

International Conference-School
Dynamics, Bifurcations and Chaos 2017 (DBC IV)
and workshop
**Infinite-dimensional dynamics, dissipative systems
and attractors – 2 (IDDSA2)**

3 – 8 July, 2017

University Conference Center

Nizhny Novgorod University

Gagarina 23, Corp. 1,

New library building (NLB), floor 4

PROGRAM

Nizhny Novgorod -2017

Monday, July 3

9-00 – 9-30 **Registration** (NLB, Conference Hall)

9-30 – 10-00 **Opening** (NLB, Conference Hall)

Chairman S. Gonchenko (NLB, Conference Hall)

10-00 – 10-45 **V. Anishchenko** “Characteristics and Properties of Chimera States in Ensembles of Coupled Oscillators”

10-45 – 11-15 Coffee-break

11-15 – 12-00 **V. Belykh** “Homoclinic bifurcations and attractors in certain maps and flows”

12-00 – 12-45 **V. Grines** “On topological classification of structurally stable systems with regular and chaotic dynamics”

12-45 – 14-30 Lunch

Chairman A. Shilnikov (NLB, Conference Hall)

14-30 – 15-15 **S. Gonchenko**, Course “Elements of contemporary theory of dynamical chaos”, Lecture 1

15-15 – 16-00 **L. Lerman**, Course “Chaos in Hamiltonian systems”, Lecture 1

16-00 – 16-30 Coffee-break

Chairman M. Gonchenko T. Lazaro (NLB, Conference Hall)

16-30 – 17.00 **M. Malkin** “Estimates on jumps of entropy for perturbations of generalized interval exchange transformations”

17-00 – 17-30 **K. Morozov**, A. Morozov "On transitory FitzHugh-Nagumo model"

17-30 – 18-00 **V. Fain** "Splitting of separatrices, scattering maps and energy growth for a billiard inside a time-dependent symmetric domain close to an ellipse"

Tuesday, July 4

Chairman D. Turaev (NLB, Conference Hall)

10-00 - 10-45 **A. Neiman** "Emergent stochastic oscillations and information processing in tree networks of excitable elements"

10-45 – 11-15 Coffee-break

11-15 - 12-00 **A. Shilnikov** "Saga of modeling biological central pattern generators"

12-00 - 12-30 **T. Lazaro** "Prebiotic evolution: small hypercycles with shortcircuits"

12-30 - 13-00 **A. Rodrigues** "On Takens Last Problem: times averages for heteroclinic attractors"

13-00 – 14-30 Lunch

Chairman L. Lerman (NLB, Conference Hall)

14-30 – 15-15 **S. Kashchenko** “Families of normalized equations in the problem of dislocations in a solid”

15-15 – 16-00 **A. Dmitriev** TBA

16-00 – 16-30 Coffee-break

Chairman M. Malkin (NLB, Conference Hall)

16-30 – 17.00 **M. Kulakov** "Clustering and chimeras in the model of the spatial dynamics of age-structured populations"

17.00 – 17.30 **S. Glyzin** "Two-dimensional invariant tori in a chain of coupled FitzHugh-Nagumo type oscillators"

17-30 – 18-00 **M. Preobrazhenskaja** "Oscillations in antiphase in a system of two non-linearly coupled relaxation oscillators"

Wednesday, July 5

10-00 – 13-00 **Workshop IDDSA-2**

Chairman V. Sakbaev (NLB, Conference Hall)

10-00 – 10-45 **S. Zelik** TBA

10-45 – 11-15 Coffee-break

11-15 – 12-00 **S. Slijepceвич** "Approach to inertial manifolds on unbounded domains"

12-00 – 12-30 **A. Savostianov** TBA

12-30 - 13-00 **B. Cheng** "Existence of global weak solutions to a hybrid Vlasov-MHD model for magnetized plasmas"

13-00 – 14-30 Lunch

Chairman O. Pochinka (NLB, Conference Hall)

14-30 – 15-15 **S. Gonchenko**, Course "Elements of contemporary theory of dynamical chaos", Lecture 2

15-15 – 16-00 **L. Lerman**, Course "Chaos in Hamiltonian systems", Lecture 2

16-00 – 16-30 Coffee-break

Workshop IDDSA-2

Chairman B. Cheng (NLB, Conference Hall)

16-30 – 17-15 **V. Chepyzhov** "Homogenization of random trajectory attractors for reaction-diffusion systems"

17-15 – 18-00 TBA

Thursday, July 6

Workshop IDDSA-2

Chairman S. Zelik (NLB, Conference Hall)

10-00 – 10-45 **O. Smolyanov** "Transformations of the Lebesgue and Feynman generalized measures and quantum anomalies"

10-45 – 11-15 Coffee-break

11-15 – 11-45 **V. Sakbaev** "Diffusion in Hilbert space endowing with the translational and rotational invariant measures"

11-45 – 12-15 **N. Shamarov** "Hamiltonian second quantization"

12-15 – 12-45 **A. Rassadin** "On some exact solutions of Yang-Mills equations"

12-45 – 14-30 Lunch

Chairman A. Rassadin (NLB, Conference Hall)

14-30 - 15-00 **I. Belykh** "Complex dynamics of pedestrian-bridge interactions"

15-00 - 15-30 **G. Kitavtsev** "Liquid crystal defects in the Landau-de Gennes theory - beyond the one-constant approximation"

15-30 - 16-00 **I. Kashchenko** "Local dynamics of non-linear equation with two large delays"

16-00 - 16-20 **A. Tikhomirov** "Excitation and stability of waves in discrete complex Ginzburg-Landau equation: effects of spatial inhomogeneity"

16-00 - Coffee-break and poster-session

Posters:

- 1) **Yu. Bakhanova** "Spiral chaos in a predator-prey model with disease in the predator"
- 2) **S. Bakrani** TBA
- 3) **O. Gordeeva, V. Lukyanov** TBA
- 4) **T. Dragunov, A. Morozov** "On quasiperiodic perturbations of the Duffing equation"
- 5) **M. Khavinson, M. Kulakov** "Complex dynamic modes of the gravity model of people's migration"
- 6) **I. Korenkov** TBA
- 7) **I. Korneev** "Hard and soft oscillation excitation in memristor-based oscillator with a line of equilibria"
- 8) **A. Korotkov, A. Kazakov** "On spiral chaos of 3D flows"
- 9) **O. Kostromina, A. Potapov, I. Rakut, A. Rassadin** "Bispectra of dynamical variables of Rikitake system"
- 10) **M. Kulakov, O. Revutskaya** "Scenarios of transition to chaos in the model of population with age and sex structures"
- 11) **L. Lerman, K. Trifonov** TBA
- 12) **S. Makovkin, M. Ivanchenko, A. Zaikin, S. Jalan** "Synchronization in multi-time scale multiplex networks"
- 13) **E.O. Morozova** "Dynamical mechanisms of the excitability type of dopaminergic neuron and how it is influenced by the intrinsic and synaptic inputs"
- 14) **A. Potapov, I. Rakut, A. Rassadin, I. Sinitsky, A. Tronov** "Radiation of chaotic electromagnetic waves by the ferromagnetic or ferroelectric triple linkage of Thurston and Weeks"
- 15) **E. Rybalova** "Dynamics of a network consisting of two rings of Henon maps and Lozi maps with non-local coupling"
- 16) **E. Samylina** "Nonconservative reversible perturbations of reversible maps with unit Jacobian"
- 17) **A. Shyhmedov** "Some features of bifurcations in the Henon map"
- 18) **E. Shirjaeva** "Computer methods for search of strange attractors in 3-dimensional nonorientable Henon maps"

19) ... TBA

19.00 – 22.00 Banquet

Friday, July 7

Chairman V. Grines (NLB, Conference Hall)

10-00 - 10-45 **O. Pochinka** "Energy function for dynamical systems"

10-45 – 11-15 Coffee-break

11-15 – 12-00 **D. Turaev** "On non-trivial wandering domains"

12-00 – 12-30 **J.-C. Tatjer** "Dynamics of QR flow"

12-30 – 13-00 **I. Ovsyannikov** "On the birth of discrete Lorenz attractors in bifurcations of homoclinic and heteroclinic tangencies"

13-00 – 14-30 Lunch

Chairman T. Lazaro (NLB, Conference Hall)

14-30 - 15-00 **K. Pusuluri** "Symbolic computations to untangle homoclinic chaos and its origin, order, and organization"

15-00 - 15-30 **A. Gonchenko** "Strange attractors and scenario of their appearance in 3-dimensional diffeomorphisms"

15-30 – 16-00 **A. Kazakov** "Strange attractors and mixed dynamics in a problem on two vortices"

16-00 – 16-30 Coffee-break

Chairman A. Kazakov (NLB, Conference Hall)

16-30 – 17.00 **M. Gonchenko** "The 1:4 resonance in the conservative cubic Henon maps"

17-00 – 17.30 **A. Kashchenko** "Dynamics of a system of two differential equations with finite nonlinear feedback"

17-30 – 18.00 **C. Olszowiec** "On Hoffbauer conjecture"

Saturday, July 8

Chairman A. Morozov (NLB, Conference Hall)

10-00 - 10-45 **T. Vadivasova** "Chimeras in ensembles of bistable oscillators"

10-45 – 11-15 Coffee-break

11-15 – 12-00 **V. Basios** "Arabesque Chaos: Circuit Analysis and Chaos Detection"

12-00 – 12-30 **K. Aleshin**, V. Matrosov, K. Mishagin

"Mutual synchronization of two spin transfer nano-oscillators"

12-30 - 13-00 **A. Gavrilin** "On inverse Klein-Gordon problem for dublet of dions"

13-00 – 14-30 Lunch

Chairman S. Gonchenko (NLB, Conference Hall)

14-30 – 14-50 **O. Kostromina** "Investigation of an asymmetric pendulum type equation"

14-50 - 15-10 **T. Levanova TBA**

15-10 – 15-30 **E. Grines**, A. Kazakov "Discrete Shilnikov attractors in a model of coupled oscillators"

15-30 – 15-50 **A. Козлов** "Using flow saddle charts for searching homoclinic attractors"

15-50: Coffee-break and Closing