Householder Symposium XIX
June 8-13, Spa Belgium

Schedule of the technical program
Sponsors

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Lecture room plan

All plenary talks are in room **Pierre le Grand**

The parallel sessions take place in the following three rooms:
- **Pierre le Grand** (room 1) for parallel sessions I-VIa
- **Source de la Reine + Wellington** (rooms 2+3) for parallel sessions I-VIb
- **Groesbeeck** (room 5) for parallel sessions I-VIc

The room **Pouhon Pia** (room 4) can be used for informal discussions or practice.

The rooms at the second level are available for committee meetings.

The conference site has an open **wireless network** named “solcressguest”.

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**Legend**

- **Pierre le Grand**
- **Wellington**
- **Source de la Reine**
- **Source de la Reine et Wellington**
- **Pouhon Pia**
- **Groesbeeck**
- **Berlizienne**
- **Marie-Henriette**
- **Le Tonnelet**
- **Warfoaz**

**Specifications**

- **Size (m²)**
- **Ceiling height (m)**
- **Length (m)**
- **Width (m)**
- **Capacity**
- **Floor plan icon**
Arriving on Sunday June 8:

16:00- Check in to your rooms
   If you arrive earlier, you can leave your luggage at the front desk
17:00-19:00 Registration desk for the conference material
17:30-19:00 Beer-tasting reception at the Bar Spaloumont
19:00-21:00 Buffet dinner

Excursion on Wednesday June 11 :

On Wednesday afternoon, there will be an excursion to the Abbey of Val-Dieu (see http://www.abbaye-du-val-dieu.be/1_EN/).

Val-Dieu is a former Cistercian monastery, founded in 1216, in the Land of Herve, located north-east of Liège. The site has been taken over by a small lay community since the last monks left in 2001. Guided tours will be organized in the abbey and its brewery, and we will get to taste some of their beer and cheese.

This excursion is free of charge and all participants are invited to join.
The coaches will be waiting for us in the main parking lot in front of the conference site by 2pm, and they will depart at 2:15pm. For the return, the coaches are scheduled to depart from Val-Dieu at 5:45pm. Make sure to reach the coaches well on time.

At Val-Dieu we will be welcomed by four guides. Please take note of your group number according to the alphabetic order of last names:

- Group 1: A–D
- Group 2: E–K
- Group 3: L–R
- Group 4: S–Z
Schedule of the talks and sessions

Monday June 9:

8:45-9:00 Opening Remarks

Chair: Paul Van Dooren

9:00-9:30 Charles Van Loan, Cornell University, USA

*Rank-Revealing Decompositions for Matrices with Multiple Symmetries*

9:30-10:00 Pierre-Antoine Absil, Université catholique de Louvain, Belgium

*Algorithms for the Nearest Correlation Matrix Problem with Factor Structure*

10:00-10:30 Coffee Break

10:30-12:10 Parallel Sessions I

(3 streams of 5 talks each)

12:15-14:15 Lunch

Chair: Zdeněk Strakoš

14:30-15:00 Zlatko Drmač, University of Zagreb, Croatia

*A new Framework for Polynomial Filtering in Implicitly Restarted Arnoldi type Algorithms*

15:00-15:30 Stefan Güttel, University of Manchester, UK

*Perfectly Matched Layers via the Iterated Rational Krylov Algorithm*

15:30-16:00 Gerard Meurant, Commissariat a l’Energie Atomique, France

*On the Convergence of QOR and QMR Krylov Methods for Solving Linear Systems*

16:00-16:30 Coffee Break

16:30-18:50 Parallel Sessions II

(3 streams of 6 or 7 talks)

19:00-21:00 Dinner
Parallel Session Ia (Room 1, Monday 10:30-12:10)

10:30: A.C. Antoulas and A.C. Ionită
Model Reduction of Nonlinear Systems in the Loewner Framework

Conditioning and Preconditioning of the Weakly-Constrained Optimal State Estimation Problem

11:10: Eric de Sturler, Serkan Gugercin, Misha Kilmer, Chris Beattie, Saifon Chaturantabut, and Meghan O’Connell
Model Reduction Techniques for Fast Nonlinear Inversion

11:30: Saifon Chaturantabut, Christopher A. Beattie and Serkan Gugercin
Structure-Preserving Model Reduction for Nonlinear Port-Hamiltonian Systems

11:50: Kirsty Brown, Igor Gejadze and Alison Ramage
Efficient Computation of the Posterior Covariance Matrix in Large-Scale Variational Data Assimilation Problems

Parallel Session Ib (Room 2-3, Monday 10:30-12:10)

10:30: James Demmel
Communication Avoiding Algorithms for Linear Algebra and Beyond

10:50: Grey Ballard, James Demmel, Laura Grigori, Mathias Jacquelin, Hong Diep Nguyen, and Edgar Solomonik
Reconstructing Householder Vectors from Tall-Skinny QR

11:10: Erin Carson and James Demmel
Improving the Maximum Attainable Accuracy of Communication-Avoiding Krylov Subspace Methods

11:30: Pieter Ghysels, Xiaoye S. Li, Artem Napov, François-Henry Rouet and Jianlin Xia
Hierarchically Low-Rank Structured Sparse Factorization with Reduced Communication and Synchronization

11:50: E. Agullo, L. Giraud, P. Salas Medina and M. Zounon
Preliminary Investigations on Recovery-Restart Strategies for Resilient Parallel Numerical Linear Algebra Solvers

Parallel Session Ic (Room 5, Monday 10:30-12:10)

10:30: Marco Donatelli and Martin Hanke
Fast Nonstationary Preconditioned Iterative Methods for Image Deblurring

10:50: Matthias Bolten
Block-smoothing in Multigrid Methods for Circulant and Toeplitz Matrices

11:10: Julianne Chung, Misha Kilmer and Dianne O’Leary
A Framework for Regularization via Operator Approximation

11:30: Iveta Hnětynková, Marie Michenková and Martin Plešinger
Noise Approximation in Discrete Ill-posed Problems

11:50: Jakob Hansen, Michael Horst and Rosemary Renaut
Resolution Arguments for the Estimation of Regularization Parameters in the Solution of Ill-Posed Problems
Parallel Session IIa (Room 1, Monday 16:30-18:30)

16:30 : Peter Benner, Heike Faßbender, and Chao Yang
On complex $J$-symmetric eigenproblems

16:50 : Shreemayee Bora and Ravi Srivastava
Distance Problems for Hermitian Matrix Pencils

17:10 : Emre Mengi, Emre Alper Yıldırım and Mustafa Kilic
Numerical Optimization of Eigenvalues of Hermitian Matrix-Valued Functions

17:30 : Daniela Calvetti, Lothar Reichel and Hongguo Xu
A CS Decomposition Method for Eigenvalues of Orthogonal Matrices

17:50 : Frederico Poloni and Christian Schröder
Computing the Nearest Pencil $A - \lambda A^T$ without Unimodular Eigenvalues

18:10 : Cleve Moler
Resurrecting the Symmetric Generalized Matrix Eigenvalue Problem

Parallel Session IIb (Room 2-3, Monday 16:30-18:30)

16:30 : Michael W. Mahoney
Recent Results in Randomized Numerical Linear Algebra

16:50 : Petros Drineas and Abhisek Kundu
Identifying Influential Entries in a Matrix

17:10 : Ilse Ipsen
Randomized Algorithms for Numerical Linear Algebra

17:30 : Haim Avron, Michael Mahoney, Vikas Sindhwani and Jiyuan Yang
Randomized and Quasi-Randomized Algorithms for Low-Rank Approximation of Gram Matrices

17:50 : Christos Boutsidis and David Woodruff
Optimal CUR Matrix Decompositions

18:10 : Josef Sifuentes, Zdzislaw Gomburas and Leslie Greengard
Randomized Methods for Computing Null Spaces, with Applications to Rank-deficient Linear Systems

Parallel Session IIc (Room 5, Monday 16:30-18:50)

16:30 : Jared Aurentz, Thomas Mach, Raf Vandebril and David S. Watkins
Fast, Stable, Computation of the Eigenvalues of Unitary-plus-rank-one Matrices

16:50 : Claude-Pierre Jeannerod and Siegfried M. Rump
Wilkinson-Type Error Bounds Revisited

17:10 : Beresford N. Parlett
The Fiedler Companion Matrix

17:30 : Chris Paige, Ivo Panayotov, Wolfgang Wülling and Jens-Peter Zemke
Augmented Error Analyses of Vector Orthogonalization and Related Algorithms

17:50 : Jiří Kopal, Jennifer Scott, Miroslav Tůma and Miroslav Rozložník
Enhancing Incomplete Cholesky Decompositions

18:10 : Jeff Bezanson, Alan Edelman, Stefan Karpinski, Viral Shah and the greater community
Julia: A Fresh Approach to Technical Computing

18:30 : Paolo Bientinesi, Diego Fabregat and Yuri Aulchenko
Can Numerical Linear Algebra make it in Nature?
Tuesday June 10:

Chair : Valeria Simoncini
8:30-9:00 Michele Benzi, Emory University, USA  
*Numerical Analysis of Quantum Graphs*
9:00-9:30 Daniel Kressner, Ecole Polytech. Fed. Lausanne, Switzerland  
*On the Convergence of the Residual Inverse Iteration for Nonlinear Eigenvalue Problems*
9:30-10:00 Inderjit Dhillon, University of Texas Austin, USA  
*Parallel Asynchronous Matrix Factorization for Large-Scale Data Analysis*

10:00-10:30 Coffee Break
10:30-12:10 Parallel Sessions III  
(3 streams of 5 talks each)
12:15-14:15 Lunch

Chair : Pierre-Antoine Absil
14:30-15:00 Melina Freitag, Bath University, UK  
*New Algorithms for Calculating the $H_\infty$-norm and the Real Stability Radius*
15:00-15:30 Per-Christian Hansen, Technical University Denmark Lingby, Denmark  
*Rotational Image Deblurring with Sparse Matrices*
15:30-16:00 Yuji Nakatsukasa, University of Tokyo, Japan  
*Zolotarev’s High-Order Rational Approximation*

16:00-16:30 Coffee Break
16:30-18:30 Parallel Sessions IV  
(3 streams of 6 talks each)
19:00-21:00 Dinner
21:00-22:30 Poster session 1 (16 posters)
Parallel Session IIIa (Room 1, Tuesday 10:30-12:10)

10:30 : Nicola Mastronardi and Paul Van Dooren
The Anti-Triangular Factorization of Symmetric Matrices

10:50 : Nicola Mastronardi, Paul Van Dooren and Raf Vandebril
On Solving KKT Linear Systems arising in Model Predictive Control via Recursive Anti-Triangular Factorization

11:10 : Jen Pestana and Andy Wathen
Antitriangular Factorization for Saddle Point Matrices and the Null Space Method

Parallel Session IIIb (Room 2-3, Tuesday 10:30-12:10)

10:30 : B. Kågström
Stratification of some Structured Matrix Pencil Problems: how Canonical Forms Change under Perturbations

10:50 : Andrii Dmytryshyn, Stefan Johansson and Bo Kågström
Changes of Canonical Structure Information of Matrix Pencils associated with Generalized State-space Systems

11:10 : Fernando De Terán and Françoise Tisseur
Backward Error and Conditioning of Fiedler Companion Linearizations

Parallel Session IIIc (Room 5, Tuesday 10:30-12:10)

10:30 : Peter Benner and Ludwig Kohaupt
The Riccati Eigenproblem

10:50 : Chun-Hua Guo, Changli Liu and Jungong Xue
Performance Enhancement of Doubling Algorithms for a Class of Complex Nonsymmetric Algebraic Riccati Equations

11:10 : Luka Grubišić and Daniel Kressner
Rapid Convergence for Finite Rank Approximations of Infinite-dimensional Lyapunov Equations

11:30 : Nguyen Thanh Son and Tatjana Stykel
Reduced Basis Method for Parameterized Lyapunov Equations

11:50 : Meiyue Shao
The Finite Section Method for Computing Exponentials of Doubly-Infinite Skew-Hermitian Matrices
Parallel Session IVa (Room 1, Tuesday 16:30-18:30)
16:30 : Laurent Sorber, Mikael Sorensen, Marc Van Barel and Lieven De Lathauwer
Coupled Matrix/Tensor Decompositions: an Introduction
16:50 : Karl Meerbergen
Tensor Padé Krylov Methods for Parametric Model Order Reduction
17:10 : Edgar Solomonik, Devin Matthews and James Demmel
Fast Algorithms for Symmetric Tensor Contractions
17:30 : André Uschmajew
Convergence of Optimization Schemes on Sets of Low-rank Matrices and Tensors
17:50 : Laurent Sorber, Marc Van Barel and Lieven De Lathauwer
Structured Data Fusion with Tensorlab
18:10 : Weiyang Ding, Yimin Wei and Liqun Qi
Fast Hankel Tensor-Vector Products and Application to Exponential Data Fitting

Parallel Session IVb (Room 2-3, Tuesday 16:30-18:30)
16:30 : Iain Duff and Mario Arioli
The Solution of Least-Squares Problems using Preconditioned LSQR
16:50 : Edmond Chow and Yousef Saad
Preconditioned Methods for Sampling Multivariate Gaussian Distributions
17:10 : Melina Freitag and Patrick Kürschner
Preconditioning for Inexact Inner-Outer Methods for the Two-sided, Non-Hermitian Eigenvalue Problem
17:30 : Kirk M. Soodhalter
Minimum Residual Methods for Shifted Linear Systems with General Preconditioning
17:50 : Pieter Ghysels, Wim Vanroose and Karl Meerbergen
High Performance Implementation of Deflated Preconditioned Conjugate Gradients with Approximate Eigenvectors
18:10 : Laura Grigori, Remi Lacroix, Frederic Nataf, and Long Qu
Direction Preserving Algebraic Preconditioners

Parallel Session IVc (Room 5, Tuesday 16:30-18:30)
16:30 : Mario Arioli and Daniel Loghin
A Spectral Analysis of a Discrete two-domain Steklov-Poincaré Operator
16:50 : Stefano Giani, Luka Grubišić, Agnieszka Miedlar and Jeffrey S. Ovall
A Posteriori Error Estimates for hp-Adaptive Approximations of Non-selfadjoint PDE Eigenvalue Problems
17:10 : John W. Pearson, Martin Stoll and Andrew J. Wathen
The Development of Preconditioned Iterative Solvers for PDE-Constrained Optimization Problems
17:30 : Martin J. Gander
50 Years of Time Parallel Time Integration
17:50 : Krystyna Ziȩtak
The Dual Padé Family of Iterations for the Matrix p-Sector Function and one topic more on a Specific Procrustes Problem
18:10 : Panayot S. Vassilevski
Assigning Weights to Graph Edges for Community Detection
Poster Session 1 (Tuesday 21:00-22:30)

**GMRES Convergence Bounds that Depend on the Right-Hand Side Vector**
David Titley-Peloquin, Jennifer Pestana and Andrew Wathen

**Fast Generation of Random Orthogonal Matrices**
Nicholas J. Higham, Amal Khabou and Françoise Tisseur

**Triplet Representations for Solving Matrix Equations in Queuing Theory**
Giang T. Nguyen and Federico Poloni

**Arnoldi-Tikhonov Methods for Sparse Reconstruction**
Silvia Gazzola, James Nagy and Paolo Novati

**Global Convergence of the Restarted Lanczos Method and Jacobi-Davidson Method for Symmetric Eigenvalue Problems**
Kensuke Aishima

**An Efficient Estimator of the Condition Number of the Matrix Exponential**
Awad H. Al-Mohy

**Numerical Methods for Computing the $H_{\infty}$-Norm of Large-Scale Descriptor Systems**
Peter Benner, Ryan Lowe and Matthias Voigt

**Error Bounds and Aggressive Early Deflation for Extended QR Algorithms**
Thomas Mach, Raf Vandebril and David Watkins

**Convergence of Restarted Krylov Subspace Methods for Matrix Functions**
Andreas Frommer, Stefan Güttel and Marcel Schweitzer

**Stable Discrete Empirical Interpolation Method based Quadrature Schemes for Nonlinear Model Reduction**
Russell L. Carden and Danny C. Sorensen

**The Two Sided Arnoldi Algorithm**
Axel Ruhe

**A Schur Logarithmic Algorithm for Fractional Powers of Matrices**
Bruno Iannazzo and Carlo Manasse

**Preconditioning Linear Systems arising in Constrained Optimization Problems**
Tyrone Rees

**The Geometric Matrix Mean: an Adaptation for Structured Matrices**
Dario A. Bini, Bruno Iannazzo, Ben Jeuris and Raf Vandebril

**Two Methods for Computing the Matrix Sign Function**
Jie Chen and Edmond Chow

**The Quest for a General Functional Tensor Framework for Blind Source Separation in Biomedical Data Processing**
Sabine Van Huffel
**Wednesday June 11:**

Chair: Heike Faßbender

8:30-9:00 Françoise Tisseur, University of Manchester, UK  
*Exploiting Tropical Algebra in Numerical Linear Algebra*

9:00-9:30 Howard Elman, University of Maryland College Park, USA  
*Efficient Solution of Stochastic Partial Differential Equations*

9:30-10:00 Chen Greif, University of British Columbia, Canada  
*Numerical Solution of Indefinite Linear Systems Arising from Interior-Point Methods*

10:00-10:30 Coffee Break

Chair: Jim Nagy

10:30-11:00 Misha Kilmer, Tufts University, USA  
*Model Correction using a Nuclear Norm Constraint*

11:00-11:30 Jörg Liesen, Technische Universitaet Berlin, Germany  
*Matrix Iterations and Ptaks Method of Nondiscrete Induction*

11:30-12:00 Stephen Vavasis, University of Waterloo, Canada  
*On the Relationship Between Nesterov’s Optimal Convex Optimization Algorithm and Conjugate Gradient*

12:15-14:15 Lunch

14:15-18:30 Excursion

18:45-19:00 Conference picture

19:00-22:00 Banquet (banquet speech by Nick Higham)
Thursday June 12:

Chair : Jim Demmel

8:30-9:00  Bart Vandereycken, Princeton University, USA
          Robust Integrators for the Dynamical Low-Rank Approximation using Rank-Structured Tensors

9:00-9:30  David Bindel, Cornell University, USA
          Music of the Microspheres: from Eigenvalues Perturbations to Gyroscopes

9:30-10:00 Martin Stoll, Max Planck Institute Magdeburg, Germany
          Fast Iterative Solvers for Fractional Differential Equations

10:00-10:30  Coffee Break

Chair : Volker Mehrmann

10:30-11:00  Householder Prize Talk

11:10-12:10  Parallel session V (3 streams of 3 talks each)

12:15-14:15  Lunch

14:30-16:10  Parallel session VI (3 streams of 5 talks each)

16:10-16:40  Coffee Break

16:40-18:10  Poster session 2 (16 posters)

19:00-21:00  Dinner

22:00-24:00  Dance
Parallel Session Va (Room 1, Thursday 11:10-12:10)
11:10 : Martin H. Gutknecht
Is There a Market for Modified Moments?
11:30 : Gérard Meurant and Petr Tichý
A new Algorithm for Computing Quadrature-based Bounds in CG
11:50 : Carl Jagels, Miroslav Pranić and Lothar Reichel
Rational Orthogonal Functions and Rational Gauss Quadrature with Applications in Linear Algebra

Parallel Session Vb (Room 2-3, Thursday 11:10-12:10)
11:10 : Andrew Knyazev
Numerical Linear Algebra and Matrix Theory in Action
11:30 : Lijing Lin, Nicholas J. Higham and Jianxin Pan
Covariance Structure Regularization via Entropy Loss Function
11:50 : Nicolas Boumal and P.-A. Absil
Preconditioning for Low-Rank Matrix Completion via Trust-Regions over one Grassmannian

Parallel Session Vc (Room 5, Thursday 11:10-12:10)
11:10 : D.C. Sorensen and M. Embree
A DEIM Induced CUR factorization
11:30 : Michiel Hochstenbach and Ian N. Zwaan
Field of Values type Eigenvalue Inclusion Regions for Large Matrices
11:50 : Volker Mehrmann, Sarosh Quraishi and Christian Schröder
Numerical Solution of Large Scale Parametric Eigenvalue Problems arising in the Analysis of Brake Squeal
Parallel Session VIa (Room 1, Thursday 14:30-16:10)

14:30 : Esmond G. Ng and Barry W. Peyton
Revisiting Greedy Ordering Heuristics for Sparse Matrix Factorizations

14:50 : Jennifer Scott and Miroslav Tůma
Memory-Efficient Incomplete Factorizations for Sparse Symmetric Systems

15:10 : Iveta Hnětynková, Martin Plešinger and Diana M. Sima
The Core Problem within a Linear Approximation Problem with Multiple Right-Hand Sides

15:30 : Andrej Muhič and Bor Plestenjak
Computing all Values $\lambda$ such that $A + \lambda B$ has a Multiple Eigenvalue

15:50 : Nicolas Gillis and Stephen A. Vavasis
Semidefinite Programming Based Preconditioning for More Robust Near-Separable Nonnegative Matrix Factorization

Parallel Session VIb (Room 2-3, Thursday 14:30-16:10)

14:30 : Nicola Guglielmi, Michael L. Overton and G. W. Stewart
An Efficient Algorithm for Computing the Generalized Null Space Decomposition

14:50 : Jesse L. Barlow
Block Gram-Schmidt Downdating

15:10 : Edvin Deadman and Nicholas J Higham
Testing Matrix Functions Using Identities

15:30 : Daniel B. Szyld
Classical Iterative Methods for the Solution of Generalized Matrix Equations

15:50 : Roel Van Beeumen, Karl Meerbergen and Wim Michiels
Compact Rational Krylov Methods for the Nonlinear Eigenvalue Problem

Parallel Session VIc (Room 5, Thursday 14:30-16:10)

14:30 : Yogi A. Erlangga and Reinhard Nabben
Multilevel Krylov Methods

14:50 : Ron Morgan
A Multigrid Arnoldi Method for Eigenvalues

15:10 : Jurjen Duintjer Tebbens and Gérard Meurant
On the Convergence Curves that can be generated by Restarted GMRES

15:30 : Christian Schröder and Leo Taslaman
Why does Shift-and-Invert Arnoldi work?

15:50 : Elias Jarlebring and Olof Runborg
The Infinite Arnoldi Method for the Waveguide Eigenvalue Problem
**Poster Session 2 (Thursday 16:40-18:10)**

*Structured Low-Rank Approximation with Missing Data*
Ivan Markovsky and Konstantin Usevich

*Improved Divide-and-Conquer Algorithms for the Eigenvalue and Singular Value Problems*
Shengguo Li, Ming Gu, Lizhi Cheng and Xuebin Chi

*Computing the Rank and Nullspace of Rectangular Sparse Matrices*
Nick Henderson, Ding Ma, **Michael Saunders** and Yuekai Sun

*Computing Linear Combinations of $\varphi$ Functions*
Antti Koskela and Alexander Ostermann

*Hierarchical Preconditioners for Higher Order FEM*
Sabine Le Borne

*A Numerical Linear Algebraic Approach to Compact Multi-Frame Blind Deconvolution*
James G. Nagy, Stuart Jefferies and Helen Schomburg

*The Sylvester Equation and Interpolatory Model Reduction of Linear/Bilinear Dynamical Systems*
Serkan Gugercin and Garret Flagg

*Extensions of the Symmetric Tridiagonal Matrix Arising from a Finite Precision Lanczos Computation*
Anne Greenbaum

*On the Sensitivity of Matrix Functions to Random Noise*
Serge Gratton, David Titley-Peloquin, Philippe Toint and Jean Tshimanga Ilunga

*Computing the Exponential of a Large Block Triangular Block Toeplitz Matrix*
D.A. Bini, S. Dendievel, G. Latouche and B. Meini

*Matrix Functions and Their Krylov Approximations for Large Scale Wave Propagation in Unbounded Domains*
Vladimir Druskin, Alexander Mamonov, Rob Remis and Mikhail Zaslavsky

*Variational Principles and Scalable Solvers for the Linear Response Eigenvalue Problem*
Zhaojun Bai, Ren-Cang Li, Dario Rocca and Giulia Galli

*Computing Fréchet Derivatives in Partial Least Squares Regression*
Lars Eldén

*Hierarchical QR Factorization Algorithms for Multi-Core Cluster Systems*
Julien Langou

*The Hyperbolic Quadratic Eigenvalue Problem*
Ren-Cang Li and Xin Liang

*From PDEs through Functional Analysis to Iterative Methods, or there and back again*
Josef Máleka and **Zdeněk Strakoš**
Friday June 13:

Chair: Andy Wathen
8:30-9:00 Froilán Dopico, Universidad Carlos III Madrid, Spain
*The Inverse Complex Eigenvector Problem for Real Tridiagonal Matrices*

9:00-9:30 Christopher Beattie, Virginia Tech, USA
*Diffusion Models for Covariance Estimation*

9:30-10:00 Mark Embree, Rice University Houston, USA
*The Life Cycle of an Eigenvalue Problem*

10:00-10:30 Coffee Break

Chair: Ilse Ipsen
10:30-11:00 Christian Mehl, Technische Universitaet Berlin, Germany
*Generic Rank-One Perturbations: Structure Defeats Sensitivity*

11:00-11:30 Michael Overton, New York University, USA
*Investigation of Crouzeix’s Conjecture via Optimization*

11:30-12:00 Nicholas Higham, University of Manchester, UK
*How and Why to Estimate Condition Numbers for Matrix Functions*

12:15-14:15 Lunch