

MONDAY, June 12. Morning

MSI04. Matrix equations.

11:10-11:40: **AULA 15**. A new low-rank solver for algebraic Riccati equations based on the matrix sign function and principal pivot transforms. Peter Benner.

11:40-12:10: **AULA 15**. Chebyshev HOPGD for parameterized linear systems. Siobhan Correnty.

12:10-12:40: **AULA 15**. A mixed-precision algorithm for the Sylvester equation. Massimiliano Fasi.

12:40-13:10: **AULA 15**. Efficient iterative methods for the solution of Generalized Lyapunov Equations: Block vs. point Krylov projections, and other controversial decisions. Daniel Szyld.

MSI05. Realization formulas, rational inner functions, and real algebraic geometry.

11:10-11:40: **AULA 5**. On the minimum number of Toeplitz factors of a matrix. speaker: Daniel Seco.

11:40-12:10: **AULA 5**. The wonders of the Cesàro matrix. William T. Ross.

12:10-12:40: **AULA 5**. Packages of curves associated with the numerical range. Pamela Gorkin.

12:40-13:10: **AULA 5**. A moment theoretic approach to estimate the cardinality of certain algebraic varieties. Raúl E. Curto.

MSC01. ILAS education.

11:10-11:40: **AULA 6**. Comparative Judgement and student engagement with proof writing in linear algebra. Anthony Cronin.

11:40-12:10: **AULA 6**. The structure and nature of linear algebra. Sepideh Stewart.

12:10-12:40: **AULA 6**. Problem solving before instruction. Avi Berman.

12:40-13:10: **AULA 6**. Exciting Eigenvectors: Seeing is Believing. D. Steven Mackey.

MSC02. New faces of spectral graph theory.

11:10-11:40: **AULA SEMINARIOS**. On the spectra and algebraic connectivity of token graphs of a cycle. Cristina Dalfó.

11:40-12:10: **AULA SEMINARIOS**. Cospectrality results on generalized Johnson and Grassmann graphs. Robin Simoens.

12:10-12:40: **AULA SEMINARIOS**. Constructing cospectral hypergraphs. Antonina Khramova.

MSC03. Nonnegative matrices: spectral properties.

- 11:10–11:40: **AULA 3**. Powers of Sparsest Matrices Realising the Karpelevic Arcs. Priyanka Joshi.
- 11:40–12:10: **AULA 3**. Connecting the Hermite–Biehler Theorem to the Nonnegative Inverse Eigenvalue Problem. Richard Ellard.
- 12:10–12:40: **AULA 3**. Nonnegative Jacobi matrix realizations in low dimension. Andrés M. Encinas.
- 12:40–13:10: **AULA 3**. A combinatorial characterization of C-realizable lists in the nonnegative inverse eigenvalue problem. Julio Moro.

MSC05. Bounded rank perturbations in matrix theory and related problems.

- 11:10–11:40: **AULA 16**. Stabilization of port-Hamiltonian systems by low rank output feedback. Volker Mehrmann.
- 11:40–12:10: **AULA 16**. Eigenvalues of rank one perturbations of singular M-matrices. André Ran.
- 12:10–12:40: **AULA 16**. Rank one perturbations of matrices with applications in graph theory. Michal Mojtylak.
- 12:40–13:10: **AULA 16**. Solving singular generalized eigenvalue problems: perturbation, projection and structure preservation. Christian Mehl.

MSC08. In honour of Steve Kirkland's 60th Birthday.

- 11:10–11:40: **SALÓN DE ACTOS**. Stochastic Matrices Realising the Boundary of the Karpelevic Region. Helena Smigoc.
- 11:40–12:10: **SALÓN DE ACTOS**. On Kemeny's constant and its applications. Emanuele Crisostomi.
- 12:10–12:40: **SALÓN DE ACTOS**. Markov chains: theory and applications. Jane Breen.
- 12:40–13:10: **SALÓN DE ACTOS**. Kemeny's constant and Braess edges. Sooyeong Kim.

MSC12. Model reduction and learning reduced models through the lens of linear algebra and of optimization.

11:10–11:40: **AULA 10**. On the Loewner framework for model reduction. Athanasios C. Anthonoulas.

11:40–12:10: **AULA 10**. From matrix equations to surrogate models. Jens Saak.

12:10–12:40: **AULA 10**. Data-driven balancing: what to sample for different types of balanced reduced models. Serkan Gugercin.

12:40–13:10: **AULA 10**. An Eigensystem Realization Algorithm for Continuous-Time Systems and Its Connection with the Hankel Operator. Igor Pontes Duff.

MSC13. Linear algebra and quantum information theory.

11:10–11:40: **AULA 6F**. Diagonal Unitary and Orthogonal Symmetries in Quantum Theory. Ion Nechita.

11:40–12:10: **AULA 6F**. Positive maps and entanglement in real Hilbert spaces. Mizanur Rahaman.

12:10–12:40: **AULA 6F**. When are quantum states antidistinguishable? Jamie Sikora.

12:40–13:10: **AULA 6F**. Free spectrahedra in quantum information theory. Andreas Bluhm.

MSC18. Riordan arrays and related topics.

11:10–11:40: **AULA 7**. Vertical Recurrence Relation of Riordan Arrays, Quasi-Riordan Group and its Subgroups and Extended Subgroups. Tian-Xiao He.

11:40–12:10: **AULA 7**. The binary Pascal matrix and associated algebras. Nikolaos Pantelidis.

12:10–12:40: **AULA 7**. Total positivity of Riordan arrays. Roksana Słowik.

12:40–13:10: **AULA 7**. TBA. Ana Luzón/Manuel A. Morón.