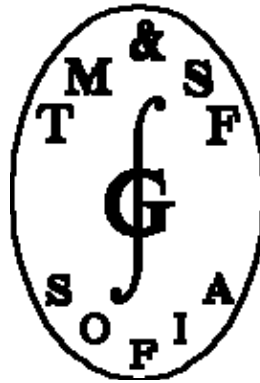


Transform Methods and Special Functions' 2011
6th International Conference, Sofia, 20-23 October 2011

Institute of Mathematics and Informatics
Bulgarian Academy of Sciences



TMSF' 2011

SCIENTIFIC PROGRAM

Partially supported by Project D ID 02/25/2009:

"Integral Transform Methods, Special Functions and Applications",
National Science Fund – Ministry of Education, Youth and Science, BULGARIA

21 October 2011 (Friday)

SESSION 1 – HALL 055

- 9.00 – 9.40 Opening Ceremony Chair: G. Dimkov
 Congratulations to the Jubilee
- 9.45 Photo of participants
- 9.50 – 10.10 Coffee Break Chair: I. Dimovski
- 10.15 – 10.35 V. Kiryakova: On the life achievements of Professor Peter Rusev
- 10.40 – 11.20 G. Dimkov: Mathematics and Music – so far and so close
- 11.20 – 11.40 P. Rusev: Classical Hermite and Laguerre polynomials
 and the zero-distribution of Riemann's ζ -function
- 11.40 – 12.20 Bl. Sendov: Polar derivatives and apolarity
- 12.20 – 13.00 R. Gorenflo, F. Mainardi: Two pathways to subordination
 in time-fractional diffusion
- 13.00 - 14.30 Lunch Break

SESSION 2 – HALL 055

- Chair: S.L. Kalla
- 14.30 – 15.00 F. Mainardi, R. Gorenflo: On the distinguished role
 of the Mittag-Leffler and Wright functions in fractional calculus
- 15.00 – 15.30 A. Takaci, D. Takaci: On the approximate solutions of a fractional
 integro-differential equation
- 15.30 – 15.50 J. Vindas: Tauberian class estimates for wavelet and non-wavelet
 transforms of vector-valued distributions
- 15.50 – 16.10 D. Atanasiu, P. Mikusinski, D. Nemzer: An algebraic approach
 to tempered distributions
- 16.10 – 16.30 Coffee Break Chair: R. Gorenflo
- 16.30 – 16.50 N. Virchenko: On some generalizations of classical integral transforms
- 16.50 – 17.10 D. Takaci: On the visualization of generalized functions
- 17.10 – 17.30 T. Odziejewicz, A. Malinowska, D. Torres: Fractional variational
 calculus of variable order

Chair: N. Virchenko

- 17.30 – 17.50 B. Datsko, Yu. Luchko: Fractional nonlinear autonomous systems: stability analysis and limit cycles
- 17.50 – 18.10 E. Bazhlekova: Strict L^p solutions for nonautonomous fractional evolution equations
- 18.10 – 18.30 I. Shilin: $SO(2,1)$ -Invariant double integral transforms and formulas for Whittaker and other functions
- 18.30 – 20.30 Welcome Cocktail

22 October 2011 (Saturday)

SESSION 3 – HALL 256

Chair: F. Mainardi

- 9.00 – 9.40 Yu. Luchko: Some existence and uniqueness results for the time-fractional diffusion equations
- 9.40 – 10.20 Vu Kim Tuan: Inverse problem for fractional diffusion equation
- 10.20 – 10.50 I. Podlubny (video recorded), I. Petras, T. Skovranek, V. Verbitskyi, B. Vinagre, YangQuan Chen, V. Kiryakova: Matrix approach to discrete fractional calculus and its implementation in MATLAB
- 10.50 – 11.10 Coffee Break
- Chair: P. Rusev
- 11.10 – 11.40 S.L. Kalla: Financial derivatives and integral transforms
- 11.40 – 12.10 I. Dimovski, Yu. Tsankov: Exact solutions of nonlocal BVPs for the multidimensional heat equation
- 12.10 – 12.40 I. Landjević: The bicentennial anniversary of E. Galois
- 12.40 – 13.40 Lunch Break

SESSION 4 – HALL 256

Chair: V. Krasniqi

- 14.00 – 14.20 Y. Polatoglu, M. Aydoğan, A. Yemisci: Growth theorem and the radius of starlikeness of close-to-spiral-like functions
- 14.20 – 14.40 D. Pashkouleva: Certain classes of functions with negative coefficients

14.40 – 15.00 P. Rajkovic, P. Barry, N. Savic: The Hankel determinants of the number sequences in an integral form

15.00 – 15.20 Coffee Break

Chair: A. Takaci

15.20 – 15.40 M. Stankovic, P. Rajkovic, P. Stankovic: Curves provided by ratio division of a few special functions

15.40 – 16.00 S. Marinkovic, M. Stankovic, E. Mulalic: The deformed trigonometric functions of two variables

16.00 – 16.20 M. Rakha: Classical summation theorems for the series ${}_2F_1$ and ${}_3F_2$ and their applications

Chair: Yu. Luchko

16.20 – 16.40 G. Chobanov, I. Dimovski: Exact solutions of a nonlocal pluriparabolic problem

16.40 – 17.00 I. Dimovski, V. Hristov: Commutants of the square of differentiation on the half-line

17.00 – 17.20 I. Dimovski, N. Bozhinov: Commutants of Sturm-Liouville operators on the halfline \mathbb{R}_+

17.20 – 17.40 Y. Nikolova: α -Mellin Transform and one of its applications

17.40 – 18.00 G. Boychev: Hermite series with polar singularities

SESSION 5 – HALL 278

Chair: D. Takaci

14.00 – 14.20 G. Light: Information transmission in a quotient space

14.20 – 14.40 A. Hasan: Self-gravitating stability of a rotating fluid layer sandwiched in a different fluid

14.40 – 15.00 I. Matychyn, A. Chikrii, V. Onyshchenko: Conflict-controlled processes involving fractional differential equations with impulses

15.00 – 15.20 Coffee Break

Chair: G. Dimkov

15.20 – 15.40 E. Nikolov: Application of fractional operators in industrial control system (Fractional $ML - DTC$ control systems - design and analysis)

15.40 – 16.00 A. Guerziz, A. Laouar: Passage of a long wave over a vertical barrier: Calculation of the local disturbances by a complex variable method

16.00 – 16.20 A. Laouar, A. Guerziz, S. Boughaba: Study of free surface equation for a long gravity wave in a rectangular basin

Chair: J. Davidov

16.20 – 16.40 A.M. El-Kassar, M. Salameh, M. Bitar: EPQ model with imperfect quality raw material

16.40 – 17.10 J. Davidov, O. Mushkarov: Existence of holomorphic functions on twistor spaces

17.10 – 17.30 L. Apostolova: Hyperbolic fourth-R quadratic equation and holomorphic fourth-R polynomials

18.30 – 20.00 Bus Tour to Sofia Downtown

20.00 Banquet Party

23 October 2011 (Sunday)

SESSION 6 – HALL 256

Chair: Vu Kim Tuan

9.30 – 10.10 G. Milovanovic, A. Cvetkovic: Special classes of orthogonal polynomials and corresponding quadratures of Gaussian type

10.10 – 10.40 R. Kovacheva: Zero distribution of geometrically convergent sequences of rational functions

10.45 – 11.10 Coffee Break

Chair: G. Milovanovic

11.10 – 11.40 G. Nikolov, A. Alexandrov: On the behavior of ultraspherical polynomials in the complex plane

11.40 – 12.10 V. Kiryakova: The special functions – classical and new, and generalized fractional calculus

12.10 – 12.30 J. Paneva-Konovska: Three multi-index Mittag-Leffler functions and convergent series in them

12.30 – 13.40 Lunch Break

SESSION 7 – HALL 256

Chair: T. Pogany

- 13.40 – 14.00 M. Stojanovic: Nonlinear time fractional evolution equations with singularities
- 14.00 – 14.20 D. Kolev, Ts. Donchev, K. Nakagawa: Weakened condition for the stability to solutions of parabolic equations with "maxima"
- 14.20 – 14.40 V. Krasniqi, F. Merovci: Some completely monotonic properties for the $\Gamma_{p,q}$ -function
- 14.40 – 15.00 L. Boyadjiev: From the classical orthogonal polynomials to the fractional diffusion equations
- 15.00 – 15.20 B. Al-Sagabi: Solutions of fractional diffusion-wave equations In terms of H -functions
- 15.20 – 15.40 Coffee Break
- Chair: L. Boyadjiev
- 15.40 – 16.00 T. Pogany: Integral forms of Neumann--type series of Bessel functions
- 16.00 – 16.20 Z. Tomovski, R.K. Saxena, T. Pogany: Probability distributions associated with Mathieu type series
- 16.20 – 16.40 S. Mirevski, L. Boyadjiev: Some fractional order analogues of the Laguerre, Kummer and Gauss functions
- 17.00 Closing of the Conference

SCHEME OF THE PROGRAM:

19 & 20 Oct.: Arrivals

20 Oct.: Participants' Discussions, Social Events, Excursion,
Official Meeting of Ed. Boards of *Fract. Calc. Appl. Anal.*, *Math. Balk.*, *East J. Approx.*

21 Oct.: Opening: 9.00 – 10.00

21 Oct., Talks: Session 1 (10.15 - 13.00), Session 2 (14.30 - 18.30)

21 Oct., 18.30 – 20.30 Welcome Cocktail, at Buffet of Institute

22 Oct., Talks: Session 3 (9.00 – 12.40); Session 4 (14.00 – 17.40), Session 5 (14.00 – 17.40)

22 Oct., 18.30 – 20.00 Bus tour around Sofia

22 Oct., 20.00 - Banquet party in Restaurant "Biljana"

23 Oct., Talks: Session 6 (9.30 – 12.30); Session 7 (13.40 -17.00); Closing; Free evening

24 Oct.: Participants' Discussions, Departures