## MONDAY

| 8:00am-8:45am | Breakfast |
| :--- | :--- |
| $8: 45 \mathrm{am}-9: 00 \mathrm{am}$ | Opening |
| Chair | Miloud Sadkane |
| 9:00am-10:00am | Structured matrix polynomials and their sign characteristic <br> Françoise Tisseur |
| 10:00am-10:30am | Break |
| Chair | Zhaojun Bai |
| 10:30am-11:00am | The unwinding matrix <br> Nicholas Higham |
| $11: 00 \mathrm{am}-11: 30 \mathrm{am}$ | Refining estimates of invariant and deflating subspaces for large <br> and sparse matrices and pencils <br> Eric Chu |
| $11: 30 \mathrm{am}-12: 00 \mathrm{am}$ | Computing the distance to the nearest unstable quadratic pencil <br> Alexander Malyshev |
| $12: 00 \mathrm{am}-12: 30 \mathrm{pm}$ | Structured matrix geometric means: theory and algorithms <br> Dario Bini |
| $12: 30 \mathrm{pm}$ | Lunch |
| Chair | David Watkins |
| $5: 00 \mathrm{pm}-5: 30 \mathrm{pm}$ | What are the "natural" classes of scalar products? <br> Steve Mackey |
| $5: 30 \mathrm{pm}-6: 00 \mathrm{pm}$ | Gram-Schmidt process: from the standard to the non-standard <br> inner product <br> Miroslav Rozložnik |
| $6: 00 \mathrm{pm}-6: 30 \mathrm{pm}$ | Modified symplectic Gram-Schmidt, Householder SR algorithm <br> and structured matrices <br> Ahmed Salam |
| $6: 30 \mathrm{pm}-7: 00 \mathrm{pm}$ | Structured matrices and multivariate orthogonal polynomials <br> Marc Van Barel |
| $7: 30 \mathrm{pm}$ | Dinner |

## TUESDAY

| 8:00am-9:00am | Breakfast |
| :--- | :--- |
| Chair | Peter Benner |
| 9:00am-10:00am | Exponential integrators: linear algebra aspects <br> Marlis Hochbruck |
| 10:00am-10:30am | Break |
| Chair | Bernhard Beckermann |
| $10: 30 \mathrm{am}-11: 00 \mathrm{am}$ | On geometric integrators for polynomial Hamiltonian systems <br> Elena Celledoni |
| $11: 00 \mathrm{am}-11: 30 \mathrm{am}$ | Symmetric spaces and Lie triple systems in numerical analysis <br> Antonella Zanna |
| $11: 30 \mathrm{am}-12: 00 \mathrm{am}$ | A step towards a symplectic exponential integrator <br> Peter Benner |
| $12: 00 \mathrm{am-12:30pm}$ | Integral preserving Lie group integrators <br> Brynjulf Owren. |
| $12: 30 \mathrm{pm}$ | Lunch |
| Chair | Antonella Zanna |
| $5: 30 \mathrm{pm}-6: 00 \mathrm{pm}$ | Matrix functions for exponential integrators via interpolation at <br> Leja points <br> Alexander Ostermann |
| $6: 00 \mathrm{pm}-6: 30 \mathrm{pm}$ | The construction and analysis of variational integrators <br> Melvin Leok |
| $6: 30 \mathrm{pm}-7: 00 \mathrm{pm}$ | Computational methods based on structured pseudospectra <br> Matthias Voigt |
| $7: 30 \mathrm{pm}$ | Dinner |

## WEDNESDAY

| 8:00am-9:00am | Breakfast |
| :--- | :--- |
| Chair | Nick Higham |
| 9:00am-10:00am | Structured backward errors for eigenvalues of Hermitian pencils <br> Christian Mehl |
| 10:00am-10:30am | Break |
| Chair | Miroslav Rozloznik |
| 10:30am-11:00am | The Newton polygon and structured eigenvalue perturbation <br> Julio Moro |
| 11:00am-11:30am | Eigenvalue perturbation theory of classes of structured matrices <br> under generic structured rank one perturbations <br> André Ran |
| 11:30am-12:00am | The error in the product QR decomposition and applications <br> Erik Van Vleck |
| 12:00am-12:30pm | On solving indefinite least squares-type problems via <br> anti-triangular factorization <br> Nicola Mastronardi |
| $12: 30 \mathrm{pm}$ | Lunch |
| $7: 30 \mathrm{pm}$ | Dinner |

## THURSDAY

| 8:00am-9:00am | Breakfast |
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| 9:00am-12:30pm | Session in Honor of Axel Ruhe on his 70th Birthday |
| Chair | Daniel Kressner |
| 9:00am-10:00am | Rational Krylov revisited <br> Bernhard Beckermann |
| $10: 00 \mathrm{am}-10: 30 \mathrm{am}$ | Break |
| Chair | Lothar Reichel |
| 10:30am-11:00am | Rational Krylov - further developments and yet unsolved problems <br> Axel Ruhe |
| 11:00am-11:30am | Minimization principles of the linear response eigenvalue problem <br> Zhaojun Bai |
| $11: 30 \mathrm{am}-12: 00 \mathrm{am}$ | On a generalization of inverse iteration for eigenvector nonlinearities <br> Elias Jarlebring |
| 12:00am-12:30pm | Structured matrices in the rational Lanczos method <br> Lothar Reichel |
| $12: 30 \mathrm{pm}$ | Lunch |
| Chair | Nicola Mastronardi |
| $5: 00 \mathrm{pm}-5: 30 \mathrm{pm}$ | A fast structured QZ method for colleague matrix pencils <br> Paola Boito |
| $5: 30 \mathrm{pm}-6: 00 \mathrm{pm}$ | An extension of the multi-shift QZ-algorithm beyond the <br> Hessenberg-upper triangular pencil <br> Raf Vandebril |
| 6:00pm-6:30pm | Fast computation of eigenvalues of companion, comrade, <br> and related matrices <br> David Watkins |
| 6:30pm-7:00pm | Convergence of QR algorithm for normal matrices <br> Hongguo Xu |
| $8: 00 \mathrm{pm}$ | Conference dinner |

## FRIDAY

| 8:00am-9:00am | Breakfast |
| :--- | :--- |
| Chair | Steve Mackey |
| 9:00am-10:00am | Differential equations for Hamiltonian and symplectic matrix <br> nearness problems <br> Christian Lubich |
| Chair | Ahmed Salam |
| 10:00am-10:30am | Break |
| $10: 30 \mathrm{am}-11: 00 \mathrm{am}$ | Symplectic information geometry of Toeplitz and Toeplitz-block- <br> Toeplitz Hermitian positive definite matrices: Buseman barycen- <br> ter and Frechet median by Berger/Mostow fibration <br> Frederic Barbaresco |
| $11: 00 \mathrm{am}-11: 30 \mathrm{am}$ | Matrix power means as the only affine family <br> Miklós Pálfia |
| $11: 30 \mathrm{am}-12: 00 \mathrm{am}$ | Blind image deconvolution via Hankel based method for <br> computing the GCD of polynomials <br> Skander Belhaj |
| $12: 00 \mathrm{am}-12: 30 \mathrm{pm}$ | Subspace methods for computing the numerical range and <br> associated quantities <br> Daniel Kressner |
| $12: 30 \mathrm{pm}$ | Lunch |

