

# Program

## Conference "Dynamics in Siberia"



Monday, February 26		
9:00-10:00	Registration (Ground floor of the House of Scientists SB RAS)	
<b>Plenary talks (Small Hall of the House of Scientists)</b>		
10:00-10:10	<b>Opening.</b>	
10:10-11:00	G. Kulipanov. <i>Experimental study of nonlinear resonances and stochasticity (tests Chirikov's criteria).</i>	
11:00-11:50	D. Shepelyansky. <i>Interlinks of dynamical thermalization, Kolmogorov turbulence, KAM and Anderson localization.</i>	
Coffee break (20 minutes)		
12:10-13:00	G. Casati. <i>That kind of motion we call heat.</i>	
13:00-13:50	M. Znidaric. <i>Nonequilibrium physics of quantum quasiperiodic systems.</i>	
Lunch (70 minutes)		
	<b>Section A (Music salon)</b>	<b>Section B (Drawing room of the library)</b>
15:00-15:30	A. Bednyakova, S. Medvedev. <i>Hamiltonian approach for optimization of phase-sensitive double-pumped parametric amplifiers.</i>	A. Malyutin. <i>Probabilistic boundaries of graphs, groups, and semigroups.</i>
15:30-16:00	A. Yanchenko, A. Chupakhin. <i>Relativistic singular vortex and implicit differential equations.</i>	T. Panov. <i>Foliations arising from configurations of vectors, and topology of nondegenerate leaf spaces.</i>
16:00-16:30	D. Parshin, A. Cherevko, A. Chupakhin. <i>The properties of Van der Pol - Duffing haemodynamics mathematical model for clinical applications.</i>	E. Fominykh. <i>On minimal ideal triangulations of 3-manifolds.</i>
Coffee break (20 minutes)		
16:50-17:20	S. Sergeev. <i>Asymptotic solution for the linear one-dimensional surface waves with surface tension.</i>	A. Tetenov. <i>On graphs, generating rational dendrites.</i>
17:20-17:50	S. Ramassamy. <i>Miquel dynamics on circle patterns.</i>	N. Isaenkova. <i>A generalization of the construction by Smale of expanding attractors.</i>
17:50-18:20	D. Cirilo-Lombardo. <i>Dynamical symmetries, coherent states and nonlinear realizations: The <math>SO(2, 4)</math> case.</i>	E. Kornev. <i>Subtwistor And Almost Hermitian Structures On Six-dimensional Sphere.</i>
18:20-18:50	I. Marshall. <i>An illustration of Action-angle duality arising from Hamiltonian reduction.</i>	
<b>Welcome Party 19.00</b>		



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**Tuesday, February 27** (Small Hall of the House of Scientists)

9:30-10:20	V. Kozlov. <i>Symplectic geometry of linear Hamiltonian systems.</i>		
10:20-11:10	I. Guarneri. <i>A model with chaotic scattering and reduction of wave packets.</i>		
Coffee break (20 minutes)			
11:30-12:20	D. Waltner. <i>Semiclassical Classification of Periodic Orbits in Quantum Many-Body Systems.</i>		
12:20-13:10	S. Dobrokhotov. <i>Pairs of Lagrangian manifolds and semiclassical asymptotics of solutions of inhomogeneous stationary problems with localized right-hand sides.</i>		
Lunch (80 minutes)			
	<b>Section A (Music salon)</b>	<b>Section B (Drawing room of the library)</b>	<b>Section C (Room 102)</b>
14:30-15:00	M. Guzev. <i>On Fourier's law for linear chain of particles.</i>	D. Millionshchikov. <i>Characteristic Lie algebras of the Klein-Gordon PDE.</i>	O. Sheinman. <i>Certain integrable systems of algebraic origin. Reductions and degenerations of Hitchin systems.</i>
15:00-15:30	S. Dobrokhotov, A. Shafarevich. <i>An example for the diffusion approximation method as applied to the density function of a one-dimensional oscillator.</i>	O. Kaptsov. <i>From analytic iteration to turbulence models.</i>	I. Vyugin. <i>On the Riemann – Hilbert Problem for Difference and q-Difference Systems.</i>
Coffee break (30 minutes)			
16:00-16:30	D. Makarov. <i>Finite-time stability in randomly driven classical and quantum systems.</i>	C. Shramov. <i>Automorphisms of complex surfaces.</i>	N. Tyurin. <i>Examples of modified moduli spaces of special Bohr – Sommerfeld submanifolds.</i>
16:30-17:00		N. Erokhovets. <i>Combinatorics and toric topology of fullerenes and Pogorelov polytopes.</i>	A. Parusnikova. <i>On divergence of asymptotic expansions of solutions to the third Painlevé equation.</i>



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Wednesday, February 28 (Conference Hall of the Sobolev Institute of Mathematics)	
9:30-10:20	D. Treschev. <i>Relative version of the Titchmarsh theorem and its applications in dynamics.</i>
10:20-11:10	A. Gaifullin. <i>On the homology of Torelli groups.</i>
Coffee break and poster session (40 minutes)	
11:50-12:40	P. Plotnikov. <i>Variational problems of conformal geometry and hydroelastic waves.</i>
12:40-13:30	A. Shafarevich. <i>Properties of harmonic functions and solutions of the wave equation on polyhedra.</i>
Cultural program	
Conference Dinner 19.00	

### Poster Session:

- T. Averina. *Stochastic dynamical systems with invariants.*
- E. Glukhov. *Algebro-Geometric Approach to Submanifolds with Flat Normal Bundle.*
- V. Golubyatnikov, V. Gradov. *An inverse problem for one nonlinear dynamical system of gene network modelling.*
- V. Golubyatnikov, N. Kirillova. *On existence of cycles in some asymmetric dynamical systems.*
- K. Kamalutdinov. *Twofold Cantor Sets.*
- A. Kazhymurat. *Lower estimates for the energy functional on a family of Hamiltonian minimal Lagrangian tori in  $CP^2$ .*
- T. Kozlovskaya. *Brieskorn manifolds, generalised Sieradski groups, and coverings of lens spaces.*
- G. Mauleshova, A. Mironov. *On discretization of finite-gap Lamé operators.*
- M. Ovcharenko. *On Hamiltonian-minimal isotropic homogeneous tori in  $C^n$  and  $CP^n$ .*
- V. Shakhov. *On chaos theory application in intrusion detection system.*
- M. Yermentay. *On minimal isotropic tori in  $CP^3$ .*

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## Conference "Dynamics in Siberia"



### Thursday, March 1 (Conference Hall of the Sobolev Institute of Mathematics)

9:30-10:20	N. Kuznetsov, G. Leonov. <i>Analytical and numerical methods for the study of attractors in dynamical systems: bifurcations, localization and dimension characteristics.</i>
10:20-11:10	Yu. Kordyukov. <i>Magnetic Laplacians, generalized Bergman kernels and Berezin – Toeplitz quantization on symplectic manifolds.</i>
Coffee break (20 minutes)	
11:30-12:20	Yu. Trakhinin. <i>On application of the Nash – Moser method to weakly well-posed free boundary problems.</i>
12:20-13:10	E. Kuznetsov. <i>Development of high vorticity structures and geometrical properties of the vortex line representation.</i>
Cultural program	

### Friday, March 2 (Conference Hall of the Sobolev Institute of Mathematics)

9:30-10:20	A. Odziejewicz. <i>Connections on a principal <math>G</math>-bundle and related symplectic structures.</i>
10:20-11:10	V. Grines. <i>On dynamics of cascades with surface dynamics on 3-manifolds.</i>
Coffee break (20 minutes)	
11:30-12:20	Z. Rakic. <i>On modified non-local gravity.</i>
Cultural program	

### Saturday, March 3 (Conference Hall of the Sobolev Institute of Mathematics)

09:30-10:20	A. Orlov. <i>Hurwitz numbers, tau functions and ensembles of random matrices.</i>
10:20-11:10	P. Akhmet'ev. <i>Linking coefficients for geodesic flow and applications for magnetic equilibrium.</i>
Cultural program	