



**International Conference  
on Geometric Analysis**  
in honor of the 90th anniversary  
of academician Yu. G. Reshetnyak

**22-28 of September 2019**

**Program**



**Novosibirsk  
2019**

**Program**  
**INTERNATIONAL CONFERENCE ON GEOMETRIC ANALYSIS**  
**in honor of the 90th anniversary of academician Yu. G. Reshetnyak**

**Monday, September 23<sup>rd</sup>**  
**Sobolev Institute of Mathematics**

	MORNING SESSION (CONFERENCE HALL) CHAIRMAN <i>Semen Nasyrov</i>
8:30 – 9:15	REGISTRATION
9:15 – 9:30	OPENING
9:30 – 10:10	<i>Pavel Plotnikov</i> Surfaces with $L^2$ second fundamental form: isothermal coordinates, Jordan–Brouwer theorem, extension of Sobolev functions
10:10 – 10:35	COFFEE
10:35 – 11:15	<i>Alexander Tyulenev</i> Korevaar–Schoen energy on strongly rectifiable spaces
11:20 – 12:00	<i>Vladimir Stepanov</i> Sharp estimates of sublinear and bilinear integral operators
12:00 – 14:00	LUNCH
14:00 – 14:40	<i>Vladimir Sharafutdinov</i> The Reshetnyak formula for the ray transform with polynomial weight

	<b>SECTION A. GEOMETRY</b> (CONFERENCE HALL) CHAIRMAN <i>Victor Alexandrov</i>	<b>SECTION B. ANALYSIS</b> (ROOM 115) CHAIRMAN <i>Sergei Buyalo</i>	<b>SECTION C. DYNAMICAL SYSTEMS</b> (ROOM 213) CHAIRMAN <i>Dmitrii Prokhorov</i>	<b>SECTION D. QUASICONFORMAL ANALYSIS</b> (ROOM 220) CHAIRMAN <i>Victor Gichev</i>
14:50 – 15:20	<i>Viktor Burenkov</i> Local Morrey type Spaces and Interpolation Theory	<i>Eugene Bereznoi</i> Computing sums and intersections of local Morrey spaces	<i>Alexander Shlapunov</i> On the closure of the set of finitely supported smooth functions in anisotropic weighted Hölder spaces and de Rham complex over it	<i>Matti Vuorinen</i> Conformal invariants: a look at computation and theory
15:20 – 15:40	<i>Maxim Ivanov</i> $F$ -polynomials and connected sums of virtual knots	<i>Alexander Gutman</i> Cumulative structure of a Boolean-valued model of Set theory	<i>Alexander Losev</i> Boundary Value Problems for Elliptic Equations on Model Riemannian Manifolds	<i>Anastasia Molchanova</i> Example of a smooth homeomorphism violating the Lusin $N^{-1}$ -condition
15:40 – 16:00	<i>Kirill Kamalutdinov</i> Self-intersections of self-similar sets under translations and extensions of copies	<i>Ivan Emelyanenko</i> Maximal cones in vector spaces	<i>Wei Wang</i> The quaternionic Monge–Ampère operator and closed positive currents on the Heisenberg group	<i>Yuri Dymchenko</i> The equality of capacity and modulus of condenser in some Banach functional spaces
16:00 – 16:20	COFFEE			
16:20 – 16:40	<i>Dmitriy Drozdov</i> Deformations of polygaskets	<i>Alexandr Romanov</i> On $p$ -extremal mappings	<i>Nikolay Arkashov</i> On the energy characteristics of the anomalous transfer processes	<i>Boris Levitskii</i> Reduced modules in the geometric theory of functions
16:40 – 17:00	<i>Prabhjot Singh</i> Types of growth points of a dendrite	<i>Valerii Pchelintsev</i> Composition operators on Sobolev spaces and the spectrum of elliptic operators	<i>Vladimir Golubyatnikov</i> On non-uniqueness of cycles of some dynamical systems in mathematical biology	<i>Anatoly Kopylov</i> Unique Determination of Conformal Type for Domains
17:00 – 17:20	<i>Andrei Tetenov</i> On families of subarcs in non-PCF dendrites		<i>Larisa Kononenko</i> Binary correspondences and an algorithm for solving an inverse problem of chemical kinetics	
17:20 – 17:50	POSTER SESSION			
19:00 – 22:00	WELCOME RECEPTION – DU SORAN (MORSKOY AVENUE 23)			

**Program**  
**INTERNATIONAL CONFERENCE ON GEOMETRIC ANALYSIS**  
**in honor of the 90th anniversary of academician Yu. G. Reshetnyak**

**Tuesday, September 24<sup>th</sup>**  
**Sobolev Institute of Mathematics**

	MORNING SESSION (CONFERENCE HALL) CHAIRMAN <i>Valerii Berestovskii</i>
9:30 – 10:10	<i>Sergei Lando</i> Complex and real Hurwitz numbers: from symmetric groups to new algebras
10:10 – 10:35	COFFEE
10:35 – 11:15	<i>Olexander Borisenko</i> On a generalization of the Toponogov theorem
11:20 – 12:00	<i>Semen Nasyrov</i> Nuttall's decomposition of a three-sheeted torus
12:00 – 14:00	LUNCH
14:00 – 14:40	<i>Sergei Buyalo</i> Inverse problem for Moebius geometry on the circle

	SECTION A. <b>GEOMETRY</b> (CONFERENCE HALL) CHAIRMAN <i>Nikolay Abrosimov</i>	SECTION B. <b>ANALYSIS</b> (ROOM 115) CHAIRMAN <i>Alexander Losev</i>	SECTION C. <b>COMPLEX ANALYSIS</b> (ROOM 220) CHAIRMAN <i>Sergei Lando</i>
14:50 – 15:20	<i>Victor Slavsky</i> Legendre transformation of conformally convex functions	<i>Vladimir Semenov</i> Invariants and 3D Navier–Stokes equations: local and global solutions	<i>Alexander Mednykh</i> Jacobian group for cyclic coverings of a graph
15:20 – 15:40	<i>Pavel Klepikov</i> Conformal deformations and (pseudo)Riemannian manifolds with vectorial torsion	<i>Vladimir Vaskevich</i> The convergence order of minimal and almost minimal cubature formulas	<i>Jianhua Gong</i> Isolation in the moduli space of Kleinian groups
15:40 – 16:00	<i>Victor Alexandrov</i> The spectrum of the Laplacian in a domain bounded by a flexible polyhedron in $R^d$ does not always remain unaltered during the flex	<i>Yuriy Volkov</i> Convergence of spline interpolation processes	<i>Ilya Mednykh</i> Enumeration of rooted spanning forests in circulant graphs
16:00 – 16:20	COFFEE		
16:20 – 16:40	<i>Eugene Kornev</i> Subtwistor bundle over four-dimensional sphere	<i>Victor Gichev</i> A family of harmonic polynomials whose factors are linear or quadratic	<i>Ivan Kolesnikov</i> Conformal mapping from the half-plane onto circular-arc polygon
16:40 – 17:00	<i>Vladimir Zolotov</i> SRA-free spaces and their applications	<i>Alexander Greshnov</i> Distance functions between sets and theorems of completeness in $(q_1, q_2)$ -quasimetric spaces	<i>Yana Borisova</i> Extremal function in the Szego and Fekete problem
17:00 – 17:20	<i>Sergey Kazantsev</i> On a generalization of Zernike polynomials in a ball	<i>Richik Sengupta</i> On fixed points and points of coincidence of mappings in $(q_1, q_2)$ -quasimetric spaces	<i>Sergey Astrakov</i> On regular covering/packing of the Euclidean plane with circles
17:20 – 17:40	<i>Olga Samarina</i> W. Blaschke's invariants application to image processing	<i>Konstantin Storozhuk</i> Strong extrema of functions on quasi-metric and compact spaces	

**Program**  
**INTERNATIONAL CONFERENCE ON GEOMETRIC ANALYSIS**  
**in honor of the 90th anniversary of academician Yu. G. Reshetnyak**

**Wednesday, September 25<sup>th</sup>**  
**Sobolev Institute of Mathematics**

	MORNING SESSION (CONFERENCE HALL) CHAIRMAN <i>Maria Karmanova</i>
9:30 – 10:10	<i>Alexey Davydov</i> Structural stability of dynamic inequalities on two-dimensional sphere
10:10 – 10:35	COFFEE
10:35 – 11:15	<i>Evgeniy Rodionov, Dmitrii Oskorbin</i> Ricci solitons and Killing vector fields on $k$ -symmetric Lorentzian manifolds
11:20 – 12:00	<i>Aram Arutyunov, Sergey Zhukovskiy</i> Hadamard's global homeomorphism theorem under relaxed smoothness assumptions
12:00 – 14:00	LUNCH
	CHAIRMAN <i>Sergey Vodopyanov</i>
14:00 – 14:40	<i>Yuri Reshetnyak</i> Integral curvature of curves in Alexandrov spaces
14:45 – 15:25	<i>Avgust Tsikh</i> Convexity in complex analysis and tropical geometry

	SECTION A. <b>GEOMETRY</b> (CONFERENCE HALL) CHAIRMAN <i>Armen Sergeev</i>	SECTION B. <b>FUNCTIONAL ANALYSIS</b> (ROOM 213) CHAIRMAN <i>Vladimir Semenov</i>	SECTION C. <b>GEOMETRIC CONTROL THEORY</b> (ROOM 220) CHAIRMAN <i>Alexander Greshnov</i>
15:35 – 16:05	<i>Valerii Berestovskii</i> Finite homogeneous metric spaces	<i>Vyacheslav Chistyakov</i> Modular functional spaces	<i>Alexey Mashtakov</i> Sub-Riemannian geometry in image processing and modelling of human visual system
16:05 – 16:25	<i>Nikolay Abrosimov</i> The volume of a compact hyperbolic tetrahedron in terms of its edge lengths	<i>Yaroslav Kopylov</i> Some Calculations of Orlicz Cohomology	<i>Andrei Ardentov</i> Motion control of mobile wheeled robot along Euler's elastica
16:25 – 16:55	COFFEE		
16:55 – 17:15	<i>Andrei Egorov</i> Volumes of right-angled polyhedra in Lobachevsky space	<i>Tagir Latfullin</i> Linear ordering of classes of $W^{1,2}$ -extension domains	<i>Sergey Basalae</i> Kernel of Hörmander-type operator with vector fields of low smoothness
17:15 – 17:35	<i>Evgenii Meshcheriakov</i> On volumes of the convex hulls of leaves for foliations with semigroup property	<i>Alexander Menovschikov, Nikita Evseev</i> On the change of variable in $L_p$ -spaces with a changing internal structure	<i>Valerii Berestovskii, Irina Zubareva</i> (Co)adjoint representation, and normal geodesics of left-invariant (sub-)Finsler metrics on Lie groups
17:35 – 17:55	<i>Vladimir Kyrov</i> Solution of the problem of embedding for three-dimensional geometries of local maximum mobility	<i>Dmitrii Prokhorov</i> On a class of functionals on a weighted Sobolev space of first order on the real line	<i>Eugene Malkovich</i> Connections for non-holonomic distributions
17:55 – 18:15	<i>Rada Bogdanova, Gennady Mikhailichenko</i> General nondegenerate solution of one system of functional equations	<i>Mikhail Sychev</i> Variational field theory in Sobolev spaces	<i>Mikhail Kuznetsov</i> Application of the generalized Fourier transform to sub-Riemannian trace heat kernel asymptotics
18:15 – 18:35	<i>Rada Bogdanova, Vladimir Kyrov</i> Group of motions of a special four-dimensional extension of pseudo-Euclidean three-dimensional geometry	<i>Ondřej Bouchala</i> Measures of non-compactness and Sobolev-Lorentz spaces	<i>Roman Zhukov</i> cc-uniformity of hyperspaces on the Engel canonical group

**Program**  
**INTERNATIONAL CONFERENCE ON GEOMETRIC ANALYSIS**  
**in honor of the 90th anniversary of academician Yu. G. Reshetnyak**

**Thursday, September 26<sup>th</sup>**  
**Sobolev Institute of Mathematics**

	MORNING SESSION (CONFERENCE HALL) CHAIRMAN <i>Sergey Vodopyanov</i>
9:30 – 10:00	Congratulations with the Anniversary
10:00 – 10:10	CONFERENCE PHOTO
10:10 – 10:35	COFFEE
	CHAIRMAN <i>Vladimir Dubinin</i>
10:35 – 11:15	<i>Sergei Kislyakov</i> Interpolation of Hardy-type spaces and of their intersections
11:20 – 12:00	<i>Sergei Ivanov</i> Interpolation of Riemannian manifolds
12:00 – 14:00	LUNCH
14:00 – 14:40	<i>Mark Agranovsky</i> On integrable domains and surfaces
14:45 – 15:25	<i>Maria Karmanova</i> Level Sets of Classes of Mappings on Non-Holonomic Structures
	SOCIAL PROGRAM
16:00 – 17:00	GUIDED TOUR "EVOLUTION OF THE EARTH" – NOVOSIBIRSK STATE UNIVERSITY
19:00 – 22:00	SOCIAL DINNER – CRYSTALL HALL (MUSA JALIL STREET, 14)



**Program**  
**INTERNATIONAL CONFERENCE ON GEOMETRIC ANALYSIS**  
**in honor of the 90th anniversary of academician Yu. G. Reshetnyak**

**Friday, September 27<sup>th</sup>**  
**Sobolev Institute of Mathematics**

	MORNING SESSION (CONFERENCE HALL) CHAIRMAN <i>Sergei Ivanov</i>
9:30 – 10:10	<i>Vladimir Dubinin</i> Condenser capacities and symmetrization in geometric function theory
10:10 – 10:35	COFFEE
10:35 – 11:15	<i>Yosef Yomdin</i> Smooth parameterizations in dynamics, analysis, and Diophantine geometry
11:20 – 12:00	<i>Andrei Vesnin</i> On the structure of the set of hyperbolic rectangular polygons
12:00 – 14:00	LUNCH
	CHAIRMAN <i>Vladimir Stepanov</i>
14:00 – 14:40	<i>Lev Lokutsievsky</i> Analytical solution of Newton's aerodynamic problem without the assumption of rotational symmetry

	SECTION A. <b>GEOMETRY</b> (CONFERENCE HALL) CHAIRMAN <i>Vladimir Golubyatnikov</i>	SECTION B. <b>ANALYSIS</b> (ROOM 213) CHAIRMAN <i>Vladimir Vaskevich</i>	SECTION C. <b>GEOMETRIC ANALYSIS</b> (ROOM 220) CHAIRMAN <i>Boris Levitskii</i>
14:50 – 15:20	<i>Armen Sergeev</i> Harmonic Maps and Yang–Mills Fields	<i>Mikhail Goldman</i> Estimates of operators on the cones of functions with monotonicity properties and optimal embeddings	<i>Albina Gobysh, Vadim Seleznev</i> On quasiconformal connection of the Lagrangean and Eulerian coordinates
15:20 – 15:40	<i>Sergey Agapov</i> First integrals of magnetic geodesic flows on the 2-torus	<i>Vladimir Belykh</i> On Kolmogorov's Entropy for a Compact Set of Infinitely Differentiable Aperiodic Function (Babenko's Problem)	<i>Vladimir Shlyk</i> Weighted Sobolev space and capacity with Muckenhoupt weight
15:40 – 16:00	<i>Olga Yufereva</i> Gromov–Hausdorff closed spaces and approximate capture	<i>Andrei Biryuk</i> Strong solutions to the Boltzmann equation in the case of a one-dimensional spatial variable	<i>Dmitry Trotsenko</i> Fundamental extension function for bilipschitz maps
16:00 – 16:20	COFFEE		
16:20 – 16:40	<i>Olesya Khromova</i> Einstein equation on metric Lie groups with vectorial torsion	<i>Alexander Kachurovskii</i> Fejer sums and the von Neumann ergodic theorem	<i>Evgeni Shcherbakov</i> On Gibbs equilibrium surfaces
16:40 – 17:00	<i>Irina Polikanova</i> Curves with affine-congruent arcs	<i>Ivan Podvigin</i> On deviations of ergodic averages	
17:00 – 17:20		<i>Mikhail Sgibnev</i> The Wiener–Hopf equation in measures	