PROGRAM

Fourteenth International Conference in Approximation Theory

San Antonio, TX   ****   April 7–10, 2013

	Sunday Morning, April 7	
	Session M-1A Chair: *Jacob Lemvig*	**Session M-1B** Chair: *Ming-Jun Lai*
8:15	**Demetrio Labate**, *University of Houston*, Sparse Representations and Singularity Detection using Directional Multiscale Representations	**Ming-Jun Lai**, *University of Georgia*, On Nonconvex Minimization Approaches for Sparse Solutions
8:35	**Philipp Grohs**, *ETH Zurich*, Intrinsic Localization of Anisotropic Frames	**Lixin Shen**, *Syracuse University*, Blind One-Bit Compressive Sampling
8:55	**Morten Nielsen**, *Aalborg University*, Decomposition Type Smoothness Spaces	**Yangyang Xu**, *Rice University*, Block Coordinate Descent for Multi-convex Optimization
9:15	**Xiaosheng Zhuang**, *City University of Hong Kong*, Gabor Shearlets: Low Redundant Directional Multiscale Representation systems with Optimally Sparse Approximation	**Wei Deng**, *Rice University*, On the Global and Linear Convergence of the Generalized Alternating Direction Method of Multipliers
9:35	**Wang-Q Lim**, *TU Berlin*, Sparse Subsampling for Cartoon-like Images	**Wotao Yin**, *Rice University*, Smoothed and Parallel Sparse Optimization
9:55	**Jacob Lemvig**, *Technical University of Denmark*, Sparse Approximations of Piecewise C^β Functions in $L^2(\mathbb{R}^3)$ with C^α Singularities using Shearlets	**Yang Liu**, *Michigan State University*, On Sparse Solutions of Under-determined Linear Systems and Phase Retrieval
10:15	**Coffee Break**	
	Session P-2 Chair: *Larry Schumaker*	
11:00	**Gitta Kutyniok**, *Technische Universität Berlin, Germany*, Parabolic Molecules: Curvelets, Shearlets, and Beyond	
12:00	**Lunch**	

	Sunday Afternoon, April 7	
	Session M-3A Chair: *Roza Aceska*	**Session M-3B** Chair: *Doug Hardin*
13:30	**Roza Aceska**, *Vanderbilt University*, Dynamical Sampling in Shift-invariant Spaces	**Oleg R. Musin**, *University of Texas at Brownsville*, Optimal Packings of Congruent Circles on Spheres and Flat Tori
13:50	**Ali Sekmen**, *Tennessee State University*, Nonlinear Approximations for Subspace Segmentation	**Peter D. Dragnev**, *Indiana University-Purdue University Fort Wayne*, Optimal s-Energy Configurations under External Field
14:10	**Peter Casazza**, *University of Missouri, Columbia*, Phaseless Reconstruction for Fusion Frames	**Vladislav Babenko**, *Dnepropetrovsk National University*, Extremal Problems of Discrete Geometry and their Applications to Optimal Recovery Problems
14:30	**Wojciech Czaja**, *University of Maryland, College Park*, Spatial-spectral Fusion via Data Dependent Operators	**Dmitry Gorbachev**, *Tula State University, Russia*, New Asymptotic Lower Bound for Cardinality of Spherical Designs
14:50	**Matthew Fickus**, *Air Force Institute of Technology*, Group-theoretic Constructions of Erasure-robust Frames	**Sergiy V. Borodachov**, *Towson University*, Asymptotic Behavior of Riesz Polarization on Compact Subsets of Smooth Manifolds
15:10	**Qiyu Sun**, *University of Central Florida*, Convolution Stability for Signal with Finite Rate of Innovation	**Yuliya Babenko**, *Kennesaw State University*, Optimal and Asymptotically Optimal Recovery of Solutions of Elliptic PDE's
15:30	**Coffee Break**	
	Session P-4 Chair: *Greg Fasshauer*	
16:15	**Peter Binev**, *University of South Carolina, Columbia*, Nonlinear Approximation in High Dimensions	
	Session M/C-5A Chair: *Ron Goldman*	**Session M/C-5B** Chair: *Andriy Bondarenko*
17:15	**Shidong Li**, *San Francisco State University*, Sparsity-inducing Dual Frames and Applications	**Dmytro Skorokhodov**, *Dnepropetrovsk National University*, Exact Asymptotics of Best Adaptive Asymmetric Approximation of Bivariate Convex Functions by Piecewise-Linear Splines
17:35	**A. Ardeshir Goshtasby**, *Wright State University*, Viewing Image Registration as an Approximation Problem	**Manuel Jaraczewski**, *Helmut Schmidt University, Hamburg*, On the Asymptotics of Discrete Riesz Energy on Ahlfors-David Regular Sets
17:55	**Surya Prasath** *Univ. of Missouri-Columbia* Geometric Separation Using Shearlets Application to Road Line Extraction	**David Benko**, *University of South Alabama*, The Real Beauty of Potential Theory
18:30	**Welcoming Reception**	

	Monday Morning, April 8	
	Session M-6A Chair: *Grady Wright*	**Session M-6B** Chair: *Simon Foucart*
8:15	**Frank Filbir**, *Helmholtz Center, Munich*, Kernel Methods for Image Reconstruction from Photoacoustic Data	**Rachel Ward**, *University of Texas at Austin*, Function Interpolation via Weighted ℓ_1-minimization
8:35	**Jürgen Frikel**, *Helmholtz Center Munich*, Spectral Methods for Image Reconstruction from Spherical Means	**Ben Adcock**, *Purdue University*, Breaking the Coherence Barrier in Compressed Sensing Asymptotic Incoherence and Asymptotic Sparsity
8:55	**Edward Fuselier**, *High Point University*, Superconvergent Derivative Approximation with Periodic Kernels	**Jean-Luc Bouchot**, *Drexel University*, Progress on Hard Thresholding Pursuit
9:15	**Thomas Hangelbroek**, *University of Hawaii at Manoa*, Kernel Interpolation and Quadrature with Localized Bases	**Wotao Yin**, *Rice University*, First-order Methods for Convex Minimization Better Rates under Weaker Conditions
9:35	**Xingping Sun**, *Missouri State University*, Sampling Scattered Data with Bernstein Polynomials	**Rayan Saab**, *Duke University*, Quantization and Encoding for Oversampled Signals
9:55	**Francis J. Narcowich**, *Texas A&M University*, Meshless Galerkin Methods, Kernels and Quadrature	**Yaniv Plan**, *University of Michigan*, One-bit Matrix Completion
10:15	**Coffee Break**	
	Session P-7 Chair: *Nira Dyn*	
11:00	**Michael Floater**, *University of Oslo*, Barycentric Coordinates for Polyhedral Finite Elements	
12:00	**Lunch**	

	Monday Afternoon, April 8	
	Session M-8A Chair: *Edward Fuselier*	**Session M-8B** Chair: *Tatyana Sorokina*
13:30	**Elisabeth Larsson**, *Uppsala University*, A Galerkin Radial Basis Function Method Applied to the Schrödinger Equation	**Nelly Villamizar**, *RICAM, Linz*, On the Dimension of Splines on Tetrahedral Partitions
13:50	**Barbara Zwicknagl**, *Bonn University*, Kernels from Spectral Decompositions and their Approximation Properties	**Jimmy Shan**, *University of Illinois Urbana-Champaign*, Dimension of C^2 Trivariate Splines on Cells
14:10	**Christian Rieger**, *Bonn University*, Kernels for Parametric Operator Equations	**Michael DiPasquale**, *University of Illinois at Urbana Champaign*, Shellability and Freeness of Continuous Splines
14:30	**Qi Ye**, *Syracuse University*, Solving Support Vector Machines in Reproducing Kernel Banach Spaces with Matérn Functions	**Simon Foucart**, *Drexel University*, Computing Dimension Formulas for Multivariate Spline Spaces
14:50	**Franziska Nestler**, *Chemnitz University of Technology*, Fast Ewald Summation under Mixed Boundary Conditions based on NFFTs	**Ming-Jun Lai**, *University of Georgia*, Construction of 3D Macro-Element on Alfeld's Split
15:10	**Mahadevan Ganesh**, *Colorado School of Mines*, Interpolation and Cubature Approximations for a Class of Wideband Integrals on the Sphere	**Tatyana Sorokina**, *Towson University*, Intrinsic Supersmoothness of Bivariate Splines
15:30	**Coffee Break**	
16:15	**Session P-9** Chair: *Pencho Petrushev* **Lecture by the Popov Prize Winner**	
	Session C-10A Chair: *Peter Binev*	**Session C-10B** Chair: *Fran Narcowich*
17:15	**John Paul Ward**, *EPFL, Lausanne*, Steerable Wavelet Frames	**Scott Kersey**, *Georgia Southern University*, Dual Bases in Subspaces
17:35	**David W. Roach**, *Murray State University*, Orthogonal Parameterized Wavelets and Pattern Matching	**Alexei Kolesnikov**, *Towson University*, Reduced Spline Base Method for Computing Dimension of Multivariate Spline Spaces
17:55	**Jürgen Prestin**, *University of Lübeck*, Multivariate Trigonometric Wavelets	**Franklin Kemp**, *Collin College*, Total Degree Rational Approximation
18:15	**Rejoyce Gavhi**, *University of Alberta*, Optimal C^3 Interpolatory Subdivision Schemes with Fractal Limit Curves	**Tian-Xiao He**, *Illinois Wesleyan University*, Generalized B-Splines with Complex Orders

	Tuesday Morning, April 9	
	Session M-11A Chair: *Carla Manni*	**Session M-11B** Chair: *Akil Narayan*
8:15	**Tom Lyche**, *University of Oslo*, Polynomial Splines over Locally Refined Box-Partitions	**Rick Archibald**, *Oak Ridge National Laboratory*, High Dimensional Function Approximation on Scattered Data
8:35	**Carlotta Giannelli**, *Johannes Kepler University*, Isogeometric Models based on Hierarchical B-spline Constructions	**Heyrim Cho**, *Brown University*, Numerical Methods for High-Dimensional Response-Excitation PDF Equations
8:55	**Giancarlo Sangalli**, *Università di Pavia*, Analysis-Suitable and Dual-Compatible T-splines	**John Jakeman**, *Sandia National Laboratories*, Minimal Growth Sparse Grids for Interpolation and Quadrature
9:15	**Hendrik Speleers**, *KU Leuven*, Beyond Tensor-product Structures in IgA: the PS Perspective	**Youssef Marzouk**, *Massachusetts Institute of Technology*, Adaptive Smolyak Pseudospectral Approximation
9:35	**Gerard Awanou**, *University of Illinois at Chicago*, Isogeometric Method for the Elliptic Monge-Ampere Equation	**Akil Narayan**, *University of Massachusetts Dartmouth*, Hierarchical Interpolation of Parameterized Functions
9:55	**Xin Li**, *University of Science and Technology of China*, Analysis-suitable T-splines	**Lutz Kämmerer**, *Chemnitz University of Technology*, Multivariate Approximation with Trigonometric Polynomials from Samples along Generated Sets
10:15	**Coffee Break**	
	Session P-12 Chair: *Tom Lyche*	
11:00	**Annalisa Buffa**, *IMATI-CNR "E. Magenes", Pavia, Italy*, Isogeometric Analysis and T-splines	
12:00	**Lunch**	

	Tuesday Afternoon, April 9	
	Session C-13A Chair: *Michael Floater*	**Session C-13B** Chair: *Jürgen Prestin*
13:30	**Lubomir T. Dechevsky**, *Narvik University College*, GERBS-based Intermediate Approximation on Triangulated Domains	**Yuhan Ding**, *Illinois Institute of Technology*, Deterministic Guaranteed Automatic Numerical Algorithms for Univariate Approximation
13:50	**Peter Zanaty**, *Narvik University College*, Hermite Interpolation and Bezier-type Geometric Modeling via Smooth GERBS on Triangulations	**Ozge Dalmanoglu**, *Baskent University, Ankara*, On Convergence of Singular Integral Operators Depending on Three Parameters with Radial Kernels
14:10	**Bohumir Bastl**, *University of West Bohemia*, Pilsen, C^2 Hermite Interpolation by Pythagorean-hodograph Quintic Triarcs	**Sevilay Kirci Serenbay**, *Baskent University, Ankara*, Rate of Convergence for Generalized Baskakov Type Operators with Derivatives of Bounded Variation
14:30	**Kristyna Slabá**, *University of West Bohemia, Pilsen*, Imposing Angle Boundary Conditions on B-spline Surfaces	**Friedrich Littmann**, *North Dakota State University*, Best Onesided Approximation with Hermite-Biehler Weights
14:50	**Ron Goldman**, *Rice University*, Towards a General Unified Theory of Classical and Quantum B-Splines	**Maria Daniela Rusu**, *University of Duisburg-Essen*, Chebyshev- Grüss-Type Inequalities: A New Approach
15:10	**Seyda Kilicoglu**, *Baskent University, Ankara*, On the Involute D-scroll in the Euclidean 3-space $\mathbb{E}^3$	**Elena-Dorina Stănilă**, *University of Duisburg-Essen*, The Eigenstructure of Operators linking the Bernstein and the Genuine Bernstein-Durrmeyer Operators
15:30	**Coffee Break**	
	Session P-14 Chair: *Joe Ward*	
16:15	**Yuan Xu**, *University of Oregon*, Best Approximation by Polynomials on Spheres and Balls	
	Session C-15A Chair: *Kai Hormann*	**Session C-15B** Chair: *Annalisa Buffa*
17:15	**Gulter Budakçı**, *Dokuz Eylül University, Izmir*, Extending Fundamental Formulas from Classical B-splines to q-Bsplines	**Tamás Varga**, *University of Szeged*, Christoffel Functions for Doubling Measures on Quasismooth Curves and Arcs
17:35	**Aref K. Kamal**, *S.Q. University, Oman*, Copositive Approximation By Elements of Finite Dimensional Spaces	**Nataliia Parfinovych**, *Dnepropetrovsk National University*, Kolmogorov Type Inequalities for Fractional Derivatives of Multivariate Functions
17:55	**Leslaw Skrzypek**, *University of South Florida*, Maximal Hyperplanes of ℓ_p^n with Respect to Relative Projection Constant	**Ferenc Toókos**, *Helmholtz Center, Munich* Bernstein Inequality in L^α Norms
18:30	**Conference Dinner for ticket holders**	

	Wednesday Morning, April 10	
	Session M-16A Chair: *Hendrik Speleers*	**Session M-16B** Chair: *Thomas Yu*
8:15	**John A. Evans**, *The University of Texas at Austin*, Isogeometric Collocation: Cost Comparison with Galerkin Methods and Extension to Hierarchical NURBS Discretizations	**Jingmin Chen**, *Drexel University*, Free-form Subdivision Surfaces and the Helfrich Model
8:35	**Francesco Calabrò**, *UniCLaM, Italy*, Quadrature with Respect to Refinable Functions on Fixed Node	**Nira Dyn**, *Tel Aviv University*, Approximation of Set-valued Functions in the Symmetric Difference Metric
8:55	**Stefano Serra-Capizzano**, *University of Insubria, Italy*, Spectral Analysis and Optimal Iterative Methods for IgA Linear Systems	**Philipp Grohs**, *ETH Zurich*, Optimal A Priori Discretization Error Bounds for Geodesic Finite Elements
9:15	**Thomas Takacs**, *Johannes Kepler University*, Approximation Properties on Singularly Parametrized Domains in Isogeometric Analysis	**Kai Hormann**, *Università della Svizzera italiana, Lugano*, Generalized Lane–Riesenfeld Algorithms
9:35	**Andrew Gillette**, *UC San Diego*, Basis Functions for Serendipity Finite Element Methods	**Melvin Leok**, *University of California, San Diego*, The Construction and Analysis of Variational Integrators
9:55	**Philipp Öffner**, *TU Braunschweig*, Spectral Convergence for Orthogonal Polynomials on Triangles and their Application on Hyperbolic Conservation Laws	**Nir Sharon**, *Tel Aviv University*, From 4-point to Bernstein: the Adaptation of Approximation Operators to Positive Definite Matrices
10:15	**Coffee Break**	
	Session P-17 Chair: *Greg Fasshauer*	
11:00	**Grady Wright**, *Boise State University*, Approximation on Surfaces with Kernels: Recent Developments and Applications	
12:00	**Lunch**	

	Wednesday Afternoon, April 10	
	Session C-18A Chair: *Yuan Xu*	**Session M/C-18B** Chair: *Peter Oswald*
13:30	**Markus Hansen**, *ETH, Zurich*, n-term Approximation of Elliptic PDE's	**Peter Oswald**, *Jacobs University, Bremen*, Analysis of Normal Multiscale Transforms
13:50	**Antje Vollrath**, *TU Braunschweig*, Fourier-based Matching of Flexible Atomic Structures	**Thomas Yu**, *Drexel University*, Differential Proximity Condition for Manifold-Valued Data Subdivision Schemes
14:10	**Vesselin Vatchev**, *University of Texas at Brownsville*, Convolution Based Monotone Interpolation	**Miguel A. Jimenez Pozo**, *Emeritus Autonomous University of Puebla, Mexico*, Polynomial Approximation of Hölder Weighted Integrable Functions
14:30	**Boris Shekhtman**, *University of South Florida*, Regularity of Multivariate Birkhoff Interpolation Schemes	**Béla Nagy**, *MTA-SZTE Analysis and Stochastics Research Group, Szeged, Hungary*, Bernstein's Inequality on Subsets of the Unit Circle
14:50	**Debao Chen**, *Oklahoma State University - Tulsa*, Comparisons of Derivatives of Local Maxima of Lebesgue Functions for Polynomial Interpolation	**Leonardo Traversoni**, *Universidad Autonoma Metropolitana Mexico City, Mexico*, Voronoi and Voronoi-related Tessellations With Moving Data
15:10	**Sanjeev Kumar**, *Dr. B.R. Ambedkar University, Agra, India*, Approximate Solution of the One Dimensional Diffusion Equation within the Fixed Limits	
15:30	**Coffee Break**	
	Session P-19 Chair: *Larry Schumaker*	
16:15	**Kai Hormann**, *Università della Svizzera italiana, Switzerland*, Barycentric Interpolation	
17:15	**End of Conference**	