NUMERICAL METHODS FOR LARGE SCALE PROBLEMS

Belgrade, June 6 - 10, 2022

Program

nmlsp 2022

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NMLSP 2022 Conference Timetable

PT: Plenary Talk, MS: Mini Symposium, OS: Ordinary Section

Monday, 6 of June

9:00–10:00 a.m. Hall 211, 2nd floor	**Registration**
10:00–10:45 a.m. Hall 211, 2nd floor **chairs**: Giuseppe Rodriguez and Miodrag Spalević	**Opening Ceremony**
10:45–11:30 a.m. Hall 211, 2nd floor	**Welcome coctail**

		Corresponding author	Title
11:30 a.m.–12:15 p.m. Hall 211, 2nd floor **chair**: M. Redivo-Zaglia	PT	Claude Brezinski	Richard Steven Varga (1928-2022)
12:15–1:00 p.m. Hall 211, 2nd floor **chair**: Miroslav Pranić	PT	Silvia Noschese	Banded Toeplitz structured eigensensitivity
1:00–2:30 p.m.		**Lunch break**	
2:30–3:15 p.m. Hall 211, 2nd floor **chair**: Ramón Orive	PT	Gradimir V. Milovanović	Orthogonality on the Semicircle and Applications: Old and New Results
3:15–4:00 p.m. Hall 211, 2nd floor **chair**: Gradimir Milovanović	PT	Miroslav Pranić	Gauss-like quadratures through manipulations with Jacobi matrices
4:00–4:30 p.m.		**Refreshment Break**	

Time / Location		Speaker	Title
4:30–5:15 p.m. Hall 211, 2nd floor **chair**: Luisa Fermo	PT	Ramón Orive	Electrostatic models for zeros of orthogonal and multiple orthogonal polynomials. The legacy of Stieltjes.
5:15–6:00 p.m. Hall 211, 2nd floor online speech **chair**: Miodrag Spalević	PT	Sotirios E. Notaris	Error bounds of quadrature formulae for analytic functions

Time / Location		Speaker	Title
6:00–6:30 p.m. Hall 211, 2nd floor online speech **chair**: Davorka Jandrlić	OS	Jelena Graovac	Machine Learning Approach for Sentiment Polarity Detection in Different Languages
6:30–7:00 p.m. Hall 211, 2nd floor online speech **chair**: Davorka Jandrlić	OS	Agnieszka Międlar	A Rational Approximation Method for Large-Scale Nonlinear Eigenvalue Problems

Tuesday, 7 of June

		Corresponding author	Title
9:00–9:45 a.m. Hall 211, 2nd floor online speech **chair**: Lothar Reichel	PT	Fiorella Sgallari	Finding the optimal regularization parameter: old and new methods
9:45–10:30 a.m. Hall 211, 2nd floor online speech **chair**: Marco Donatelli	PT	Michael Ng	Model-based and Learning-based Methods for Hyperspectral Image Processing
10:30–11:00 a.m.	**Refreshment Break**		

Mini-symposium 5		Location: Hall 211, 2nd floor	Organizers: Giuseppe Rodriguez, Raf Vandebril
11:00–11:30 a.m. Hall 211, 2nd floor	MS5	Alessandro Buccini	Fast Alternating Direction Multipliers Method by Generalized Krylov Subspaces
11:30–12:00 a.m. Hall 211, 2nd floor online speech	MS5	Caterina Fenu	The seriation problem in the presence of a double Fiedler value
12:00 a.m.–12:30 p.m. Hall 211, 2nd floor online speech	MS5	Mariya Ishteva	A nonlinear singular value decomposition
12:30–1:00 p.m. Hall 211, 2nd floor online speech	MS5	Claudio Estatico	Primal and dual descent regularization algorithms for imaging
1:00–2:30 p.m.	**Lunch break**		

Mini-symposium 1		Location: Hall 211, 2nd floor	Organizers: Alessandro Buccini, Marco Donatelli
2:30–3:00 p.m. Hall 211, 2nd floor online speech	MS1	Daniel Gerth	Fractional Tikhonov regularization revisited
3:00–3:30 p.m. Hall 211, 2nd floor	MS1	Federica Pes	Regularized solution in a RKHS of an overdetermined system of first kind integral equations
3:30–4:00 p.m. Hall 211, 2nd floor online speech	MS1	Fei Chen	Krylov subspace based Fista-type methods for ill-posed problems

4:00–4:30 p.m. Hall 211, 2nd floor online speech	MS1	Patricia Díaz de Alba	Identifying a conductive sphere by time-domain electromagnetic data via Prony-like methods
4:30–5:00 p.m.		**Refreshment Break**	

Mini-symposium 3		Location: Hall 211, 2nd floor	Organizers: Mirjeta Pasha, Lothar Reichel
5:00–5:30 p.m. Hall 211, 2nd floor	MS3	Fabian Hinterer	A Kaczmarz approach to Galactic Archaeology
5:30–6:00 p.m. Hall 211, 2nd floor	MS3	Hessah Alqahtani	New Block Generalized Averaged Gauss
6:00–6:30 p.m. Hall 211, 2nd floor	MS3	Jiahua Jiang	Hybrid Projection Methods for Solution Decomposition in Large-scale Bayesian Inverse Problems
6:30–7:00 p.m. Hall 211, 2nd floor	MS3	Mirjeta Pasha	On Deterministic and Statistical Methods for Large-scale Dynamic Inverse Problems
7:00–7:30 p.m. Hall 211, 2nd floor	MS3	Ugochukwu O. Ugwu	Ill-posed problems for third order tensors: tensorize or matricize?

Wednesday, 8 of June

		Corresponding author	Title
9:00–9:45 a.m. Hall 211, 2nd floor **chair**: Raf Vandebril	PT	Ronny Ramlau	Regularized Recycling and Subspace Augmentation Methods: Theory and Applications in Adaptive Optics
9:45–10:30 a.m. Hall 211, 2nd floor **chair**: Ronny Ramlau	PT	Raf Vandebril	Construction of a sequence of orthogonal rational functions
10:30–11:00 a.m.	**Refreshment Break**		

Mini-symposium 5		Location: Hall 211, 2nd floor	Organizers: Giuseppe Rodriguez, Raf Vandebril
11:00–11:30 a.m. Hall 211, 2nd floor online speech	MS5	Marco Donatelli	Graph Laplacian in $\ell^2 - \ell^q$ regularization for image reconstruction
11:30–12:00 a.m. Hall 211, 2nd floor online speech	MS5	S. Cipolla	Proximal stabilized Interior Point Methods for large scale quadratic programming and low-frequency-updates preconditioning techniques
12:00 a.m.–12:30 p.m. Hall 211, 2nd floor	MS5	Omar De la Cruz Cabrera	Sampling methods for large adjacency matrices

Ordinary Section		Location: Hall 211, 2nd floor	
12:30–1:00 p.m. Hall 211, 2nd floor online speech **chair**: Jelena Tomanović	OS	Paraskevi Roupa	Methodology for the solution of high-dimensional statistical problems
1:00–2:30 p.m.	**Lunch Break**		

Mini-symposium 4		Location: Hall 211, 2nd floor	Organizers: Michela Redivo Zaglia, Hassane Sadok and Stefano Cipolla
2:30–3:00 p.m. Hall 211, 2nd floor	MS4	Asmaa Khouia	The LSQR method for solving tensor least squares problem
3:00–3:30 p.m. Hall 211, 2nd floor	MS4	Giuseppe Rodriguez	Regularized solution of large scale underdetermined nonlinear least-squares problems
3:30–4:00 p.m. Hall 211, 2nd floor	MS4	Fatima BOUYGHF	An enhancement of the convergence of IDR method

4:00–4:30 p.m. Hall 211, 2nd floor	MS4	Filippo Zanetti	Accuracy and early termination of Krylov solvers in interior point methods
4:30–5:00 p.m. Hall 211, 2nd floor online speech	MS4	Jemima M. Tabeart	Stein-based preconditioners for weak-constraint 4D-var

7:00 p.m.	**Conference photography in front of the faculty**
7:30 p.m. LOCATION: Restaurant Lovac Address: Alekse Nenadovića 19	**Gala Dinner**

Thursday, 9 of June

		Corresponding author	Title
9:00–9:45 a.m. Hall 211, 2nd floor **chair**: Hassane Sadok	PT	Vladimir Druskin	Finite-difference quadrature and inverse scattering
9:45–10:30 a.m. Hall 211, 2nd floor online speech **chair**: Claude Brezinski	PT	Marilena Mitrouli	Variable selection in statistical modelling via a numerical linear algebra approach
10:30–11:00 a.m.	**Refreshment Break**		

Mini-symposium 4	Location: Hall 211, 2nd floor	Organizers: Michela Redivo Zaglia, Hassane Sadok and Stefano Cipolla

11:00–11:30 a.m. Hall 211, 2nd floor online speech	MS4	Akira Imakura	Complex moment-based method with nonlinear transformation for computing partial singular triplets
11:30–12:00 a.m. Hall 211, 2nd floor online speech	MS4	Jinqiang Chen	Towards a matrix-free parallelization of the scalable deflation method for the 3D heterogeneous high-frequency Helmholtz equation
12:00 a.m.–12:30 p.m. Hall 211, 2nd floor	MS4	Malena Sabaté Landman	Regularization by inexact Krylov methods with applications to blind deblurring
12:30–1:00 p.m. Hall 211, 2nd floor	MS4	Niel Van Buggenhout	Discretization of the $\star$-Lanczos procedure
1:00–2:30 p.m.	**Lunch Break**		

Mini-symposium 2	Location: Hall 211, 2nd floor	Organizers: Maria Carmela De Bonis, Donatella Occorsio

2:30–3:00 p.m. Hall 211, 2nd floor	MS2	Anna Lucia Laguardia	A Nyström method for 2D linear Fredholm integral equations on curvilinear polygons
3:00–3:30 p.m. Hall 211, 2nd floor	MS2	Bratislav Sredojević	Finite difference approximation of a initial-boundary value problem with Dirac delta function and time-dependent coefficients

3:30 a.m.–4:00 p.m. Hall 211, 2nd floor online speech	MS2	Alessandra De Rossi	Optimal selection of shape parameters in radial kernels
4:00–4:30 p.m. Hall 211, 2nd floor online speech	MS2	Francesco Dell'Accio	On some weighted quadrature rules on equispaced nodes through constrained mock-Chebyshev interpolation
4:30–5:00 p.m.		**Refreshment Break**	

Mini-symposium 2		Location: Hall 211, 2nd floor	Organizers: Maria Carmela De Bonis, Donatella Occorsio
5:00–5:30 p.m. Hall 211, 2nd floor	MS2	Domenico Mezzanotte	A Nyström method for Volterra integral equations based on equally spaced nodes
5:30–6:00 p.m. Hall 211, 2nd floor online speech	MS2	Incoronata Notarangelo	Marcinkiewicz–Zygmund type inequalities with exponential weights
6:00–6:30 p.m. Hall 211, 2nd floor	MS2	Luisa Fermo	Averaged Nystrom interpolants for the solution Fredholm integral equations of the second kind
6:30–7:00 p.m. Hall 211, 2nd floor	MS2	Valeria Sagaria	A numerical method for hypersingular integrals of highly oscillatory functions on $[0; +\infty)$
7:00–7:30 p.m. Hall 211, 2nd floor online speech	MS2	Woula Themistoclakis	De la Vallée Poussin Interpolation method for image resizing

Mini-symposium 6		Location: Hall 514, 5th floor	Organizers: Miodrag Spalević, Marija Stanić
11:00–11:30 a.m. Hall 514, 5th floor	MS6	Aleksandar Jovanović	Optimal sets of quadrature rules for trigonometric polynomials
11:30 a.m.–12:00 p.m. Hall 514, 5th floor	MS6	Aleksandar Pejčev	The error bounds of Gauss quadrature formula for the modified weight functions of Chebyshev type
12:00–12:30 p.m. Hall 514, 5th floor	MS6	Davorka Jandrlić	Error term in Gauss quadrature with Legendre weight function for analytic functions

12:30–1:00 p.m. Hall 514, 5th floor online speech	MS6	Dušan Đukić	Some properties of orthogonal polynomials with respect to the Abel weight
1:00–2:30		**Lunch Break**	
2:30–3:00 p.m. Hall 514, 5th floor	MS6	Jelena Tomanović	Gauss-type quadrature rules with respect to the external zeros of the integrand
3:00–3:30 p.m Hall 514, 5th floor	MS6	Rada Mutavdžić Đukić	Optimal averaged Padé approximants
3:30–4:00 p.m. Hall 514, 5th floor	MS6	Nevena Z. Petrović	Anti-Gaussian quadrature rules for the optimal set of quadrature rules in Borges' sense

Ordinary Section		Location: Hall 514, 5th floor	
4:00–4:30 p.m. Hall 514, 5th floor **chair**: Rada Mutavdžić Đukić	OS	Nevena M. Vasović	One Modification of the Chebyshev Measure of the Second Kind and Corresponding Orthogonal Polynomials
4:30–5:00 p.m.		**Refreshment Break**	
5:00–5:30 p.m. Hall 514, 5th floor online speech **chair**: Rada Mutavdžić Đukić	OS	Silvia Gazzola	An inner-outer iterative method for edge preservation in image restoration and reconstruction
5:30–6:30 p.m. Hall 514, 5th floor **chair**: Rada Mutavdžić Đukić	OS	Zorica Milovanović Jeknić	-

Friday, 10 of June

9:00–09:15 a.m. Hall 211, 2nd floor **chair**: Miodrag Spalević	**Closing Ceremony**
9:15–09:45 a.m.	**Refreshment Break**
9:45 a.m.	**Organized trip. Visiting the museum…**