

Tuesday, July 13

Plenary Lecture MA 001

9:00	P. Lancaster Matrix polynomials: parametrization and canonical forms
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10:00 *Coffee break*

MA 004

Semiplenary Lectures

MA 005

10:30	J.A. Ball Canonical model theory for Hilbert space row contractions	A. Pietsch Dixmier traces of operators on Banach and Hilbert spaces
11:15	V. Mehrmann Self-adjoint operator polynomials and their application in optimal control	T. Bhattacharyya Completely positive kernels, Hilbert C^* -modules and coherent states
12:00	G. Teschl Weyl-Titchmarsh theory for Schrödinger operators with strongly singular potentials	A. Dijksma Boundary interpolation and rigidity for generalized Nevanlinna functions

12:45 *Lunch break*

Special Sessions and Contributed Talks

	MA 004	MA 005	MA 415	MA 649	MA 650	MA 651	MA 749	MA 750	MA 751
14:45	Duduchava	Denk	Motovilov	Spröbig	de Gosson	Kats	Kohlmann	Lindner	Peris
15:10	Costabel	Rehberg	Shondin	Luna-Elizarrarás	Upmeyer	Karelin	M. Langer	Zielinski	Sanchez-Lajusticia
15:35	Wendland	Kunstmann	Znojil	Eriksson	Vourdas	Al-Salman	Binding	Baranov	Martínez
16:00	Liess	Götze	Siegl	Shapiro	Arazy	Marreiros	Watson	Tusek	De la Rosa
16:25	Melgaard	Nau	Kuzhel	Brackx	Bouikhalene			Mascarenhas	

16:50 *Coffee break*

17:30	Hsiao	Shibata	Paunonen	Gürlebeck	Kaliuzhnyi-Verbovetskyi	Janse van Rensburg	Kostrykin	Bauer	Belyi
17:55	Neustupa	Enomoto	Wyss	Bernstein	Bresar	Ran	Seelmann	Szafraniec	Heath
18:20	M. Kohr	Haase	Staffans	Vajiac	Kuhlmann	Wojtylak	Schmidmeier	Nam	Cheremnikh
18:45	Ali Mehmeti	Ullmann	Opmeer		Dritschel		Nakic	Choe	Artamonov
19:10	Harutyunyan	Korotyaev	Haak		Cimpric		Miedlar	Curto	Carlsson
19:35	G. Kohr		Delfour					Issa	Bracic

Tuesday Room 004

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

Chair: F.-O. Speck

- 14:45 – 15:10 **R. Duduchava**
Extension of functions from hypersurfaces with the boundary
- 15:10 – 15:35 **M. Costabel**
Potential operators for differential forms on Lipschitz domains
- 15:35 – 16:00 **W. Wendland**
On Levi functions
- 16:00 – 16:25 **O. Liess**
Decay estimates for the solutions of the system of crystal elasticity for tetragonal crystals
- 16:25 – 16:50 **M. Melgaard**
Resonances in quantum chemistry: Complex absorbing potential method for systems

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

Chair: W. Wendland

- 17:30 – 17:55 **C.G. Hsiao**
Scattering problems in fluid-structure interaction
- 17:55 – 18:20 **J. Neustupa**
Spectral properties of an Oseen-type operator, appearing in mathematical models of fluid flow past a rotating body
- 18:20 – 18:45 **M. Kohr**
Recent results for boundary value problems concerning general Brinkman operators in Lipschitz domains. Applications
- 18:45 – 19:10 **F. Ali Mehmeti**
The dynamics of the multiple tunnel effect
- 19:10 – 19:35 **G. Harutyunyan**
On some applications of pseudo-differential calculus in quantum mechanic
- 19:35 – 20:00 **G. Kohr**
New results in the theory of univalent subordination chains in several complex variables

Tuesday Room 005

Spectral Theory and Evolution Equations

Chair: M. Hieber

- 14:45 – 15:10 **R. Denk**
Resolvent estimates for mixed-order systems
- 15:10 – 15:35 **J. Rehberg**
 L^∞ estimates for fractional resolvent powers
- 15:35 – 16:00 **P. Kunstmann**
On optimal $L^p - L^q$ -estimates for parabolic boundary value problems
- 16:00 – 16:25 **K. Götze**
Maximal L^p -regularity for a fluid-solid interaction problem
- 16:25 – 16:50 **T. Nau**
Maximal regularity of cylindrical parameter-elliptic boundary value problems

Spectral Theory and Evolution Equations

Chair: L. Weis

- 17:30 – 17:55 **Y. Shibata**
On the $L_p - L_q$ maximal regularity of the Stokes equations with first order boundary condition in a general domain
- 17:55 – 18:20 **Y. Enomoto**
On strong solutions to the equation of motion of compressible viscous fluid flow on an exterior domain
- 18:20 – 18:45 **M. Haase**
Besov class calculi for discrete and continuous operator semigroups
- 18:45 – 19:10 **A. Ullmann**
Generalized Triebel-Lizorkin spaces and bounded H^∞ -calculus for R_q -sectorial operators
- 19:10 – 19:35 **E. Korotyaev**
Frequencies and action variables for periodic KdV and dNLS on the circle

Tuesday Room 415

Operator Theory in Krein Spaces

Chair: T. Azizov

- 14:45 – 15:10 **A.K. Motovilov**
Bounds on variation of spectral subspaces under J -self-adjoint perturbations
- 15:10 – 15:35 **Yu.G. Shondin**
Approximation of singular Sturm-Liouville problems at regular singularity in indefinite metric framework
- 15:35 – 16:00 **M. Znojil**
Complete sets of metrics in solvable PT-symmetric models
- 16:00 – 16:25 **P. Siegl**
PT-symmetric Robin boundary conditions
- 16:25 – 16:50 **S. Kuzhel**
On a class of J -self-adjoint operators with empty resolvent set

Infinite-Dimensional Systems Theory

Chair: B. Jacob

- 17:30 – 17:55 **L. Paunonen**
The infinite-dimensional Sylvester differential equation and periodic output regulation
- 17:55 – 18:20 **C. Wyss**
Hamiltonians with Riesz bases of eigenvectors and Riccati equations
- 18:20 – 18:45 **O.J. Staffans**
Passive and conservative state/signal systems in continuous time
- 18:45 – 19:10 **M.R. Opmeer**
Balanced realizations
- 19:10 – 19:35 **B.H. Haak**
Admissibility for Volterra systems with scalar kernels
- 19:35 – 20:00 **M.C. Delfour**
Metrics and geodesics in control and identification of shapes and geometries

Tuesday Room 649

Hypercomplex Operator Theory

Chair: I. Sabadini

- 14:45 – 15:10 **W. Sprößig**
Non-linearities and quaternionic holomorphic functions
- 15:10 – 15:35 **E. Luna-Elizarraras**
Some properties of unitary operators on quaternionic Hilbert spaces
- 15:35 – 16:00 **S.-L. Eriksson**
Hyperbolic function theory
- 16:00 – 16:25 **M. Shapiro**
On classes of derivable functions generated by PDE's with constant coefficients
- 16:25 – 16:50 **F. Brackx**
Fischer decompositions in Hermitean Clifford analysis

Hypercomplex Operator Theory

Chair: M. Shapiro

- 17:30 – 17:55 **K. Gürlebeck**
Series expansions of monogenic functions
- 17:55 – 18:20 **S. Bernstein**
A new inverse scattering transform
- 18:20 – 18:45 **A. Vajiac**
Dolbeault complexes and hyperfunction theory in the bicomplex setting

Tuesday Room 650

The Heisenberg Group for Time-Frequency and Phase Space Analysis

Chair: P. Cerejeiras

- 14:45 – 15:10 **M. de Gosson**
A representation of the Heisenberg group by operators acting on phase space; applications
- 15:10 – 15:35 **H. Upmeyer**
Asymptotic expansions for symmetric spaces
- 15:35 – 16:00 **A. Vourdas**
Harmonic analysis on $GF(p^{p^\infty})$ and the corresponding Heisenberg-Weyl group
- 16:00 – 16:25 **J. Arazy**
Minimal and maximal invariant Banach spaces of holomorphic functions on bounded symmetric domains
- 16:25 – 16:50 **B. Bouikhalene**
On the operator-valued K-spherical functions

Operator Theory with Algebraic Connections

Chair: I. Klep

- 17:30 – 17:55 **D. Kaliuzhnyi-Verbovetskyi**
Noncommutative functions: Algebraic and analytic results
- 17:55 – 18:20 **M. Bresar**
Lie ideals in algebra and analysis
- 18:20 – 18:45 **S. Kuhlmann**
Closures of sums of squares in various convex topologies
- 18:45 – 19:10 **M.A. Dritschel**
Preorders and a realization theorem for the Schur class
- 19:10 – 19:35 **J. Cimpric**
Non-commutative real algebraic geometry for a unital associative *-algebra

Tuesday Room 651

The Boundary Value Problems for Holomorphic Functions and Singular Integral Operators with Applications

Chair: G. Giorgadze

- 14:45 – 15:10 **B.A. Kats**
Riemann boundary value problem on non-rectifiable arcs and Cauchy transform
- 15:10 – 15:35 **A. Karelin**
Operator equalities as means for the study of singular integral operators with Carleman shift
- 15:35 – 16:00 **A. Al-Salman**
On singular and Marcinkiewicz integral operators
- 16:00 – 16:25 **R. Marreiros**
An estimate for the number of solutions of an homogeneous generalized Riemann boundary value problem with shift and conjugation

Indefinite Linear Algebra

Chair: C. Mehl

- 17:30 – 17:55 **D. Janse van Rensburg**
 H -expansive matrices in indefinite inner product spaces and their invariant subspaces
- 17:55 – 18:20 **A.C.M. Ran**
The discrete algebraic Riccati equation and Hermitian block Toeplitz matrices
- 18:20 – 18:45 **M. Wojtylak**
The pair of operators $T^{[*]}T$ and $TT^{[*]}$; J-dilations and canonical forms

Tuesday Room 749

Sturm Liouville Problems

Chair: M. Brown

- 14:45 – 15:10 **M. Kohlmann**
Dislocation problems for periodic Schrödinger operators and mathematical aspects of small angle grain boundaries
- 15:10 – 15:35 **M. Langer**
Variational principles for eigenvalues of operator functions and block operator matrices
- 15:35 – 16:00 **P. Binding**
Some Sturm-Liouville type results for the p-Laplacian
- 16:00 – 16:25 **B.A. Watson**
Operator factorization and the Darboux Crum transformation

Quantitative Spectral Theory of Block Matrix Operators

Chair: C. Tretter

- 17:30 – 17:55 **V. Kostrykin**
On indefinite quadratic forms
- 17:55 – 18:20 **A. Seelmann**
A new estimate in the subspace perturbation problem
- 18:20 – 18:45 **M. Schmidmeier**
Linear operators with two invariant subspaces: Swiss Cheese Theorem and an application to control theory
- 18:45 – 19:10 **I. Nakic**
From an abstract second-order differential system to a semigroup
- 19:10 – 19:35 **A. Miedlar**
Functional perturbation results for PDE eigenvalue problems

Tuesday Room 750

Contributed Talks

Chair: M. Demuth

- 14:45 – 15:10 **M. Lindner**
Spectra of Jacobi operators: Analysis and approximation
- 15:10 – 15:35 **L. Zielinski**
Estimates of large eigenvalues for some Jacobi matrices with unbounded entries
- 15:35 – 16:00 **A. Baranov**
Truncated Toeplitz operators: existence of bounded symbols
- 16:00 – 16:25 **M. Tusek**
Atoms in a thin layer
- 16:25 – 16:50 **H. Mascarenhas**
Finite section method for a Banach algebra of convolution type operators on $L^p(\mathbb{R})$ with symbols generated by PC and SO

The Interplay between Operator Theory and the $\bar{\partial}$ -Neumann Problem

Chair: F. Haslinger

- 17:30 – 17:55 **W. Bauer**
Remarks on commuting Toeplitz operators
- 17:55 – 18:20 **F.H. Szafraniec**
Looking for the target space of a would-be Hankel operator
- 18:20 – 18:45 **K. Nam**
Norm estimate of operators related to the harmonic Bergman projection
- 18:45 – 19:10 **B.R. Choe**
Berezin transform and compactness of Toeplitz operators on the harmonic Bergman space
- 19:10 – 19:35 **R. Curto**
Commuting pairs of multiplication operators on reproducing kernel Hilbert spaces over Reinhardt domains
- 19:35 – 20:00 **H. Issa**
Compact Toeplitz operators for weighted Bergman spaces on bounded symmetric domains

Tuesday Room 751

Dynamics and Operator Theory

Chair: P. Miana

- 14:45 – 15:10 **A. Peris**
Hypercyclic dynamics of translation operators and universal harmonic functions of slow growth
- 15:10 – 15:35 **L. Sanchez-Lajusticia**
Some examples for radical Banach algebras defined by fractional derivation
- 15:35 – 16:00 **M.M. Martinez**
Decay estimates for singular extensions of vector-valued Laplace transforms
- 16:00 – 16:25 **M. De la Rosa**
Some problems related with frequent hypercyclicity and chaos

Contributed Talks

Chair: E. Tsekanovskii

- 17:30 – 17:55 **S. Belyi**
Realizations of extremal classes of Stieltjes and inverse Stieltjes functions
- 17:55 – 18:20 **M.J. Heath**
A characterization of the bounded derivations from the disk algebra to its dual
- 18:20 – 18:45 **E. Cheremnikh**
The trace formula for a non-selfadjoint Friedrichs' model
- 18:45 – 19:10 **N. Artamonov**
Localization of the spectrum of a quadric pencil with a strong damping operator
- 19:10 – 19:35 **M. Carlsson**
On truncated Wiener-Hopf operators and $BMO(\mathbb{Z})$
- 19:35 – 20:00 **J. Bracic**
On the reflexivity of the kernel of an elementary operator