Scientific Program of the Conference

Wednesday, June 19, 2002

Opening Session   *Chair:* BORISLAV BOJANOV

 9:00 – 9:30 Opening of the Conference

 9:35 – 10:05 BL. SENDOV: Polynomial problems

10:10 – 10:40 S. M. NIKOLSKII: Boundary value problems and polynomials

Plenary Lectures   *Chair:* VLADIMIR TIKHOMIROV

11:10 – 11:55 R. A. DEVORE: Compression of surfaces

12:00 – 12:45 A. KROÓ: Classical polynomial inequalities in several variables

1st Afternoon Session A   *Chair:* ANDRÁS KROÓ

15:30 – 15:50 V. V. ARESTOV: Exact Jackson inequality in L_2 and related extremal problems

15:50 – 16:10 W. PLESNIAK: An estimate from below of a generalized Markov exponent

16:10 – 16:30 M. BARAN: Van der Corput-Schaake polynomial inequality on semialgebraic sets

1st Afternoon Session B   *Chair:* PETER VERTESI

15:30 – 15:50 J. SZABADOS: Weighted L_p error estimates for approximation by (C, θ)-means of Fourier-Jacobi series in spaces of locally continuous functions

15:50 – 16:10 G. MASTROIANNI: Weighted approximation of functions with isolated singularities

16:10 – 16:30 U. LUTHER: A note on simultaneous approximation

2nd Afternoon Session A   *Chair:* WIESŁAW PLESNIAK

17:00 – 17:20 D. DIMITROV: A theorem of Obrechkoff on Descartes' rule of signs for orthogonal polynomials

17:20 – 17:40 W. GAWRONSKI: Asymptotics for generalized Hermite polynomials

17:40 – 18:00 D. BENKO: Markov inequality for polynomials with m distinct zeros

18:00 – 18:20 L. MILEV: A weighted Markov inequality on $\mathbb{R}$

18:20 – 18:40 S. SZABÓ: On the Freud weight

2nd Afternoon Session B   *Chair:* PRZEMYSŁAW WOJTASZCZYK

17:00 – 17:20   F.-J. DELVOS: Bivariate Martensen splines

17:20 – 17:40   G. TACHEV: On the second moment of Schoenberg operator

17:40 – 18:00   I. GAVREA: About the quadratic spline of Sendov-type

18:00 – 18:20   D. KUTZAROVA: The thresholding greedy algorithm, greedy bases, and duality

18:20 – 18:40   K. FORD: Bounds for Weyl sums and applications

Thursday, June 20, 2002

Plenary Lectures   *Chair:* RONALD DEVORE

8:40 – 9:25   Q. I. RAHMAN: Entire functions of exponential type in approximation theory

9:30 – 10:15   P. WOJTASZCZYK: Greedy bases in Banach spaces

Morning Session A   *Chair:* QAZI I. RAHMAN

10:45 – 11:05   G. SCHMEISSER: Majorization of sequences of zeros and applications

11:05 – 11:25   D. DRYANOV: On the distribution of the zeros of an entire function of exponential type

11:25 – 11:45   E. BERDYSHEVA: On the pointwise Turán problem

11:45 – 12:05   S. RÉVÉSZ: On a problem of Turán about positive definite functions

12:05 – 12:25   R. ULUCHEV: Conjectures on zeros of polynomials

Morning Session B   *Chair:* FRANZ-JÜRGEN DELVOS

10:45 – 11:05   P. BINEV: Adaptive tree approximation on triangulations

11:05 – 11:25   W. SICKEL: Approximation from sparse grids and Sobolev spaces of dominating mixed smoothness

11:25 – 11:45   S. DEMARCHI: Fast evaluation of discrete integral transforms by Chebychev and Leja polynomial approximation

11:45 – 12:05   L. GORI: Quazi-interpolatory refinable operators

12:05 – 12:25   W. HOFMANN: Remembering Lothar Collatz

Friday, June 21, 2002

Plenary Lectures   *Chair:* ZBIGNIEW CIESIELSKI

8:40 – 9:25   YUAN XU: Orthogonal expansions and weighted approximation on the unit sphere

9:30 – 10:15   H. HAKOPIAN: Normal systems of algebraic and partial differential operators

Morning Session A   *Chair:* JIUSEPPE MASTROIANNI

10:45 – 11:05   B. KASHIN: Lower estimates for n-term approximation and related problems

11:05 – 11:25   F. SCHIPP: On biorthogonal product system of rational functions

11:25 – 11:45   T. KOULIKOVA: Lower estimate of the best approximation by frames and Riesz bases

11:45 – 12:05   M. PAP: Properties of discrete orthonormal and biorthogonal systems

12:05 – 12:25   A. HORVÁTH: Jackson order of approximation by Riesz means for Freud weights

12:25 – 12:45   H. GONSKA: Tiberiu Popoviciu (1906–1975)

Morning Session B   *Chair:* GERHARD SCHMEISSER

10:45 – 11:05   H.-P. BLATT: Alternation points in rational approximation

11:05 – 11:25   A. SRI RANGA: Szegö polynomials: examples and quadrature rules

11:25 – 11:45   R. KOVACHEVA: Discrepancy estimates for the distribution of alternation points in best rational approximation

11:45 – 12:05   T. KÜHN: Entropy numbers of Strichartz-Trudinger type embeddings

12:05 – 12:25   M. FORNASIER: Decompositions of Hilbert spaces: local construction of global frames

12:25 – 12:45   R. PĂLTĂNEA: A vector version of a theorem of Sendov and Popov

Saturday, June 22, 2002

Plenary Lectures   *Chair:* NIRA DYN

8:40 – 9:25   P. PETRUSHEV: Nonlinear spline approximation beyond Besov spaces

9:30 – 10:15   A. SHADRIN: Eight proofs of Markov inequality, or how to shoot an elephant

Morning Session A   *Chair:* JOZSEF SZABADOS

10:45 – 11:05   P. VERTESI: On orthogonal polynomials for exponential weights

11:05 – 11:25   K. IVANOV: Characterization of weighted K-functional with new moduli of smoothness

11:25 – 11:45   A. A. DOVGOSHEY: The conditions of analycity to modulus of continuity of piecewise analytic and analytic functions

11:45 – 12:05   M. HEILMANN: Eigenfunctions of a Durrmeyer modification of the Meyer-König-Zeller operators

12:05 – 12:25   B. DRAGANOV: A new modulus of smoothness for trigonometric polynomial approximation

Morning Session B   *Chair:* Hakop Hakopian
  10:45 – 11:05   K. Kitahara: On estimations of the norms of the Lagrange interpolation operators
  11:05 – 11:25   H. Gevorgian: On regularity of bivariate Hermite interpolation
  11:25 – 11:45   M. Lénárd: On lacunary interpolation at the zeros of the Laguerre polynomials
  11:45 – 12:05   Y. Babenko: About Kolmogorov type inequalities for functions defined on half line

1st Afternoon Session A   *Chair:* Kirill Kopotun
  15:30 – 15:50   S. Fridli: Walsh multipliers in dyadic Hardy spaces
  15:50 – 16:10   J. Prestin: Time-frequency localization for periodic functions
  16:10 – 16:30   L. Szili: On the uniform summability of interpolation processes

1st Afternoon Session B   *Chair:* Boris Kashin
  15:30 – 15:50   A. Petukhov: Linear methods of approximation in the Hausdorff metric
  15:50 – 16:10   L. Skrzypek: Minimal projections in space of functions of N variables
  16:10 – 16:30   Z. Németh: Tauberian theorems for regular $(C, 1, 1)$ summability

2nd Afternoon Session A   *Chair:* Alexander Petukhov
  17:00 – 17:20   K. Fedorovskiy: Uniform approximation by polyanalytic polynomials and related problems
  17:20 – 17:40   F. G. Abdullayev: On some properties of orthogonal polynomials over an area with weight having singularity on the boundary contour
  17:40 – 18:00   J. Müller: Faber operator and Jackson property
  18:00 – 18:20   M. Küçükaslan: On the convergence of the Fourier series with orthogonal polynomials inside and on the boundary of the region

2nd Afternoon Session B   *Chair:* Kamen Ivanov
  17:00 – 17:20   D. Kacsó: Quantative statements for certain Bernstein-Durrmeyer type operators
  17:20 – 17:40   S. Ostrovska: Convergence of generalized Bernstein polynomials
  17:40 – 18:00   A. Aasma: Some notes on summability of Fourier expansions
  18:00 – 18:20   T. Eisner: L^p-norm convergence of Walsh-Fourier series with respect to weights
  18:20 – 18:40   N. Dicheva: Scattered data points best interpolation as a problem of best recovery in the sense of Sard

Sunday, June 23, 2003

Plenary Lecture   *Chair:* BLAGOVEST SENDOV

8:40 – 9:25   A. PINKUS: Herman Münz, 1884–1956

1st Morning Session A   *Chair:* ALLAN PINKUS

9:30 – 9:50   V. M. TIKHOMIROV: Recovery of linear functionals related to inequalities for derivatives for polynomials and smooth and analytic functions

9:50 – 10:10   V. F. BABENKO: On Kolmogorov type inequalities for the norms of intermediate derivatives of functions of many variables

1st Morning Session B   *Chair:* HEINZ GONSKA

9:30 – 9:50   M. IVAN: On some mean value theorems involving divided differences

9:50 – 10:10   U. ABEL: The complete asymptotic expansion for the Gamma operators and their left quasi-interpolant

2nd Morning Session A   *Chair:* ALEKSEI SHADRIN

10:45 – 11:05   G. PETROVA: Cubature formulae for the sphere and the ball in $\mathbb{R}^n$

11:05 – 11:25   P. DRAGNEV: Optimal point configurations on the sphere

11:25 – 11:45   P. BOYVALENKOV: New nonexistence results for spherical designs

11:45 – 12:05   M. MITREVA: On the means of entire functions

2nd Morning Session B   *Chair:* PENCHO PETRUSHEV

10:45 – 11:05   A. B. ANDREEV: Bounds for the essential frequency for the fourth-order problems containing the eigenvalue parameter in the boundary conditions

11:05 – 11:25   P. RAJKOVIĆ: Solving equations by q-iterative methods

11:25 – 11:45   KR. VLACHKOVA: Interpolation of scattered data in $\mathbb{R}^3$ by smooth curve networks

11:45 – 12:05   VL. TODOROV: On the entropy of Cantor functions

Schedule of the International Workshop
Multiscale Approximations in Multivariate Problems
(wavelets, splines, RBF)

Wednesday, June 19, 2002

Opening Session   *Chair:* OGNYAN KOUNCHEV

14:00 – 14:05   Opening

14:05 – 14:55   N. DYN: Subdivision schemes with applications to geometric modeling and signal processing

15:00 – 15:40   Ž. MIJAJLOVIĆ: An algorithm for recognition of linear surfaces

2nd Session   *Chair:* NIRA DYN

16:00 – 16:50   K. JETTER: Subdivision methods for curves and surfaces generated by finitely many functions

17:00 – 17:30   D. BOJOVIĆ*, B. JOVANOVIĆ: Fractional order convergence rate estimates of finite difference method on non–uniform meshes

17:30 – 17:50   O. KOUNCHEV*, K. TODOROV: Programs of the Humboldt Foundation

Thursday, June 20, 2002

1st Session   *Chair:* KURT JETTER

8:25 – 9:05   H. RENDER: Polysplines – a new method in wavelet analysis

9:10 – 9:50   A. BEJANCU: Semi-cardinal spline interpolation in several variables

9:55 – 10:15   N. ATREAS: Wavelet decomposition and sampling for p-adic multiresolution analysis on spaces of p^M-periodic sequences

2nd Session   *Chair:* SVETOZAR MARGENOV

10:45 – 11:25   B. JOVANOVIĆ*, L. VULKOV: Some types of partial differential equations with interfaces

11:30 – 12:00   C. KARANIKAS: A non-linear discrete transform based on the tree structure of a data for pattern recognition of immune type

12:05 – 12:40   D. POPIVANOV: Linear/non-linear analysis of brain electrical signals using wavelet decomposition and Kolmogorov entropy

Friday, June 21, 2002

1st Session   *Chair:* HERMANN RENDER
8:40 – 9:20   S. MARGENOV: Optimal multilevel preconditioners for anisotropic elliptic problems
9:25 – 10:00   J. KARATSON: Preconditioning operators for the nonlinear elasto-plastic bending problem

2nd Session   *Chair:* BOŠKO JOVANOVIĆ
10:45 – 11:25   M. JEVTIĆ: Fixed points of an integral operator
11:30 – 12:00   W. HOFMANN: Optimization of absorbing boundary conditions for the 2D wave equation
12:05 – 12:40   P. BINEV: An adaptive finite element method with convergence rates

Saturday, June 22, 2002

Last Session   *Chair:* PETER BINEV
10:45 – 11:15   Ž. TOMOVSKI: Some new integrability classes of Fourier coefficients
11:20 – 12:00   O. KOUNCHEV: Polysplines – a crash course on theory and applications to image processing