

Conference Program

Advances in Constructive Approximation

Nashville, TN
May 14–17, 2003

	Wednesday, May 14	
8:30	Opening Address	
	Session 1 Chair: <i>Akram Aldroubi</i>	
9:00	John J. Benedetto , <i>University of Maryland</i> , Unimodularity Constraints for Signal Representation and Waveform Design	
10:00	Coffee Break	
	Session 2A Dedicated to the Memory of Prof. D. Gaier Chair: <i>S. Ruscheweyh</i>	Session 2B Dedicated to the Memory of Prof. W. Light Chair: <i>Ward Cheney</i>
10:40	Richard S. Varga , <i>Kent State University</i> , My Friend and Colleague, Dieter Gaier	Holger Wendland , <i>University of Göttingen</i> , Solving Large Generalized Interpolation Problems Efficiently
11:05	V. V. Andrievskii , <i>Kent State University</i> , Dieter Gaier and the Ukrainian School of Approximation Theory	Holger Wendland (cont.)
11:30	V. V. Andrievskii (cont.)	Gerhard Opfer , <i>University of Hamburg</i> , Which Functions Generate Haar Spaces by Shifts?

11:55	Lunch		
	Session 3 Chair: <i>Larry Schumaker</i>		
13:30	Joe Ward , <i>Texas A&M University</i> , Discrete Least Squares Approximation by Radial Basis Functions		
14:30	Coffee Break		
	Session 4A Chair: <i>John Benedetto</i>	Session 4B Chair: <i>Jürgen Prestin</i>	Session 4C Chair: <i>Tom Lyche</i>
15:10	Ming-Jun Lai , <i>Univ. of Georgia</i> , Construction of Compactly Supported Pre-Wavelets in Sobolev Spaces	H. N. Mhaskar , <i>California State University</i> , Quadrature Formulas on Spherical Caps	Ants Aasma , <i>Tallinn Technical University</i> , Approximation in Banach Spaces by Summation Methods of Fourier Expansions
15:35	Song-Tao Liu , <i>University of Alberta</i> , Wavelet Bases of Hermite Cubic Splines on the Interval	Noemi Lain Fernandez , <i>University of Luebeck</i> , Interpolatory Polynomial Bases on the Sphere	H. Gingold , <i>West Virginia University</i> , Approximation of Unbounded Functions via Compactification
16:00	David Roach , <i>Murray State University</i> , Construction of Parameterized Orthogonal Wavelets without Parameter Constraints	Johann S. Brauchart , <i>Graz University of Technology</i> , Minimal g -Energy N -Point Sets	Scott Kersey , <i>Case Western Reserve Univ./Georgia Southern Univ.</i> , Constrained Variational Subdivision
16:25	Qiyu Sun , <i>University of Houston</i> , Approximation of the Ideal Low Pass Filter	V. Baramidze , <i>University of Georgia</i> , Numerical Investigation of Tensor Product Spherical and Radial Splines for Interpolating Volume Data	Thomas Yu , <i>Rensselaer Polytechnic Institute</i> , Globally C^2 Free-Form Hermite Subdivision Surfaces
16:50	Songkiat Sumetkijakan , <i>University of Maryland</i> , A Wavelet Set Construction and Tight Frames	Paul C. Kainen , <i>Georgetown University</i> , Operations Preserving Approximative Compactness	Richard Robinson , <i>Murray State University</i> , The Parameterized Variable Tension Spline with Knot Removal
17:15	Bruce Kessler , <i>Western Kentucky University</i> , Construction and Application of a New Scaling Vector and Multiwavelets Using Macroelements	Yanqin Fan , <i>Vanderbilt University</i> , Efficient Estimation of Semiparametric Multivariate Copulas	Sebti Foufou , <i>Université de Bourgogne</i> , Dupin Cyclides and Supercyclides for CAGD Applications
18:30	Welcome Reception, Wildhorse Saloon, 2nd Ave. (Downtown Nashville)		

	Thursday, May 15	
	Session 5 Chair: <i>Doug Hardin</i>	
9:00	Gerlind Plonka , <i>University of Duisburg-Essen</i> , Numerical Stability of Trigonometric Transforms and Wavelet Algorithms	
10:00	Coffee Break	
	Session 6A Dedicated to the Memory of Prof. D. Gaier Chair: <i>Richard Varga</i>	Session 6B Dedicated to the Memory of Prof. W. Light Chair: <i>Yuan Xu</i>
10:40	H.-P. Blatt , <i>Katholische Universität Eichstätt-Ingolstadt</i> , Asymptotic Distribution of Poles and Alternation Points in Rational Approximation	Xingping Sun , <i>Southwest Missouri State University</i> , The Structure of Native Spaces on Spheres
11:05	Gerhard Opfer , <i>University of Hamburg</i> , On an Extremal Principle Related to Doubly Connected Regions Unearthed by Dieter Gaier	Szilard Gy. Revesz , <i>A. Renyi Institute of Mathematics</i> , Extremal Problems for Positive Definite Functions with Given Support
11:30	Igor E. Pritsker , <i>Oklahoma State University</i> , Asymptotic Behavior of Faber Polynomials and their Derivatives	Leslaw Skrzypek , <i>University of California</i> , On a Result of W. Light and its Extensions

11:55	Lunch		
	Session 7 Chair: <i>Mike Neamtu</i>		
13:30	Kirill Kopotun , <i>University of Manitoba</i> , Shape Preserving Approximation — the Final Frontier?		
14:30	Coffee Break		
	Session 8A Chair: <i>Kirill Kopotun</i>	Session 8B Chair: <i>Mihai Putinar</i>	Session 8C Chair: <i>Gerlind Plonka</i>
15:10	Tom Lyche , <i>University of Oslo</i> , Mixed Norm Condition Numbers for the Univariate Bernstein Basis	Doron Lubinsky , <i>Georgia Institute of Technology</i> , A Representation for the Bernstein Constant	Shayne Waldron , <i>University of Auckland</i> , Frames and their Symmetries
15:35	S. Foucart , <i>University of Cambridge</i> , On the Least Condition Number of a Basis of Quadratic Polynomials	Peter Dragnev , <i>Indiana-Purdue University</i> , Polynomial Approximation of the Checkmark Function	Yuri Brudnyi , <i>Technion</i> , Nonlinear Approximation by Libraries Generated by Refinable Functions
16:00	Dongdong Lei , <i>University of Huddersfield</i> , A Decomposition Method for ℓ_1 Approximation	Michael I. Ganzburg , <i>Hampton University</i> , The Pointwise Overconvergence Property of Continuous Functions and Polynomial Projections	J. S. Geronimo , <i>Georgia Tech</i> , A Two Variable Extension of the Fejer-Riesz Lemma and Orthogonal Polynomials
16:25	Ioan Gavrea , <i>Technical University Cluj-Napoca</i> , Estimates in Terms of the Ditzian-Totik Modulus of Smoothness in Simultaneous Approximation by Linear Operators	Eli Levin , <i>The Open University of Israel</i> , Orthogonal Polynomials for Exponential Weights $x^{2\rho}e^{-2Q(x)}$ on a Half-open Interval	Dinh-Dũng , <i>Vietnam National University</i> , Stability in Periodic Multi-Wavelet Decompositions and Non-linear Compression
16:50	Vasant A. Ubhaya , <i>North Dakota State University</i> , An Algorithm for Discrete Approximation by Quasi-Convex Functions on R^m	David Benko , <i>Texas A&M University</i> , The Support of the Equilibrium Measure	Peter G. Binev , <i>University of South Carolina</i> , Near Best Adaptive Approximation
17:15	A. V. Prymak , <i>Kyiv National Taras Shevchenko University</i> , On 3-convex Approximation by Splines with Fixed Knots	Theodore Kilgore , <i>Auburn University</i> , Approximation Results for some Weighted Polynomials on Unbounded Intervals	S. B. Damelin , <i>Georgia Southern University</i> , Numerical Integration on q Dimensional Spheres

	Friday, May 16	
	Session 9 Chair: <i>Ed Saff</i>	
9:00	Laurent Baratchart , <i>INRIA, Sophia-Antipolis</i> , Meromorphic Approximation of Cauchy Integrals and Inverse Source or Crack Problems	
10:00	Coffee Break	
	Session 10A Dedicated to the Memory of Prof. D. Gaier Chair: <i>N. Papamichael</i>	Session 10B Dedicated to the Memory of Prof. W. Light Chair: <i>Xinping Sun</i>
10:40	Alexander I. Aptekarev , <i>Keldysh Institute of Applied Mathematics</i> , On Asymptotically Sharp Alternances for the Best Rational Approximants of Analytic Functions	Tanya Morton , <i>The MathWorks Limited</i> , Spherical Radial Basis Functions: Theory and Application
11:05	N. Stylianopoulos , <i>University of Cyprus</i> , Conformal Mapping of Elongated Domains with Applications to the Solution of Laplacian Problems	Tanya Morton (cont.)
11:30	W. K. Hayman , <i>Imperial College</i> , Numerical Problems of Conformal Mappings	Yuan Xu , <i>University of Oregon</i> , Weighted Approximation on the Unit Sphere

11:55	Lunch		
	Session 11 Chair: <i>Jeff Geronimo</i>		
13:30	Kenneth McLaughlin , <i>University of North Carolina at Chapel Hill</i> , Asymptotics for Orthogonal Polynomials Using Riemann-Hilbert Problems and D-bar Problems		
14:30	Coffee Break		
	Session 12A Chair: <i>Ming-Jun Lai</i>	Session 12B Chair: <i>V. V. Andrievskii</i>	Session 12C Chair: <i>H. Mhaskar</i>
15:10	Guenther Nuernberger , <i>University of Mannheim</i> , Local Lagrange Interpolation by Cubic Spline Surfaces	S. Ruscheweyh , <i>Würzburg University</i> , Maximal Ranges of Polynomials: Advances	Tim Goodman , <i>University of Dundee</i> , Uncertainty Principles and Optimality on Circles and Spheres
15:35	Frank Zeilfelder , <i>University of Mannheim</i> , Approximation by Trivariate Splines	Xin Li , <i>University of Central Florida</i> , Szegő Polynomials and the Truncated Trigonometric Moment Problem	Jürgen Prestin , <i>University of Lübeck</i> , Optimality for Uncertainty Principles on the Sphere and on the Torus
16:00	Tatyana Sorokina , <i>Vanderbilt University</i> , A Trivariate Box Macro-Element	Daniyal M. Israfilov , <i>Balikesir University</i> , Uniform Convergence of the Bieberbach Polynomials in Closed Domains	Q. T. Le Gia , <i>Texas A&M University</i> , Approximation of Parabolic PDEs on Spheres Using Spherical Basis Functions
16:25	Vera Rayevskaya , <i>Vanderbilt University</i> , Multi-sided Macro-Element Spaces Based on Clough-Tocher Triangle Splits	M. Küçükaslan , <i>Mersin University</i> , On the Properties of Orthogonal Polynomials over the Regions	V. Maymeskul , <i>Georgia Southern University</i> , Asymptotics for Minimal Discrete Riesz Energy Curves in R^2
16:50	Leonardo Traversoni , <i>Universidad Autonoma Metropolitana</i> , Approximation of Curves and Surfaces using Projective Duality	E. Miña-Díaz , <i>Vanderbilt University</i> , Zeros of Polynomials Orthogonal over Jordan Domains	Andrei Bogatyrev , <i>Inst. Numerical Math., Russian Acad. Sci.</i> , General Extremal Polynomials and Algebraic Curves
17:15	J. Stolfi , <i>University of Campinas</i> , Spline Bases on Dyadic Grids	T. X. He , <i>Illinois Wesleyan University</i> , Abel-Gontscharoff Interpolation and Gould's Annihilation Coefficients	Boris Shekhtman , <i>University of South Florida</i> , Aesthetic Approximation in Several Variables
17:15			S. Yu. Tikhonov , <i>Moscow State University</i> , Generalized Lipschitz Class and Fourier Series
19:00	Banquet/Dinner Party, University Club of Nashville (Vanderbilt Campus)		

	Saturday, May 17	
	Session 13 Chair: <i>S. Ruscheweyh</i>	
9:00	Mihai Putinar , <i>University of California at Santa Barbara</i> , A Renormalized Riesz Potential: History and Applications	
10:00	Coffee Break	
	Session 14A Dedicated to the Memory of Prof. D. Gaier Chair: <i>S. Ruscheweyh</i>	Session 14B Dedicated to the Memory of Prof. W. Light Chair: <i>Holger Wendland</i>
10:40	E. Wegert , <i>TU Bergakademie Freiberg</i> , Boundary Interpolation with Solutions of Non-linear Riemann-Hilbert Problems	D. V. Pai , <i>Indian Institute of Technology Bombay</i> , On Well-Posedness of some Problems in Approximation Theory
11:05	N. Papamichael , <i>University of Cyprus</i> , Dieter Gaier's Contributions to Numerical Conformal Mapping	A. Le Méhauté , <i>University of Nantes</i> , Almost Interpolation for Radial Basis Functions
11:30	N. Papamichael (cont.)	Roland Opfer , <i>Göttingen</i> , Multiscale Kernels

11:55	Lunch		
	Session 15 Chair: <i>Thomas Bagby</i>		
13:30	Len Bos , <i>University of Calgary</i> , Multivariate Markov/Bernstein Inequalities with Applications to Interpolation and Approximation		
14:30	Coffee Break		
	Session 16A Chair: <i>Laurent Baratchart</i>	Session 16B Chair: <i>Boris Shekhtman</i>	Session 16C Chair: <i>Joe Ward</i>
15:10	G. López Lagomasino , <i>Universidad Carlos III de Madrid</i> , Hermite-Pade Approximation and Simultaneous Quadrature Rules	Vladislav Babenko , <i>Dnepropetrovsk National University</i> , Inequalities of Landau-Kolmogorov Type for Multivariate Functions	A.-J. Lopez-Moreno , <i>University of Jaen</i> , Saturation for Derivatives of Linear Positive Operators
15:35	J. Mínguez , <i>Universidad de La Rioja</i> , Multipoint Padé and Szegő-Padé Approximants for Stieltjes Functions	Yuliya Babenko , <i>Vanderbilt University</i> , Inequalities of Kolmogorov type for Special Classes of Functions	Svenja Lowitzsch , <i>West Virginia University</i> , Divergence-free Radial Basis Functions: Theory and Application
16:00	Vasily Prokhorov , <i>University of South Alabama</i> , On Best Approximation by Rational Functions	Friedrich Littmann , <i>University of Illinois at Urbana-Champaign</i> , Entire Extremal Majorants	Octavian Agratini , " <i>Babes - Bolyai</i> " <i>University</i> , Linear Operators: Iterates and Extensions Generated by a Probability Density Function
16:25	A. Martínez-Finkelshtein , <i>University of Almería</i> , Information Entropy of Polynomials Orthogonal on an Interval	D. Dryanov , <i>University of Montreal</i> , Bernstein Type Inequalities	P. N. Agrawal , <i>I. I. T. Roorkee</i> , Approximation by Michelli Combination of a New Sequence of Linear Positive Operators
16:50	F. Seyfert , <i>INRIA</i> , A Bounded Extremal Problem of Mixed (L^2, L^∞) Type	S. Van De Car , <i>University of Central Florida</i> , Turan Type Inequalities for Rational Functions in Integral Norms	Lyle Noakes , <i>University of Western Australia</i> , Interpolation and Trajectory Generation for Rigid Bodies
17:15	Fahreddin G. Abdullayev , <i>Mersin University</i> , Convergence of Bieberbach Polynomials inside Domains of the Complex Plane	Kiddnan Kobindarajah , <i>Eastern University, Chenkaidy, Sri Lanka</i> , Marcinkiewicz-Zygmund Type Inequalities on all Arcs of the Circle	A. Zhensybaev , <i>Institute of Mathematics, Almaty</i> , Interpolation and Smoothing Methods of Multivariate Functions