International Conference

**“Shilnikov Workshop-2017”**

dedicated to the memory of

Leonid Pavlovich Shilnikov (1934-2011)

**PROGRAM**

**Friday, December 15**

**Place:**UniversityConference Center, Nizhny NovgorodUniversity

Gagarina 23, Corp. 1, New library building (NLB), floor 4

9-00 – 9-45          Registration

9-45 – 10-00        Opening

Plenary Sessions 1: ***Chairman:*** S. Gonchenko

10-00 – 11-00 **V.N. Belykh “Synchronization phenomena and crowd dynamics on a wobbly bridge”**

11-00 – 11-30 **Coffee break**

11-30 – 12-15**A. Delshams “Scattering maps and Arnold diffusion in Hamiltonian systems for complete families of perturbations”**

12-15 – 13:00   **L. Lerman,** E. Yakovlev **”** **On interrelations of divergence-free and Hamiltonian dynamics”**

13-00 – 14-30    **Lunch**

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| Session 1: Theory of Dynamical systems (Conference Hall) ***Chairman:*** L. Lerman | Session 2: Applications of Dynamical systems (Exhibition room) ***Chairman:*** A. Rassadin |
| 14-30 – 15-00 **A. Glutsyuk,** S.Ramassamy **“Miquel dynamics on 2x2 periodic circle patterns”**  15.00 – 15.30 **S.S. Minkov**, A.V. Okunev, I.S. Shilin **“Omega-limit sets of $C^1$-Anosov diffeomorphisms”**  15-30 – 15-50 **N.V. Isaenkova “Dynamics of solenoidal basic sets”**  15-50 – 16-10 **Naryshkin P. E. “Entire solutions with various periodic structures for some semi-linear elliptic equations”** | 14-30 – 15-00 I.R. Garashchuk, **D.I. Sinelshchikov**, N.A. Kudryashov **“Nonlinear Dynamics in Two Models of Bubble Contrast Agents”**  15.00 – 15.30 **Astashova I.V. “Application of Dynamical Systems to the Study of Asymptotic Classification and Asymptotic Behavior of Solutions to Nonlinear Higher-Order Differential Equations”**  15-30 – 15-50 Agalarov A.M., **Rassadin A.E** **“Some notes about dynamical chaos on the smallest scales of the Universe”**  15-50 – 16-10 A.Narimanov, **A.Gavrilova**, L.Kistanova “**Indicators of the kinematics of the movement of aquatic organisms, depending on the angle of incidence of microwave radiation of low intensity. The development of a programme of environmental monitoring”** |

16-20 – 16-50 **Coffee break**

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| Session 1: Theory of Dynamical systems | Session 2: Applications of Dynamical systems |
| 16-50 – 17-10  **G. Alfimov,** A.P.Fedotov, D.A.Zezyulin, I.V.Barashenkov **“A method for prediction and computation of nonlinear modes in NLS-type models”**  17-10 – 17-30  **A. Chekmareva,** A. Kuznetsov, A. Savin **“Formation Of Attractors In The System Of Phase Equations With Symmetry Violation”**  17-30 – 17-50 **N.N.** **Chentsova,** P.N. Sorokin **“Stochasticity of the dynamic system. Sufficient conditions for testing**”  17-50 – 18-10 **N.V. Barabash**, V.N. Belykh **“Chimera states in a modified Kuramoto model with inertia”**  18-10 – 18-30 **Astashov E. “Equivariant simple singularities and their classification”** | 16-50 – 17-10 Potapov A.A., Rakut I.V., **Rassadin A.E.**, Stepanov A.V., Tronov A.A. **“Generator of fractal voltage: practical scheme”**  17-10 – 17-30 **E. Derunova, Mazhar N. Ali** “**Topological states of matter as bifurcations of trajectories of Schroedinger equation in periodic potential”**  17-30 – 17-50 **S. A. Dukhnovskiy “On the local equilibrium of equations system of Godunov-Sultangazin”**  17-50 – 18-10 **K.M. Dulina ”On behavior of oscillating solutions to the second-order Emden--Fowler type differential equations”**  18-10 – 18-30 **Kalyakulina A.I., Pankratova E.V., Zaburdaev V.Yu. “Bacterial drift velocity along the gradient of the chemoattractant concentration”** |

**Poster-session**

**1) Agalarov A.M., Potapov A.A., Rakut I.V., Rassadin A.E., Stepanov A.V. "Modelling of the Rikitake system by means of methods of quantum physics"**

**2) Agalarov A.M., Potapov A.A., Rassadin A.E. "On the Kulbak-Leubler entropy in quantum mechanical systems"**

**3) Bakhanova Yu.V. “Spiral chaos in a predator-prey model with disease in the predator”**

**4) M.I. Bolotov, L.A. Smirnov, G.V. Osipov, A. Pikovsky “Breather chimeras in the system of phase oscillators”**

**5)** **Chentsova N.N., Sorokin P.N. “A task for a student's practical work. Qualitative and numerical studies of ordinary differential equations”**

**6 Levanova T.A., Korotkov A.G. “The impact of the electrical couplings on the dynamics of neural ensemble”**

**7) Levanova T.A., Kazakov A.O., Korotkov A.G., Osipov G.V. “Dynamics of Van der Pol neuron-like elements with chemical and electrical couplings”**

**8) A.O. Kazakov “On a wild spiral attractor in four-dimensional flows”**

**9) A.O. Kazakov, A.G. Korotkov, M.A. Osipova “On influence of periodical perturbation on homoclinic trajectory to saddle-focus equilibrium in Shilnikov attractors”**

**10) O.S.** **Kostromina “On periodic perturbations of an asymmetric pendulum type equation”**

**11) V.A. Kostin**, **G.V. Osipov** **“Transient and periodic spatiotemporal structures in a reaction-diffusion-mechanics cardiac system”**

**12) A. Kozlov “Homoclinic attractors of three-dimensional systems with constant divergence”**

**13)** **V.E. Kruglov “Euler characteristic of a surface glued of a $2n$-gon”**

**14)** **Loginov D.O. “About Bifurcations in a Parabolic Equation with Small Diffusion and Deflection Space Variable”**

**15) A.A. Potapov “Waves in Large Disordered Anisotropic Fractal Systems, in Clusters of Small-Size Space Vehicles, in Synthesized Space Antenna Aggregations - Cluster Apertures, and in Radar”**

**16) Potapov A.A.,**  **Rakut I.V., Rassadin A.E. "Total harmonic distorsions for voltage and for superconducting current in Josephson junction"**

**17) Rassadin A.E., Belotelov N.V. "On asymptotic description for wave of charge in**

**homogeneous circuit with inversely shifted p-n junctions"**

**18) I. Sinitsky “On reversible mixed dynamics in the a priori nonconservative case”**

**Saturday, December 16**

**Place:** Nizhny NovgorodUniversity,

Gagarina 23, Corp. 6, room 401

Plenary session 2: ***Chairman:*** A. Delshams

10-00 – 11-00 **V. Grines “Structurally stable systems and topology of ambient manifold”**

11-00 – 11-30 **Coffee break**

 11-30 – 12-00  **E. Zhuzhoma,** V. Medvedev **“Morse-Smale dynamical systems with few non-wandering points”**

12-00 – 12-30**O. Pochinka “The wild Fox-Artin arc in invariant sets of dynamical systems”**

12-30 – 13-00 **A. Morozov,** **K. Morozov** **"On quasi-periodic perturbations of two-dimensional Hamiltonian systems"**

13-00 – 14-30    **Lunch**

Plenary session 3: ***Chairman:*** S. Gonchenko

14-30 – 15-00 **T.** **Lazaro**  **“Rational parametrisation approach in some dynamical systems problems”**

15-00 – 15-30 **I. Kashchenko “Behavior of spatially inhomogeneous solutions of nonlinear optical system”**

15-30 – 16-00 **A. Kulikov, D. Kulikov “Local bifurcations in the periodic boundary value problem for one version of the generalized Kuramoto-Sivashinsky equation”**

16-30 – 17-00 **Coffee break**

16-30 – 17-00  **S. Makovkin, M. Ivanchenko, S. Jalan, A. Zaikin “The gains and losses of synchrony in multiplex neural-glial networks”**

17-00 – 17-30  **Yusipov I.I., Laptyeva T.V., Ivanchenko M.V., Denisov S.V. “Asymptotic states in disordered open quantum systems: localization and dynamics”**

17-30 – 18-00 **I. Ovsyannikov “Existence of inhomogeneous domain walls in nanomagnetic structures”**

18.00 – 18.20 **E. Alexeeva, A. Rassadin “On asymptotic solution of the degenerate Duffing equation”**

**Closing**