

Session Program

August 31, 2025 to September 5, 2025

INdAM Workshop: Low-rank Structures and Numerical Methods in Matrix and Tensor Computations

Morning Session

Palazzone di Cortona
52044 Le Contesse, Province of Arezzo

Mon, September 1

9:00 AM

Morning Session: Morning Session (Mon 1)

Session | **Location:** Palazzone di Cortona, 52044 Le Contesse, Province of Arezzo | **Convener:** Michele Benzi

9:00 - 9:30 AM

Randomized Householder-Cholesky QR Factorization with Multisketching

Speaker

Daniel Szyld

9:30 - 10:00 AM

Randomized sketching for low-rank least squares with regularization

Speaker

Leonardo Robol

10:00 - 10:30 AM

An adaptive randomized pivoting strategy for low-rank approximation

Speaker

Alice Cortinovis

10:30 AM

11:00 AM

Morning Session: Morning Session (Mon 2)

Session | **Location:** Palazzone di Cortona, 52044 Le Contesse, Province of Arezzo | **Convener:** Nicola Guglielmi

11:00 - 11:30 AM

A Fast Barzilai-Borwein Residual Minimization Algorithm for Optimal Damping

Speaker

Francoise Tisseur

11:30 AM - 12:00 PM

Spectral nearness problems via Riemannian optimization

Speaker

Federico Poloni

12:00 - 12:30 PM

Finding the nearest reversible Markov Chain via Riemannian optimization

Speaker

Miryam Gnazzo

12:30 PM

Tue, September 2

9:00 AM

Morning Session: Morning Session (Tue 1)

Session | **Location:** Palazzone di Cortona, 52044 Le Contesse, Province of Arezzo | **Convener:** Lothar Reichel

9:00 - 9:30 AM

Embedding a Geometric Hypergraph

Speaker

Desmond Higham

9:30 - 10:00 AM

Sensitivity of Perron and Fiedler eigenpairs to structural perturbations of a network

Speaker

Silvia Noschese

10:00 - 10:30 AM

Application of complex network analysis to segmentation of coloured images

Speaker

Caterina Fenu

10:30 AM

11:00 AM

Morning Session: Morning Session (Tue 2)

Session | **Location:** Palazzone di Cortona, 52044 Le Contesse, Province of Arezzo | **Convener:** Desmond Higham

11:00 - 11:30 AM

The derivative of Kemeny's constant as centrality measure in undirected graphs

Speaker

Dario Andrea Bini

11:30 AM - 12:00 PM

Block modelling of directed networks using generalised random walks

Speaker

Dario Fasino

12:00 - 12:30 PM

Robustness of graph partitioning/ranking by Rayleigh quotients optimization.

Speaker

Nicola Guglielmi

12:30 PM

Wed, September 3

9:00 AM

Morning Session: Morning Session (Wed 1)

Session | **Location:** Palazzone di Cortona, 52044 Le Contesse, Province of Arezzo | **Convener:** Valeria Simoncini

9:00 - 9:30 AM

On a class of Petrov-Galerkin Krylov methods for algebraic Riccati equations

Speaker

Heike Faßbender

9:30 - 10:00 AM

Lanczos with compression for symmetric matrix Lyapunov equations

Speaker

Angelo Alberto Casulli

10:00 - 10:30 AM

A subspace-conjugate gradient method for linear matrix equations

Speaker

Martina Iannacito

10:30 AM

11:00 AM

Morning Session: Morning Session (Wed 2)

Session | **Location:** Palazzone di Cortona, 52044 Le Contesse, Province of Arezzo | **Convener:** Heike Faßbender

11:00 - 11:30 AM

Preconditioning Strategies for the Riesz Operator by Rational Approximations

Speaker

Mariarosa Mazza

11:30 AM - 12:00 PM

Estimation of spectral gaps for sparse symmetric matrices

Speaker

Igor Simunec

12:00 PM

Thu, September 4

9:00 AM

Morning Session: Morning Session (Thur 1)

Session | **Location:** Palazzone di Cortona, 52044 Le Contesse, Province of Arezzo | **Convener:** Ivan Oseledets

9:00 - 9:30 AM

On the well-posedness of the best low-rank tensor approximation problem

Speaker

Lieven De Lathauwer

9:30 - 10:00 AM

Rank-2 nonnegative matrix factorizations and their variants

Speaker

Vanni Noferini

10:00 - 10:30 AM

Nonnegative Tucker Decomposition: Introduction, Identifiability and Algorithms

Speaker

Dr Giovanni Barbarino

10:30 AM

11:00 AM

Morning Session: Morning Session (Thur 2)

Session | **Location:** Palazzone di Cortona, 52044 Le Contesse, Province of Arezzo | **Convener:** Lieven De Lathauwer

11:00 - 11:30 AM

Mesh-free low-rank tensor representation of multivariate functions

Speaker

Peter Benner

11:30 AM - 12:00 PM

The $S^T S$ -SVD

Speaker

Davide Palitta

12:00 - 12:30 PM

Low-rank computation of the posterior mean in Multi-Output Gaussian Processes

Speaker

Martin Stoll

12:30 PM

Fri, September 5

9:00 AM

Morning Session: Morning Session (Fri 1)

Session | **Location:** Palazzone di Cortona, 52044 Le Contesse, Province of Arezzo | **Convener:** Froilan M. Dopico

9:00 - 9:30 AM

On block Krylov and matrix polynomials

Speaker

Michele Rinelli

9:30 - 10:00 AM

Randomized Krylov methods for inverse problems

Speaker

Silvia Gazzola

10:00 AM

10:30 AM

Morning Session: Morning Session (Fri 2)

Session | **Location:** Palazzone di Cortona, 52044 Le Contesse, Province of Arezzo | **Convener:** Beatrice Meini

10:30 - 11:00 AM

A column generation approach to exact experimental design

Speaker

Stefano Cipolla

11:00 - 11:30 AM

The intimate connection between matrix means and Riemannian geodesics

Speaker

Bruno Iannazzo

11:30 AM