## Program of the conference "Modern Methods, Problems and Applications of Operator Theory and Harmonic Analysis X", Rostov-on-Don, 22 - 27 August 2021 (OTHA-2021)

The program may be changed. Please, consult the webpage below, time in the program is Moscow time (UTC+3): http://otha.sfedu.ru/upload/documents/programs/otha\_conference\_program\_2021.pdf

**SUNDAY 22.08.21. Location: Hotel Don Quixote, Ulyanovskaya St. 58** Early registration for guests of Hotel Don Quixote at the reception

| <b>MONDAY 23.08</b> | MONDAY 23.08.2021. Location: Main administrative building, Bolshaya Sadovaya 105/42 |  |                         |  |
|---------------------|---|--|-------------------------|--|
| 09:30-10:00         | Registration, Lobby of the main administrative building, Bolshaya Sadovaya 105/42   |  |                         |  |
|                     | Please, make sure to have   | vaccination / negative PCR certificate with you at the registration!!!   |                         |  |
|                     | Пожалуйста, не забудьте   | сертификат вакцинации или ПЦР тест с собой на регистрацию!!              | !                       |  |
| 10:00-12:30         | Plenary Session (Ground f   | loor, Scientific Council Room)   |                         |  |
| 10:00-10:20         | Karapetyants Alexey   | Professor Stefan G. Samko: Mathematician, Teacher and Man                | Chairman - Karapetyants |  |
| 10:20-10:50         | Nazarov Alexander   | Spectral asymptotics for integro-differential operators generated by the | Alexey                  |  |
|                     |   | FBM-like processes   |                         |  |
| 10:50-11:00         | Break   |  |                         |  |
| 11:00-11:30         | Samko Stefan and  | Hadamard-Bergman convolution operators and generalized Holder            | Chairman - Nazarov      |  |
|                     | Karapetyants Alexey   | spaces   | Alexander               |  |
| 11:35-12:05         | Sawano Yoshihiro  | Local Muckenhoupt class for variable exponents                           |                         |  |
| 12:05 -12:20        | Kaehler Uwe   | ISAAC lifetime membership award for young researchers from ISAAC         |                         |  |
|                     |   | President  |                         |  |
| 12:20 - 12:30       | Heine Clemens and   | Presentation of Journal of Math Sci and editorial activities             |                         |  |
|                     | Karapetyants Alexey   |  |                         |  |

| 12:30-12:40 | Photo: Please, gather at the  | e Monument Ataman Platov for the conference photo                |                         |
|-------------|---|--|-------------------------|
| 12:40-13:40 | Lunch: Restaurant "Bellucci" in front of the main building (Bolshaya Sadovaya St. 122a) |  |                         |
| 13:50-14:55 | Plenary Session (Ground   | floor, Scientific Council Room)                                  |                         |
| 13:50-14:25 | Sbordone Carlo  | On the equation div $u = f$ in the plane                         | Chairman - Karapetyants |
| 14:25-14:55 | Kiryakova Virginia  | The multi-index Mittag-Leffler functions as special functions of | Alexey                  |
|             |   | fractional calculus  |                         |

| 15:00-17:15 | Session talks   |
|-------------|---|
| 18:00-20:00 | Welcome furshet, Hotel Don Quixote, Ulyanovskaya St. 58, 13th floor |

| 15:00-17:00 |                    | Session «Analysis» (Ground floor, Research Council Room)               |                     |
|-------------|--------------------|--|---------------------|
| 15:00-15:30 | Kusraeva Zalina    | Regularity of continuous multilinear operators and homogeneous         | Chairman – Kamalyan |
|             |                    | polynomials  | Armen               |
| 15:30-15:45 | Semenov Vladimir   | Elliptic integrals in extremal problems for plane quasiconformal       |                     |
|             |                    | mappings   |                     |
| 15:45-16:00 | Volchkova Natalia  | On functions with vanishing ball means                                 |                     |
| 16:00-16:15 | Yousef Abdelrahman | Commuting Toeplitz operators with biharmonic symbols                   |                     |
| 16:15-16:30 | Steinberg Boris    | Fast algorithms for solving mathematical modeling problems with        | Chairman - Kusraeva |
|             |                    | convolution-type equations   | Zalina              |
| 16:30-16:45 | Dauitbek Dostilek  | Extreme points of the set of elements majorized by an integrable       |                     |
|             |                    | function   |                     |
| 16:45-17:00 | Tulenov Kanat      | A higher dimensional Hilbert operator and its weak type (1,1) estimate |                     |

| 15:00-17:15 | Session «Differential equations and mathematical physics» (Ground floor, Round Table Room) |   | Table Room)              |
|-------------|--|---|--------------------------|
| 15:00-15:30 | Khoury Suheil  | Creeping viscous incompressible flow in a channel with constriction   | Chairman - Golubyatnikov |
| 15:30-15:45 | Ryabogin Dmitry  | On bodies floating in equilibrium in every direction                  | Vladimir                 |
| 15:45-16:00 | Erusalimskiy Yakov   | Splashes of dynamic flows in networks                                 |                          |
| 16:00-16:15 | Boev Nikolay   | Explicit expressions for displacements in back-reflected short waves  |                          |
|             |  | from 2D and 3D defects in elastic materials                           |                          |
| 16:15-16:30 | Nikolenko Petr and   | On some extremal problems in the «investment consumption»             | Chairman - Ryabogin      |
|             | L.V. Novikova  |   | Dmitry                   |
| 16:30-16:45 | Kovalevsky Alexander   | On the convergence of solutions of variational problems with variable |                          |
|             |  | regular bilateral constraints in variable domains                     |                          |
| 16:45-17:00 | Litvinov Vladislav   | Mathematical model of longitudinal-transverse vibrations of a beam    |                          |
|             |  | with a moving boundary  |                          |
| 17:00-17:15 | Prozorov Oleg  | Codimension-two bifurcations in the Couette-Taylor problem            |                          |

| TUESDAY 24.08.2021 Location: Main administrative building, Bolshaya Sadovaya 105/42 Late registration, 09:45-10:00 |   |  |                          |  |
|--|---|--|--------------------------|--|
| 10:00-12:20  | Plenary Session (Ground f   | loor, Scientific Council Room)   |                          |  |
| 10:00-10:30  | Skopina Maria   | Wavelet approximation in Orlicz spaces                                 | Chairman - Mirotin Adolf |  |
| 10:30-11:00  | Grudsky Sergei  | Double barrier options under Lévy processes and the theory of Toeplitz |                          |  |
|  |   | operators  |                          |  |
| 11:00-11:10  | Break   |  |                          |  |
| 11:10-11:40  | Mirotin Adolf   | Hausdorff operators over homogeneous spaces                            | Chairman - Skopina Maria |  |
| 11:40-12:10  | Kazarian Kazaros  | Weighted Hp spaces with admissible weights                             |                          |  |
| 12:10-12:20  | Malonek Helmuth and   | Presentation of textbook "This simple and beautiful mathematics"       |                          |  |
|  | Erusalimskiy Yakov  |  |                          |  |
| 12:25-13:25  | Lunch: Restaurant "Bellucc  | i" in front of the main building (Bolshaya Sadovaya St. 122a)          |                          |  |
| 13:30-14:35  | Plenary Session (Ground f   | loor, Scientific Council Room)   |                          |  |
| 13:30-14:00  | Nakai Eiichi  | Integral operators on Orlicz-Morrey and weak Orlicz-Morrey spaces      | Chairman - Karapetyants  |  |
| 14:05-14:35  | Feichtinger Hans  | Approximation by translates in invariant Banach spaces of              | Alexey                   |  |
|  |   | distributions and the bounded approximation property                   |                          |  |
| 14:45-16:45  | Session talks   |  |                          |  |
| 17:10-20:00  | Excursion (boat trip on Don river). Please gather at the Monument Ataman Platov at a side of the main building and follow |  |                          |  |
|  | instructions. The exact place of departure of the bus will be specified later.  |  |                          |  |

| 14:45-16:45 |                           | Session «Analysis» (Ground floor, Research Council Room)                |                          |
|-------------|---------------------------|---|--------------------------|
| 14:45-15:15 | Kamalyan Armen            | L-convolution type operators in weighted spaces                         | Chairman – Skopina Maria |
| 15:15-15:30 | Gasparyan Armenak         | Hypercubic generalizations of Kantorovich inequality                    |                          |
| 15:30-15:45 | Bondarenko Natalia        | An inverse spectral problem for a functional-differential operator with |                          |
|             |                           | involution  |                          |
| 15:45-16:00 | Karapetyants Mikhail      | Convergence of the damped inertial dynamics governed by a Moreau        |                          |
|             |                           | envelope of a convex proper semi-continuous function                    |                          |
| 16:00-16:15 | De la Cruz Toranzo Lianet | Polyanalytic Hardy decomposition of higher order Lipschitz functions    | Chairman – Karapetyants  |
| 16:15-16:30 | Andreeva Tatiana          | The surjectivity of convolution operators and the solvability of non-   | Mikhail                  |
|             |                           | homogeneous convolution equations on holomorphic weighted spaces        |                          |
|             |                           | in bounded convex domains   |                          |

| 16:30-16:45 | Morales Evelyn | Weighted estimates for operators of fractional integration of complex |  |
|-------------|----------------|---|--|
|             |                | order in generalized Holder spaces                                    |  |

| 14:45-16:45 | Session «Dif           | Session «Differential equations and mathematical physics» (Ground floor, Round          |                        |  |
|-------------|------------------------|---|------------------------|--|
| 14:45-15:15 | Golubyatnikov Vladimir | Stability and non-uniqueness of cycles in gene networks modeling                        | Chairman – Nazarov     |  |
| 15:15-15:30 | Lukianenko Vladimir    | Resolution of equations with Uryson oscillating operators                               | Alexander              |  |
| 15:30-15:45 | Kornuta Anshelika      | Research of the structure of solutions of a nonlinear equation of parabolic type        |                        |  |
| 15:45-16:00 | Gargyants Lidia        | Unbounded solutions of one-dimensional conservation laws                                | Chairman –             |  |
| 16:00-16:15 | Lapin Kirill           | Guiding functions and the existence of Poisson bounded solutions                        | Golubyatnikov Vladimir |  |
| 16:15-16:30 | Galtsev Oleg           | Mathematical modeling of convective diffusion of solutions in porous non-periodic media |                        |  |
| 16:30-16:45 | Zhuikov Konstantin     | On a generalization of the Melrose's eta-invariant                                      |                        |  |

| WEDNESDAY 25.08.21. Location: Main administrative bld., Bolshaya Sadovaya 105/42. Late registration, 09:45-10:00 |   |  |                          |  |
|--|---|--|--------------------------|--|
| 10:00-12:10  | Plenary Session (Ground floor, Scientific Council Room) |  |                          |  |
| 10:00-10:30  | Sheipak Igor  | Continuous spectrum in the Sturm-Liouville problem with non-         | Chairman - Avetisyan     |  |
|  |   | compact multiplier as a weight                                       | Zhirayr                  |  |
| 10:30-11:00  | Gliklikh Yuri   | Stochastic analysis on the groups of diffeomorphisms and viscous     |                          |  |
|  |   | hydrodynamics  |                          |  |
| 11:00-11:10  |   | Break  |                          |  |
| 11:10-11:40  | Bendikov Alexander                                      | On the spectrum of hierarchical Schroedinger-type operators          | Chairman - Sheipak Igor  |  |
| 11:40-12:10  | Louhichi Issam  | On powers of quasihomogeneous Toeplitz operators                     |                          |  |
| 12:20-13:20  | Lunch: Restaurant "Bellucci                             | " in front of the main building (Bolshaya Sadovaya St. 122a)         |                          |  |
| 13:30-14:30  | Plenary Session (Ground f                               | loor, Scientific Council Room)                                       |                          |  |
| 13:30-14:00  | Avetisyan Zhirayr                                       | The resolvent of a first order system and spectral asymptotics       | Chairman - Gliklikh Yuri |  |
| 14:00-14:30  | Soldatov Alexander                                      | Representation of general solutions of Cauchy– Riemann equation with |                          |  |
|  |   | singular coefficients  |                          |  |
| 14:40-17:55  | Session talks   |  |                          |  |

| 14:40-16:55 | Session «Analysis» (Second floor, Small Hall) |
|-------------|---|
|-------------|---|

| 14:40-14:55 | Gil Alexey        | An integral operator with a homogeneous kernel in the function space   | Chairman – Kusraeva   |
|-------------|-------------------|--|-----------------------|
|             | -                 | BMO^k  | Zalina                |
| 14:55-15:10 | Ivanova Olga      | The commutant of the generalized backward shift operator and the       |                       |
|             |                   | Duhamel product  |                       |
| 15:10-15:25 | Korablina Julia   | On conditions of boundedness of linear operators on weight quasi-      |                       |
|             |                   | Banach spaces  |                       |
| 15:25-15:40 | Kuznetsova Maria  | Inverse spectral problems for Sturm-Liouville operators on time scales |                       |
| 15:40-15:55 | Garmanova Tatiana | Properties of estimation functions in some embedding theorems in       | Chairman – Gil Alexey |
|             |                   | Sobolev spaces   |                       |
| 15:55-16:10 | Smirnova Irina    | Mixed norm weighted holomorphic spaces defined in terms of Fourier     |                       |
|             |                   | coefficients   |                       |
| 16:10-16:25 | Aghekyan Smbat    | Weighted Hadamard-Bergman convolution operators                        |                       |
| 16:25-16:40 | Drobotov Yuri     | Hypersingular integrals on metrical sets in the generalized variable   |                       |
|             |                   | Holder spaces with weights   |                       |
| 16:40-16:55 | Dronov Alexey     | Interpolation properties of positive operators bounded on cones in     |                       |
|             |                   | weighted spaces of sequences converging to zero                        |                       |

| 14:40-17:40 | Session «Differential equations and mathematical physics» (Ground floor, Round Table Room) |  |                      |
|-------------|--|--|----------------------|
| 14:40-15:10 | Morgulis Andrey  | Effect of the boundary conditions on the hydrodynamic stability        | Chairman - Avetisyan |
| 15:10-15:25 | Volchkov Valeriy   | An analog of the Serrin theorem for harmonic functions                 | Zhirayr              |
| 15:25-15:40 | Danilova Natalia   | Optimal portfolio and the confidence set                               |                      |
| 15:40-15:55 | Buterin Sergey   | On uniform stability of recovering sine-type functions with            |                      |
|             |  | asymptotically separated zeros   |                      |
| 15:55-16:10 | Morshneva Irina  | Bifurcating periodic convective flows in a vertical layer with moving  |                      |
|             |  | boundaries   |                      |
| 16:10-16:25 | Ostrovskaya Irina  | The stability problem of a vortex quadrupole in the Kirchhoff model    | Chairman - Morgulis  |
| 16:25-16:40 | Yurov Victor   | Waves in an inhomogeneous waveguide with defects of various            | Andrey               |
|             |  | structures   |                      |
| 16:40-16:55 | Roshal Darya   | Analysis and modeling of the topology of healthy and cancerous         |                      |
|             |  | epithelial monolayers  |                      |
| 16:55-17:10 | Kurdoglyan Aik   | Bifurcation analysis in a neighborhood of a cosymmetric equilibrium    |                      |
|             |  | using the Lyapunov-Schmidt method                                      |                      |
| 17:10-17:25 | Solokhin Nikolay   | Infinitesimal bendings of surfaces of positive curvature with boundary |                      |

| 17:25-17:40 | Zelenchuk Pavel | Effects of spatial heterogeneity in mathematical models of the |  |
|-------------|-----------------|--|--|
|             |                 | predator-prey system   |  |

| 14:40-17:55 | Session «Probability-Analytical Models and Methods» (Ground floor, Scientific Council Room) |  |                          |
|-------------|---|--|--------------------------|
| 14:40-15:10 | Smirnov Sergey  | Structural stability of financial market models and superhedging         | Chairman – Gliklikh Yuri |
|             |   | problem  |                          |
| 15:10-15:25 | Tsvetkova Inna  | Interpolating deflators  |                          |
| 15:25-15:40 | Volosatova Tatyana  | Strict concavity of some randomized objective functions and              |                          |
|             |   | application to optimization problems                                     |                          |
| 15:40-15:55 | Chub Elena  | On some solution of the problem of estimation of a telecommunication     |                          |
|             |   | system under conditions of parametric uncertainty of the stochastic      |                          |
|             |   | model of its state vector  |                          |
| 15:55-16:10 | Rokhlin Dmitry  | SOLO FTRL algorithm for setting the transfer prices                      |                          |
| 16:10-16:25 | Skorikov Alexander  | The domain of residual lifetimes attraction                              |                          |
|             |   |  |                          |
| 16:25-16:40 | Nesterenko Victor   | Data clustering based on Hubert's G statistics                           | Chairman – Volosatova    |
| 16:40-16:55 | Alymova Elena   | Neural networks and data analysis  | Tatyana                  |
| 16:55-17:10 | Krasii Nadezhda   | Stock price: double diffusion models                                     |                          |
| 17:10-17:25 | Vlaskov Grigori   | Addition to article about algorithm for numerical simulation of electron |                          |
|             |   | density and stochastically convecting high latitude ionosphere           |                          |
| 17:25-17:40 | Makarova Alla   | About modern networks estimation   |                          |
| 17:40-17:55 | Saifutdinova Natalia  | On the economic interpretation of the introduction of stochastic         |                          |
|             |   | parameters into some classical optimization models                       |                          |

| THURSDAY 26.08.21. Location: Hotel Don Quixote, Ulyanovskaya St. 58 |   |  |
|---|---|--|
| 10:00-19:00   | Excursion. A bus departs from the hotel Don Quixote at 10:00. |  |

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