

PROGRAM

THE 9TH INTERNATIONAL SCHOOL-SEMINAR

NLA 2026

NONLINEAR ANALYSIS AND EXTREMAL PROBLEMS

June 22-26, 2026 Irkutsk, Russia

Venue

Matrosov Institute for System Dynamics and Control Theory SB RAS
134 Lermontov St., Irkutsk, Russia

Website

<https://conference.icc.ru/event/11/>

Organizers



Matrosov Institute for System Dynamics and Control Theory SB RAS



Novosibirsk State University



Krasovskii Institute of Mathematics and Mechanics UB RAS



Irkutsk State University



Mathematical Center in Akademgorodok

The School-Seminar is supported by the Mathematical Center in Akademgorodok under agreement No. 075-15-2025-349 with the Ministry of Science and Higher Education of the Russian Federation.

VISUAL KEY

Scientific Tracks

- Partial Differential Equations
- Dynamical Systems
- Nonlinear Analysis and Its Applications
- Calculus of Variations and Mathematical Control Theory
- Optimization
- Numerical Methods

PROGRAM STATISTICS

At a glance

182

PRESENTATIONS

11

LECTURES

0

PLENARY TALKS

25

BLOCKS

45

CITIES

12

COUNTRIES

Formats: 70 on-site, 112 online. Data are recalculated automatically at build time.

Lecture Courses and Plenary Talks

LECTURER

Stanislav Shaposhnikov

Lomonosov Moscow State University, Moscow, Russia

Fokker-Planck-Kolmogorov Equations: Changes of Coordinates

LECTURER

Mikhail Gomoyunov

Krasovskii Institute of Mathematics and Mechanics UB RAS, Yekaterinburg, Russia

Minimax and Viscosity Solutions of Path-Dependent Hamilton-Jacobi Equations

LECTURER

Hu Guang-Da

Department of Mathematics, Shanghai University, Shanghai, China

Difference Stabilizing Controller of Linear Delay Systems

LECTURER

Li Shuguang

School of Science, Dalian Maritime University, Dalian, China

Higher-Order Compact Difference Methods for Nonlinear Dispersive Wave Equations

LECTURER

Liang Hui

School of Science, Harbin Institute of Technology, Shenzhen, China

Compatibility of Collocation Error Analyses for Volterra Integral Equations with Smooth and Weakly Singular Kernels

LECTURER

Vassili Kolokoltsov

Lomonosov Moscow State University, Moscow, Russia

Intrinsic Derivatives, Interacting Particles and the Propagation of Chaos

Program at a Glance

All times are local time in Irkutsk.

Monday June 22	Tuesday June 23	Wednesday June 24	Thursday June 25	Friday June 26
<p>09:00-10:00 Registration</p> <p>10:00-10:15 Opening Ceremony Room A ONLINE PROJECTOR SOUND</p> <p>10:15</p> <p>Room A ONLINE PROJECTOR SOUND Lecture Courses 10:15-12:30</p> <p>11:15-11:30 Coffee Break</p> <p>12:30-14:00 Lunch</p> <p>14:00</p> <p>Room A ONLINE PROJECTOR SOUND Lecture Course 14:00-15:00</p> <p>15:00-15:20 Coffee Break</p> <p>15:20</p> <p>Room A ONLINE PROJECTOR SOUND Partial Differential Equations 1 15:20-18:00</p> <p>Room B ONLINE PROJECTOR Dynamical Systems 1 15:20-18:20</p> <p>Room C ONLINE PROJECTOR Optimization 1 15:20-18:20</p> <p>Room D ONLINE PROJECTOR Nonlinear Analysis and Its Applications 1 15:20-18:20</p> <p>18:30-20:00 Welcome Reception</p>	<p>09:00</p> <p>Room A ONLINE PROJECTOR SOUND Lecture Courses 09:00-12:30</p> <p>10:00-10:15 Coffee Break</p> <p>11:15-11:30 Coffee Break</p> <p>12:30-14:00 Lunch</p> <p>14:00</p> <p>Room A ONLINE PROJECTOR SOUND Lecture Courses 14:00-15:00</p> <p>15:00-15:20 Coffee Break</p> <p>15:20</p> <p>Room A ONLINE PROJECTOR SOUND Partial Differential Equations 2 15:20-18:20</p> <p>Room B ONLINE PROJECTOR Calculus of Variations and Mathematical Control Theory 1 15:20-18:40</p> <p>Room C ONLINE PROJECTOR Numerical Methods 1 15:20-18:20</p> <p>Room D ONLINE PROJECTOR Dynamical Systems 2 15:20-18:00</p>	<p>09:00</p> <p>Room A ONLINE PROJECTOR SOUND Lecture Courses 09:00-12:30</p> <p>10:00-10:15 Coffee Break</p> <p>11:15-11:30 Coffee Break</p> <p>12:30-14:00 Lunch</p> <p>14:00</p> <p>Room A ONLINE PROJECTOR SOUND Nonlinear Analysis and Its Applications 2 14:00-17:00</p> <p>Room B ONLINE PROJECTOR Dynamical Systems 3 14:00-17:40</p> <p>Room C ONLINE PROJECTOR Partial Differential Equations 3 14:00-17:20</p> <p>Room D ONLINE PROJECTOR Calculus of Variations and Mathematical Control Theory 2 14:00-17:20</p> <p>15:00-15:20 Coffee Break</p>	<p>10:00</p> <p>Room A ONLINE PROJECTOR SOUND Nonlinear Analysis and Its Applications 3 10:00-17:00</p>	<p>09:00</p> <p>Room A ONLINE PROJECTOR SOUND Student Section: Nonlinear Analysis and Extremal Problems 09:00-10:00</p> <p>09:40-10:00 Coffee Break</p> <p>10:00</p> <p>Room A ONLINE PROJECTOR SOUND Partial Differential Equations 4 10:00-12:20</p> <p>Room B ONLINE PROJECTOR Numerical Methods 2 10:00-12:40</p> <p>Room C ONLINE PROJECTOR Calculus of Variations and Mathematical Control Theory 3 10:00-12:00</p> <p>12:40-14:00 Lunch</p> <p>14:00</p> <p>Room A ONLINE PROJECTOR SOUND Optimization 2 14:00-15:40</p> <p>Room B ONLINE PROJECTOR Dynamical Systems 4 14:00-15:20</p> <p>Room C ONLINE PROJECTOR Calculus of Variations and Mathematical Control Theory 3 (Continued) 14:00-15:20</p> <p>16:00-16:30 Closing Ceremony Room A ONLINE PROJECTOR SOUND</p>

Detailed Program

182 active presentations.

CONFERENCE DAY 1

June 22, Monday

09:00-10:00 Registration	10:00-10:15 Opening Ceremony Room A ONLINE PROJECTOR SOUND	11:15-11:30 Coffee Break
12:30-14:00 Lunch	15:00-15:20 Coffee Break	18:30-20:00 Welcome Reception

10:15-12:30 **ROOM A** [ONLINE](#) [PROJECTOR](#) [SOUND](#)

Lecture Courses

CHAIR: Alexander Tolstonogov
SECRETARY: Anton Anikin

10:15 **Guang-Da Hu**
11:15
Difference Stabilizing Controller of Linear Delay Systems. Lecture 1
Department of Mathematics, Shanghai University, Shanghai, China
[ON-SITE](#)

11:30 **Guang-Da Hu**
12:30
Difference Stabilizing Controller of Linear Delay Systems. Lecture 2
Department of Mathematics, Shanghai University, Shanghai, China
[ON-SITE](#)

14:00-15:00 **ROOM A** [ONLINE](#) [PROJECTOR](#) [SOUND](#)

Lecture Course

CHAIR: Alexander Strekalovsky
SECRETARY: Elena Chistyakova

14:00 **Vassili Kolokoltsov**
15:00
Intrinsic Derivatives, Interacting Particles and the Propagation of Chaos
Lomonosov Moscow State University, Moscow, Russia
[ON-SITE](#)

15:20-18:00 **ROOM A** [ONLINE](#) [PROJECTOR](#) [SOUND](#) **PDE**

Partial Differential Equations 1

CHAIR: Alexander Kazakov
SECRETARY: Maksim Zharkov

15:20 **Alexander Kazakov, Lev Spevak**
15:40
Analytical and Numerical Solutions with Zero Fronts to a Degenerate Parabolic Predator-Prey System
Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia; Institute of Engineering Science of UB RAS, Ekaterinburg, Russia
[ON-SITE](#)

15:40 **Kristina Ivleva**
16:00
On Mixed Boundary Value Problems in the Quarter-Plane for the Vlasov System
Novosibirsk State University, Novosibirsk, Russia
[ON-SITE](#)

16:00 **Danil Sboev**
16:20
Composition Operators on Sobolev Spaces in Metric Measure Spaces
Novosibirsk State University, Novosibirsk, Russia
[ON-SITE](#)

16:20 **Alexandr Demidov**
16:40
Vekua's Formula and the Construction of Eigenfunctions and Eigenvalues of the Laplace Operator
Lomonosov Moscow State University, Moscow, Russia
[ONLINE](#)

16:40 **Viktor Korzyuk, Jan Rudzko**
17:00
Classical Solution to the Second Mixed Problem for a Semilinear Wave Equation with a Dirac Potential
Belarusian State University, Minsk, Belarus; Institute of Mathematics of the National Academy of Sciences of Belarus, Minsk, Belarus
[ONLINE](#)

17:00 **Yulia Koroleva, Alexander Korolev**
17:20
On the Electro-Hydrodynamical Boundary Value Problem for the Unit Cell of Cation-Exchange Membrane
Tikhinov Moscow Institute of Electronics and Mathematics, HSE, Moscow, Russia
[ONLINE](#)

17:20 **Anna Duyunova**
17:40
Quotient Equation for the One-Dimensional Inviscid Flow Along One Class of Curves
Trapeznikov Institute of Control Sciences of RAS, Moscow, Russia
[ONLINE](#)

17:40 **Alexander Vasilyev, Vladimir Vasilyev, Igor Shmal**
18:00
On Elliptic Equations in Cones with Different Smoothness
Belgorod State National Research University, Belgorod, Russia
[ONLINE](#)

15:20-18:20 **ROOM B** [ONLINE](#) **PROJECTOR** **DYNAMICS**

Dynamical Systems 1

CHAIR: Alla Shcheglova
SECRETARY: Pavel Kuznetsov

15:20 **Pavel Kuznetsov**
15:40
Biological Wave Solutions in the Bacillus Subtilis Chemotaxis Model
Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia
[ON-SITE](#)

15:40 **Sergey Shorokhov**
16:00
Construction of Neural Differential Equations by Given Trajectory Points
Peoples' Friendship University of Russia named after Patrice Lumumba, Moscow, Russia
[ONLINE](#)

16:00 **Zhavohir Mamatov**
16:20
Solvability of Boundary Value Problems for Multidimensional Ultraparabolic Equations of the Fourth Order
Novosibirsk State University, Novosibirsk, Russia
[ONLINE](#)

16:20 **Julia Belyaeva**
16:40
Nonlinear Stability for the Vlasov-Poisson Equations
RUDN, Moscow, Russia
[ONLINE](#)

16:40 **Alla Shcheglova**
17:00
Detectability of Time-Varying Differential-Algebraic Equations with Scalar Output
Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia
[ON-SITE](#)

17:00

17:20

Sergey Fedorov, Alexander Kozlov

Guaranteeing Domain for Instrumental Errors of a Strapdown Inertial Navigation System Moving Along the Equator

Navigation and Control Lab, Lomonosov Moscow State University, Moscow, Russia

ON-SITE

17:20

17:40

E. Mukhamadiev, I. Nurov, Artem Khuseinov, M. Ubaidov

A Special Case of Limit Cycle Existence in a Piecewise Linear Second-Order Differential Equation with a Parabolic Switching Line

Vologda State University, Vologda, Russia; Tajik National University, Dushanbe, Tajikistan; Independent Researcher, Oslo, Norway

ONLINE

17:40

18:00

Yuliya Kokonova, Svetlana Solodusha

A Problem of Identifying Input Signals of Dynamical Systems Modelled by Volterra Polynomials

Irkutsk National Research Technical University, Irkutsk, Russia; Melentiev Energy Systems Institute SB RAS, Irkutsk, Russia

ON-SITE

18:00

18:20

Natalia Yaparova, Svetlana Solodusha

Numerical Method for Solving the Inverse Heat Conduction Problem under Uncertainty

South Ural State University (National Research University), Chelyabinsk, Russia; Irkutsk State University, Irkutsk, Russia

ON-SITE

15:20-18:20

ROOM C

ONLINE PROJECTOR

OPTIMIZATION

Optimization 1

CHAIR: Liubov Solovarova

SECRETARY: Mariya Barkova

15:20

15:40

Igor Zabolin, Oksana Shulgina, Rashid Yarullin

Implementing Multicriteria Optimization Method via Cutting Procedures

Kazan (Volga Region) Federal University, Kazan, Russia

ONLINE

15:40

16:00

Akmal Mamatov

Algorithms for Constructing an Optimal Strategy for the First Player on a Segment and a Polygon in a Linear Game Problem with Forbidden Situations

Samarkand State University named after Sh. Rashidov, Samarkand, Uzbekistan

ONLINE

16:00

16:20

Irina Pototskaya, Yulia Pupyshcheva

Expenditure Optimized Control of Small Motions of Mechanical Systems

St. Petersburg State University, St. Petersburg, Russia

ONLINE

16:20

16:40

Boris Melnikov, Mikhail Abramyan, Elena Melnikova

Some Extremal Problems for Minimizing Nondeterministic Finite Automata

Shenzhen MSU-BIT University, Shenzhen, China; Southern Federal University, Rostov-on-Don, Russia; Russian State Social University, Moscow, Russia

ON-SITE

16:40

17:00

Svetlana Gakh, Oleg Khamisov

On the Search for Equilibrium in the ORIRES Market Model

Melentiev Energy Systems Institute SB RAS, Irkutsk, Russia

ON-SITE

17:00

17:20

Ilya Minarchenko, Oleg Khamisov

Solving Nonconvex Quadratic Programming Problems Using a Branch and Bound Method with Inner and Outer Box Approximations

Melentiev Energy Systems Institute SB RAS, Irkutsk, Russia

ON-SITE

17:20
17:40

Vsevolod Voronov

An Algorithm for Finding Suboptimal Configurations in the Generalized Min-Max Ratio Problem

Caucasus Mathematical Center of Adyghe State University, Maikop, Russia; Moscow Institute of Physics and Technology, Dolgoprudny, Russia

[ONLINE](#)

17:40
18:00

Vyacheslav Belousov

Reduction of the Problem of Constructing the Lyapunov Matrix to a Fredholm Equation

St. Petersburg State University, St. Petersburg, Russia

[ON-SITE](#)

18:00
18:20

Ekaterina Tserfus

Optimal Control of an Age-Structured Population with Time-Delay Effects

Institute of Mathematics and Information Technologies, Irkutsk State University, Irkutsk, Russia

[ON-SITE](#)

15:20-18:20 **ROOM D** [ONLINE](#) **PROJECTOR** **NONLINEAR ANALYSIS**

Nonlinear Analysis and Its Applications 1

CHAIR: Pavel Petrenko

SECRETARY: Anton Anikin

15:20
15:40

Yuriy Sachkov, A. Pechen, B. Volkov, F. Sorokin

Time-Optimal Problem for Schrödinger Equation

Program Systems Institute, Pereslavl-Zalessky, Russia; Steklov Mathematical Institute, Moscow, Russia

[ONLINE](#)

15:40
16:00

Oleg Morzhin

On Optimization for Obtaining Two-Qubit Gates under Unitary Dynamics with Controls Formed with Chebyshev Polynomials

Steklov Mathematical Institute of the Russian Academy of Sciences, Department of Mathematical Methods for Quantum Technologies, Moscow, Russia

[ONLINE](#)

16:00
16:20

Valery Vasil'ev

Quadratic Core of a Cooperative Game: Vertexes of the Recessive Cone Section

Sobolev Institute of Mathematics, Novosibirsk, Russia

[ONLINE](#)

16:20
16:40

Andrey Osipov

On Solving Some Operator Equations by Using Related Block Band Operators and Continued Fractions

Scientific Research Institute for System Analysis of the National Research Centre "Kurchatov Institute" (NRC "Kurchatov Institute" - SRISA), Moscow, Russia

[ONLINE](#)

16:40
17:00

Olga Pochinka

On Structural Stability of 3-Diffeomorphisms with the Smale Solenoid Attractor-Repeller Dynamics

HSE University, Nizhny Novgorod, Russia

[ONLINE](#)

17:00
17:20

Aleksei Lozovoi, Alexey Tikhonov

On the Modified Method of Complex Automization and Its Application to Beletsky Equation

St. Petersburg State University, St. Petersburg, Russia

[ONLINE](#)

17:20
17:40

Polina Korneva

On the Periodic Problem for Some Classes of Differential Variational Inequalities

Voronezh State Pedagogical University, Voronezh, Russia

[ONLINE](#)

17:40
18:00

Elena Panasenکو, Aleksandra Zamurueva

On a Comparison Method for Studying the Existence of Solutions to Operator Equations in Vector Metric Spaces

Derzhavin Tambov State University, Tambov, Russia

[ONLINE](#)

18:00

18:20

Natalia Manakova, Nadezhda Nikolaeva

Investigation of the Structure of the Phase Manifold of One Sobolev-Type Equation

South Ural State University (National Research University), Chelyabinsk, Russia

[ONLINE](#)

June 23, Tuesday

10:00-10:15 Coffee Break	11:15-11:30 Coffee Break	12:30-14:00 Lunch
15:00-15:20 Coffee Break		

09:00-12:30 ROOM A [ONLINE](#) [PROJECTOR](#) [SOUND](#)

Lecture Courses

CHAIR: Alexander Gornov
SECRETARY: Maksim Staritsyn

09:00
10:00
Stanislav Shaposhnikov
Fokker-Planck-Kolmogorov Equations: Changes of Coordinates. Lecture 1
 Moscow State University; Moscow; Russia
[ON-SITE](#)

10:15
11:15
Stanislav Shaposhnikov
Fokker-Planck-Kolmogorov Equations: Changes of Coordinates. Lecture 2
 Lomonosov Moscow State University, Moscow, Russia
[ON-SITE](#)

11:30
12:30
Mikhail Gomoyunov
Minimax and Viscosity Solutions of Path-Dependent Hamilton-Jacobi Equations. Lecture 1
 Krasovskii Institute of Mathematics and Mechanics UB RAS, Ekaterinburg, Russia
[ON-SITE](#)

14:00-15:00 ROOM A [ONLINE](#) [PROJECTOR](#) [SOUND](#)

Lecture Courses

CHAIR: Alexander Tolstonogov
SECRETARY: Maksim Staritsyn

14:00
15:00
Mikhail Gomoyunov
Minimax and Viscosity Solutions of Path-Dependent Hamilton-Jacobi Equations. Lecture 2
 Krasovskii Institute of Mathematics and Mechanics UB RAS, Ekaterinburg, Russia
[ON-SITE](#)

15:20-18:20 ROOM A [ONLINE](#) [PROJECTOR](#) [SOUND](#) **PDE**

Partial Differential Equations 2

CHAIR: Gennadii Demidenko
SECRETARY: Liubov Solovarova

15:20
15:40
Gennadii Demidenko
On the Solvability of the Cauchy Problem for Pseudohyperbolic Equations in Weighted Sobolev Spaces
 Novosibirsk State University, Novosibirsk, Russia
[ON-SITE](#)

15:40
16:00
Mardona Ganzhaeva
On the Bounded Solutions of Linear Difference Systems with Periodic Coefficients
 Novosibirsk State University, Novosibirsk, Russia
[ON-SITE](#)

16:20 **Arukhan Narekeeva**
16:40
Estimates of Solutions to Nonlinear Systems with Periodic Coefficients in Linear Terms and Several Delays
Novosibirsk State University, Novosibirsk, Russia
[ON-SITE](#)

16:40 **Xin Ma**
17:00
Energy Estimates for Solutions to the Generalized Boussinesq Equation with Variable Coefficients
Novosibirsk State University, Novosibirsk, Russia
[ON-SITE](#)

17:00 **Dilshod Mamanazarov**
17:20
Spatially Nonlocal Boundary Value Problems for Higher-Order Parabolic Equations
Novosibirsk State University, Novosibirsk, Russia
[ONLINE](#)

17:20 **Sanjar Mingnarov**
17:40
Solvability Conditions for One Pseudohyperbolic System
Novosibirsk State University, Novosibirsk, Russia
[ONLINE](#)

17:40 **Vakhobiddin Nurmakhmatov**
18:00
On the Regularity of the Solution to One Uniformly Strictly Pseudohyperbolic Equation
Novosibirsk State University, Novosibirsk, Russia
[ONLINE](#)

18:00 **Bakhtovar Barotov**
18:20
Regular Solutions in Sobolev Spaces for Degenerate Integro-Differential Equations
Novosibirsk State University, Novosibirsk, Russia
[ONLINE](#)

15:20-18:40 **ROOM B** [ONLINE](#) **PROJECTOR** **CONTROL THEORY**

Calculus of Variations and Mathematical Control Theory 1

CHAIRS: Dmitry Khlopin, Maksim Staritsyn

SECRETARY: Olga Samsonyuk

15:20 **Dmitry Khlopin**
15:40
On Markov Property for Any Solution of Nonlocal Continuity Equation
Krasovskii Institute of Mathematics and Mechanics UB RAS, Ekaterinburg, Russia
[ON-SITE](#)

15:40 **Igor Petrov**
16:00
Pareto Front Construction in a Two-Criteria Optimal Control Problem
Institute of Mathematics and Information Technologies, Irkutsk State University, Irkutsk, Russia
[ON-SITE](#)

16:00 **Alexander Chentsov, Dmitrii Serkov**
16:20
On the Design of a Control Scheme with a Guide under Conditions of Uniqueness and Uniform Boundedness of Trajectories Generated by Control Measures
Krasovskii Institute of Mathematics and Mechanics UB RAS, Ekaterinburg, Russia; Ural Federal University, Ekaterinburg, Russia
[ONLINE](#)

16:20 **Evgeniy Krupennikov, Nina Subbotina**
16:40
To the Control Reconstruction Problem for Systems Non-Linear in Controls
Krasovskii Institute of Mathematics and Mechanics UB RAS, Ekaterinburg, Russia; Ural Federal University, Ekaterinburg, Russia
[ONLINE](#)

16:40 **Tatiana Filippova, Oxana Matviychuk**
17:00
Reachable Set Estimates for Impulsive Control Systems with Uncertain Initial State and Cone Constraint on Controls
Krasovskii Institute of Mathematics and Mechanics UB RAS, Ekaterinburg, Russia
[ONLINE](#)

17:00 **Mikhail Gusev**
17:20
Duality of Convex Sets and Smoothness of the Boundary of the Reachable Set with Control Constraints in L_p
Krasovskii Institute of Mathematics and Mechanics, Ekaterinburg, Russia
[ONLINE](#)

17:20 **Boris Ananyev**
17:40
Observation Problem on Part of Coordinates under Integral Constraints
Krasovskii Institute of Mathematics and Mechanics UB RAS, Ekaterinburg, Russia
[ONLINE](#)

17:40 **Victor Tolstykh**
18:00
Optimality Conditions and Optimization Algorithms in Infinite-Dimensional Spaces
Donetsk State University, Donetsk, Russia
[ONLINE](#)

18:00 **Maria Soroka, Garik Petrosyan**
18:20
On the Controllability Problem for Systems of Impulsive Functional Inclusions
Voronezh State University, Voronezh, Russia
[ONLINE](#)

18:20 **Garik Petrosyan, Maria Soroka**
18:40
On Feedback Control Systems Governed by Functional Inclusions with Causal Operators and a Sweeping Process
Voronezh State University, Voronezh, Russia
[ONLINE](#)

15:20-18:20 **ROOM C** [ONLINE](#) **PROJECTOR** **NUMERICAL METHODS**

Numerical Methods 1

CHAIR: Alexander Gornov

SECRETARIES: Anton Anikin, Pavel Sorokovikov

15:20 **Artem Shurygin, Alexander Devyatisilny**
15:40
High-Order Robust Numerical Differentiation in Motion Determination Problems
IACP FEB RAS, Vladivostok, Russia
[ONLINE](#)

15:40 **Sergey Glukhov**
16:00
The Problem of Selecting the Optimal Pressure at an Oil and Gas Field Using the Katz Method
Ufa University of Science and Technology, Ufa, Russia
[ONLINE](#)

16:00 **Aygul Mukhutdinova**
16:20
Study of the Oscillatory Flow Regime of a Surfactant Solution in an Annular Channel
Mavlyutov Institute of Mechanics UFRC RAS, Ufa, Russia
[ONLINE](#)

16:20 **Alexander Gornov, Anton Anikin, Pavel Sorokovikov**
16:40
Methods of Landscape Analysis of Multiextremal Functions and Applications
Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia
[ONLINE](#)

16:40 **Aleksandr Rozhkov**
17:00
A Method for Searching Polynomial Coefficients Using a Pseudorandom Number Generator in the Inverse Problem for the Grad-Shafranov Equation
National Research Moscow State University of Civil Engineering, Moscow, Russia
[ONLINE](#)

17:00 **Yunus Soliev**
17:20
On Cubature Formulas for Multidimensional Singular Integrals with a Cauchy Kernel
MADI, MTUCI, Moscow, Russia
[ONLINE](#)

17:20
17:40

Maksim Minin

Optimisation of Spatial Hashing Parameters for Neighbour Search in Particle Systems

Saint Petersburg State Marine Technical University, Saint Petersburg, Russia

[ONLINE](#)

17:40
18:00

Aleksandr Stepanov

On the Selection of a Prior Distribution for Bayesian Estimation of a Measurand Near Natural Limits

Mendeleyev Institute for Metrology, St. Petersburg, Russia

[ONLINE](#)

18:00
18:20

Eugene Parmuzin, Valery Agoshkov, Natalia Lezina

Variational Data Assimilation of Sea Surface Temperature for the Black Sea Hydrothermodynamics Model

Marchuk Institute of Numerical Mathematics, Russian Academy of Sciences, Moscow, Russia; Faculty of Computational Mathematics and Cybernetics, Lomonosov Moscow State University, Moscow, Russia

[ONLINE](#)

15:20-18:00 **ROOM D** [ONLINE](#) **PROJECTOR** **DYNAMICS**

Dynamical Systems 2

CHAIR: Tayana Zarodnyuk

SECRETARY: Pavel Petrenko

15:20
15:40

Igor Burkin, Oksana Kuznetsova

An Approach to Constructing Matryoshka Multistable Dynamical Systems

Tula State University, Tula, Russia

[ONLINE](#)

15:40
16:00

Gadirli Nigar

Spectral Properties of Sturm-Liouville Type Operators

Sumgayit State University, Sumgayit, Azerbaijan

[ONLINE](#)

16:00
16:20

Nurxon Samijonova

The Fixed Points of the Dynamical System: p -adic Potts Model with an External Field

Namangan State University, Namangan, Uzbekistan

[ONLINE](#)

16:20
16:40

Mikhail Mulyukov

Sturm Sequences for Delay-Independent Stability

Perm State National Research University, Perm, Russia

[ONLINE](#)

16:40
17:00

Hamlet Guliyev, Vusala Nasibzadeh

Optimal Control Problem for Acoustic Equation and Algorithm for Finding Approximate Solution in One Special Case

Institute of Mathematics and Mechanics, Baku, Azerbaijan; Sumgayit State University, Sumgayit, Azerbaijan

[ONLINE](#)

17:00
17:20

Polina Tsareva

Mixed-Precision Computations in Poisson's Equation Solution Time Optimization in Computational Fluid Dynamics

Saint Petersburg State Marine Technical University, Saint Petersburg, Russia

[ONLINE](#)

17:20
17:40

Anastasiya Andrianova

About One Method for Solving a Partially Boolean Programming Problem Based on Gradient Descent and the Adaptive Method of Centers

Kazan (Volga Region) Federal University, Kazan, Russia

[ONLINE](#)

17:40
18:00

Konstantin Shilov

Analysis of Fixed Points and Bifurcations in a Generalized Lorenz System with Cross Nonlinearities

Vologda State University, Vologda, Russia

[ONLINE](#)

June 24, Wednesday

10:00-10:15 Coffee Break	11:15-11:30 Coffee Break	12:30-14:00 Lunch
15:00-15:20 Coffee Break		

09:00-12:30 ROOM A [ONLINE](#) [PROJECTOR](#) [SOUND](#)

Lecture Courses

CHAIR: Alexander Gornov
SECRETARY: Anton Anikin

09:00
10:00
Hui Liang
Compatibility of Collocation Error Analyses for Volterra Integral Equations with Smooth and Weakly Singular Kernels
 School of Science, Harbin Institute of Technology, Shenzhen, China
[ON-SITE](#)

10:15
11:15
Shuguang Li
Higher-Order Compact Difference Methods for Nonlinear Dispersive Wave Equations. Lecture 1
 School of Science, Dalian Maritime University, Dalian, China
[ON-SITE](#)

11:30
12:30
Shuguang Li
Higher-Order Compact Difference Methods for Nonlinear Dispersive Wave Equations. Lecture 2
 School of Science, Dalian Maritime University, Dalian, China
[ON-SITE](#)

14:00-17:00 ROOM A [ONLINE](#) [PROJECTOR](#) [SOUND](#) **NONLINEAR ANALYSIS**

Nonlinear Analysis and Its Applications 2

CHAIR: Ivan Finogenko
SECRETARY: Pavel Sorokovikov

14:00
14:20
Ivan Finogenko
Pulse-Sliding Modes in Systems with Aftereffect
 Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia
[ON-SITE](#)

14:20
14:40
Ernazar Mambetnyazov
Estimates of Solutions to a Class of Systems of Differential Equations of Neutral Type with Several Delays
 Novosibirsk State University, Novosibirsk, Russia
[ON-SITE](#)

14:40
15:00
Irina Fankina
On the Equilibrium of a Timoshenko Plate with a Crack and a Free Edge
 Novosibirsk State University, Novosibirsk, Russia
[ON-SITE](#)

15:20
15:40
Evgeny Zhukovskiy, Dmitry Lobkov
A Theorem on the Parameter Dependence of Coincidence Points and Applications to the Study of a Class of Functional Differential Equations
 Derzhavin Tambov State University, Tambov, Russia
[ONLINE](#)

15:40
16:00
Alexander Menovschikov, Alexander Ukhlov
Compactness of Weighted Sobolev Trace Operators in Outward Cuspidal Domains
 HSE University, Moscow, Russia; Ben-Gurion University of the Negev, Beer Sheva, Israel
[ON-SITE](#)

16:00

Nadezhda Andrushechkina, Arkadii Kim

16:20

Direct and Inverse Problems of HIV Dynamics

Ural State Agrarian University, Ekaterinburg, Russia; Krasovskii Institute of Mathematics and Mechanics UB RAS, Ekaterinburg, Russia

[ONLINE](#)

16:20

Anton Kulagin, Alexander Shapovalov

16:40

Quasi-Steady Vortex States as the Semiclassical Stage of the Vortex Lattice Formation in an Open Nonlinear Quantum System

Tomsk Polytechnic University, Tomsk, Russia; Institute of Atmospheric Optics SB RAS, Tomsk, Russia; Tomsk State University, Tomsk, Russia

[ONLINE](#)

16:40

Denis Tokarev

17:00

On Solvability to Certain Elliptic Equation

Belgorod State National Research University, Belgorod, Russia

[ONLINE](#)

14:00-17:40

ROOM B

[ONLINE](#) PROJECTOR

DYNAMICS

Dynamical Systems 3

CHAIR:

Inessa Matveeva

SECRETARY:

Svetlana Svinina

14:00

Inessa Matveeva

14:20

On Properties of Solutions to Nonautonomous Time-Delay Systems

Novosibirsk State University, Novosibirsk, Russia

[ON-SITE](#)

14:20

Elena Gurevich

14:40

Energy Function of Morse-Smale Diffeomorphisms

HSE University, Nizhny Novgorod, Russia

[ON-SITE](#)

14:40

Vladislav Prokhorov

15:00

On the Asymptotic Stability of Systems of Differential Equations with Almost Periodic Coefficients

Novosibirsk State University, Novosibirsk, Russia

[ON-SITE](#)

15:20

Viktor Denisiuk

15:40

About One Class of Nonlinear High-Dimensional Systems of Differential Equations

Novosibirsk State University, Novosibirsk, Russia

[ON-SITE](#)

15:40

Vlas Karavaikin

16:00

On the Asymptotic Stability of Solutions to a Class of Nonlinear Delay Difference Equations with Periodic Coefficients in Linear Terms

Novosibirsk State University, Novosibirsk, Russia

[ON-SITE](#)

16:00

Ivan Ilinykh

16:20

On Properties of a Sequence of Lyapunov Functions Defined by One Class of High-Dimensional Systems of Differential Equations

Novosibirsk State University, Novosibirsk, Russia

[ON-SITE](#)

16:20

Maria Skvortsova

16:40

Differential Equations of Neutral Type with Distributed Delay and a Model of Motion of an Elastic Aircraft

Novosibirsk State University, Novosibirsk, Russia

[ONLINE](#)

16:40

Elena Molchanova Alves, Manuel Alves, Joao Munembe, Yury Nepomnyashchikh

17:00

A Criterion for the Complete Continuity of the Urysohn Operator in Spaces of Continuous Banach-Valued Functions

Higher Institute of Sciences and Technology of Mozambique, Maputo, Mozambique; Eduardo Mondlane University, Maputo, Mozambique

[ONLINE](#)

17:00

Maxim Shamolin

17:20

Integrable Systems with Dissipative Shift Generator

Lomonosov Moscow State University, Moscow, Russia

[ONLINE](#)

17:20

S. Siniukov, Alexander Shapovalov

17:40

Semiclassical Asymptotics of the One-Dimensional Nonlocal Fisher-KPP Equation with a Fractal Time Derivative in the Weak Diffusion Approximation

Tomsk State University, Tomsk, Russia

[ONLINE](#)

14:00-17:20

ROOM C

[ONLINE](#) [PROJECTOR](#)

PDE

Partial Differential Equations 3

CHAIR:

Liubov Solovarova

SECRETARY:

Anton Anikin

14:00

Irina Guselnikova, Vyacheslav Provotorov

14:20

Difference Scheme of the Stationary Navier-Stokes-Oseen System in the Class of Summable Functions with Support in a Network-Like Domain

Peter the Great St. Petersburg Polytechnic University, St. Petersburg, Russia; Voronezh State University, Voronezh, Russia

[ONLINE](#)

14:20

Valerii Dilman, Alexandra Kashcheeva

14:40

Analysis of the Critical State of the Plastic Strip with Variable Strength Along the Less Durable Layer When Stretched

South Ural State University (National Research University), Chelyabinsk, Russia

[ONLINE](#)

14:40

Sergey Tychkov

15:00

Differential Invariants of the WDVV Equation

Trapeznikov Institute of Control Sciences of RAS, Moscow, Russia

[ONLINE](#)

15:20

Khayala Seyfullaeva

15:40

An Optimal Control Problem for Hyperbolic Equations

Sumgayit State University, Sumgayit, Azerbaijan

[ONLINE](#)

15:40

Anvar Hasanov, Sardor Rashidov

16:00

Application of the Hankel Transform to Solving Cauchy Problem for Model Partial Differential Equation

V. I. Romanovskiy Institute of Mathematics, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan; Muhammad al-Khwarizmi Specialized IT School, Tashkent, Uzbekistan

[ONLINE](#)

16:00

Alexandr Barinov

16:20

On a Problem of Traffic Flow Speed Control in the Payne-Whitham Model

Chelyabinsk State University, Chelyabinsk, Russia

[ONLINE](#)

16:20

Alexander Morozov

16:40

On the Global Solvability of the Wave Equation on a Geometric Graph with Second Derivative in Transmission Conditions

Voronezh State University, Voronezh, Russia

[ONLINE](#)

16:40

Muslima Hakimova

17:00

Description of $G_2^{(2)}$ -Periodic Ground States for the $(m + 1)$ -State Chui-Weeks Model

Namangan State University, Namangan, Uzbekistan

[ONLINE](#)

17:00

Sevinj Sabir Hadiyeva

17:20

The Riman Method for a Second-Order Hyperbolic Equation

Sumgayit State University, Sumgayit

[ONLINE](#)

Calculus of Variations and Mathematical Control Theory 2

CHAIR: Olga Samsonyuk

SECRETARY: Pavel Petrenko

14:00 Alexander Shananin, Nikolai Trusov

14:20

Mathematical Modeling of Credit Debt Repayment Strategies

Federal Research Center «Computer Science and Control» of the Russian Academy of Sciences, Moscow, Russia

[ONLINE](#)

14:20 Natalia Manakova, Sergey Lushnikov, Nadezhda Nikolaeva

14:40

Numerical Modelling of the Optimal Control Problem for a Degenerate Stochastic Nonlinear Filtration Equation

South Ural State University (National Research University), Chelyabinsk, Russia

[ONLINE](#)

14:40 Dmitry Vinokursky

15:00

Fault-Tolerance Control Based on Integral Super-Twisting Algorithm and Barrier Function for Quadrotors

North Caucasian Federal University, Stavropol, Russia

[ONLINE](#)

15:20 Vladimir Korolev, Elena Polyakhova, Irina Pototskaya, Yulia Pupysheva

15:40

Applied Problems of Space Dynamics

St. Petersburg State University, St. Petersburg, Russia

[ONLINE](#)

15:40 Veniamin Kurokhtin

16:00

Method for the Approximate Solution of Constrained Optimal Control Problems in the Class of Piecewise-Constant Controls

Buryat State University, Ulan-Ude, Russia

[ONLINE](#)

16:00 Ivan Kazmin

16:20

Fixed Point Methods in Bilinear Optimal Control Problems

Buryat State University, Ulan-Ude, Russia

[ONLINE](#)

16:20 Valery Gaiko

16:40

Global Bifurcations of Limit Cycles in a Multi-Parameter Predator-Prey Model

United Institute of Informatics Problems, National Academy of Sciences of Belarus, Minsk, Belarus

[ONLINE](#)

16:40 Alexander Buldaev

17:00

Conditions and Methods of the Maximum Principle Based on Fixed Point Problems

Buryat State University, Ulan-Ude, Russia

[ONLINE](#)

17:00 Varvara Davydova, Alexander Shlapunov

17:20

Sparse Minimizing in Hardy Spaces of Holomorphic Functions

Siberian Federal University, Krasnoyarsk, Russia

[ONLINE](#)

10:00-17:00 ROOM A [ONLINE](#) [PROJECTOR](#) [SOUND](#) **NONLINEAR ANALYSIS**

Nonlinear Analysis and Its Applications 3

CHAIR: Elena Chistyakova

SECRETARY: Anton Anikin

10:00 Jun Nam Gung, Yun Chol Kim

10:20

Solvability of an Inverse Time-Dependent Source Problem in a Semilinear Parabolic Equation with Robin Boundary Condition

Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea

[ONLINE](#)

10:20 Un-Ha Jon, Bong-Yong Ri, Sung-Hyon Ri

10:40

Estimation for the Mean Curve of Functional Data by a 3D-Reproducing Kernel Hilbert Space Method

Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea

[ONLINE](#)

10:40 Sung Il Jon, Gyong Hyok Kim, Yong Gyong Jon

11:00

Pattern Detection Method Using Phase Varying Dynamic Time Warping in Financial Time Series

Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea

[ONLINE](#)

11:00 Sung Il Kang, Ok Bom Ham

11:20

A Non-Monotone Conic Trust Region Method with Non-Monotone Line Search for Solving Unconstrained Optimization Problems

Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea

[ONLINE](#)

11:20 Un Ok Kim, Kyong Ryol O, Ryong Nam So, Chang Ryop Ri, Ji Hyok Kim, Yong JunKim

11:40

Modeling of Free Flow in Stamped Tubular Ceramic Membrane Using Finite Element – Lattice Boltzmann Method

Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea

[ONLINE](#)

11:40 Hyon Chol Kim, Wal Nam Ko

12:00

An Improved YOLO Model for Real-Time Small Object Detection on Aerial Images

Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea

[ONLINE](#)

12:00 Sang Rim Kim, Jung Hyon, Hyon I Paek

12:20

Importance Sampling Combining the Subset Simulation, Scaling of PDF and Sequential Importance Sampling

Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea

[ONLINE](#)

12:20 Jin-Hyok Kim, Yun Chol Kim

12:40

Spectral-Galerkin Method for Acoustic Transmission Eigenvalue Problems with Anisotropic Media in 3D

Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea

[ONLINE](#)

12:40 Ung Kim, Changgil Hong

13:00

Unbounded Viscosity Solutions of Hamilton-Jacobi-Bellman Equation for the Finite Horizon Optimal Control Problem

University of Science, Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea

[ONLINE](#)

13:00 Ro Won Myong, Ro Ui Jong, Kim Jong Guk

13:20

Numerical Simulation and Performance Evaluation of Optimal Variable Order Fractional PID Controller by Variations of Variable Order Fractional Calculus

Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea

[ONLINE](#)

- 13:20**
13:40
Kyong Ryol O, Un Ok Kim, Chang Ryop Ri, Du Hyok Han
Preparation of Tubular Ceramic Membranes Using Kaolin and Purification of Ginkgo Biloba Leaf Flavonoid
Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea
[ONLINE](#)
-
- 13:40**
14:00
Un Suk O, Se Gwang Ri
A New Relationship Between the Core and Weber Setin Games with Restricted Cooperation
Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea
[ONLINE](#)
-
- 14:00**
14:20
Chol Won O, Mo Ran Kim
Numerical Method for Solving Time-Space Fractional Stefan Problem by Using APT Algorithm
Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea
[ONLINE](#)
-
- 14:20**
14:40
Sung Paek, Chol Jin Kil, Kwang Chol Mun
Banach Type Fixed Point Results in Expanded Mb-Metric Spaces and Application to Nonlinear Integral Equations
Sinuiju College of Industrial Technology, Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea
[ONLINE](#)
-
- 14:40**
15:00
Hyon I Paek, Jin Jong
Supervised Functional Principal Component Regression for Estimation of Functional Response Model
Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea
[ONLINE](#)
-
- 15:00**
15:20
Jin-Guk Pak, Hak-Song Rim
A Study on the Improvement of Control Iteration Algorithm for the Value Function Construction of High-Dimensional Minimum-Time Control Problem
Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea
[ONLINE](#)
-
- 15:20**
15:40
Song Jun Ri
Efficient and Robust Estimation and Test for Varying Coefficient Partially Nonlinear Model by Quantile Regression Estimation Method
Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea
[ONLINE](#)
-
- 15:40**
16:00
Jin Song Ri, Yun Chol Kim
Spectral-Galerkin Method for Electromagnetic Transmission Eigenvalue Problems in Two-Dimensional Anisotropic Media
Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea
[ONLINE](#)
-
- 16:00**
16:20
Chol Ryuk, Chol Jun Ham, Ju Hak Jo
Study on the Optimization of Levitation Force with Changing Superconductor Geometry in Three-Surface Levitated Superconducting Magnetic Bearing
Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea
[ONLINE](#)
-
- 16:20**
16:40
Hyon A Ryu, Sung Jin Kim
Beta Marshall-Olkin Extended Generalized Rayleigh Distribution and Its Maximum Likelihood Estimation
Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea
[ONLINE](#)
-
- 16:40**
17:00
Ok Yun, Yun Chol Kim
Minimum Residual Parallel Multisplitting Iterative Method for Systems of Linear Equations
Kim Chaek University of Technology; Pyongyang; Democratic People's Republic of Korea
[ONLINE](#)

09:40-10:00 Coffee Break	12:40-14:00 Lunch	16:00-16:30 Closing Ceremony Room A ONLINE PROJECTOR SOUND
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09:00-10:00 ROOM A [ONLINE](#) [PROJECTOR](#) [SOUND](#) **NONLINEAR ANALYSIS**

Student Section: Nonlinear Analysis and Extremal Problems

CHAIR: Pavel Petrenko
SECRETARY: Pavel Sorokovikov

1. Yuriy Balkheev, Innokenty Abiduev
Impact of Gradient Estimation Accuracy on the Convergence of Second-Order Algorithms in Nonlinear Analysis Problems
Institute of Mathematics and Information Technologies, Irkutsk State University, Irkutsk, Russia
ON-SITE

2. Dmitry Yavorskiy
Development of an Automated Stochastic Testing Methodology with Scenario Coverage Assessment and Adaptive Generation of Critical Situations
Institute of Mathematics and Information Technologies, Irkutsk State University, Irkutsk, Russia
ON-SITE

3. Shakhnoza Abdurakhimova
On the Fixed Points of the Mapping $[ax + b(x)]$
Namangan State University, Namangan, Uzbekistan
ON-SITE

4. Bogdan Ugryniv
An Online Optimization Model for Point-of-Sale Credit Decisions with Aggregated Portfolio Constraints
Institute of Mathematics and Information Technologies, Irkutsk State University, Irkutsk, Russia
ON-SITE

5. Vladislav Boyarintsev
Optimal Control of a Firm's Investment and Consumption Policy
Institute of Mathematics and Information Technologies, Irkutsk State University, Irkutsk, Russia
ON-SITE

6. Roman Artemenko
Problem of Data Redundancy Minimization under Information Completeness Constraints: Algorithm and Efficiency Estimate
Institute of Mathematics and Information Technologies, Irkutsk State University, Irkutsk, Russia
ON-SITE

7. Stepan Kovalev
Problem of Classification and Geolocation of Construction Images Based on Convolutional Neural Networks and Spherical Trigonometry
Institute of Mathematics and Information Technologies, Irkutsk State University, Irkutsk, Russia
ON-SITE

8. Bahtiyar Jangirov

Discrete Dynamical Systems for Consistency Restoration in Multi-Agent Systems: A Categorical Approach via Asymmetric Learning Lenses

Institute of Mathematics and Information Technologies, Irkutsk State University, Irkutsk, Russia

ON-SITE

9. Gleb Kulikov

Problem of Technical Specification Generation with Full Context Transfer: Comparison of Stepwise and Monolithic Strategies

Institute of Mathematics and Information Technologies, Irkutsk State University, Irkutsk, Russia

ON-SITE

10. Sergey Nikolaenko

A Formal Model of a Turn-Based Tactical RPG System on a Discrete Grid

Institute of Mathematics and Information Technologies, Irkutsk State University, Irkutsk, Russia

ON-SITE

11. Tatiana Ul'vacheva

On the Topological Structure of Solution Set for System of Fractional Semilinear Inclusions with Hille–Yosida Operators in Banach Spaces

Voronezh State Pedagogical University, Voronezh, Russia

ON-SITE

10:00-12:20 ROOM A [ONLINE](#) [PROJECTOR](#) [SOUND](#) PDE

Partial Differential Equations 4

CHAIRS: Alexander Kosov, Eduard Semenov

SECRETARY: Anton Anikin

10:00 Alexander Balandin

10:20

Tomographic Reconstruction of Vortex Vector Fields Using Cylindrical Vector Wave Functions

Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia

ON-SITE

10:20 Alexander Kosov, Eduard Semenov

10:40

Multidimensional Exact Solutions for a Parabolic Monge-Ampere Equation with Delay

Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia

ON-SITE

10:40 Evelina Leonova

11:00

Homogenization of a Layered Composite Reinforced with Thin Gradient-Elastic Inclusions

Novosibirsk State University, Novosibirsk, Russia; Altai State University, Barnaul, Russia

ON-SITE

11:00 Rasul Safarov Choriyor ugli

11:20

On Radially Symmetric Solutions for an Elliptic Equation with $p(|x|)$ -Laplacian

Novosibirsk State University, Novosibirsk, Russia; Karshi State University, Karshi, Uzbekistan

ON-SITE

11:20 Polina Makoveeva

11:40

Robust Stability of a Parabolic System with Delay Based on a Lyapunov–krasovskii Functional with Prescribed Derivative

St. Petersburg State University, St. Petersburg, Russia

[ONLINE](#)

11:40 Dmitriy Shemyakin

12:00

Analytical Solution of the Dirichlet Problem for the Eikonal Equation in an Unbounded Domain

Ural Federal University, Ekaterinburg, Russia

[ONLINE](#)

12:00

12:20

Alyona Zamyshlyeva, Evgeniy Bychkov

Optimal Control in a Degenerate Hydrodynamic Model with Cubic Nonlinearity and Damping

South Ural State University (National Research University), Chelyabinsk, Russia

[ONLINE](#)

10:00-12:40

ROOM B

[ONLINE](#) PROJECTOR

NUMERICAL METHODS

Numerical Methods 2

CHAIR: Svetlana Svinina

SECRETARY: Liubov Solovarova

10:00

10:20

Svetlana Svinina

On One Variant of a Difference Scheme with Weights for a Two-Dimensional Differential-Algebraic System

Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia

ON-SITE

10:20

10:40

Elena Chistyakova, Viktor Chistyakov

On Numerical Experiments for Solving Initial Value Problems for Singular Systems of Quasi-Linear Volterra Integral Differential Equations of General Form

Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia

ON-SITE

10:40

11:00

Liubov Solovarova

Collocation-Variational Difference Scheme for Solving the Inverse Kinematics Problem

Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia

ON-SITE

11:00

11:20

Pavel Sorokovikov

A Comparative Study of Swarm Intelligence Algorithms Applied to the Morse Potential Optimization Problem

Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia

ON-SITE

11:20

11:40

Elizaveta Vikulova, Anton Tostikhin

Comparative Analysis of SLAM Algorithms for Mobile Robots

Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia

[ONLINE](#)

11:40

12:00

Tatiana Gruzdeva, Mariia Gruzdeva

On Local Search in Mahalanobis-Distance-Based Clustering Problem

Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia; Irkutsk National Research Technical University, Irkutsk, Russia

[ONLINE](#)

12:00

12:20

Nadezhda Maltugueva

Optimal Switching Control of Linear Systems via Mixed-Integer Linear Programming

Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia

[ONLINE](#)

12:20

12:40

Innocent Ofia, Evgeny Cherkashin, Tatiana Cherkashina, Vadim Pellinen

A Hybrid PCA-NN-Kriging Framework for Geochemical Mapping: Distinguishing Natural from Anthropogenic Controls Using Multi-Element Data

Siberian School of Geosciences, Irkutsk National Research Technical University, Irkutsk, Russia; School of Mathematics and Information Sciences, Yantai University, Yantai, China; Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia; Institute of the Earth's Crust SB RAS, Irkutsk, Russia

[ONLINE](#)

10:00-12:00

ROOM C

[ONLINE](#) PROJECTOR

CONTROL THEORY

Calculus of Variations and Mathematical Control Theory 3

CHAIR: Olga Samsonyuk

SECRETARY: Pavel Petrenko

10:00 **Stepan Pavlov**
10:20
Variational Problems of Nonlinear Elasticity on Carnot Groups
Novosibirsk State University, Novosibirsk, Russia
ON-SITE

10:20 **Stepan Sorokin, Olga Samsonyuk**
10:40
Terminal Constraints in the Feedback Minimum Principle: Challenges and Numerical Implementation
Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia
ON-SITE

10:40 **Olga Samsonyuk**
11:00
Relaxed Solutions for Controlled Nonconvex Sweeping BV-Processes
Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia
ON-SITE

11:00 **Stepan Sorokin**
11:20
Feedback Minimum Principle and Approximate Maximum Principle for Discrete Optimal Control Problems
Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia
ON-SITE

11:20 **Tatiana Zarodnyuk**
11:40
Numerical Methods for Solving Non-Convex Optimal Control Problems Based on the Linear Connectivity Property of the Reachable Set
Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia
ON-SITE

11:40 **Pavel Petrenko**
12:00
On Observability of Differential-Algebraic Systems with Hysteresis Modeled by a Sweeping Process
Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia
ON-SITE

14:00-15:40 **ROOM A** **ONLINE** **PROJECTOR** **SOUND** **OPTIMIZATION**

Optimization 2

CHAIR: Alexander Strekalovsky
SECRETARY: Nikita Kosyanov

14:00 **Alexander Strekalovsky**
14:20
New Approach to Epidemic Nonconvex Optimal Control Problem
Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia
ON-SITE

14:20 **Alexander Strekalovsky, Nikita Kosyanov**
14:40
On Epidemic Nonconvex Optimal Control Problems
Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia
ON-SITE

14:40 **Enkhbat Rentsen, Batbileg Sukhee, Tungalag Natsagdorj**
15:00
A Sphere Packing Approach to Multi-Objective Optimization Problem and Its Applications
Institute of Mathematics and Digital Technology, Mongolian Academy of Sciences, Mongolia; National University of Mongolia, Mongolia
ONLINE

15:00 **Eugenii Timokhin**
15:20
Optimal Arc Shape in a Potential Flat Flow
Lomonosov Moscow State University, Moscow, Russia
ONLINE

15:20 **Rafik Khachatryan**
15:40
Subgradient and Finite-Difference Stochastic Methods for Quasiconvex Optimization Problems: Convergence Rate
Yerevan State University, Yerevan, Armenia
ONLINE

14:00-15:20 ROOM B [ONLINE](#) PROJECTOR DYNAMICS

Dynamical Systems 4

CHAIR: Alla Shcheglova

SECRETARY: Elena Chistyakova

14:00 **Nidhi Shukla**

14:20

Neural-Enhanced Stochastic Inverse Control

Indian Institute of Technology Roorkee, Uttarakhand, India

[ONLINE](#)

14:20 **Yurong Shi, Rui Gao, Xiaotong Chen**

14:40

Retinal Image Restoration Using Total Variation with Overlapping Group Sparsity

School of Science, Dalian Maritime University, Dalian, China

[ONLINE](#)

14:40 **Xuzhou Zhan**

15:00

On the Stability Criteria via Finite Hankel Matrices for Regular Matrix Polynomials

Department of Mathematics, Beijing Normal University at Zhuhai, Zhuhai, China

[ONLINE](#)

15:00 **Gunay Rzayeva**

15:20

Investigation of Differential Equations with Increasing Coefficients by Means of Transformation Operators

Sumgayit State University; Sumgayit, Azerbaijan

[ONLINE](#)

14:00-15:20 ROOM C [ONLINE](#) PROJECTOR CONTROL THEORY

Calculus of Variations and Mathematical Control Theory 3 (Continued)

CHAIR: Olga Samsonyuk

SECRETARY: Pavel Petrenko

14:00 **Elena Goncharova, Nikolay Pogodaev, Olga Samsonyuk, Maksim Staritsyn**

14:20

Infinite-Order Variational Analysis of Optimal Control Problems on Banach Spaces

Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia; Irkutsk National Research Technical University, Irkutsk, Russia

ON-SITE

14:20 **Denis Sidorov, Maksim Staritsyn**

14:40

Indirect Algorithms in Optimal Control of Diffusion Processes

Harbin Institute of Technology, Harbin, China; Melentiev Energy Systems Institute SB RAS, Irkutsk, Russia; Irkutsk National Research Technical University, Irkutsk, Russia; Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia

ON-SITE

14:40 **Elena Goncharova, Nikolay Pogodaev, Olga Samsonyuk, Maksim Staritsyn**

15:00

Exact Increment Formulas in Optimal Control of Nonlocal Balance Equations

Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia

ON-SITE

15:00 **Alexander Tyatyushkin**

15:20

Multi-Method Optimization of Control

Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia

ON-SITE