

Conference Program

July 24, 2017	
08h00-10h00	Registration SPbPU University Meeting Hall, 1st Floor
10h00-10h30	Opening Ceremony SPbPU Big Conference Hall, 2nd Floor
Hall A	
First Plenary Sessions 10h30 - 12h30 Chair: D. Baleanu	
10h30-11h10	S. Capozziello, Noether's symmetries in quantum cosmology
11h10-11h50	D.F.M. Torres, Modeling, global stability and optimal control of HIV/AIDS through PrEP
11h50-12h30	V.E. Fedorov, Degenerate analytic in a sector resolving operators family
12h30-14h00	Lunch
First Contributed Talks (SS: 4) 14h00 – 15h40 Chairs: A. Khastan et al.	
14h00-14h20	E. Lebedeva, Uncertainty product for Vilenkin groups
14h20-14h40	B. Sarma, Some sequences of Fuzzy real numbers operated by a difference operator under an orlicz function
14h40-15h00	K. Pathak, Fuzzy Ideals in some specific BE-algebras
15h00-15h20	Z. Alijani, On the solution of fuzzy Volterra-Fredholm integral equation of second kind
15h20-15h40	A. Khastan, Some new results for fuzzy differential equations
15h40-16h10	Coffee Break
Second Contributed Talks (SS: 4) 16h10 – 17h50 Chairs: A. Khastan et al.	
16h10-16h30	R. Şahin, An integrated multi-criteria decision making methodology based on Pythagorean fuzzy information
16h30-16h50	S. Asmuss, Higher degree fuzzy transforms based on B-splines
16h50-17h10	S. Ouazine, Numerical Approaches for the Epistemic Uncertainty Analysis of Queues
17h10-17h30	B. Takhedmit, Analytic propagation of epistemic uncertainty in queuing models
17h30-17h50	K. Abbas, Taylor series expansion approach for epistemic uncertainty propagation in queueing-inventory models
Hall B	
First Contributed Talks 14h00 – 15h40 Chair: V.E. Fedorov	
14h00-14h20	I. Talib, Application of fixed point theory and study of the existence of solutions of nonlinear coupled differential systems
14h20-14h40	I. Area, Some properties of (p,q)-orthogonal polynomials
14h40-15h00	M. Moumni, Some stochastic representations of quantum interference
15h00-15h20	P.K. Roy, Mathematical modelling of methanol poisoning with impulsive dosing of antidote therapeutics to prevent toxicity
15h20-15h40	I. Dassios, Methods in optimization, system theory and networks for mathematical modelling
15h40-16h10	Coffee Break
Second Contributed Talks 16h10 – 17h50 Chair: I. Area	
16h10-16h30	K.E. Starkov, Global tumor eradication conditions for cancer model under combined chemotherapy anti-angiogenic therapy
16h30-16h50	B. Issaadi, Weak perturbation theory with applications to queuing
16h50-17h10	V.K. Patel, Application of two-dimensional wavelet operational matrices for complex partial differential equation

17h10-17h30	V. Romanovski, Invariant surfaces and first integrals of polynomial systems
17h30-17h50	A. Houas, An encryption algorithm for Gray-Scale Image based On Bit-plane decomposition and diffuse representation
Hall C	
First Contributed Talks 14h00 – 15h40 Chair: A. Vasilyev	
14h00-14h20	C. Pinto, The impact of pre-exposure prophylaxis (PrEP) and screening on the dynamics of HIV
14h20-14h40	S. Mahoui, Finite element approximation to optimal pointwise control of parabolic problems with incomplete data
14h40-15h00	M. Fathurrohman, A mathematical model of tuberculosis improper treatment
15h00-15h20	P.C. Das, On p-absolutely summable sequence space l_p with statistical metric
15h20-15h40	A. Burnetas, Stochastic approximation for equilibrium computation in a queue with strategic customers and delay-based reneging
15h40-16h10	Coffee Break
Second Contributed Talks 16h10 – 17h50 Chair: I. Dassios	
16h10-16h30	S. Chakraborty, The role of HPV on cervical cancer with several functional response: a comparative study
16h30-16h50	P.K. Miahra, Dynamic stress intensity factor due to applied point loading in a cracked infinite orthotropic elastic strip
16h50-17h10	K. Mecheri, Solving the equation $f(x)=\alpha$ in a functional space using an iterative algorithm
17h10-17h30	N. Hamadouche, The performance measures of some queues with preemptive priority
17h30-17h50	M.F. Teodoro, Using radial basis functions to solve numerically some MTFDEs
18:30	Welcome party

July 25, 2017	
Hall A	
Second Plenary Sessions 09h00 - 11h00 Chair: D.F.M. Torres	
09h00-09h40	W. Spröbig, Applicational aspects of a hypercomplex operator theory
09h40-10h20	D. Baleanu, About some new derivatives in the area of fractional calculus and its applications
10h20-11h00	A.B. Malinowska, On multi-agent systems on time scales
11h00-11h30	Coffee Break
Third Contributed Talks (SS: 3) 11h30 – 12h50 Chair: V.B. Vasilyev	
11h30-11h50	M.V. Shamolin, Integrability in terms of elementary functions of variable dissipation dynamical systems
11h50-12h10	A. Glushak, Abstract Bessel-Struve Equation with Nonlocal Condition
12h10-12h30	S. Askhabov, Nonlinear integro-differential equations of convolution type in Lebesgue spaces
12h30-12h50	V. Vasilyev, On some difference and discrete equations and related boundary value problems
12h50-14h20	Lunch
Fourth Contributed Talks (SS: 3) 14h20 – 15h40 Chair: V.B. Vasilyev	
14h20-14h40	A. Muravnik, On decay rate of nonnegative solutions of singular quasilinear parabolic equations
14h40-15h00	M. Polovinkina, On properties of mean values of solutions to linear singular differential equations
15h00-15h20	S.S. Leonov, Creep model identification problem for metal structures
15h20-15h40	A. Vasilyev, On Error Estimates for Approximate Solutions of Certain Discrete Equations
15h40-16h20	Coffee Break & Poster Session 1
Fifth Contributed Talks 16h20 – 17h40 Chair: A.B. Malinowska	
16h20-16h40	A. Jawad, On reliable and efficient method for the soliton solutions of the coupled Schrödinger-Boussinesq equations
16h40-17h00	L. Borel, On unique solvability of a system of equations with memory effects
17h00-17h20	M. Algezweeni, Solving boundary value problems
17h20-17h40	V. Kumar, Time-frequency analysis of Particle's trajectory in perturbed elliptic oscillator

Hall B	
Third Contributed Talks 11h30 – 12h50 Chair: G. Shevlyakov	
11h30-11h50	M. Dyshaev, Invariant solutions of Black-Scholes type equations for futures-style American options traded at Moscow Exchange
11h50-12h10	M. Inc, Optimal system, nonlinear self-adjointness and conservation laws for generalized shallow water wave equation
12h10-12h30	H. Jafari, A numerical approach for solving variable order differential equations based on Bernstein polynomials
12h30-12h50	A. Makovetskii, A direct approach to the fast one dimensional total variation regularization algorithm
Lunch	
Fourth Contributed Talks 14h20 – 15h40 Chair: I. Perfilieva	
14h20-14h40	T. Lazovskaya, Neural network parametric modeling in task about porous catalyst processes
14h40-15h00	Y.I. Hudak, Mathematical problems of electrodynamics of layered dielectrics
15h00-15h20	I.A. Brigadnov, Mathematical and computer modelling of sandwich sheet forming process
15h20-15h40	R. Davydov, Mathematical modelling of metal ablation by femtosecond laser pulses
Coffee Break & Poster Session 1	
Fifth Contributed Talks 16h20 – 17h40 Chair: A. Akgül	
16h20-16h40	V. Gaiko, Limit Cycles of the Kukles Cubic System
16h40-17h00	L. Yasnitsky, New possibilities of application of artificial intelligence methods for high-precision solution of boundary value problems
17h00-17h20	D. Tarkhov, New methods of multilayer semiempirical models in Nonlinear bending of the cantilever
17h20-17h40	A. Tiukhtina, The stable sequential Lagrange principles as tools for solving some classes unstable inverse problems of electromagnetic theory
Hall C	
Third Contributed Talks 11h30 – 12h50 Chair: R. Almeida	
11h30-11h50	D. Chekmarev, Determination of the Loads Acting on the Hovercraft
11h50-12h10	A. Kalinin, Lp - estimates for scalar products of vector fields and their application to electromagnetic theory problems
12h10-12h30	N.B. Bellil, Optical and electronic properties of semiconducting Sn ₂ S ₃ and SnZrS ₃
12h30-12h50	T. Odziejewicz, Variational methods for the solution of fractional discrete/continuous Sturm--Liouville problems
Lunch	
Fourth Contributed Talks 14h20 – 15h40 Chair: N.R.O. Bastos	
14h20-14h40	A. Sarkar, Multiple solutions for a fourth order critical problem
14h40-15h00	M. Barboteu, Study of a dynamic frictional contact problem for hyperviscoelastic material with nonconvex energy density
15h00-15h20	D. Kuznetsov, Strong Approximation of Multiple Ito and Stratonovich Stochastic Integrals
15h20-15h40	A.A. Bakre, Inference for stochastic diffusion model for the dynamic of HIV using a Bayesian approach
Coffee Break & Poster Session 1	
Fifth Contributed Talks 16h20 – 17h40 Chair: D. Mozyrska	
16h20-16h40	Rajeev, A numerical solution of a moving boundary problem
16h40-17h00	Z. Djamilia, Stochastic decomposition for a retrial queue type with server subject to breakdowns, repairs and impatient customers
17h00-17h20	V.V. Garbaruk, Investigation of time series by means of factor analysis
17h20-17h40	N. Martins, Applications of predictive control to opinion dynamics models on time scales

July 26, 2017	
Hall A	
Third Plenary Sessions 09h00 - 11h00 Chair: S. Capozziello	
09h00-09h40	A. Vasilyev, Neural Network Modeling of Complex Systems Described by Differential Equations and Other Data

09h40-10h20	I. Perfilieva, F-transform as a Technique for Boundary Value Problems: Ordinary and Fuzzy
10h20-11h00	G. Shevlyakov, Robust Statistics: A Brief Review of Ideas and Tools with Their Applications to Signal Processing
11h00-11h30	Coffee Break
Sixth Contributed Talks (SS: 1) 11h30 – 12h50 Chairs: C.M.A. Pinto et al.	
11h30-11h50	R. Almeida, Fractional differential equations: Existence and uniqueness of solutions, with applications
11h50-12h10	S. Lukashchuk, Approximate Lie Point Symmetries for Fractional Partial Differential Equations
12h10-12h30	D. Prodanov, Fractional Taylor expansions for some classes of functions
12h30-12h50	S. Das, Dual combination phase synchronization of fractional order hyperchaotic systems with external disturbances
12h50-14h20	Lunch
Seventh Contributed Talks (SS: 1) 14h20 – 15h40 Chairs: C.M.A. Pinto et al.	
14h20-14h40	N.R.O. Bastos, Using fractional differential equations to model some real phenomena
14h40-15h00	M. Rebelo, Numerical approximation of tempered fractional terminal value problems
15h00-15h20	M. Plekhanova, Optimal control problem for evolution equation of fractional order with a weak degeneracy
15h20-15h40	A. Debbouche, Some impulsive nonlocal control systems of Hilfer fractional orders
15h40-16h20	Coffee Break & Poster Session 2
Eighth Contributed Talks (SS: 1) 16h20 – 17h40 Chairs: C.M.A. Pinto et al.	
16h20-16h40	V. Mishra, Numerical solution of fractional order vibration equation using Bernstein polynomial
16h40-17h00	R. Kalantari, A non-standard finite difference method for digital put option pricing under the fractional black-scholes model
17h00-17h20	I.R. Birs, Preliminary results for velocity control of a nanorobot in non-Newtonian fluids using fractional calculus
17h20-17h40	D. Mozyrska, Novelty fractional-order difference application in system modelling
Hall B	
Sixth Contributed Talks 11h30 – 12h50 Chair: N. Martins	
11h30-11h50	L. Machado, Minimum energy interpolating curves in fluid environments
11h50-12h10	N. Levashova, The contrast structure type solution of the reaction-diffusion equation in case of discontinuous reactive and diffusive terms
12h10-12h30	V.K. Yadav, Hybrid compound synchronization of fractional order complex chaotic systems
12h30-12h50	Z. Bouteffal, Impulsive partial hyperbolic differential equations of fractional order with state dependent delay
12h50-14h20	Lunch
Seventh Contributed Talks 14h20 – 15h40 Chair: T. Odziejewicz	
14h20-14h40	A. Melnikova, Solution of the Front Type in the Reaction-Diffusion System with Periodic Conditions
14h40-15h00	A. Beliaeva, Neural network method of restoring an initial profile of the shock wave
15h00-15h20	S. Najafzadeh, Some properties of univalent holomorphic functions by using subordination
15h20-15h40	Y. Menshikov, Synthesis of Adequate Mathematical Description for Dynamical Systems
15h40-16h20	Coffee Break & Poster Session 2
Eighth Contributed Talks 16h20 – 17h40 Chair: H. Jafari	
16h20-16h40	V. Dilman, On the Criteria for the Critical State of a Round Rod exposed to Tension
16h40-17h00	I. Cacao, A matrix approach to the representation of orthogonal hypercomplex polynomial systems
17h00-17h20	M. Erfanian, The approximate solution of nonlinear Volterra Hammerstein integral equations with RH wavelet bases in a complex plane
17h20-17h40	E. Chistyakova, On Some Properties of Higher Order Differential Algebraic Equations Perturbed by the Fredholm Operator
Hall C	
Sixth Contributed Talks 11h30 – 12h50 Chair: M. Frolov	
11h30-11h50	V. Chistyakov, Modelling of incompressible fluid by means of partial differential algebraic equations

11h50-12h10	M. Langerova, On second-order resonance periodic problem with impulses
12h10-12h30	K. Omarova, A description of the model of a process of the semi-Markovian walk with a delaying screen by means of a fractional order differential equation
12h30-12h50	A. Bareche, Stochastic Bounds for the Main Characteristics of a Single Server Queue with Two Types of Calls
12h50-14h20	Lunch
Seventh Contributed Talks 14h20 – 15h40 Chair: K. Kumar	
14h20-14h40	P. Kumar, Hybrid finite element formulation of mild slop equation in a rectangular domain
14h40-15h00	V. Antonov, Numerical Simulation of a High-Current Z-Discharge in water, initiated by an electrical Explosion of a thin-walled
15h00-15h20	R.C. Mittal, A fourth order B-spline collocation method for numerical simulation of periodic Burgers' equation
15h20-15h40	F. Chérif, Pseudo almost periodic and pseudo almost automorphic solutions of neutral delay integral equation
15h40-16h20	Coffee Break & Poster Session 2
Eighth Contributed Talks 16h20 – 17h40 Chair: A.J.M. Jawad	
16h20-16h40	N. Novoselova, Integration of Heterogeneous Biological Data for Protein Function Prediction
16h40-17h00	A. Makasheva, The simulation of dispersion of particles in a planar mixing layers in depend on inlet effects
17h00-17h20	A. Kolyskin, Linear stability of a chemically reacting fluid in tall vertical containers
17h20-17h40	A. Gainetdinova, Integrals of systems of two second-order ODEs admitting four-dimensional Lie algebras

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Hall A

Ninth Contributed Talks (SS: 2) 09h00 – 10h40 Chairs: A. Akgul et al.

09h00-09h20	E.K. Akgül, A Novel Method for the Solution of Blasius Equation in Semi-Infinite Domains
09h20-09h40	A. Panov, Symmetry approach for investigation dynamics of two-phase medium
09h40-10h00	A. Kasatkin, Symmetry properties of two-phase filtration model with space-fractional derivatives
10h00-10h20	L. Harfouche, Bayesian bandwidth selection using two multiplicative bias correction estimators for discrete associated kernel
10h20-10h40	V. Gorbachenko, Kernel basis functions method for coupled mathematical models of heat and mass transfers
10h40-11h10	Coffee Break
Tenth Contributed Talks (SS: 2) 11h10 – 12h50 Chairs: A. AKgul et al.	
11h10-11h30	K. Kumar, High-order Numerical Scheme for Abel's and Generalized Abel's Integral Equations
11h30-11h50	R.K. Pandey, Numerical Scheme for Generalized Fractional Integro -Differential Equations
11h50-12h10	L. Solovarova, Collocation-Variation Difference Schemes for Differential-Algebraic Equations
12h10-12h30	A. Gupta, Application of orthogonal polynomials for generalized Abel integral equations via operational matrices
12h30-12h50	A. Akgül, Some Open Problems in the Reproducing KernelMethod

Hall B

Ninth Contributed Talks 09h00 – 10h40 Chair: L. Machado

09h00-09h20	K. Nourouzi, Diversity Normed Spaces
09h20-09h40	E. Antipov, The moving front solution in a two dimensional problem from reaction-diffusion-advection equation
09h40-10h00	L. Britvina, Generalized convolutions for the Hankel transform and related integral operators
10h00-10h20	M. Boronina, Numerical simulations of colliding beams dynamics with nonzero crossing angle
10h20-10h40	C. Aouiti, Global exponential stability of delayed inertial neural networks with impulses via inequality techniques
10h40-11h10	Coffee Break
Tenth Contributed Talks 11h10 – 12h50 Chair: I. Cacao	
11h10-11h30	S. Perepechko, Near-perfect matchings on Pm X Pn graphs of odd order

11h30-11h50	Mohammed Chebbah, Simulations for efficient combination of two lower bound functions in univariate global optimization
11h50-12h10	A. Gerus, Slow strain waves in blocky geomedium. Mathematical modelling and numerical estimations
12h10-12h30	V. Beloshapko, Analysis and resolving of singularly perturbed elliptic Dirichlet problem with three-band boundary layer
12h30-12h50	Y. Djabali, Strong Stability of the Embedded Markov Chain In an PH/M/1 Queue
Hall C	
Ninth Contributed Talks 09h00 – 10h40 Chair: M. Barboteu	
09h00-09h20	H. Singh, Approximate numerical solution of fractional delay differential equations using operational matrix method
09h20-09h40	A. Efimova, Numerical Modeling of the Generation of the Electromagnetic Radiation by the Beam-Plasma Interaction with Using of the Particle-in-Cell Method
09h40-10h00	S. Sik, Preliminary and shrinkage estimation in quantile regression model with iid errors
10h00-10h20	A. Demiralp, Shrinkage and penalty estimation in quantile regression model with autoregressive errors
10h20-10h40	A. Belov, Solution of ill-posed problems by regularized double period method on the example of Fredholm equation
10h40-11h10	Coffee Break
Tenth Contributed Talks 11h10 – 12h50 Chair: I. Talib	
11h10-11h30	H.S. Rodrigues, On the Dynamics of a Viral Marketing Model with Optimal Control using Indirect and Direct Methods
11h30-11h50	Z. Dombrovskaya, Optimization of an Isotropic Metasurface on a Substrate
11h50-12h10	O.G. Proncheva, Modeling of information warfare in a society
12h10-12h30	M. Davydova, On a stationary solution of a nonlinear singularly perturbed heat equation
12h30-12h50	V. Lozhkin, Neural network model for forecasting of hazard air pollution by PM emitted from peat fire and its effect on road traffic

July 27, 2017

14h00-19h00	Social Program 1: Evening Bus Tour
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July 28, 2017

Hall A	
Eleventh Contributed Talks 09h00 – 10h40 Chair: H.S. Rodrigues	
09h00-09h20	U. Kangro, Cordial Volterra integral equations and singular fractional integro-differential equations in spaces of analytic functions
09h20-09h40	F. Leslous, Generalizing the MDCA method for searching of a global optimum of a nonconvex function in an R_n box
09h40-10h00	S. Himri, Computational investigation of inclusion to some kinds of trihydroxyflavanone with B-cyclodextrin
10h00-10h20	T. Shemyakina, Global solutions of Frankl system with sequestered coefficients providing by filling of initial data
10h20-10h40	V.K. Singh, An efficient computational method based on Legendre wavelet for partial integro-differential equations arising from viscoelasticity
Hall B	
Eleventh Contributed Talks 09h00 – 10h40 Chair: M. Fathurrohman	
09h00-09h20	M. Frolov, Functional-type a posteriori error estimates and adaptive algorithms for solid mechanics in 2D
09h20-09h40	A. Soldatov, An analogue of the Schwarz problem for the Moisil--Teodorescu system in multiply connected domains
09h40-10h00	S. Singh, Magnetogasdynamic shock wave propagation in self-gravitating gas
10h00-10h20	C. Ferkous, Classification of mammographic masses according to their shapes in digitized mammograms

10h20-10h40	M. Kansal, Derivative free variants of King family with memory having high efficiency index for solving nonlinear equations
Hall C	
Eleventh Contributed Talks 09h00 – 10h40 Chair: M. Rebelo	
09h00-09h20	G.B. Loghmani, Investigation of natural convection of a non-Newtonian nanofluid flow between two vertical flat plates using Birkhoff interpolation method
09h20-09h40	Y. Kopeliovich, Optimization with Defaultable Securities
09h40-10h00	K. Nurtazina, Identifiability Algorithm for the Differential Equation with Memory and Loaded Masses on Graphs
10h00-10h20	R. Sibatov, Fractional differential model of percolative phonon-assisted hopping in mesoporous semiconductor
10h20-10h40	M. Karabacak, On numerical solving time-fractional differential equations

July 28, 2017	
11h00-12h00	Scientific Meeting & Closing Ceremony SPbPU Big Conference Hall, 2nd Floor

July 28, 2017	
18h30-22h30	Social Program 2: Conference dinner/Banquet

July 29, 2017	
10h00-18h00	Social Program 3: Full Day Tour/Excursion