MMMA-2011 · Program

June 22 - 25, 2011

— Wednesday, June 22, 2011 —

8:45	9:30	Registration
9:30	9:40	Opening
9:40	10:30	**Matrix Methods for Univariate Polynomial Root-finding** *Victor Pan*
10:30	11:00	**Efficient Preconditioning and Scalable Parallelezation Problems for Large Sparse SLAEs** *Valery Ilin*

11:00	11:30	Coffee break

11:30	12:00	**Projection Matrices Revisited: a Potential-Growth Indicator and the Merit of Indication** *Dmitrii O. Logofet*	**Matrices with special bidiagonal factorizations** *Juan M. Pena*	**Special preconditioners for solution of strongly nonsymmetric linear equation systems** *Lev Krukier, Boris L. Krukier, Olga A. Pichugina*
12:00	12:30	**On conjugate-normal Toeplitz matrices** *Vadim Chugunov, Khakim D. Ikramov*	**Algorithms to compute spectral transformations for orthogonal polynomials on the unit circle** *Matthias Humet*	**An algorithm for solving the Hermitian ODAEs systems** *Georgy Ovchinnikov, Yuri Nechepurenko*
12:30	13:00	**Zero divisor graphs of rings and semirings** *Polona Oblak, David Dolžan*	**Optimal backward error for the least squares problem over a sphere** *Alexander Malyshev*	**Highly accurate solution for time-dependent PDE's** *Hillel Tal-Ezer*

13:00	13:30	**Systems of Extremal Linear Equations and Inequalities** *Karel Zimmermann, Martin Gavalec*	**Exploiting the composite step strategy to the Biconjugate A-orthogonal Residual method for non-Hermitian linear systems** *Yanfei Jing, Bruno Carpentieri, Yong Duan, Tingzhu Huang*	**Iterative parallel solver for huge sparse matrix** *Alexander Kalinkin, Alexey Goryachikh, Yuri Laevsky*
13:30	15:00	Lunch		
15:00	15:30	**On matrix subalgebras of the length 1** *Olga Markova*	**A Galerkin-based Rational Krylov Subspace Method for solving the Lyapunov equation with a rank one Hermitian right-hand side** *Leonid Knizhnerman, Vladimir Druskin, Valeria Simoncini*	**Preconditioned iterative algorithms for variational hexahedral meshing and mesh untangling in implicit domains** *Vladimir Garanzha, Lyudmila Kudriavtseva*
15:30	16:00	**Hermitian unitary matrices with weakened permutation symmetry** *Ondřej Turek, Taksu Cheon*	**Optimal rank matrix algebras preconditioners** *Francesco Tudisco, Carmine Di Fiore, Eugene E. Tyrtyshnikov*	**Comparison of solvers for FEM modelling of bioelectrical impedance analysis** *Alexander Danilov, Victoria Salamatova*
16:00	16:30	Coffee break		
16:30	17:00	**Characteristic invariant and hyperinvariant subspaces (joint work with P. Astuti, ITB Bandung)** *Harald Wimmer*	**The linearization method for solving multiparameter spectral problems** *Vladimir Khazanov, Vera Kublanovskaya*	**A numerical method for the solution of parabolic equations on orthogonal and triangular grids based on multilevel techniques** *Olga Milyukova, Marina Ladonkina, Vladimir Tishkin*
17:00	17:30	**An algorithm for the tropical linear system $A \odot x = B \odot x$** *María Jesús de la Puente*	**An efficient large-scale eigenvalue solver with deflation via orthogonalization** *Arkadiy Manevich, Edouard Boudinov*	**FDM for Bingham flows modelling** *Ekaterina Muravleva, Larisa Muravleva*
17:30	18:00	**Interval analysis in tropical and idempotent mathematics** *Grigory Litvinov*	**Homotopy algorithm for the symmetric diagonal-plus-semiseparable eigenvalue problem** *Andrey Chesnokov, Nicola Mastronardi, Marc Van Barel, Raf Vandebril*	

— Thursday, June 23, 2011 —

| 9:00 | 9:30 | **A Collatz-Wielandt theorem for nonexpansive mappings in metric spaces of nonpositive curvature** |
| | | *Stéphane Gaubert, Guillaume Vigeral* |

| 9:30 | 10:00 | **Is a semi-separable matrix invertible?** |
| | | *Patrick Dewilde* |

| 10:00 | 10:30 | **The polynomial root finding problems and quasiseparable representations** |
| | | *Yuli Eidelman, Paola Boito, Luca Gemignani, Israel Gohberg* |

| 10:30 | 11:00 | **When do several nonnegative matrices possess a strictly positive product ?** |
| | | *Vladimir Protasov* |

| 11:00 | 11:30 | Coffee break |

11:30	12:00	**Two-sided Interval Systems of Linear Equations in Extremal Algebra**	**Singular two-parameter eigenvalue problems**	**Optimization-based postprocessing of finite element solutions for recovering monotonicity**
		Martin Gavalec, Ján Plavka, Karel Zimmermann	*Bor Plestenjak, Andrej Muhic*	*Ivan Kapyrin, Oleg Burdakov, Yuri Vassilevski*
12:00	12:30	**When the r-by-r minors of a matrix form a tropical basis?**	**Two numerical methods for the solution of Lur'e equations**	**Scrambling sets of matrices and self-affine functions**
		Yaroslav Shitov	*Federico Poloni, Timo Reis*	*Andrey Voynov*

| 12:30 | 14:00 | Lunch |

Free afternoon

— Friday, June 24, 2011 —

9:00	9:30	**Asymptotic relationships between Singular Spectrum Analysis and Fourier Analysis** *Dario Fasino, Enrico Bozzo*		
9:30	10:00	**Optimizing the low-rank modification preconditioning for symmetric positive definite matrices.** *Igor Kaporin*		
10:00	10:30	**On maximal distances in commuting graph** *Bojan Kuzma*		
10:30	11:00	**Combinatorial matrices with equal determinant and permanent** *Ian Wanless, Nicholas Cavenagh*		
11:00	11:30	Coffee break		
11:30	12:00	**Preservers of numerical range of products up to a factor** *Gregor Dolinar, Kan He, Jinchuan Hou, Bojan Kuzma*	**On the uniqueness of the Canonical Polyadic Decomposition of third-order tensors: new sufficient conditions** *Ignat Domanov, Lieven De Lathauwer*	**Introduction to Normaliz 2.7** *Bogdan Ichim*
12:00	12:30	**Miniversal deformations of bilinear and sesquilinear forms** *Vladimir Sergeichuk, Andrii Dmytryshyn, Vyacheslav Futorny*	**Multilevel Toeplitz matrices generated by tensor-structured vectors and convolution with logarithmic complexity** *Vladimir Kazeev*	**Robust Stability of Generalized Matrix Difference Equations with Singular Matrix Pencil** *Ioannis Dassios*
12:30	13:00	**A Complete Unitary Similarity Invariant for Unicellular Matrices** *Nadiya Shvai, Tatiana Gerasimova*	**FFT in logarithmic complexity using QTT format** *Dmitry Savostyanov, Sergey Dolgov, Boris Khoromskij*	**Solution of the Linear Complementarity Problem by the Generalzed Conjugate Direction Method** *Edouard Boudinov, Arkadiy Manevich*
13:00	13:30	**Prime matrices over chains, direct sums of chains and Boolean lattices.** *Valentina Marenich*	**Tensor decompositions by unconstrained optimization of real functions in complex variables** *Laurent Sorber*	**Structured matrix algorithms for solving the NLS equation** *Antonio Aricò*
13:30	15:00	Lunch		

15:00	15:30	**Walk Distances in Graphs** *Pavel Chebotarev*	**Use of the DMRG scheme for structured linear system solution** *Sergey Dolgov*	**Linear Solvers in Hydrodynamic Reservoir Simulation** *Mark Khait*
15:30	16:00	**Partial orders induced by group inverse and monotone matrix maps** *Mikhail Efimov*	**Stability of QR-based system solvers for a subclass of Quasiseparable Order One matrices** *Pavel Zhlobich*	**On solution giant sparse linear systems with nonsymmetric matrices arising in filtration problems on parallel computers** *Kirill Bogachev, Arseny Klimovsky, Almaz Mirgasimov, Alexey Semenko, Iacov Zhabitsky*
16:00	16:30	Coffee break		
16:30	17:00	**Determinant theory for matrices over a pseudo-complimented distributive lattice** *Evgenie Marenich*	**Nonlinear preconditioning and scaling techniques for linear systems in Banach spaces** *Claudio Estatico*	**Hierarchical block partitioning for parallel solution of linear systems with SPD matrices** *Igor Konshin, Sergey Kharchenko*
17:00	17:30	**Polydeterminants** *Armenak Gasparyan*	**Randomized Preconditioning of Linear Systems of Equations** *Victor Pan*	**A family of quasi-optimal meshes generated by matrix decompositions** *Yuri Vassilevski, Abdellatif Agouzal, Konstantin Lipnikov*
17:30	18:00	**About The Normal Form of Linear Matrix Pencils** *Vladimir Prokip*		
19:00	24:00	Conference dinner		

— Saturday, June 25, 2011 —

9:00	9:30	**Powers and orbits of matrices in max-plus algebra** *Sergei Sergeev, Peter Butkovic, Hans Schneider*
9:30	10:00	**Strongly transient non-negative matrices** *Sergey Savchenko*
10:00	10:30	**Highly accurate two-level parallel iterative algorithm for solving ill-conditioned SLE** *Serge Kharchenko*
10:30	11:00	**An iterative solver for the Navier-Stokes equations in Velocity-Vorticity-Helicity form** *Maxim Olshanskii*
11:00	11:30	Coffee break
11:30	12:00	**Residual, restarting and Richardson iteration for the matrix exponential** *M.A. Botchev*
12:00	12:30	**Random matrices and asymptotics of orthogonal polynomials** *Sergey Suetin*
12:30	13:00	**On the Pólya permanent problem for $(0,1)$-matrices** *Alexander Guterman*
13:00	13:30	**The blessing of dimensionality: new perspectives for multidimensional computations** *Eugene Tyrtyshnikov*
13:30	14:00	Coffee break
14:00		Closing