

# WEDNESDAY, June 14. Morning

## MSC01. ILAS education.

11:10-11:40: **AULA 6**. The power and the limits of visualizations. Damjan Kobal.

11:40-12:10: **AULA 6**. The Challenges of Teaching  
Elementary Linear Algebra in a Modern Matrix Based Way. Frank Uhlig.

12:10-12:40: **AULA 6**. Linear Algebra teaching in engineering degrees. Marta Peña.

12:40-13:10: **AULA 6**. Magic tricks  
as a source of examples in Linear Algebra. Fernando Blasco.

## MSC04. Green's function on networks and its applications.

11:10-11:40: **AULA 3**. Green's functions every where. Enric Monsó.

11:40-12:10: **AULA 3**. Capacity on  
graphs: submodularity and simplex geometry. Karel Devriendt.

12:10-12:40: **AULA 3**. Generalized  
diffusion equation on graphs/networks. Fernando Díaz-Díaz.

12:40-13:10: **AULA 3**. Spectral Gap Problems of Periodic Jacobi Operators. V B Kiran Kumar.

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

11:10-11:40: **SALÓN DE ACTOS**. Quantum computing and graph theory. Chi-Kwong Li.

11:40-12:10: **SALÓN DE ACTOS**. Pretty  
good state transfer among large set of vertices. Ada Chan.

12:10-12:40: **SALÓN DE ACTOS**. Fractional revival on graphs. Xiaohong Zhang.

12:40-13:10: **SALÓN DE ACTOS**. Perfect  
state transfer on trees with small diameter. Steve Kirkland.

## MSC09. Polynomial and rational matrices and applications.

11:10-11:40: **AULA 16**. Error representation of block rational  
Krylov methods by means of rational matrices. Angelo A. Casulli.

11:40-12:10: **AULA 16**. Error analysis of compact Arnoldi  
methods for linearized polynomial eigenvalue problems. Javier Pérez.

12:10-12:40: **AULA 16**. Rectangular multiparameter eigenvalue problems. Bor Plestenjak.

12:40-13:10: **AULA 16**. Eigenvector error bounds and  
perturbation for nonlinear eigenvalue problems. Françoise Tisseur.

## MSC10. Numerical linear algebra applications in data science.

11:10–11:40: **AULA SEMINARIOS**. Advanced Krylov Subspace methods with applications to Bayesian inverse problems. Malena Sabaté Landman.

11:40–12:10: **AULA SEMINARIOS**. Matrix-Free Hyperparameter Optimization for Gaussian Processes. Theresa Wagner.

12:10–12:40: **AULA SEMINARIOS**. Probabilistic Rounding Error Analysis in Numerical Linear Algebra. Nicholas J. Higham.

12:40–13:10: **AULA SEMINARIOS**. Mixed precision randomized Nyström approximation. Erin C. Carson.

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

11:10–11:40: **AULA 10**. Numerical linear algebra aspects of the Dynamic Mode Decomposition. Zlatko Drmac.

11:40–12:10: **AULA 10**. One can hear the impedance and loss profiles of a string: from the discrete to continuum dissipative inverse problem. Vladimir Druskin.

12:10–12:40: **AULA 10**. Randomized POD-Beyn algorithm for nonlinear eigenvalue problems – analysis and perspectives. Luka Grubisic.

## MSC13. Linear algebra and quantum information theory.

11:10–11:40: **AULA 6F**. Recoverability of quantum channels via hypothesis testing. Anna Jenčová.

11:40–12:10: **AULA 6F**. Recoverability of quantum Fisher information. Haojian Li.

12:10–12:40: **AULA 6F**. Monogamy of entanglement between cones and DPS-like hierarchies. Martin Plávala.

12:40–13:10: **AULA 6F**. Abstract cone systems. Mirte van der Eyden.

## MSC16. Orthogonal polynomials, matrix analysis and applications.

11:10–11:40: **AULA 15**. The Christoffel function: Some applications and connections. Jean Bernard Lasserre.

11:40–12:10: **AULA 15**. Lax-type pairs in the theory of bivariate orthogonal polynomials. Teresa E. Pérez.

12:10–12:40: **AULA 15**. Discrete Darboux Transformations Leading to Nonstandard Orthogonality. Maxim Derevyagin.

12:40–13:10: **AULA 15**. Inverse Darboux transformations and Sobolev inner products. Francisco Marcellán.

## MSC18. Riordan arrays and related topics.

11:10-11:40: **AULA 7**. Natural partial orderings and associated Riordan poset matrices. Gi-Sang Cheon.

11:40-12:10: **AULA 7**. Abstract cell complexes and Riordan matrices. Luis-Felipe Prieto-Martínez.

12:10-12:40: **AULA 7**. From Alexandroff spaces to Riordan matrices. Pedro J. Chocano.

12:40-13:10: **AULA 7**. Combinatorial statistics on Catalan words avoiding consecutive patterns. José L. Ramírez.

## MSC21. Robust and efficient linear algebra computations at exascale.

11:10-11:40: **AULA 5**. Mixed-precision eigenvalue solver on GPUs. Toshiyuki Imamura.

11:40-12:10: **AULA 5**. Acceleration of iterative refinement for symmetric eigenvalue decomposition with clustered eigenvalues. Yuki Uchino.

12:10-12:40: **AULA 5**. GEMM-based numerical algorithm for accurate matrix multiplication. Ozaki Katsuhisa.

12:40-13:10: **AULA 5**. Robust iterative solvers. Roman Iakymchuk.