Scientific Program of the Conference

Friday, June 4, 2010

Opening and Plenary Lectures Session  
Chair: Geno Nikolov

8:30 – 9:00 Opening of the Conference
9:00 – 9:50 Blagovest Sendov: Extremal domains associated with a complex polynomial
10:00 – 10:50 Dimitar K. Dimitrov: Zeros of polynomials

Morning Session A  
Chair: Artur Sahakian
11:30 – 11:55 Vladimir Kostov: On the Schur-Szegő composition of polynomials
12:00 – 12:25 Peter Dragnev: Asymptotic behavior of Carleman orthogonal polynomials

Morning Session B  
Chair: Kamen Ivanov
11:30 – 11:55 Margareta Heilmann: Strong converse results on Baskakov-Durrmeyer operators and their quasi-interpolants
12:00 – 12:25 Borislav Draganov: On estimating the rate of best trigonometric approximation in $L_p$ by a modulus of smoothness

Afternoon Session A  
Chair: József Szabados
15:00 – 15:25 Szilárd Révész: Conjectures and results on the multivariate Bernstein inequality on convex bodies
15:30 – 15:55 Vitaly Maiorov: Harmonic analysis and approximation by radial functions
16:00 – 16:25 Peter Binev: Scattered data approximation in high dimensions  
Chair: Allan Pinkus
17:00 – 17:25 Ionela Moale: Min-max polynomials on the ball in several dimensions
17:30 – 17:55 Stanislav Vasilyev: Multidimensional Jackson inequality in mean-square norm

Afternoon Session B  
Chair: Vladimir M. Tikhomirov
15:00 – 15:25 Ludmila Nikolova: On $Ψ$-direct sums and some inequalities
15:30 – 15:55 Ágota P. Horváth: Near-best approximation by a de la Valée Poussin-type interpolatory operator
16:00 – 16:25 Friedrich Littmann: Bandlimited onesided approximations to the Gaussian  
Chair: Stefano De Marchi
17:30 – 17:55 Alexander Goncharov: Basis in Banach spaces of smooth functions on Cantor-type sets
Saturday, June 5, 2010

Plenary Lectures Session  
Chair: Blagovest Sendov

8:30 – 9:00 Ceremony of conferring Professor Ronald A. DeVore a Foreign Member of the Bulgarian Academy of Sciences

9:00 – 9:50 Ronald A. DeVore: The reduced basis method and greedy algorithms

10:00 – 10:50 Vladimir M. Tikhomirov: Extremal problems in approximation theory and Lagrange principle

Morning Session A  
Chair: Heiner Gonska

11:30 – 11:55 Vitaly Arestov: Polynomials that deviate the least from zero in measure and in the uniform norm on compact sets of a given measure and other related problems

12:00 – 12:25 Asen Dontchev: Splines with constraints

Morning Session B  
Chair: Ronald A. DeVore

11:30 – 11:55 Stefano De Marchi: Computing multivariate Fekete and Leja points by numerical linear algebra

12:00 – 12:25 Guergana Petrova: On extended cubatures of Turán type for the ball

Afternoon Session A  
Chair: Peter Binev

15:00 – 15:25 András Kroó: On Markov, Bernstein and Chebyshev type inequalities for θ-monotone polynomials


16:00 – 16:25 Sergei Sidorov: Relative linear n-widths of sets of differentiable functions  
Chair: Alexander Goncharov

17:00 – 17:25 Mohammed A. Qazi: An inequality for self reciprocal polynomials

17:30 – 17:55 Marina Deykalova: Some extremal problems for algebraic polynomials on the Euclidean sphere

Afternoon Session B  
Chair: Gancho Tachev

15:00 – 15:25 Martin Wagner: Asymptotic expansions for a Durrmeyer variant of Baskakov and the Meyer-König and Zeller operators and quasi-interpolants

Chair: Guergana Petrova

17:00 – 17:25 Roumen Anguelov: Locally monotone approximations of real functions on graphs

17:30 – 17:55 Markus Niess: Universal phenomena in the complex plane
Sunday, June 6, 2010

Plenary Lectures Session  
Chair: Andrey S. Andreev

9:00 – 9:50 Qazi I. Rahman: Derivative estimates for meromorphic functions and functions of exponential type
10:00 – 10:50 Hakop Hakopian: On the Gasca-Maeztu conjecture in $\mathbb{R}^2$ and $\mathbb{R}^3$

Morning Session A  
Chair: András Kroó

12:00 – 12:25 Geno Nikolov: On the behavior of ultraspherical polynomials in the complex plane

Morning Session B  
Chair: Vitaly Maiorov

11:30 – 11:55 Songping Zhou: What condition can correctly generalize monotonicity in $L_1$-convergence of sine series?
12:00 – 12:25 Martin Lind: On functions of bounded $p$-variation

Afternoon Session A  
Chair: Szilárd Révész

15:00 – 15:25 Artur Sahakian: On the double Fourier series of functions of bounded partial $\Lambda$-variation
16:00 – 16:25 Teimuraz Akhobadze: On convergence of trigonometric Fourier series  
Chair: Margareta Heilmann
17:00 – 17:25 Givi Nadibaidze: On summability almost everywhere by Cesaro and Abel-Poisson method of series with respect to block-orthonormal systems
17:30 – 17:55 Robert Algervik: On Fourier-Gagliardo mixed norm spaces
18:00 – 18:25 Irina Georgieva: On interpolation in the unit disk based on Radon projections and function values

Afternoon Session B  
Chair: Ágota P. Horváth

15:00 – 15:25 Ognyan Kounchev: Infinite-dimensional generalization of Kolmogorov-Gelfand theory of widths and applications to compressive sensing
15:30 – 15:55 Hermann Render: Bernstein operators for functions in the unit ball of Euclidean space
16:00 – 16:25 Dimo Dimov: Exact performance of $(p, \theta)$-Hough transform for star chain images processing  
Chair: Vladimir Kostov
17:00 – 17:25 Costas Karanikas: Boolean invertible matrices identified from two permutations, their corresponding unbalanced Haar matrices and an application to data encryption
17:30 – 17:55 Nikolaos Atreas: On a class of local average sampling expansions in subspaces of $L_2(\mathbb{R})$
18:00 – 18:25 Vassil Kolev: Universal construction of orthogonal double shift functions and applications
Monday, June 7, 2010

Plenary Lectures Session  
Chair: HAKOP HAKOPIAN
9:00 – 9:50  
ALEXEI YU. SHADRIN: Landau-Kolmogorov inequality revisited
10:00 – 10:50  
EVGENII LIVSHITZ: Greedy algorithms and the best m-term approximation

Morning Session A  
Chair: EVGENII LIVSHITZ
11:30 – 11:55  
DENKA KUTZAROVA: Weak convergence of greedy algorithms in Banach spaces
12:00 – 12:25  
MARKUS HANSEN: m-term approximation in tensor products of Sobolev and Besov spaces

Morning Session B  
Chair: ULRICH ABEL
11:30 – 11:55  
LOZKO MILEV: Markov interlacing property for exponential polynomials
12:00 – 12:25  
NIKOLA NAIDENOV: Markov type inequalities for oscillating exponential polynomials

Tuesday, June 8, 2010

Plenary Lectures Session  
Chair: AYTCHO LAZAROV
9:00 – 9:50  
KAMEN IVANOV: Sub-exponentially localized kernels and frames with applications to numerical analysis
10:00 – 10:50  
GEORGI M. KOBELKOV: Existence of a solution to the 3D primitive equations “in the large”

Morning Session A  
Chair: GEORGI M. KOBELKOV
11:30 – 11:55  
RAYTCHO LAZAROV: Discontinuous Galerkin finite element method of elliptic problems
12:00 – 12:25  
LUDMIL ZIKATANOV: Some canonical decompositions of discontinuous Galerkin finite element spaces and preconditioning

Morning Session B  
Chair: RUMEN ULUCHIEV
11:30 – 11:55  
KRASSIMIRA VLACHKOVA: Error bounds for scattered data interpolation in $\mathbb{R}^3$ with smooth cubic curve networks
12:00 – 12:25  
GEORGI ILIEV: Difficulties for “best” convex interpolation in $\mathbb{R}^3$

Afternoon Session A  
Chair: LUDMIL ZIKATANOV
15:30 – 15:55  
IVAN GEORGIEV: Subspace correction method for discontinuous Galerkin discretizations of linear elasticity equations
16:00 – 16:25  
IVAN HRISTOV: Numerical investigation of fluxon solutions in stacks of Josephson junctions

Chair: RUMEN MALEEV
17:30 – 17:55  
MILKO TAVEV: Modified product cubature formulae with finite differences error representation
Afternoon Session B

Chair: Songping Zhou

15:00 – 15:25  Alexey Lukashov: Rational functions with fixed poles deviated least from zero on several arcs with zeros belonging to those arcs
16:00 – 16:25  Kazuaki Kitahara: Functions approximated by any sequence of interpolating generalized polynomials

Chair: Alexey Lukashov

17:00 – 17:25  Antonio-Jesús López-Moreno: Some properties of Durrmeyer modifications of the Meyer-König and Zeller and other composite linear operators
17:30 – 17:55  Alexander Alexandrov: An inequality of Duffin-Shaffer type

Wednesday, June 9, 2010

Plenary Lectures Session

Chair: Kamen Ivanov

9:00 – 9:50  József Szabados: Extending and modifying classical operators to the weighted case
10:00 – 10:50  Elena Berdysheva: Bernstein-Durrmeyer operators with arbitrary weight functions

Morning Session A

Chair: Elena Berdysheva

11:30 – 11:55  Heiner Gonska: Simultaneous approximation by Bernstein operators in Hölder norms I
12:00 – 12:25  Gancho Tachev: Simultaneous approximation by Bernstein operators in Hölder norms II
12:30 – 12:55  Ulrich Abel: Old and new results on the Favard operator

Morning Session B

Chair: Ushangi Goginava

11:30 – 11:55  Lubomir T. Dechevsky: Smooth convex resolution of unity on general partitions of multidimensional domains using generalized expo-rational B-splines, and application to multivariate approximation and Hermite interpolation on scattered point sets
12:00 – 12:25  Andrey S. Andreev: Word image matching based on Hausdorff distances

Open Problems and Closing Session

15:00 – 16:30  Open Problems
16:30 – 16:45  Closing of the Conference