

Monday, September 9, 2019

8:50–9:00	OPENING	[Main hall]
9:00–10:00	Dario A. Bini <i>Solving matrix equations encountered in stochastic processes: an algorithmic analysis</i>	[Main hall, chairman: Augustyn Markiewicz]
10:00–10:30	COFFEE & TEA BREAK	
10:30–11:30	Zdeněk Strakoš <i>Operator preconditioning, spectral information and convergence behavior of Krylov subspace methods (I.)</i>	[Main hall, chairman: Shmuel Friedland]
11:30–12:30	Martin Stoll <i>From PDEs to data science: an adventure with the graph Laplacian</i>	[Main hall, chairman: Shmuel Friedland]
12:40–14:00	LUNCH	
14:00–15:15	Contributed talks	[Main hall, chairman: Stefano Pozza]
14:00–14:25	Iwona Wróbel: <i>New multiplicative formulae for general tridiagonal matrix inverse</i>	
14:25–14:50	Marie Kubínová: <i>Prescribing convergence behavior of block Arnoldi and GMRES</i>	
14:50–15:15	Stefano Pozza: <i>Lanczos-like method for the time-ordered exponential</i>	
14:00–15:15	Contributed talks	[Marble hall, chairman: Aaron Melman]
14:00–14:25	Ivan Koswara: <i>Complexity of powering real large matrices and small polynomials</i>	
14:25–14:50	Philip Saltenberger: <i>On the structure-preserving diagonalization of Hamiltonian matrices</i>	
14:50–15:15	Aaron Melman: <i>Eigenvalue localization under partial spectral information</i>	
15:15–15:45	COFFEE & TEA BREAK	
15:45–17:00	Special session: Tropical algebra	[Main hall, chairman: Aljoša Peperko]
15:45–16:10	Sergeĭ Sergeev: <i>Cryptography using tropical matrix algebra</i>	
16:10–16:35	Amnon Rosenmann: <i>Polynomial convolutions in max-plus algebra</i>	
16:35–17:00	Karel Zimmermann: <i>Two-sided equation $(\max, +)/(\min, +)$-systems</i>	
15:45–17:00	Special session: Total positivity	[Marble hall, chairman: Jürgen Garloff]
15:45–16:10	J. M. Peña: <i>On accurate computations with subclasses of totally positive matrices</i>	
16:10–16:35	José-Javier Martínez: <i>Totally positive h-Bernstein bases, bidiagonal decomposition, and applications</i>	
16:35–17:00	Plamen Koev: <i>Accurate eigenvalues and zero Jordan blocks of (singular) sign-regular matrices</i>	
17:00–17:15	BREAK	
17:15–18:30	Special session: Tropical algebra	[Main hall, chairman: Sergeĭ Sergeev]
17:15–17:40	Adi Niv: <i>Tropical planar networks</i>	
17:40–18:05	Glenn Merlet: <i>Tropical matrices: ranks, powers and semigroup identities</i>	
18:05–18:30	Nikolai Krivulin: <i>Complete solution of tropical vector inequalities using matrix sparsification</i>	
17:15–18:30	Special session: Interval matrices	[Marble hall, chairman: David Hartman]
17:15–17:40	Milan Hladík: <i>A survey on the interval matrix properties related to the linear complementarity problem</i>	
17:40–18:05	Martin Černý: <i>Interval matrices with Monge property</i>	
18:05–18:30	David Hartman: <i>Complexity of computing powers for various classes of interval matrices</i>	
18:40	WELCOME DINNER	

Tuesday, September 10, 2019

9:00–10:15	Special session: Tropical algebra	[Main hall, chairman: Sergeĭ Sergeev]
9:00–9:25	María Jesús de la Puente: <i>Quasi-Euclidean classification of maximal alcoved convex polyhedra</i>	
9:25–9:50	Oliver Mason: <i>On Barabanov norms and subeigencones for max algebraic inclusions and opacity for systems over the max algebra</i>	
9:50–10:15	Aljoša Peperko: <i>The Bonsall and lower cone spectral radius of suprema preserving mappings and approximate point spectrum</i>	
9:00–10:15	Special session: Total positivity	[Marble hall, chairman: Plamen Koev]
9:00–9:25	Jürgen Garloff: <i>Relaxing the nonsingularity assumption for intervals of totally nonnegative matrices</i>	
9:25–9:50	Rola Alseidi: <i>On the spectral properties of nonsingular matrices that are strictly sign-regular for some order with applications to totally positive discrete-time systems</i>	
9:50–10:15	Apoorva Khare: <i>Total positivity preservers</i>	
10:15–10:45	COFFEE & TEA BREAK	
10:45–12:00	Special session: Tropical algebra	[Main hall, chairman: Aljoša Peperko]
10:45–11:10	Artur Piękosz: <i>Some geometry of the SMPA</i>	
11:10–11:35	Louis Rowen: <i>Geometry and linear algebra on systems</i>	
11:35–12:00	Marianne Akian: <i>Linear algebra and convexity over symmetrized semirings, hyperfields and systems</i>	
10:45–12:25	Special session: Verified computations	[Marble hall, chairman: Katsuhisa Ozaki]
10:45–11:10	Siegfried M. Rump: <i>Gershgorin circles and the determinant of real or complex matrices</i>	
11:10–11:35	Marko Lange: <i>Verified inclusion of a nearby matrix of specified rank deficiency</i>	
11:35–12:00	Kai Torben Ohlhus: <i>Rigorous results in electronic structure calculations</i>	
12:00–12:25	Takeshi Ogita: <i>Accurate and verified solutions of large sparse linear systems arising from 3D Poisson equation</i>	
12:40–14:00	LUNCH	
14:00–15:00	Zdeněk Strakoš	[Main hall, chairman: Martin Stoll]
	<i>Operator preconditioning, spectral information and convergence behavior of Krylov subspace methods (II.)</i>	
15:00–15:30	COFFEE & TEA BREAK	
15:30–17:10	Special session: Verified computations	[Marble hall, chairman: Takeshi Ogita]
15:30–15:55	Katsuhisa Ozaki: <i>Error-free transformation of a product of three matrices and its applications</i>	
15:55–16:20	Atsushi Minamihata: <i>A note on verification methods for sparse non-symmetric linear systems</i>	
16:20–16:45	Takeshi Terao: <i>Preconditioned Cholesky QR algorithms in an oblique inner product</i>	
16:45–17:10	Siegfried M. Rump: <i>Sharp inclusions of the determinant of real or complex, point or interval matrices</i>	
18:00	DINNER	
20:30	CONCERT OF PRAGUE CELLO QUARTET	



PRAGUE CELLO QUARTET

Four young cellists bring you their original versions of not only the most famous classics, but also film scores and jazz, rock and pop hits. Their goal is to entertain the audience with their adaptations of well-known compositions and intelligent sense of humour, breaking the boundaries between fun and classical music.

Marble hall

Tuesday, September 10, 2019, 20:30

Wednesday, September 11, 2019

9:00–10:00	Shmuel Friedland (The Hans Schneider ILAS Lecturer) [Main hall, chairman: Zdeněk Strakoš] <i>The Collatz-Wielandt quotient for pairs of nonnegative operators (I.)</i>
10:00–10:30	COFFEE & TEA BREAK
10:30–11:30	Álvaro Barreras (Young Scientists Award) [Main hall, chairman: Ryo Tabata] <i>Tridiagonal inverses of tridiagonal M-matrices and related pentadiagonal matrices</i>
11:30–12:20	Contributed talks [Main hall, chairman: Ryo Tabata]
11:30–11:55	Simo Puntanen: <i>Some further properties of the linear sufficiency in the linear model</i>
11:55–12:20	Stephen Haslett: <i>EBLUP: empirical best linear unbiased predictors</i>
12:40–14:00	LUNCH
14:00–18:30	CONFERENCE TRIP TO LOBEČ BREWERY
18:40	DINNER



Thursday, September 12, 2019

9:00–10:00	Mirjam Dür <i>Copositive optimization and completely positive matrix factorization</i>	[Main hall, chairman: Milan Hladík]
10:00–10:30	COFFEE & TEA BREAK	
10:30–12:35	Contributed talks 10:30–10:55 Pieter-Jan Pauwelyn: <i>Evolution of Markov chains under transition matrix perturbation</i> 10:55–11:20 Andrii Dmytryshyn: <i>Perturbations of matrix polynomial linearizations</i> 11:20–11:45 R. Balaji: <i>A perturbation result for distance matrices of trees with matrix weights</i> 11:45–12:10 Sandra Ferreira: <i>An overview of the estimators in additive models</i> 12:10–12:35 Dário Ferreira: <i>Linear mixed models with random effects with known dispersion parameters</i>	[Main hall, chairman: Dário Ferreira]
10:30–12:35	Contributed talks 10:30–10:55 S. Gokulraj : <i>Bimatrix games over proper cones</i> 10:55–11:20 V. B. Kiran Kumar: <i>Discrete Börg-type theorems</i> 11:20–11:45 G. Krishna Kumar: <i>Generalized eigenvectors of bounded linear operators in a separable Hilbert space</i> 11:45–12:10 Akiko Fukuda: <i>Computation of min-plus eigenvalues via ultradiscrete integrable systems</i> 12:10–12:35 Yuki Nishida: <i>On the vectors associated with the roots of max-plus characteristic polynomials</i>	[Marble hall, chairman: Yuki Nishida]
12:40–14:00	LUNCH	
14:00–15:00	Shmuel Friedland (The Hans Schneider ILAS Lecturer) <i>The Collatz-Wielandt quotient for pairs of nonnegative operators (II.)</i>	[Main hall, chairman: Mirjam Dür]
15:00–15:30	COFFEE & TEA BREAK	
15:30–17:10	Contributed talks 15:30–15:55 Predrag S. Stanimirović: <i>Zeroing neural networks in linear algebra</i> 15:55–16:20 Marko D. Petković: <i>Gradient neural network models for solving matrix equation $AXB = D$ in real time</i> 16:20–16:45 Doaa Al-Saafin: <i>Further results involving positive semidefinite block matrices</i> 16:45–17:10 Petr Tichý: <i>Characterization of half-radial matrices</i>	[Main hall, chairman: Petr Tichý]
15:30–17:10	Contributed talks 15:30–15:55 Abraham Berman: <i>The Friendship Graphs are determined by the eigenvalues of their normalized Laplacian</i> 15:55–16:20 Naomi Shaked-Monderer: <i>Complete multipartite graphs that are determined, up to switching by their Seidel spectrum</i> 16:20–16:45 R. B. Bapat: <i>Resistance matrices of balanced directed graphs</i> 16:45–17:10 Israel Rocha: <i>Partial sum of eigenvalues of random graphs</i>	[Main hall, chairman: Israel Rocha]
17:10–17:25	BREAK	
17:25–18:40	Special session: Total positivity 17:25–17:50 Alexander Dyachenko: <i>On the number of zeroes and poles of functions generating Pólya frequency sequences</i> 17:50–18:15 Kanae Akaiwa: <i>An inverse eigenvalue problem for pentadiagonal oscillatory matrices</i> 18:15–18:40 Olga Kushel: <i>Totally positive matrices in the theory of robust spectral clustering</i>	[Main hall, chairman: Jürgen Garloff]
17:25–18:40	Special session: Interval matrices 17:25–17:50 Elif Garajová: <i>Strong singularity of interval matrices</i> 17:50–18:15 Jaroslav Horáček: <i>Interval linear systems with parameters – branch and bound approach</i> 18:15–18:40 Jan Bok: <i>Pseudoinverses of interval matrices</i>	[Marble hall, chairman: Miroslav Rada]
18:40	CONFERENCE DINNER	

Friday, September 13, 2019

9:00–10:00	Arnold Neumaier <i>Confidence intervals for large-scale linear least squares solutions</i>	[Main hall, chairman: Simo Puntanen]
10:00–10:30	COFFEE & TEA BREAK	
10:30–11:30	Ryo Tabata (Young Scientists Award) <i>Immanants and symmetric functions</i>	[Main hall, chairman: Álvaro Barreras]
11:30–12:20	Contributed talks	[Main hall, chairman: Álvaro Barreras]
11:30–11:55	Martin Plešinger: <i>Recent development in the core problem theory</i>	
11:55–12:20	Augustyn Markiewicz: <i>Matrix approximation via entropy loss function</i>	
12:20–12:30	CLOSING	
12:30–13:30	LUNCH	
13:30	BUS DEPARTURE	