



UNIVERSITAT
POLITÈCNICA
DE VALÈNCIA

2012 SIAM Conference on
Applied Linear Algebra
SIAM June 18th - 22nd

Friday, June 22
Room: Plenary Room

9:00–9:45	IP 1	Computations with some classes of matrices related to P-matrices Juan Manuel Peña (Chair: José Mas)
10:10–10:55	IP 2	<i>Reduction of quadratic matrix polynomials to triangular form</i> François Tisseur (Chair: Froilán M. Dopico)
11:00–12:40	MS 74	<i>Recent advances in the numerical solution of large scale matrix</i> Organizer: Valeria Simoncini and Daniel B. Szyld
	11:00–11:25	<i>Hierarchical and Multigrid methods for matrix and tensor equations</i> Lars Grasedyck
	11:25–11:50	<i>A Survey on Newton-ADI based solvers for large scale AREs</i> Jens Saak,
	11:50–12:15	<i>An invariant subspace method for large-scale algebraic Riccati and Bernoulli equations</i> Luca Amodei
	12:15–12:40	<i>Delay Lyapunov equations and model order reduction of time delay systems</i> Tobias Damm



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Room: A

11:00–12:40	MS 70	<i>Accurate algorithms and applications</i> Organizer: Roberto Barrio and Siegfried M. Rump
	11:00–11:25	<i>High precision and accurate algorithms in Physics and Mathematics</i> Roberto Barrio
	11:25–11:50	<i>Accurate evaluation of 1D and 2D polynomials in Bernstein form</i> Hao Jiang,
	11:50–12:15	<i>Some issues related to double roundings</i> Jean-Michel Muller
	12:15–12:40	<i>Error bounds for floating-point summation and dot product</i> Siegfried M. Rump



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Room: 2.8

11:00–12:40	MS 69	<i>Advances in sparse matrix Factorization</i> Organizer: A. Buttari and S. Toledo
	11:00–11:25	<i>A Sparse inertia-revealing factorization</i> Alex Druinsky
	11:25–11:50	<i>Multifrontal factorization on heterogeneous multicore systems</i> Bob Lucas
	11:50–12:15	<i>Towards an optimal parallel approximate sparse factorization algorithm using hierarchically semi-separable structures</i> Xiaoye S. Li
	12:15–12:40	<i>Improving multifrontal methods by means of low-rank approximation techniques</i> Clement Weisbecker,



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Room: 2.9

11:00–12:40	MS 71	<i>Theoretical and applied aspects of graph Laplacians</i> Organizer: Shaun Fallat and Steve Kirkland
	11:00–11:25	<i>Potential theory for perturbed Laplacian of finite networks</i> Margarida Mitjana,
	11:25–11:50	<i>Subclasses of graphs with partial ordering with respect to the spectral radius of generalized graph Laplacians</i> Josef Leydold
	11:50–12:15	<i>Graph bisection from the principal normalized Laplacian eigenvector</i> Dragan Stevanovic
	12:15–12:40	<i>Some new results on the signless Laplacian of graphs</i> Slobodan K. Simic

CANCELLED



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Room: 2.11

11:00–12:40	MS 75	Points that minimize potential functions Organizer: Martin Ehler and Johann S. Brauchart
	11:00–11:25	<i>Discretizing compact manifolds with minimal energy</i> Johann S. Brauchart
	11:25–11:50	<i>Well conditioned spherical designs and potential functions</i> Robert S. Womersley
	11:50–12:15	<i>Probabilistic frames in the 2-Wasserstein metric</i> Kasso Okoudjou
	12:15–12:40	<i>Numerical minimization of potential energies on specific manifolds</i> Manuel Gräf



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Room: 2.12

11:00–12:40	MS 68	<i>Linear algebra for structured eigenvalues computations arising from (matrix) polynomials</i> Organizer: L. Gemignani and R. Vandebril
	11:00–11:25	<i>A QR algorithm with generator compression for structured eigenvalue computation</i> P. Boito
	11:25–11:50	<i>Quadratic realizability for structured matrix polynomials</i> D.S. Mackey
	11:50–12:15	<i>Fast computation of zeros of a polynomial</i> D.S. Watkins
	12:15–12:40	<i>Eigenvector recovery of linearizations and the condition number of eigenvalues of matrix polynomials</i> F. De Terán



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Room: 2.13

11:00–12:40	MS 73	<i>Algebraic Riccati equations associated with M-matrices: numerical solution and applications</i> Organizer: Beatrice Meini
	11:00–11:25	<i>Monotone convergence of Newton-like methods for M-matrix algebraic Riccati equations</i> Chun-Hua Guo
	11:25–11:50	<i>Accurate solution of M-matrix algebraic Riccati equation by ADDA: alternating-directional doubling algorithm</i> Ren-Cang Li
	11:50–12:15	<i>When fluid becomes Brownian: the morphing of Riccati into quadratic equations</i> Giang Nguyen
	12:15–12:40	<i>Analyzing multi-type queues with general customer impatience using Riccati equations</i> Benny Van Houdt



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Room: 2.15

11:00–12:40	MS 72	<i>Linear techniques for solving nonlinear equations</i> Organizer: Vicente F. Candela and Rosa M. Peris Sancho
	11:00–11:25	<i>A Gauss-Seidel process in iterative methods for solving nonlinear equations</i> José M. Gutiérrez
	11:25–11:50	<i>A greedy algorithm for convergence of a fractional blind deconvolution</i> Vicente F. Candela
	11:50–12:15	<i>Overview of iterative methods using a variational approach</i> Sonia Busquier Sáez
	12:15–12:40	<i>Iterative methods for ill-conditioned problems</i> Rosa M. Peris Sancho