

Monday, September 25, 2017

8:50 – 9:00 *Opening*

Invited Session 1 – Chair: *Andreas Frommer*

9:00 – 9:45 Volker Mehrmann: *The distance to instability and singularity for structured matrix pencils*

9:45 – 10:00 Break

Lecture 1, part I – Chair: *Natália Bebiano*

10:00 – 11:15 Fuzhen Zhang: *Tensors and some combinatorial properties of tensors*

11:15 – 11:40 Coffee Break

Special Session 1, part I – Interval Matrices – Chair: *Milan Hladík*

11:40 – 12:10 Milan Hladík: *AE regularity of interval matrices*

12:10 – 12:35 Jaroslav Horáček: *Application of interval linear algebra in data estimation*

12:35 – 13:00 Jan Bok: *Interval pseudoinverse matrices*

13:00 – Lunch

Invited Session 2 – Chair: *Simo Puntanen*

15:00 – 15:45 K. Manjunatha Prasad: *Introduction to rank-function and its applications*

15:45 – 16:10 Coffee Break

Special Session 2, part I – Matrix Methods in Linear Models

Chair: *Julia Volaufova*

16:10 – 16:40 Daniel Klein: *Estimation of parameters under the multilevel multivariate models*

16:40 – 17:10 Dietrich von Rosen: *Applications of the Vandermonde matrix in statistics*

17:10 – 17:40 Charles Rohde: *Robustness in the multivariate Gaussian distribution*

17:40 – 17:50 Break

Special Session 3, part I – Total Positivity – Chair: *Jürgen Garloff*

17:50 – 18:25 Jürgen Garloff: *Recent applications of the Cauchon algorithm to the totally nonnegative matrices*

18:25 – 18:50 Mikhail Tyaglov: *Root location of polynomials with totally nonnegative Hurwitz matrix*

18:50 – 19:15 Alexander Dyachenko: *Hurwitz and Hurwitz-type matrices of two-way infinite series*

19:30 – Barbecue

Tuesday, September 26, 2017

Invited Session 3 – Chair: *Volker Mehrmann*

9:00 – 9:45 Miroslav Rozložník: *Numerics of the Gram-Schmidt process and its relation to the SR decomposition*

9:45 – 10:00 Break

Lecture 1, part II – Chair: *Natália Bebiano*

10:00 – 11:15 Fuzhen Zhang: *Tensors and some combinatorial properties of tensors*

11:15 – 11:40 Coffee Break

Special Session 2, part II – Matrix Methods in Linear Models

Chair: *Viktor Witkovský*

11:40 – 12:10 Julia Volaufova: *Fixed effects estimation in two-variance components models*

12:10 – 12:40 Roman Zmyšlony: *Application of Jordan algebra and its inference in linear models*

12:40 – 13:00 Célia Nunes: *Normal approximations for vec, trace and determinant of noncentral Wishart matrices*

13:00 – Lunch

15:00 – 15:45 Poster session

Péter Berkics: *On parallel sum of matrices*

Célia Nunes: *Models for stochastic symmetric matrices*

15:45 – 16:10 Coffee Break

Contributed Session 1 – Chair: *Susana Furtado*

16:10 – 16:40 Süleyman Solak: *On circulant matrices with Ducci sequences and Fibonacci numbers*

16:40 – 17:00 Osman Kan: *Commutators and matrix functions*

17:00 – 17:20 Mandeepa Saha: *Generalized Jacobi and Gauss-Seidel method for solving non-square linear systems*

17:20 – 17:40 Ryo Tabata: *Immanant inequalities on correlation matrices and Littlewood-Richardson's correspondence*

17:40 – 17:50 Break

Special Session – Jaroslav Zemánek in memoriam

Chair: *Tomasz Szulc*

17:50 – Andrzej Sołtysiak, Iwona Wróbel, Krystyna Ziętak, ...

19:30 – Dinner

20:30 – Concert

Wednesday, September 27, 2017

Invited Session 4 – Chair: *Miroslav Rozložník*

9:00 – 9:45 Andreas Frommer: *Computing $f(A)b$, the action of a matrix function on a vector*

9:45 – 10:00 Break

Lecture 2, part I – Chair: *Roman Zmyślony*

10:00 – 11:15 Lynn R. LaMotte: *Deconstructing type III*

11:15 – 11:40 Coffee Break

Special Session 3, part II – Total Positivity – Chair: *Jürgen Garloff*

11:40 – 12:05 Álvaro Barreras: *Extending accurate computations for totally positive matrices*

12:05 – 12:30 Akiko Fukuda: *Integrable eigenvalue algorithms for totally nonnegative matrices*

12:30 – 12:55 Kanae Akaiwa: *Solving inverse eigenvalue problems for totally nonnegative matrices with finite steps*

13:00 – Lunch

14:00 – Excursion

Thursday, September 28, 2017

Invited Session 5 - Chair: *Dietrich von Rosen*

9:00 – 9:45 Jolanta Pielaszkiewicz: *On negative spectral moments using asymptotic freeness of matrices*

9:45 – 10:00 Break

Lecture 2, part II – Chair: *Roman Zmysłony*

10:00 – 11:15 Lynn R. LaMotte: *Deconstructing type III*

11:15 – 11:40 Coffee Break

Special Session 1, part II – Interval Matrices – Chair: *Milan Hladík*

11:40 – 12:00 Michal Černý: *A Branch-and-Bound scheme for the range of rank-deficient quadratic forms with interval-valued variables*

12:00 – 12:20 David Hartman: *Tightening bounds on the radius of nonsingularity*

12:20 – 12:40 Josef Matějka: *Determinants of interval matrices*

12:40 – 13:00 Iwona Skalna: *A new method for determining the radius of regularity of parametric interval matrices*

13:00 – Lunch

Invited Session 6 – Chair: *Fuzhen Zhang*

15:00 – 15:45 Ernest Šanca: *Robust dynamics of real systems based on the pseudospectra*

15:45 – 16:10 Coffee Break

Special Session 2, part III – Matrix Methods in Linear Models

Chair: *Ivan Žezula*

16:10 – 16:40 Viktor Witkovský: *Tools for numerical inversion of the characteristic functions and their applications*

16:40 – 17:00 Arkadiusz Koziol: *Best unbiased estimates for parameters of three-level multivariate data with doubly exchangeable covariance structure*

17:00 – 17:20 Monika Mokrzycka: *Kronecker product approximation via entropy loss function*

17:20 – 17:40 Adam Mieldzioc: *On projection of a positive definite matrix on a cone of non-negative definite Toeplitz matrices*

17:40 – 17:50 Break

Contributed Session 3 – Chair: *Damjana Kokol Bukovšek*

17:50 – 18:10 Pieter-Jan Pauwelyn: *Neglecting non-diagonalizable matrices in social sciences*

18:10 – 18:30 Terrence Teh: *Sums of H -unitary matrices*

18:30 – 18:50 Mika Mattila: *Studying the inertias of LCM matrices*

18:50 – 19:10 Rokšana Słowik: *Infinite matrices and the Jordan form*

20:00 – Conference Dinner

Friday, September 29, 2017

Invited Session 7

9:00 – 9:45 Narayanaswamy Balakrishnan: *Matrix orders and stochastic orderings in actuarial science*

9:45 – 10:00 Break

Contributed Session 3

10:00 – 10:30 Natalia Bebiano: *Density matrices arising from incomplete measurements*

10:30 – 11:00 Damjana Kokol Bukovšek: *Linear spaces of symmetric nilpotent matrices*

11:00 – 11:20 Blaž Mojskerc: *Jordan triple product homomorphisms on triangular matrices to and from dimension one*

11:20 – 11:40 Coffee Break

Contributed Session 4

11:40 – 12:10 Susana Furtado: *Bruhat order for symmetric $(0,1)$ -matrices*

12:10 – 12:40 Krystyna Ziętak: *Sub-Stiefel Procrustes problem*

12:40 – 13:00 Iwona Wróbel: *Both residual errors accurate algorithm for inverting general tridiagonal matrices*

13:00 – Lunch

Special Session 2, part IV – Matrix Methods in Linear Models

15:00 – 15:30 João T. Mexia: *Confidence regions and tests for normal models with orthogonal block structure: pivot variables*

15:30 – 16:00 Ivan Žezula: *Problems of inference in a special multivariate linear model*

16:00 – 16:30 Coffee Break

Special Session 2, part V – Matrix Methods in Linear Models

16:30 – 17:00 Simo Puntanen: *More about linear sufficiency in the linear mixed model*

17:00 – 17:20 Mariusz Grządziel: *On nonnegative minimum biased quadratic estimation in the linear regression models*

17:20 – 17:30 Break

Special Session 2, part VI – Matrix Methods in Linear Models

17:30 – 18:00 Katarzyna Filipiak: *Properties of partial trace and block trace operators of partitioned matrices*

17:00 – 18:20 Richard Ellard: *Diagonal elements in the nonnegative inverse eigenvalue problem*

18:20 – 18:40 Jan Hauke: *Algebraic properties of some contingency tables*

18:40 – *Closing*

19:00 – Dinner