



24 - 29 AUGUST 2025, ROSTOV-ON-DON, RUSSIA

MODERN METHODS, PROBLEMS AND APPLICATIONS OF OPERATOR THEORY AND HARMONIC ANALYSIS

OTHA-2025 <http://otha.sfedu.ru/>, otha.conference@gmail.com

SCIENTIFIC PROGRAMM & SCHEDULE OF EVENTS

MONDAY 25.08.2025 Location: Main Administrative bldg, Bolshaya Sadovaya 105/42. Registration, 09:20-9:40			
9:20-10:00	Registration (Lobby of the main administrative building, Bolshaya Sadovaya 105/42)		
10:00-13:10	Plenary Session (Ground floor, Scientific Council Room)		
10:00-10:20	Opening Ceremony		
10:25-10:50	Nazaikinskii Vladimir	Homogenization method in the problem on the run-up of waves described by linearized shallow water equations	Chairman – Karapetyants Alexey
10:50-11:15	Narayanan E.K.	Zero product of Toeplitz operators on the annulus	
11:15-11:35	Coffee break		
11:35-12:00	Arsenovic Milos	Normed spaces of pointwise Bochner and Dunford p-integrable operator valued functions	Chairman – Nazaikinskii Vladimir
12:00-12:25	Burnaev Evgeny	A statistical learning perspective on semi-dual adversarial neural optimal transport solvers	
12:25-12:50	Karapetyants Alexey	Toeplitz operators with radial symbols on general analytic function spaces	
12:50-13:05	Photo: Please, gather at the Monument Ataman Platov for the conference photo.		
13:10-14:30	Lunch (“Magadan” restaurant, Kirovskiy Avenue 39)		
14:30-18:00	Session talks		
19:00-21:30	Welcome dinner (Hotel Don Quixote, Ulyanovskaya St. 58, 13th floor)		

14:30-18:00	Special session dedicated to the 90th anniversary of the birth of I.B.Simonenko (Ground floor, Scientific Council Room)		
14:30-14:45	Rabinovich Vladimir (online)	Interaction of relativistic particles with singular potentials and the Simonenko local principle	Chairman – Steinberg Boris
14:45-15:00	Levenshtam Valeriy	Asymptotic integration of some high-frequency problems	
15:00-15:15	Revina Svetlana	Pendulum with diffusion and Turing instability	
15:15-15:30	Erusalimskiy Iakov	Factorization of chromatic polynomials by bridges and articulation points	
15:30-15:45	Skorokhodov Vladimir	On flows local control in resource networks	
15:45-16:00	Yurushkin Mikhail	Mathematical foundations of ai in computer vision and natural language processing	
16:00-16:15	Coffee break		
16:15-16:30	Kosolapov Yury	Coding theory with applications to real-world problems	Chairman – Steinberg Boris
16:30-16:45	Abramyan Mikhail	On some new approaches to designing a lecture course in calculus	
16:45-18:00	Round table		

14:30-18:00	Session «Differential Equations and Mathematical Physics» (Ground floor, Round Table Room)		
14:30-14:45	Vatulyan Alexander	On projection approaches in coefficient inverse problems for functional gradient structures	Chairman – Lukyanenko Vladimir
14:45-15:00	Norkin Mikhail	Dynamics of an attached cavity after a separation impact of a floating body	
15:00-15:15	Morgulis Andrey	Predator-prey taxis and shortwave external signals	
15:15-15:30	Kryakvin Vadim	Anisotropic pseudodifferential operators in scales of Holder-Zygmund spaces	
15:30-15:45	Loboda Nadezhda	On the spectra of wandering exponents of a nonlinear two-dimensional system and a first approximation system	
15:45-16:00	Petrosyan Garik	Topological properties of solution sets of fractional order differential inclusions	
16:00-16:15	Coffee break		
16:15-16:30	Lukyanenko Vladimir	Approximate solution algorithms based on close equations	Chairman – Vatulyan Alexander
16:30-16:45	Muratov Mustafa	Order ideals and Marcinkiewicz classes of measurable functions	
16:45-17:00	Soloviev Arkadiy	Inverse problem of identification of damaged layer parameters of extended structures	
17:00-17:15	Kachalov Vasily	On small parameter analyticity in nonlinear perturbation theory	
17:15-17:30	Otmani Sadok	Existence and behavior of solutions to the wave equation with logarithmic nonlinearity	
17:30-17:45	Oksogoeva Irina	Mathematical modeling of the effect of diffusion on plasma transport in a helical magnetic field	
17:45-18:00	Bayrash Ruben	On an even-order spectral problem with integral conditions	

14:30-16:45	Session «Probability-Analytical Models and Methods» (Second floor, Small Room)		
14:30-15:00	Kartelev Denis	Machine learning in business performance forecasting	Chairman – Gliklikh Yury
15:00-15:30	Sobolev Vitaly	On three types of asymptotic expansions in the central limit theorem	
15:30-16:00	Condratenko Alexander	On one property of uniform distribution	
16:00-16:15	Coffee break (first floor)		
16:00-16:30	Martynov Gennady	Goodness - of fit test for the gamma distribution family	
16:30-16:45	Kornuta Anshelika	Existence of a central manifold for the initial boundary value problem with transformation of variables	

TUESDAY 26.08.2025 Location: Main Administrative bldg, Bolshaya Sadovaya 105/42.			
10:00-13:10	Plenary Session (Ground floor, Scientific Council Room)		
10:00-10:25	Bufetov Alexander	Borel automorphisms of the space of measures	Chairman – Grudsky Sergei
10:25-10:50	Turilova Ekaterina	Symmetries of C^* -algebras	
10:50-11:15	Mirotin Adolf	On the cell growth equation	
11:15-11:30	Coffee break		
11:30-11:55	Grudsky Sergei	I. B. Simonenko and L_p factorization	
11:55-12:20	Ilolov Mamadsho	On positive solutions of the logistic equation with random disturbances	Chairman – Turilova Ekaterina
12:20-12:45	Rossovsky Leonid	On the influence of irregularity of the boundary on the solution to the boundary value problem for the Poisson equation	
12:45-13:10	Simonov Sergey	Inverse problems and functional models of operators	
13:10-14:20	Lunch (“Magadan” restaurant, Kirovskiy Avenue 39)		
14:20-17:00	Plenary Session (Ground floor, Scientific Council Room)		
14:20-14:45	Ashyralyev Allaberen	Well-posedness of difference schemes for elliptic NBVPs in Hölder spaces with weights	Chairman – Khoury Suheil
14:45-15:10	Pskhu Arsen	Order determination problems for diffusion-wave equations with Dzhrbashyan-Nersesyan operators	
15:10-15:35	Sheipak Igor	Sharp estimates of intermediate derivatives in Sobolev spaces in uniform norms	
15:35-15:45	Coffee break		
15:45-16:10	Fedorov Vladimir	Resolving families of operators for equations with Dzhrbashyan-Nersesyan derivative	Chairman – Ashyralyev Allaberen
16:10-16:35	Debbouche Amar	Analysis and numerical simulation for epidemic mathematical model	
16:35-17:00	Ashurov Ravshan	Space and time-dependent source identification problem with integral overdetermination condition	
18:00-20:00	A river boat trip and dinner (registration required), bus to the boat will depart at 17:15 from the main Administrative bldg, Bolshaya Sadovaya 105/42		

14:10-17:00	Special session “History and Didactics of Mathematics” (Ground floor, Round Table Room)		
14:10-14:25	Romanov Yuri	Formation of students' productive thinking when learning how to solve problems	Chairman – Abaturova Vera
14:25-14:40	Nalbandyan Yulia	Some facts from the history of the Rostov Mathematical school	
14:40-14:55	Pyrkov Vyacheslav	S.E. Belozeroff and his historical-mathematical research	
14:55-15:10	Bordyugova Tatiana	Integration of mathematical disciplines in preparing schoolchildren for olympiad programming	
15:10-15:25	Kozlova Margarita	Project approach in the educational process of Master's students	
15:25-15:40	Belik Elena	The system of preparation of future teachers of mathematics for realization...	
15:40-15:45	Coffee break		
15:45-16:00	Abaturova Vera	Preparing the mathematics teacher to use the scientific method of problem...	Chairman – Romanov Yuri
16:00-16:15	Bagdasarova Daria	On the realization of the methodology of using the scientific method in teaching 7th grade pupils	
16:15-16:30	Gusalova Fatima	On the realization of the method of using the scientific method in teaching schoolchildren...	
16:30-16:45	Germanchuk Maria	Application of information technology to analyze test results in mathematics	
16:45-17:00	Melnikov Roman	Mikhail Pavlovich Chernyaev is one of the legendary professors at the Faculty of Physics...	

WEDNESDAY 27.08.2025 Location: Main Administrative bldg, Bolshaya Sadovaya 105/42.			
10:00-13:10	Plenary Session (Ground floor, Scientific Council Room)		
10:00-10:25	Muravnik Andrey	Initial-value problems for parabolic differential-difference equations: series expansions of solutions	Chairman – Apushkinskaya Darya
10:25-10:50	Gliklikh Yury	Applications of martingales of the group of diffeomorphisms of flat n-dimensional torus	
10:50-11:15	Berezhnoi Evgeny	Grand and small spaces based on the Calderón’s construction	
11:15-11:30	Coffee break		
11:30-11:55	Khoury Suheil	Capturing boundary layers in singularly perturbed BVPs: adaptive spline collocation on Shishkin meshes	Chairman – Gliklikh Yury
11:55-12:20	Apushkinskaya Darya	The normal derivative lemma and surrounding	
12:20-12:45	Alikhanov Anatoly	Explicit fast difference schemes for integro-differential equations with difference kernels and their application to fractional PDEs	
12:45-13:10	Kusraeva Zalina	Dunford - Pettis type theorem for homogeneous polynomials	
13:10-14:30	Lunch (“Magadan” restaurant, Kirovskiy Avenue 39)		
14:30-18:45	Session talks		

14:30-18:45	Session «Functional Analysis, Operator Theory, and Approximation Theory» (Ground floor, Scientific Council Room)		
14:30-14:45	Braichev Georgiy	On the smallest type of an integer function of zero genus with positive zeros	Chairman – Stukopin Vladimir
14:45-15:00	Avsyankin Oleg	Integral operators with homogeneous kernels on the Heisenberg group	
15:00-15:15	Smirnova Irina	Weighted spaces with Fourier - mixed - norm on the upper half-plane and Toeplitz operators	
15:15-15:30	Shubarin Mikhal	Review of V. P. Zakharyuta's results on isomorphic classification of Koete spaces	
15:30-15:45	Ivanova Olga	Euler operators of infinite order on holomorphic functions and Stirling numbers	
15:45-16:00	Gurtovaia Olga	Random feature-based double Vovk-Azoury-Warmuth algorithm for online multi-kernel learning	
16:00-16:15	Korablina Yulia	Topological properties of classical operators in weight spaces of holomorphic functions	
16:15-16:30	Morales Evelyn	Hadamard-Bergman operators in weight spaces of Lebesgue and Bergman type on the unit disk	
16:30-16:45	Coffee break		
16:45-17:00	Stukopin Vladimir	Asymptotics of eigenvalues and eigenvectors of large banded Toeplitz matrices of special type	Chairman – Braichev Georgiy
17:00-17:15	Raza Ali	Bessel-Riesz operator in variable Lebesgue spaces	
17:15-17:30	Fedotov Alexander	Estimation of the norm of the Hermite–Fejer interpolation operator with variable order derivatives in Sobolev spaces	
17:30-17:45	Murcia Lozano Lady Estefania	Neumann series of Bessel functions in direct transmission eigenvalue problems and spectrum completion	
17:45-18:00	Botchev Mikhail	On solution of a class of parametric quadratic eigenproblems arising in monochromatic wave scattering	
18:00-18:15	Vorotnikov Roman	On the regularity of eigenfunctions of differential-difference operators	
18:15-18:30	Tikhonova Galina	Multidimensional integral operators with kernels homogeneous of degree (–n) in weighted L_p-spaces with radial weights	
18:30-18:45	Basheer Saeed	Product of Toeplitz operator	

14:30-18:00	Session «Probability-Analytical Models and Methods» (Ground floor, Round Table Room)		
14:30-14:45	Skorikov Alexander	Excess - life function and moments excess functions for Gompertz - Makeham distribution	Chairman – Kudryavtsev Oleg
14:45-15:00	Rokhlin Dmitry	Online portfolio selection for tracking benchmark returns: a low-regret algorithm against functional comparators	
15:00-15:15	Syrovatka Vladimir	Real compound options with efficacy barriers	
15:15-15:30	Ryazantsev Mikhail	On optimal solutions to stochastic differential inclusions of Lentieff type	
15:30-15:45	Matkovsky Vladislav	Multi-agent search tasks on infrastructure networks	
15:45-16:00	Mishin Nikita	The robust estimation of a video flow	
16:00-16:15	Zemlyakova Irina	Calculating option prices in Heston's model using machine learning methods	
16:15-16:30	Karapetyants Georgiy	Ensembling discounted VAW experts with a VAW meta-learner for adaptive online linear regression	
16:30-16:45	Coffee break		
16:45-17:00	Kudryavtsev Oleg	Monte Carlo simulation of Levy processes with neural networks	Chairman – Gliklikh Yury
17:00-17:15	Azarina Svetlana	Second derivatives from the left along the Wiener process and their physical meaning	
17:15-17:30	Misyura Valentina	Features of time series decomposition methods	
17:30-17:45	Postolova Darya	Pricing barrier options under Heston model using neural networks	
17:45-18:00	Makarov Oleg	Routing on close networks	

14:30-18:30	Session «Differential Equations and Mathematical Physics» (Second floor, Small Room)		
14:30-14:45	Zhukov Michael	Initial boundary value problem for a system of the first order quasilinear partial differential equations	Chairman – Prozorov Oleg
14:45-15:00	Ostrovskaya Irina	On the stability problem of a vortex multipole in a two-fluid plasma	
15:00-15:15	Morshneva Irina	Andronov-Hopf bifurcation in the dynamic systems with inverse symmetry	
15:15-15:30	Zelenchuk Pavel	Diffusion instability in a system of two interacting biological species	
15:30-15:45	Kokhanov Pavel	Numerical study of filtration convection in cylindrical enclosures	
15:45-16:00	Shiryaeva Elena	Calculation of the flow in a 2D channel of complex shape with the help FEM	
16:00-16:15	Roshal Daria	Modeling of structure and maturation of viral capsids	
16:15-16:30	Sio Ahmad	A posteriori error estimates for approximate solutions to the thin obstacle problem for the second order elliptic operator	
16:30-16:45	Coffee break (first floor)		
16:45-17:00	Prozorov Oleg	On the onset of convection in a horizontal fluid layer	Chairman – Zhukov Michael
17:00-17:15	Boev Nikolay	Focusing short acoustic waves on a convex solid elliptical boundary	
17:15-17:30	Kurdoglyan Hike	Classification of dynamical systems near a cosymmetric equilibrium and an equilibrium hyperbola	
17:30-17:45	Yurov Victor	On the implementation of the projection method in solving coefficient inverse problems for rectangular domains	
17:45-18:00	Dolgikh Tatiana	Asymptotics of the boundary value solution on the behavior of a transverse nonlinear electromagnetic wave	

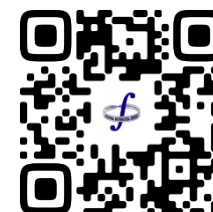
18:00-18:15	Malal Karrar	The influence of a shortwave external signal on mass transfer in a predator-prey system with taxis	
18:15-18:30	Babaev Aliverd	Anisotropic Holder-Zygmund spaces of variable order and semilinear anisotropic pseudodifferential equations	

THURSDAY 28.08.2025 Location: Hotel Don Quixote, Ulyanovskaya St. 58.

10:00-18:00 Excursion and dinner (registration required). A bus departs from the hotel Don Quixote at 10:00.



Announcements and activities of the international research network OTHA (Operator Theory and Harmonic Analysis, <https://msrn.sfedu.ru/>)



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