Conference Program
Thirteenth International Conference in Approximation Theory

San Antonio, TX **** March 7–10, 2010

	Sunday Morning, March 7	
	Session M-1A Chair: *Simon Foucart*	**Session M-1B** Chair: *Kirill Kopotun*
8:15	**Simon Foucart**, *Université Pierre et Marie Curie, Paris, France*, Best Sufficient Conditions for Sparse Recovery	**S. V. Borodachov**, *Towson University*, Optimal Recovery of Functions and Integrals on Classes Defined by a Majorant for the Modulus of Continuity
8:35	**Jeffrey D. Blanchard**, *Grinnell College, Iowa*, Phase Transitions for Sparse Approximation Algorithms	**Michael I. Ganzburg**, *Hampton University*, Polynomial Interpolation and New Asymptotic Formulae for Zeta Functions
8:55	**Rachel Ward**, *Courant Institute, New York University*, Sparse Legendre Expansions via l_1 Minimization	**Oleksandr Maizlish**, *University of Manitoba, Canada*, Shape Preserving Approximation on the Real Line with Exponential Weights
9:15	**Rick Chartrand**, *Los Alamos National Laboratory, New Mexico*, Nonconvex Compressive Sensing and Dvoretzky's Theorem for Quasi-Normed Spaces	**Nataliya Parfinovych**, *Dnepropetrovsk National University*, The Best Approximation of Periodic Functions by Splines
9:35	**T. Ullrich**, *Hausdorff-Center for Mathematics, Bonn, Germany*, The Gelfand Widths of ℓ_p-balls for $0 < p \leq 1$	**Oleksiy Klurman**, *University of Manitoba, Canada*, Markov-Nikolskii Type Inequalities for Monotone and Monotone Nonnegative Polynomials
9:55	**D. Needell**, *Stanford University*, Mixed Operators in Compressed Sensing	**Vladislav Babenko**, *Dnepropetrovsk National University, Ukraine*, Sharp Inequalities of Kolmogorov Type for Hypersingular Integrals and Some Applications
10:15	**Coffee Break**	
	Session P-2 Chair: *Mike Neamtu*	
11:00	**Albert Cohen**, *Université Pierre et Marie Curie, Paris*, High Dimensional Sparse Approximation of Stochastic-Parametric PDE's	
12:00	**Lunch**	

	Sunday Afternoon, March 7	
	Session M-3A Chair: *Hrushikesh Mhaskar*	**Session M-3B** Chair: *Kirill Kopotun*
13:30	**Isaac Pesenson**, *Temple University, Philadelphia*, Paley-Wiener and Multiscale Approximations on Manifolds	**A. Shadrin**, *Cambridge University, UK*, Landau-Kolmogorov Inequality Revisited
13:50	**Naoki Saito**, *University of California, Davis*, Signal Ensemble Classification on Manifolds	**D. Skorokhodov**, *Dnepropetrovsk National University*, Exact Asymptotics of the Best Asymmetric Piecewise-linear Approximation of Functions with Positive Hessian
14:10	**Frank Filbir**, *Helmholtz Center, Munich*, Quadrature Formulas for Functions Defined on Riemannian Manifolds	**Bojan Popov**, *Texas A&M University*, Surface Reconstruction via L1-minimization
14:30	**Sung Jin Hwang**, *University of Michigan*, Comparing Information Geometric Curves	**Olga Holtz**, *UC Berkeley, TU Berlin and IAS*, New Coins from Old, Smoothly
14:50	**Armin Iske**, *University of Hamburg*, Curvature Analysis of Frequency Modulated Manifolds in Dimensionality Reduction	**A. Prymak**, *University of Manitoba, Canada*, Convexity, Moduli of Smoothness and a Jackson-type Inequality
15:10	**Mikhail Belkin**, *Ohio State University*, Cluster Assumption and Sparsity in the Eigenfunction Basis	**Peter Binev**, *University of South Carolina*, Adaptive Approximation of Surfaces
15:30	**Coffee Break**	
	Session P-4 Chair: *Larry Schumaker*	
16:15	**Greg Fasshauer**, *Illinois Institute of Technology, Chicago*, Green's Functions: Taking Another Look at Kernel Approximation, Radial Basis Functions, and Splines	
	Session C-5A Chair: *Albert Cohen*	**Session C-5B** Chair: *Jürgen Prestin*
17:15	**Entao Liu**, *University of South Carolina*, Orthogonal Super Greedy Algorithm and Applications in Compressed Sensing	**Thomas Kühn**, *Universität Leipzig, Germany*, Approximation and Entropy Numbers in Sequence and Function Spaces
17:35	**Sadegh Jokar**, *TU Berlin, Germany*, Kronecker Products and Sparse Approximation	**Mohammad A. AlQudah**, *Central Michigan University*, Lipschitz Constant for Vector Valued Approximation
17:55	**Ph. Lamby**, *University of South Carolina*, Highdimensional Approximation with Sparse Occupancy Trees	**E. Abu-Sirhan**, *Tafila Technical University, Jordan*, On Simultaneous Approximation in Function Spaces
18:15	**Th. Schlumprecht** *Texas A & M University* Nonuniform Sampling and Recovery of Bandlimited Function via Gaussians	**G. Kyriazis**, *University of Cyprus*, On the Construction of Frames for Spaces of Distributions
18:45	**Welcoming Reception** (The Menger Hotel)	

	Monday Morning, March 8	
	Session M-6A Chair: *Gerlind Plonka*	**Session M-6B** Chair: *Doron Lubinsky*
8:15	**G. Kutyniok**, *University of Osnabrueck*, Compactly Supported Shearlets: Construction and Optimally Sparse Approximation	**F. Balogh**, *Concordia University, Quebec, Canada*, Reduction of Planar Orthogonality to Non-Hermitian Orthogonality on Contours
8:35	**Wang-Q Lim**, *University of Osnabrueck, Germany*, Sparse Image Representations using the Discrete Shearlet Transform	**Peter Dragnev**, *Indiana-Purdue University*, Asymptotic Behavior of Carleman Orthogonal Polynomials
8:55	**Laurent Demanet**, *Massachusetts Institute of Technology*, Directional Constructions in Computational Wave Propagation	**A. López**, *Vanderbilt University*, Multiple Orthogonal Polynomials on Star-like Sets
9:15	**Jens Krommweh**, *University of Duisburg-Essen, Germany*, Sparse Image Representation by Tetrolet Transform	**Erwin Miña-Díaz**, *University of Mississippi*, Asymptotics of Polynomials Orthogonal on the Unit Disk with respect to a Positive Polynomial Weight
9:35	**Y. Babenko**, *Sam Houston State University*, On the L_p-error of Adaptive Interpolation by Splines on Box Partitions	**N. Stylianopoulos**, *University of Cyprus*, Strong Asymptotics for Szegö and Bergman Polynomials over Non-smooth Domains
9:55	**S. Dekel**, *GE Healthcare*, On Anisotropic Hardy Spaces	**A. L. Lukashov**, *Fatih University, Turkey*, Exact Solutions of Some Extremal Problems of Approximation Theory
10:15	**Coffee Break**	
	Session P-7 Chair: *Joe Ward*	
11:00	**Anna Gilbert**, *University of Michigan, Ann Arbor*, A Survey of Sparse Approximation	
12:00	**Lunch**	

	Monday Afternoon, March 8	
	Session M-8A Chair: *Tom Lyche*	**Session M-8B** Chair: *Ed Saff*
13:30	**Durkbin Cho**, *IMATI - CNR, Pavia, Italy*, On the Use of T-splines in Isogeometric Analysis	**L. Baratchart**, *INRIA, France*, Weighted Uniform Rational Approximation to Schur Functions
13:50	**John A. Evans**, *University of Texas at Austin*, Assessment of the Effectiveness of Multidimensional Splines in Numerical Approximation and Isogeometric Analysis	**R. K. Kovacheva**, *Bulgarian Academy of Science, Sofia*, Growth Behaviour and Zero Distribution of Rational Approximants
14:10	**Francesca Pelosi**, *University of Rome "Tor Vergata", Italy*, Isogeometric Analysis based on Tensioned B-splines in Advection-diffusion Problems	**G. Lopez Lagomasino**, *Univ. Carlos III de Madrid, Spain*, On a Perfect System
14:30	**A. Reali**, *University of Texas at Austin*, Efficient Quadrature and Collocation Techniques for Isogeometric Analysis	**M. Yattselev**, *Vanderbilt University*, Weak Asymptotics of H^2-best Rational Approximants to Algebraic Functions
14:50	**J. Rivas**, *Universidad del País Vasco, Spain*, $h-p-k$ Approximation Estimates for NURBS	**Xiang-Sheng Wang**, *City University of Hong Kong*, Asymptotics of Orthogonal Polynomials and Order Reduction Method of Difference Equations
15:10	**Michael A. Scott**, *Institute for Computational Engineering and Sciences, Austin*, Local Refinement of Aligned T-spline Spaces	**M. L. Wong**, *University of Oklahoma*, The Point Mass Problem – Recent Developments
15:30	**Coffee Break**	
	Session P-9 Chair: *Pencho Petrushev*	
16:15	**Winner of the Popov Prize**	
	Session C-10A Chair: *Armin Iske*	**Session C-10B** Chair: *Frank Deutsch*
17:15	**Victoria Baramidze**, *Western Illinois University*, Minimal Energy Spherical Splines on Clough-Tocher Triangulations for Hermite Interpolation	**Boris Shekhtman**, *University of South Florida*, On Newton Interpolation and Error Formulas in Multivariate and Ideal Interpolation
17:35	**David Jiménez**, *Texas A&M University, College Station*, Matching of Point Configurations: An Approach Through Grammians	**Debao Chen**, *OSU – Tulsa*, Generalization of Polynomial Interpolation at Chebyshev Nodes
17:55	**Felix Krahmer**, *University of Bonn, Germany*, An Optimal Family of Exponentially Accurate One-Bit Quantization Schemes	**Oliver Nowak**, *ETH Zurich, Switzerland*, Korovkin-type Convergence Results for Non-positive Operators Related to a Class of Scattered Data Interpolation Operators
18:15	**Peter Ndajah**, *Niigata University, Japan*, Total Variation Image Denoising	**Antonio-Jesús López-Moreno**, *University of Jaén, Spain*, Localization and Saturation Results for Durrmeyer Type Operators
18:35	**Vasilis Zafiris**, *University of Houston-Downtown*, New Results in Geometric Modeling	**Ágota Horváth**, *Budapest University of Technology and Economics, Hungary*, Müntz Type Theorems on the Half Line

	Tuesday Morning, March 9	
	Session M-11A Chair: *Tom Lyche*	**Session M-11B** Chair: *Kathy Driver*
8:15	**Elaine Cohen**, *School of Computing, University of Utah*, Parameterizing Volumes and Creating Trivariate Splines for Geometric Modeling and Isogeometric Analysis	**Kathy Driver**, *University of Cape Town, South Africa*, Interlacing of Zeros of Polynomials of Non-adjacent Degree from Different Sequences of Orthogonal Polynomials
8:35	**Thomas A. Grandine**, *The Boeing Company, Seattle*, Aerospace Applications of Isogeometric Analysis	**H. N. Mhaskar**, *California State University*, On the Problem of Parameter Estimation in Exponential Sums
8:55	**Ulrike Schwarzmair**, *JKU Linz, Austria*, Towards Isogeometric Fluid Analysis in the Design Process of Hydroelectric Turbine Blades	**Doron S. Lubinsky**, *Georgia Institute of Technology*, Universality Holds in Measure for Compactly Supported Measures
9:15	**L. Kämmerer**, *Chemnitz University of Technology, Germany*, On the Stability of the Hyperbolic Cross Discrete Fourier Transform	**Úlfar F. Stefánsson**, *Georgia Institute of Technology*, Asymptotic Properties of Müntz Orthogonal Polynomials
9:35	**Stefan Kunis**, *Chemnitz University of Technology, Germany*, On the Butterfly Approximation Scheme for Fourier Transforms	**Manuel Domínguez de la Iglesia**, *Courant Institute of Mathematical Sciences, New York University*, Methods and New Phenomena of Orthogonal Matrix Polynomials Satisfying Differential Equations
9:55	**V. Vatchev**, *University of Texas at Brownsville*, On Approximation of Piece-Wise Analytic Functions on Finite Interval	**Olga Holtz**, *IAS, UC Berkeley, TU Berlin*, Structured Matrices, Continued fractions, and Root Localization of Polynomials
10:15	**Coffee Break**	
	Session P-12 Chair: *Ed Saff*	
11:00	**Vilmos Totik**, *University of South Florida and University of Szeged, Hungary*, The Polynomial Inverse Image Method	
12:00	**Lunch**	

	Tuesday Afternoon, March 9	
	Session M-13A Chair: *Shai Dekel*	**Session M-13B** Chair: *Günther Nürnberger*
13:30	**J.-M. Mirebeau**, *UPMC, Paris*, Optimal Meshes for Finite Elements of Arbitrary Order	**Günther Nürnberger**, *University of Mannheim, Germany*, Local Lagrange Interpolation by Splines on Tetrahedral Partitions
13:50	**Armin Iske**, *University of Hamburg, Germany*, Geometrical Methods for Adaptive Approximation of Image and Video Data	**Ming-Jun Lai**, *University of Georgia, Athens*, A Multi-level and Multi-scale Expansion based on Bivariate Spline Functions
14:10	**I. Gershtansky**, *Tel-Aviv University*, Active Geometric Wavelets	**Tatyana Sorokina**, *Towson University, MD*, Intrinsic Supersmoothness of Multivariate Splines
14:30	**T. Teuber**, *University of Mannheim, Germany*, Anisotropic Image Regularization Using Double Orientations	**Xiquan Shi**, *Delaware State University*, The Dimension of the Space of Smooth Splines of Degree 8 on Tetrahedral Partitions
14:50	**Gerlind Plonka**, *University of Duisburg-Essen*, Optimally Sparse Image Representation by the EPWT	**Gerard Awanou**, *Northern Illinois University*, Numerical Methods for Fully Nonlinear Equations
15:10	**S. Tenorth**, *University of Duisburg-Essen*, Hybrid Algorithm for Image Approximation Based on the EPWT	**G. Schneider**, *University of Mannheim*, Lagrange Interpolation by Trivariate C^2-Splines of Low Locality
15:30	**Coffee Break**	
	Session P-14 Chair: *Larry Schumaker*	
16:15	**Oleg Davydov**, *University of Strathclyde, Glasgow, UK*, Quasi-interpolation Methods for Multivariate Splines	
	Session C-15A Chair: *Edward Fuselier*	**Session C-15B** Chair: *Vilmos Totik*
17:15	**Bernd Mulansky**, *TU Clausthal, Germany*, Smooth Convex Extensions of Functions	**Franklin Kemp**, *Collin College, TX*, Discrete Rational Approximation Existence
17:35	**Jian-ao Lian**, *Prairie View A&M University, TX*, Interpolatory Biorthogonal Systems	**Rodrigo B. Platte**, *Arizona State University, Tempe*, Impossibility of Approximating Analytic Functions from Equispaced Samples at Geometric Convergence Rate
17:55	**Alireza Entezari**, *University of Florida*, Multivariate Splines for Sampling Lattices	**Leslaw Skrzypek**, *University of South Florida, Tampa*, Fourier and Rademacher Projections in L_p Spaces
18:30	**Conference Dinner**	

	Wednesday Morning, March 10	
	Session C-16A Chair: *Greg Fasshauer*	**Session C-16B** Chair: *Ming-Jun Lai*
8:15	**Thomas Hangelbroek**, *Texas A&M University, College Station*, Stable Approximation on Manifolds with Kernels	**Bruce Kessler**, *Western Kentucky University, Bowling Green*, An Algorithm for Wavelet-Based Elemental Spectrum Analysis
8:35	**A. Heryudono**, *University of Massachusetts, Dartmouth*, 2D RBF Interpolation on Irregular Domain Through Conformal Transplantation	**David W. Roach**, *Murray State University*, Parameterized Wavelets
8:55	**Benjamin Bailey**, *Texas A&M University, College Station*, Sampling and Recovery of Multidimensional Bandlimited Functions	**Philipp Grohs**, *TU Graz, Austria*, Refinable Functions for Composite Dilation Systems
9:15	**Rodrigo B. Platte**, *Arizona State University, Tempe*, How Fast do Radial Basis Function Interpolants of Analytic Functions Converge?	**Haichao Wang**, *Vanderbilt University*, Uncertainty Principle and Balian-Low Type Theorems in Shift-Invariant Spaces
9:35	**Qi Ye**, *Illinois Institute of Technology, Chicago*, Green Function Approach to (Conditionally) Positive Definite Function and Reproducing Kernel of Generalized Sobolev Space	**Xiaosheng Zhuang**, *University of Alberta*, Matrix Extension with Symmetry and Its Applications
9:55	**J. P. Ward**, *Texas A&M University, College Station*, L^p Bernstein Inequalities and an Inverse Theorem for RBF Approximation on Euclidean d-space	**Markus Hansen**, *Friedrich-Schiller-Universität Jena, Germany*, Best m-term Approximation in Tensor Products of Besov and Sobolev Spaces
10:15	**Coffee Break**	
	Session P-17 Chair: *Mike Neamtu*	
11:00	**Kirill Kopotun**, *University of Manitoba, Canada*, Approximation with Constraints	
12:00	**Lunch**	

	Wednesday Afternoon, March 10	
	Session C-18A Chair: *Oleg Davydov*	**Session C-18B** Chair: *Boris Shekhtman*
13:30	**Scott N. Kersey**, *Georgia Southern University*, Best l_2 Spline-by-Spline Approximation	**J. Prestin**, *University of Lübeck, Germany*, Quadrature Rules on Spherical Triangles
13:50	**Hendrik Speleers**, *Katholieke Universiteit Leuven, Belgium*, Convexity of Spline Functions on Triangulations	**Hao Nguyen**, *Texas A&M University, College Station*, On Extended Cubatures of Turan Type for the Ball
14:10	**Bree Ettinger**, *Georgia State University, Atlanta*, Hurricane Prediction Using Bivariate Splines	**Leonardo Traversoni**, *Universidad Autonoma Metropolitana, Mexico*, Building Quaternionic Hermitian Curves
14:30	**Qianying Hong**, *University of Georgia, Athens*, The Minimum Surface Area Method for Scattered Data Fitting	**Manuel Gräf**, *Chemnitz University of Technology, Germany*, A Continuous Approach for Distributing Points on the Sphere Using Fast Fourier Transforms
14:50	**Vera Rayevskaya**, *University of Northern Iowa*, Filling Polygonal Holes Using Minimal Energy Macro-Elements	**S. Bernstein**, *Freiberg Univ. of Mining and Technology, Germany*, Diffusive Wavelets on Groups and Homogenous Spaces
15:10	**Lujun Wang**, *Vanderbilt University, Nashville*, Spline Spaces on Triangulations with Hanging Vertices	**Francisco Casesnoves**, *Nottingham, United Kingdom*, Optimal Nonlinear Approximations and Errors Reduction for Numerical Reuleaux Method (NRM) Pseudo-Rigid Bodies Dynamics
15:30	**Coffee Break**	
	Session P-19 Chair: *Charles Chui*	
16:15	**Bin Han**, *University of Alberta, Edmonton, Canada*, Wavelet Analysis Under the Unifying Roof of Nonhomogeneous Wavelet Systems	
	Session C-20A Chair: *Peter Binev*	**Session C-20B** Chair: *Les Skrzypek*
17:15	**Andreas Weinmann**, *TU Graz, Austria*, Geometric Subdivision Schemes and Interpolatory Multiscale Transforms Between Manifolds	**Klaus Schiefermayr**, *Upper Austria University of Applied Sciences, Austria*, Inequalities for the Deviation of Minimal Residual Polynomials and Inverse Polynomial Images
17:35	**Sebti Foufou**, *Qatar University, Qatar*, An Algorithm to Construct 3D Triangles with Circular Edges	**J. Vybíral**, *RICAM, Linz, Austria*, Johnson-Lindenstrauss Lemma for Circulant Matrices
17:55	**Binod Prasad Dhakal**, *Butwal Multiple Campus, Tribhuvan University, Nepal*, Approximation of a Function Belonging to Generalized Lipschitz Class by Euler-Cesáro Means of Fourier Series	
18:15	**End of Conference**	