

## Alexey Okunev

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CONTACT INFORMATION	Loughborough University (UK) Department of Mathematics Schofield Building, Room 0.02 University Rd Loughborough, UK, LE11 3TU	<a href="mailto:aokunev57@gmail.com">aokunev57@gmail.com</a> <a href="https://aokunev42.github.io/">https://aokunev42.github.io/</a>
RESEARCH INTERESTS	Dynamical systems, perturbations of Hamiltonian systems, averaging method, attractors, skew products, partial hyperbolicity, experimental mathematics.	
EDUCATION	<b>Higher School of Economics</b> Ph.D. in Mathematics, October 2017 <ul style="list-style-type: none"><li>• Dissertation Topic: Attractors of Skew Products</li><li>• Advisor: Yulij Ilyashenko</li></ul> <b>Moscow State University</b> B.S and M.S. in Mathematics, 2013. <b>Yandex School of Data Analysis</b> M.S. in Data Analysis.	
APPOINTMENTS	April 2019 - present      Loughborough University (UK), Research Associate (postdoc). Supervisor Anatoly Neishtadt.	
VISITING POSITIONS	Fall 2014. ENS Lyon, Visiting graduate student.  June 2016. University of Porto, Short term visitor.	
PREPRINTS	A. Neishtadt, A. Okunev, <i>Averaging and passage through resonances in two-frequency systems near separatrices</i> , arXiv:2108.08540  A. Neishtadt, A. Okunev, <i>On the phase change for perturbations of Hamiltonian systems with separatrix crossing</i> , arXiv:2003.05828  V. Kleptsyn, Yu. Kudryashov, A. Okunev, <i>Classification of generic semigroup actions of circle diffeomorphisms</i> , arXiv:1804.00951	
PUBLICATIONS	C. Bonatti, S. Minkov, A. Okunev, I. Shilin, <i>A <math>C^1</math> Anosov diffeomorphism with a horse-shoe that attracts almost any point</i> , <b>Discrete &amp; Continuous Dynamical Systems</b> , 40.1 (2020): 441. arXiv:1802.03977  A. Okunev, <i>Milnor Attractors of Skew Products with the Fiber a Circle</i> , <b>Journal of Dynamical and Control Systems</b> , 23:2 (2017): pp. 421-433. arXiv:1508.02132  S. Minkov, A. Okunev, <i>Omega-limit sets of generic points of partially hyperbolic diffeomorphisms</i> , <b>Functional Analysis and Its Applications</b> , 50.1 (2016): 48-53.	

A. Okunev and I. Shilin, *On the attractors of step skew products over the Bernoulli shift*, **Trudy Matematicheskogo Instituta imeni VA Steklova**, 297 (2017): 260-280. arXiv:1703.01763

V. Kleptsyn, A. Okunev, I. Schurov, D. Zubov, M. I. Katsnelson, *Chiral tunneling through generic one-dimensional potential barriers in bilayer graphene*, **Phys. Rev. B**, 92:16 (2016), 165407 arXiv:1507.07638

CONFERENCE TALKS *On the phase change for perturbations of one-frequency systems with separatrix crossing*, Regular and Chaotic Dynamics, Moscow, Russia (November 2021).

*Averaging and passage through resonances in two-frequency systems near separatrices*, Topological Methods in Dynamics and Related Topics, Nizhny Novgorod, Russia (August 2021).

*On the phase change for perturbations of Hamiltonian systems with separatrix crossing*, Topological Methods in Dynamics and Related Topics, Nizhny Novgorod, Russia (December 2020).

*Generic iterated function systems on the circle*, Dynamics Days Europe, Loughborough, UK (September 2018).

*A  $C^1$  Anosov diffeomorphism with a horseshoe that attracts almost any point*, Anosov Systems and Modern Dynamics, Moscow, Russia (December 2016).

*Generic iterated function systems on the circle*, Dynamics, Bifurcations, and Strange Attractors, Nizhny Novgorod, Russia (July 2016).

*Attractors of partially hyperbolic skew products with circle fiber*, Dynamics, Bifurcations, and Strange Attractors, Nizhny Novgorod, Russia (July 2015).

*Milnor attractors of circle skew products*, Global Dynamics Beyond Uniform Hyperbolicity, Olmue, Chile (August 2015).

SEMINAR TALKS *Averaging and passage through resonances in two-frequency systems near separatrices*, Joint CERN-Bologna Theoretical Group seminar (February 2022).

*Averaging and passage through resonances in two-frequency systems near separatrices*, Ergodic Theory and Dynamical Systems seminar, University of Warwick (February 2022).

*Averaging and passage through resonances in two-frequency systems near separatrices*, DynamIC seminar, Imperial College, London (January 2022).

*A  $C^1$  Anosov diffeomorphism with a horseshoe that attracts almost any point*, Dynamical Systems Seminar, Loughborough University (October 2019).

*Classification of generic semigroup actions of circle diffeomorphisms*, Dynamical Systems Seminar, University of Porto (June 2016).

*Attractors for random dynamics on the circle*, Internal seminar of UMPA, ENS-Lyon (November 2014).

AWARDS & GRANTS HSE Academic scholarship (2013 - 2016)

Simons foundation scholarship (2014)

STUDENTS Evgeny Frolov, MSc thesis advisor, Skoltech, 2021/2022

TEACHING AND GRADING **Moscow Institute of Physics and Technology (Moscow, Russia)**  
Analytical Mechanics, Instructor, Spring 2017

**Independent University of Moscow (Moscow, Russia)**  
Dynamical Systems, Lecturer, Fall 2016

**Moscow School #57**

- Individual mathematics mentorship in Linear Algebra, Geometry, Topology, Calculus, Set Theory. Students: Alexey Safin, Andrei Kozlov, Sofya Gendina, Alexander Lebedev, Anton Kudinov, Danil Krotkov (2010-2014; 2016-2018)
- Evening Mathematical School for 7th grade, instructor (2015)

**Moscow Center for Continuous Mathematical Education**

- Math Circle, 8th grade, Instructor, 2015-2016
- Math Circle, 7th grade, Instructor, 2014-2015; 2009-2010
- Math Circle, 6th grade, Instructor, 2013-2014; 2008-2009

**Moscow Mathematical Olympiad**

Member of Organizing committee, co-author of problem sets, Grader, 9th grade, 2011

**Lomonosov Academic Tournament**

Organizer, Proctor, Grader 2011, 2012

**“Matprazdnik” Mathematics Olympiad for 6th-7th grades**

Organizer, Proctor, Grader, 2010, 2012, 2017