

ADVANCES IN NUMERICAL LINEAR ALGEBRA:
CELEBRATING THE 60TH BIRTHDAY OF NICK HIGHAM, 6–8 JULY 2022

DAY 1 – WEDNESDAY 6 JULY 2022

08:30–09:30	Registration & Coffee
Session 1 (Françoise Tisseur chair)	
09:30–09:40	Welcome
09:40–09:55	Sven Hammarling: <i>“A few Words about Nick Higham”</i>
09:55–10:20	Margaret Wright: <i>“Selected events in numerical analysis, sixty years on”</i>
10:20–10:45	Andy Wathen: <i>“Preconditioned iterative solution of non-symmetric linear systems”</i>
10:45–11:30	Coffee
Session 2 (Marcus Webb chair)	
11:30–11:55	Vanni Noferini: <i>“Root vectors of rational matrices: theory and computation”</i>
11:55–12:20	Rob Corless: <i>“Bohemian Matrix Geometry”</i>
12:20–14:00	Lunch and posters

Session 3 (Stefan Güttel chair)	
14:00–14:25	Zhaojun Bai: <i>“Recent Advances in Eigenvector-dependent Nonlinear Eigenvalue Problems”</i>
14:25–14:50	Theo Mary: <i>“Adaptive Precision Solvers and Preconditioners”</i>
14:50–15:15	Yuji Nakatsukasa: <i>“Accuracy and stability of randomized numerical algorithms”</i>
15:15–16:00	Tea and posters
Session 4 (Sven Hammarling chair)	
16:00–16:25	Paul Van Dooren: <i>“Diagonal scalings of arbitrary matrix pencils”</i>
16:25–16:50	Andreas Frommer: <i>“Multilevel Stochastic Estimation of the Trace”</i>
16:50–17:15	Fabienne Jezequel: <i>“Benefits of stochastic arithmetic for the computation of multiple roots of polynomials”</i>
17:15	Close

DAY 2 – THURSDAY 7 JULY 2022

08:30–09:15	Coffee
Session 5 (Sven Hammarling chair)	
09:15–09:40	Jack Dongarra: <i>“Software for Linear Algebra Targeting Exascale”</i>
09:40–10:05	Phil Knight: <i>“Balancing: My Account”</i>
10:05–10:30	Alan Edelman: <i>“Generalizing Orthogonal Matrices: On the Structure of the Solutions to the Matrix Equation $G^*JG=J$”</i>
10:30–11:00	Coffee
Session 6 (Françoise Tisseur chair)	
11:00–11:25	Des Higham: <i>“Core-periphery Partitioning and Quantum Annealing”</i>
11:25–11:50	Max Fasi: <i>“Computational graphs for matrix functions”</i>
11:50–12:15	Melina Freitag: <i>“Inexact Rational Krylov Methods Applied to Lyapunov Equations”</i> (remote)
12:15–14:00	Photo, lunch and posters

Session 7 (Stefan Güttel chair)	
14:00–14:25	David Silvester: <i>“IFISS: A computational laboratory for investigating incompressible flow problems”</i>
14:25–14:50	Daniel Kressner: <i>“Norm estimation with rank-one vectors and a continuous analogue”</i>
14:50–15:15	Steve Mackey: <i>“Spectral Localization in Polynomial and Rational Matrices”</i>
15:15–15:45	Tea
Session 8 (Marcus Webb chair)	Zoom session (four remote talks)
15:45–17:05	<p>15:45: Jim Demmel: <i>“Correctness of Floating Point Programs: Exception Handling and Reproducibility”</i></p> <p>16:05: Cleve Moler: <i>“Rubik’s Cube Matrices”</i></p> <p>16:20: Ilse C.F. Ipsen: <i>“An attempt at explaining why matrices can be better conditioned in lower precision”</i></p> <p>16:40: Volker Mehrmann: <i>“Structured perturbation theory and error analysis”</i></p>
17:05	Close, then dinner at 18:00

DAY 3 – FRIDAY 8 JULY 2022

08:30–09:15	Coffee
Session 9 (Marcus Webb chair)	
09:15–09:40	Nick Trefethen: <i>“Ten Examples of AAA Approximation”</i>
09:40–10:05	Krystyna Ziętak: <i>“A few words on how Nick influences research”</i> (remote)
10:05–10:30	Beatrice Meini: <i>“A family of fast fixed point iterations for power series and polynomial matrix equations”</i> (remote)
10:30–10:40	Dennis Sherwood: <i>“Nick - An appreciation”</i>
10:40–11:10	Coffee break
Session 10 (Françoise Tisseur chair)	
11:10–11:35	Christian Mehl: <i>“On dissipative Hamiltonian pencils and their posH generalizations”</i> (remote)
11:35–12:00	Erin Carson: <i>“Recent Progress in Mixed Precision Numerical Linear Algebra”</i>
12:00–12:25	Nick Higham: <i>“Forty Years of Research in Numerical Linear Algebra”</i>
12:25	Closing remarks and lunch

