

# REAL AND COMPLEX DYNAMICAL SYSTEMS

International Conference on the occasion of  
Prof. Yulij Ilyashenko's 75th birthday

Moscow, November 26—30, 2018

## PROGRAM

**Monday, November 26, IUM, room 401**

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| 8:20 – 9:00   | Registration  |
| 9:00 – 9:15   | Opening<br>Chairman: Alexander Bufetov  |
| 9:15 – 9:55   | Pascal Hubert<br><i>Normal distribution of correlation measures of binary sum-of-digits functions</i> |
| 10:00 – 10:40 | Alexandra Skripchenko<br><i>Cohomological equations for linear involutions</i>                        |
| 10:40 – 11:00 | Coffee break  |
|               | Chairman: Pascal Hubert   |
| 11:00 – 11:40 | Carlos Matheus<br><i>Lagrange and Markov are very different from Hausdorff's point of view</i>        |
| 11:45 – 12:25 | Vincent Guirardel<br><i>Surface groups of germs of analytic diffeomorphisms in one variable</i>       |
|               | Lunch   |
| 14:00 – 14:30 | Awarding the Order of Commandeur des Palmes Académiques to Yulij Ilyashenko                           |
|               | Chairman: Carlos Matheus  |
| 14:30 – 15:10 | Victor Kleptsyn<br><i>Furstenberg theorem: now with a parameter!</i>                                  |
| 15:15 – 15:55 | Julio Rebelo<br><i>Global approximation on <math>\text{Diff}^\omega(S^1)</math></i>                   |
| 15:55 – 16:20 | Coffee break  |
|               | Chairman: Dmitry Novikov  |
| 16:20 – 17:20 | Sergei Yakovenko<br><i>On Yulij Ilyashenko's works</i>  |

Tuesday, November 27, HSE, room 427

Chairman: Alexandra Skripchenko

9:00 – 9:40

Pierre Dehornoy

*Classification of surfaces transverse to flows: the case of the geodesic flow*

9:45 – 10:25

Anton Zorich

*Flat and hyperbolic enumerative geometry*

10:25 – 10:50

Coffee break

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Chairman: Alexey Klimenko

10:50 – 11:20

Olga Paris-Romaskevich

*Negative refraction tiling billiards*

11:25 – 11:45

Pavel Nikitin

*Rigidity for pfaffian point processes*

11:50 – 12:30

Yanqi Qiu

*Patterson–Sullivan construction for point processes and the reconstruction for harmonic functions*

Lunch

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Chairman: Ivan Shilin

14:00 – 14:30

Maria Saprykina

*Erratic behavior for one-dimensional random walks in a generic quasi-periodic environment*

14:35 – 15:05

Kristian Bjerklöv

*Positive Lyapunov exponents for quasi-periodically driven circle endomorphisms with critical points*

15:05 – 15:30

Coffee break

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Chairman: Alexey Okunev

15:30 – 16:00

Lev Lerman

*On skew products over a quasi-periodic shift of the circle*

16:05 – 16:35

Olga Pochinka

*On Palis Problem of Embedding of Morse–Smale Cascades into Flows*

16:40 – 17:10

Iulia Beloshapka

*Irreducible representations of finitely generated nilpotent groups*

17:10 – 17:30

Tea

17:30 – 18:50

Poster session

Wednesday, November 28, IUM, room 401

Chairman: Sergey Yakovenko

9:00 – 9:40

Gal Binyamini

*Geometry of Foliations over Number Fields and Applications*

9:45 – 10:25

Dmitry Novikov and Gal Binyamini

*Complex Cellular Structures*

10:25 – 10:55

Coffee break

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Chairman: Julio Rebelo

10:55 – 11:35

Bertrand Deroin

*Structural stability in the moduli space of algebraic foliations of the complex projective plane*

11:40 – 12:20

Adolfo Guillot

*On the multipliers at fixed points of rational self-maps of the projective plane*

12:30 – 13:00

Natalia Medvedeva

*Construction of formulas for the coefficients of the asymptotic expansion of the correspondence map and the monodromy transformation*

Lunch

14:00

Cultural program

Thursday, November 29, IUM, room 401

Chairman: Pierre Dehornoy

9:00 – 9:40

Vyacheslav Grines

*On hyperbolic attractors and topology of ambient manifolds*

9:45 – 10:25

Andrey Mironov

*Integrable magnetic geodesic flows on 2-torus: new example via quasi-linear system of PDEs*

10:25 – 10:50

Coffee break

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Chairman: Helena Reis

10:50 – 11:30

Laurent Stolovitch

*Holomorphic normal form of nonlinear perturbations of nilpotent vector fields*

11:35 – 12:15

Laura Ortiz-Bobadilla and Jessica Jaurez-Rosas

*Analytic invariants of germs of curves and foliations in  $(\mathbb{C}^2, 0)$*

Lunch

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Chairman: Viacheslav Grines

13:50 – 14:20

Evgeni Zhuzhoma

*On classification of Morse–Smale dynamical systems with few non-wandering points*

14:25 – 14:55

Ivan Shilin

*Sparkling saddle loops of vector fields on surfaces*

15:00 – 15:30

Alexey Klimenko

*Convergence of spherical averages for actions of Fuchsian Groups*

15:30 – 16:00

Coffee break

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Chairman: Evgeni Zhuzhoma

16:00 – 17:15

Grigory Polotovskiy

*Dmitry Andreevich Gudkov — an outstanding mathematician and the researcher of Lobachevsky's biography*

18:30

Banquet: IUM, dining room, ground floor.

Friday, November 30, Steklov Math. Institute, 9th floor

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| 9:10          | Opening: D. V. Treschev<br>Chairman: Lev Lerman  |
| 9:20 – 10:00  | Victor Buchstaber and Alexey Glutsyuk<br><i>On phase-lock areas in a model of Josephson effect and double confluent Heun equations</i> |
| 10:05 – 10:45 | Dmitry Treschev<br><i>On a heavy quantum particle</i>  |
| 10:45 – 11:10 | Coffee break   |
|               | Chairman: Laurent Stolovitch   |
| 11:10 – 11:50 | Konstantin Khanin<br><i>Schrödinger operators with quasi-periodic potentials and the Aubry–Mather theory</i>                           |
| 11:55 – 12:35 | Sergei Kuksin<br><i>Ergodicity, mixing and KAM</i><br>Lunch  |
|               | Chairman: Laura Ortiz-Bobadilla  |
| 14:15 – 14:45 | Helena Reis<br><i>On reduction of singularities for vector fields in dimension 3</i>   |
| 14:50 – 15:20 | Ernesto Rosales–Gonzales<br><i>On the classification of germs of foliations in <math>(\mathbb{C}^n, 0)</math></i>                      |
| 15:25 – 15:55 | Nikita Solodovnikov<br><i>Bifurcations of families of vector fields on the two-dimensional sphere</i>                                  |
| 15:55 – 16:15 | Coffee break   |
|               | Chairman: Konstantin Khanin  |
| 16:15 – 16:45 | Alexei Sossinsky<br><i>Bringing closed polygonal curves to normal form by local moves</i>  |
| 16:50 – 17:20 | Alexey Okunev<br><i>A <math>C^1</math> Anosov diffeomorphism with a horseshoe that attracts almost any point</i>                       |
| 17:25 – 17:55 | Adrien Boulanger<br><i>Heat kernel and counting problems for Kleinian groups</i>   |
| 17:55 – 18:00 | Closing  |