International Conference-School

Dynamics, Bifurcations and Chaos 2015
(DBC II)
20 – 24 July of 2015

Venue: University Conference Center
Nizhny Novgorod University
Gagarina 23, Corp. 1,
New library building (NLB), floor 4

In the framework of the Conference,
we hold the Workshop

“Applications of Dynamical Systems to Mathematical Models from Sciences and Engineering”

PROGRAM

Nizhny Novgorod -2015

Monday, July 20

9.00 – 9.45 Registration
9.45 – 10.30 Opening (NLB, Conference Hall)

Chairman S. Gonchenko (NLB, Conference Hall)

10.30 – 11.15 W. Anischenko “Chimera state realization in chaotic systems. The role of hyperbolicity”
11.20 – 12.05 A. Shilnikov TBA
12.10 – 12.40 Coffee-break
13.30 – 14.30 Lunch

Chairman L. Lerman (NLB, Conference Hall)

14.30 – 15.15 O. Pochinka, Course “On topological classification of structurally stable dynamical systems”, Lecture 1
15.20 – 16.00 O. Podvigina “Two-parameter bifurcation study of the regularized long-wave equation”
16.00 – 16.30 Coffee-break
**Tuesday, July 21**

**Chairman** A. Shilnikov (NLB, Conference Hall)

10.00 – 10.45 **V. Belykh** “Singularly-hyperbolic attractors in phase systems”

10.50 – 11.35 **A. Neiman** “Phase diffusion in unequally noisy coupled oscillators”

11.40 – 12.10 **Coffee-break**

12.10 – 12.50 **I. Belykh** “Repulsive Inhibition Promotes Synchrony in Excitatory Bursting Neurons: Help from the Enemy”

12.50 – 13.30 **T. Lazaro** “Dynamics and bifurcations in a simple quasispecies model of tumorigenesis”

13.30 – 14.30 **Lunch**

**Chairman** I. Belykh (NLB, Conference Hall)


15.15 – 16.00 **V. Grines**, Course “On interrelation between dynamics and the topology of the ambient manifold”, Lecture 1

16.00 – 16.30 **Coffee-break**
Wednesday, July 22

**Chairman:** A. Morozov (NLB, Conference Hall)

10.00 – 10.45 **S. Kuznetsov** “Parametric generators of chaos”

10.50 – 11.35 **A. Delshams** “Diffusion through non-transverse heteroclinic chains: A long-time instability for the NLS”

11.40 – 12.10 **Coffee-break**


13.00 – 14.30 **Lunch**

**Chairman:** A. Delshams (NLB, Conference Hall)

14.30– 15.15 **V. Grines**, Course “On interrelation between dynamics and the topology of the ambient manifold” Lecture 2

15.15 – 15.55 **E. Ugalde** “Piecewise Contractions as Models of Regulatory Networks”

15.55 – 16.35 **A. Borisov**, “Hierarchy of dynamics and the Hamiltonization of nonholonomic systems”

16.35 – 17.00 **Coffee-break**
17.00-17.30
M. Gonchenko "Homoclinic tangencies in area-preserving and orientation-reversing maps"

17.30-18.00
J.C. Tatjer "Invariant curves of quasi-periodically forced maps"

18.00 - 18.30
A. Vieiro "Periodic forcing of a 2-dof Hamiltonian undergoing a Hamiltonian-Hopf bifurcation"

Workshop “Applications of Dynamical Systems to Mathematical Models from Sciences and Engineering”
Chairman: T. Vadivasova (NLB, Room 3)

17.00 – 17.20
A. Chekmareva "The destruction of conservative dynamics in the system of phase equations by symmetry breaking"

17.20 – 17.40
N. Stankevich "An autonomous systems with quasiperiodic dynamics: examples and properties"

17.40 – 18.00
M. Obychev "Features of dynamics of the implicit maps. Conservative and near conservative case."

18.00 – 18.20
M. Kulakov "Clustering in the coupled Ricker population model"

Posters – Wednesday, July 22 (NLB, Room 3)

1) M. Khavinson, A. Kolobov, M. Kulakov “Modeling of the employed population number nonlinear dynamics: the agent-based approach”
2) M. Kulakov, M. Khavinson “Nonlinear dynamics of the number of different age specialists in the regional economy”
3) O. Kostromina “Towards homoclinic bifurcations and complex dynamics in the system with a “figure-eight” of a saddle”
4) S. Khrisanfova “The dynamics of a system of phase oscillators depending on coupling strength and other parameters”
5) Yu. Levchenko “The topological classification of locally direct product of DA-diffeomorphism of a 2-torus and rough diffeomorphism of the circle”
6) Aleshin K.N., Matrosov V.V., Mishagin K.G. “Dynamics of a spin-transfer nanooscillator controlled by external magnetic field”
7) K. Sergeev “Dynamics of ensemble of active Brownian particles interacting via Morse potential forces”
8) M. Galinskii “TBA”
Thursday, July 23

*Chairman:* D. Turaev (NLB, Conference Hall)

9.30 – 10.15 **T. Vadivasova** “Synchronization of running waves in an active medium with periodic boundary conditions”

10.20 – 10.50 **Coffee-break**

10.50 – 11.30 **M. Malkin** “Renormalizations and Universality for Bifurcations in Lorenz-like Systems”

11.30 – 12.00 **K. Shah** “Fermi acceleration in billiards with holes”

12.00 – 13.00 **Lunch**

14.00 – 18.00 **Boat trip**

19.00 – 22.00 **Conference dinner**

Friday, July 24

*Chairman:* S. Kuznetsov (NLB, Conference Hall)

10.00 – 10.45 **A. Shirikyan** “Global stabilization for a damped-driven conservation laws”

10.50 – 11.35 **S. Gonchenko** “Reversible mixed dynamics”

11.40 – 12.10 **Coffee-break**

12.10 – 12.50 **N. Derendyaev** “About laws of conservation in the dynamics of fluid”

13.00 – 14.30 **Lunch**

*Chairman:* S. Gonchenko (NLB, Conference Hall)

14.30 – 15.10 **A. Kirillov** TBA


15.40 – 16.10 **V. Kostin**, I. Laryshin, A. Silaev, N. Vvedenskii “Ionization-induced wavemixing of intense laser pulses”

16.10 – 16.30 **Coffee-break**
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<th>Time</th>
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<tr>
<td>16.30-17.00</td>
<td>I. Ovsyannikov</td>
<td>TBA</td>
<td>A. Rassadin</td>
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<td>17.00-17.20</td>
<td>A. Kazakov</td>
<td>&quot;On chaotic dynamics in the nonholonomic Suslov model&quot;</td>
<td>E. Kadina, M. Tai</td>
<td>&quot;Dynamical Self-Assembly Process&quot;</td>
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<td>17.20 – 17.40</td>
<td>A. Gonchenko</td>
<td>TBA</td>
<td>T. Gurina</td>
<td>&quot;Cascades of bifurcations in a two-parameter ecological system&quot;</td>
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<td>17.40–18.00</td>
<td>T. Levanova</td>
<td>&quot;Multistable regimes in the motif of Rulkov maps with inhibitory couplings&quot;</td>
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