy-Kovalevskaya extension in Hermitean Clifford analysis
- 16:25 – 16:50 **F. Sommen**
Micro-localization from Clifford Analysis

Contributed Talks

Chair: A. Lasarow

- 17:30 – 17:55 **G. Freiling**
Sampling theorems associated with regular and irregular eigenvalue problems
- 17:55 – 18:20 **D. Potapov**
Operator-Lipschitz functions and spectral shift
- 18:20 – 18:45 **B. Bouikhalene**
On the approximate K-spherical functions on the Heisenberg group
- 18:45 – 19:10 **A. Sasane**
Extension of the ν -metric
- 19:10 – 19:35 **I.V. Sadovnichaya**
Equiconvergence theorems for Sturm-Liouville operators with singular potentials
- 19:35 – 20:00 **M. Berkani**
Extended Weyl type theorems

Thursday Room 650

Operator Theory with Algebraic Connections

Chair: B. Helton

- 14:45 – 15:10 **Y. Savchuk**
Noncommutative Positivstellensätze for matrix algebras
- 15:10 – 15:35 **L. Fialkow**
The role of positivity in moment and polynomial optimization problems
- 15:35 – 16:00 **R. Douglas**
Similarity, dilations, and commutant lifting in the DA-Space
- 16:00 – 16:25 **V. Vinnikov**
Noncommutative free Levy-Hincin formula
- 16:25 – 16:50 **I. Klep**
Relaxing linear matrix inequalities noncommutatively

Contributed Talks

Chair: I. Sheipak

- 17:30 – 17:55 **V. Molyboga**
Smoothness of Hill's potential and lengths of spectral gaps
- 17:55 – 18:20 **M.A. Nowak**
An iteration procedure for a class of difference equations
- 18:20 – 18:45 **O. Kushel**
On generalized Schoenberg theorem
- 18:45 – 19:10 **V. Voytitsky**
Multicomponent transmission problems with spectral parameter in equations and boundary conditions
- 19:10 – 19:35 **M. Winklmeier**
The Dirac equation in the Kerr-Newmann metric

Thursday Room 651

Operator Semigroups and Applications

Chair: K.-J. Engel

- 14:45 – 15:10 **E. Sikolya**
Asymptotic behaviour of flows in infinite networks
- 15:10 – 15:35 **B. Farkas**
The periodic decomposition problem for operator semigroups
- 15:35 – 16:00 **T. Eisner**
On non-commutative analoga of multiple ergodic theorems
- 16:00 – 16:25 **V. Zagrebnov**
Localization of the numerical range for quasi-sectorial contractions
and semigroup approximations
- 16:25 – 16:50 **A. Batkai**
Operator splitting for evolution equations

Operator Semigroups and Applications

Chair: A. Batkai

- 17:30 – 17:55 **K.-J. Engel**
Boundary control of flows in networks
- 17:55 – 18:20 **F. Bayazit**
Nonautonomous flows in networks
- 18:20 – 18:45 **S. Kerbal**
B-evolution operators and its application for partial differential equations
on manifolds
- 18:45 – 19:10 **H. Vogt**
 L_p -theory for second order elliptic operators with complex coefficients
- 19:10 – 19:35 **B. Klöss**
The flow approach to waves on networks

Thursday Room 749

Sturm Liouville Problems

Chair: M. Marletta

- 14:45 – 15:10 **A. Fleige**
Equivalence of the indefinite Sturm-Liouville Riesz basis property with a HELP-type inequality
- 15:10 – 15:35 **L. Boulton**
Eigenvalue asymptotics of a family of Sturm-Liouville operators with boundary and interior singularities
- 15:35 – 16:00 **K.M. Schmidt**
Spectral properties of rotationally symmetric massless Dirac operators
- 16:00 – 16:25 **J. Ben Amara**
Spectral and oscillation properties for fourth-order boundary value problems $Ny = \lambda Py$

Operator Theory on Graphs

Chair: O. Post and D. Mugnolo

- 17:30 – 17:55 **J. Bolte**
Quantum graphs with singular two-particle interactions
- 17:55 – 18:20 **J. Brasche**
Schatten-von Neumann norm estimates for resolvent differences of Dirichlet operators
- 18:20 – 18:45 **D. Mugnolo**
Parabolic equations on graphs with nonlinear boundary conditions
- 18:45 – 19:10 **S. Haeseler**
The parabolic Harnack inequality for metric graphs
- 19:10 – 19:35 **M. Nowaczyk**
Recovering matching conditions for star graphs
- 19:35 – 20:00 **O. Post**
Convergence of the Dirichlet-to-Neumann map on thin branched manifolds

Thursday Room 750

Direct and Inverse Problems and their Applications

Chair: A. Sakhnovich

- 14:45 – 15:10 **A. Kostenko**
Weyl-Titchmarsh theory for Bessel operators
- 15:10 – 15:35 **H. Krüger**
Vanishing of the Lyapunov exponent
- 15:35 – 16:00 **K. Grunert**
Transformation operators for Schrödinger operators on infinite-gap backgrounds
- 16:00 – 16:25 **R. Hryniv**
Inverse scattering on the line for Schrödinger operators with singular Miura potentials
- 16:25 – 16:50 **S. Zhuk**
Inverse problem for ill-posed linear differential-algebraic equations with variable coefficients

Direct and Inverse Problems and their Applications

Chair: G. Teschl

- 17:30 – 17:55 **A. Rybkin**
On well-posedness and meromorphic solutions of the Korteweg-de Vries equation with non-decaying initial data supported on a left half-line
- 17:55 – 18:20 **M. Gekhtman**
Hankel determinants, Coxeter-Toda lattices and cluster algebras
- 18:20 – 18:45 **C. Schiebold**
Hierarchies of noncommutative KdV-type equations
- 18:45 – 19:10 **A. Sakhnovich**
Factorisation of the wave function and sine-Gordon theory in a semi-strip

Thursday Room 751

Operator-Theoretic Techniques for Function Theory, Interpolation and Transfer Function Realization

Chair: J. Ball

- 14:45 – 15:10 **S. ter Horst**
Interpolation in de Branges-Rovnyak spaces
- 15:10 – 15:35 **D. Volok**
Rational discrete analytic functions
- 15:35 – 16:00 **G. Boquet**
A behavioral interpretation of Livsic systems
- 16:00 – 16:25 **A. Melnikov**
Finite dimensional Sturm Liouville vessels and their tau functions
- 16:25 – 16:50 **V. Vinnikov**
Realization of noncommutative functions

Operator-Theoretic Techniques for Function Theory, Interpolation and Transfer Function Realization

Chair: S. ter Horst

- 17:30 – 17:55 **T. Trent**
Corona theorems and 1-positive square
- 17:55 – 18:20 **D. Kimsey**
Matrix-valued truncated K-moment problems in several variables
- 18:20 – 18:45 **J. Pickering**
Examples and applications of test functions
- 18:45 – 19:10 **H.T. Kaptanoglu**
Von Neumann inequalities with respect to weighted symmetric Fock spaces