VADIM YU. KALOSHIN

CURRICULUM VITAE

Birthplace: Kharkov, Ukraine (former Soviet Union)

Nationality: Russian, USA

EDUCATION

Ph.D.   Princeton University, January 2001. Thesis title: *Growth of number of periodic orbits of generic diffeomorphisms.* Thesis Advisor: *John N. Mather.*

POSITIONS

2000–2001	Courant Institute NYU and American Institute of Math Research Fellow
2001-2002	C.L.E. Moore Instructor MIT and AIM Research Fellow
2002-2004	Member IAS, AIM Research Fellow, and Associate Professor at Caltech
2004-2005	AIM Research Fellow and Associate Professor at Caltech with tenure
2005-2006	Associate Professor at Caltech with tenure
2006-2007	Associate Professor, Penn State University
2007-2008	The Brin Chair in Mathematics, University of Maryland
2008-2011	The Brin Chair in Mathematics, University of Maryland & Distinguished Professor of Mathematics, Penn State University
2011-present	The Brin Chair in Mathematics, University of Maryland. This is a lifetime position with a permanent reseach fund around $50,000 and a postdoc position attached to it.

SELECTED INVITED TALKS

1. The International Congress of Mathematical Physics, Plenary Talk, Santiago, Chile, 2015.
2. The International Congress of Mathematics, Invited Talk, Madrid, Spain, 2006;
3. The Nachdiplom lecture series, ETH, Fall 2016.
4. The SIAM Conference, Plenary Talk, SnowBird, Utah, 2017.
5. EquaDiff 2003 (the congress on differential equations), Plenary Talk, Hasselt, Belgium;
6. The AMS Spring Meeting, Western Section, Plenary Talk, San Francisco, 2006;
7. Distinguished Lectures in Dynamics and Physics, Tel Aviv University, 2013;

8. The Center of Mathematical Sciences Distinguished Lectures in Mathematics, Technion, Israel, 2017.

9. MINT Distinguished Lectures, Mathematical Institute, Tel Aviv, 2017.

10. CRM Nirenberg Lectures, Montreal, 2019

HONORS

1994	Graduated from Moscow State University with Diploma cum laude;
1994-1995	A Soros Graduate Student Award;
1995-1996	A Fellowship of Prime Minister of Russia;
1995-1996	A Soros Graduate Student Award
1996-1997	The 1st Year Science & Math Fellowship w/a Merit Prize of \$3,000;
1999-2000	An Alfred Sloan Dissertation Fellowship;
2000-2005	An American Institute of Mathematics Five-Year Fellowship;
2001	Prize of the Moscow Mathematical Society;
2004-2006	An Alfred Sloan Research Fellowship.
2016	Nominated by Princeton University to the US National Academy of Sciences.
2017	Simons Fellowship in mathematics

PROFESSIONAL SERVICE: MEMBER OF EDITORIAL BOARD

Inventiones Mathematicae; *Advances in Mathematics*; *Ergodic Th & Dynam Systems*; *Analsys & PDE, Frontiers in Applied Dynamical Systems: Reviews and Tutorials, Dynamics of PDE.*

PROFESSIONAL SERVICE A member of selection committee of speakers for the ICM 2010, section in dynamical systems.

A coach of a mathematical cycle team of 8-9 old children. Three of my students made to the list of National Winners in the Math Kangaroo Olympiad.

FORMER/CURRENT POSTDOCS AND THEIR EMPLOYMENT

- Anton Gorodetski — a professor at University of California at Irvine,

- Ke Zhang — an associate professor at University of Toronto,

- Marcel Guardia — an associate professor at University Politecnica Catalunia, awarded ERC grant in 2017,

- Guan Huan — an assistant professor at Yau Mathematical Sciences Center, Tsinghua University,

- Pablo Roldan — an assistant professor at Yeshida University,

- Qiaoling Wei — an assistant professor at Capital Normal University, Beijing,
- Jianlu Zhang — an assistant professor at Mathematical Institute of Chinese Academy of Sciences, Beijing.
- Thibaut Castan — currect postdoc.

FORMER STUDENTS Joseph Galante, Timothy Nguyen, John Urschel.

NSF GRANTS

- DMS-0300229. May 1, 2003 — April 30, 2006. $134,296.
- DMS-0701271. July 1, 2007 — June 30, 2009. $167,605.
- DMS-1001892. February 1, 2010— January 31, 2011. $47,600.
- DMS-1101510. June 1, 2011 — May 31, 2014. $100,000.
- DMS-1223714. May 1,2012 — April 30, 2013. $37,400.
- DMS-1301684. March 1 , 2013 — February 29, 2016. $48,000.
- DMS-1402164. August 15, 2014 — July 31, 2017. $160,000.
- DMS-1402759. June 1 , 2014 — May 31, 2015. $33,400.
- DMS-1702278. June 1, 2017 — May 31, 2020. $137,000.

ORGANIZATION OF SCHOOLS FOR STUDENTS

Jointly with M. Guardia, L. Polterovich, Summer school on stochastic motions in Hamiltonian Systems and Symplectic Geometry, July 23 - August 03, 2018, Berkeley, USA. Mathematical Sciences Research Institute.

Jointly with M. Guardia, A. Sorrentino, Winter school in conservative dynamics, February, 2017, Engelberg, Switzerland. Sponsored by the ETH Institute for Theoretical Studies.

Jointly with Yu. Lima, Summer School on Dynamical Systems, University of Maryland, August, 2014, College Park.

Jointly with J. Galante a school on Celestial mechanics and Hamiltonian systems, University of Maryland, April, 2010.

ORGANIZATION OF CONFERENCES AND RESEARCH PROGRAMS

Fall, 2002	A semester program on Arnold Diffusion at Princeton, supported by American Institute of Mathematics, Clay Institute, and Princeton University;
October, 2002	Conference on Arnold Diffusion & Dyn Systems at Princeton University.
December, 2003	Conference on Hilbert 16-th Problem, Independent University, Moscow, Russia.

April, 2004   (jointly with John Mather) Section on "Variational Methods in Classical Mechanics" in AMS meeting at Rider University.

April, 2006   (jointly with Anton Gorodetski) Section on "On Lyapunov exponents" in AMS meeting at San Francisco University.

Spring, 2010   (jointly with J. Galante) a semester on Celestial mechanics and Hamiltonian systems, University of Maryland.

October, 2010   (jointly with A. Katok and S. Katok) a Workshop in Dynamical Systems and Related Topics, Penn State, October 21 – 24, 2010.

June, 2011   (jointly with Ch.-Q. Cheng, J. Fejoz, C. Simo) a workshop "Instabilities in Hamiltonian systems", Fields Institute, Toronto, Canada.

June, 2012   (jointly with A. Fathi) a conference "Recent Progress in Lagrangian and Hamiltonian dynamics", ENS, Lyon.

January, 2013   (jointly with L. Chierchia, J. Mather, S. Terracini) a conference "New perspectives of N-body problem", Banff.

April, 2013   (jointly with M. Guardia) a workshop in Dynamical Systems and Related Topics, Maryland, April 4–7, 2013.

January, 2017   (jointly with R. de la Llave, Y.-K. Kim, A. Wilkinson) Beam Dynamics, IPAM, January 23-27.

November, 2017   (jointly with M. Guardia, A. Sorrentino), Ascona, Conference in Hamiltonian systems, November 5-11, 2017.

April, 2018   (jointly with M. Guidea), IAS, Princeton, Workshop on emerging topics: Emerging interactions of geometric and variational methods.

August, 2018   (jointly with M.-C. Arnaud, W. Gangbo, R. Littlejohn), Introductory Workshop: Hamiltonian systems, from topology to applications through analysis, MSRI.

Fall, 2018   (jointly with R. de la Llace, A. Fathi, R. Littlejohn, Ph. Morrison, T. Seara, S. Tabachnikov, A. Wilkinson), a semester: Hamiltonian systems, from topology to applications through analysis, MSRI.

Summer, 2018   (jointly with S. Barbieri, G. Pinzari, M. Guzzo), a conference: Perspectives in Hamiltonian Dynamics, Venezia.

VISITING POSITIONS (AT LEAST ONE MONTH)

August, 1999   IMPA, Rio, Brazil;

January, 2000   College de France, Paris, France

July, 2001   University Autonoma de Madrid, Madrid, Spain

September, 2003   Insitute of Henri Poincare, Paris, France

September, 2006	Institute de Méchanique et de calcul des Éphémérides, Observatiore de Paris
February, 2013	IMPA, Rio, Brazil;
July, 2013	École Polytechnique Fédérale de Lausanne, Switzerland.
July, 2015	Universitat Politécnica de Catalunya, Barcelona, Spain.
2016-2017	Senior Fellow, Institute for Theoretical, ETH, Zurich.

Department Colloquia and Special lectures

1999 Universite de Bourgogne, Dijon, France; L'Ecole Normale Superior, Lyon, France; University of Maryland at College Park;

2000 Penn State University; Joint Courant/Princeton/Stony Brook/Yale Dynamics Colloquium, October; Cornell University;

2001 College de France; California Institute of Technology; Stanford; Brandeis-Harvard-MIT-Northeastern Joint Mathematics Colloquium; University of Arizona at Tucson; University of Michigan at Ann Arbor;

2002 Caltech; University of Texas at Austin;

2003 Berkeley; Moscow Mathematical Society, Moscow, Russia;

2004 Distinguished Lecture in Dynamics, 2 lectures, Tel Aviv University;

2005 Brown; Penn State University; Stony Brook; Penn State University; University of South California; Princeton University;

2006 University of Maryland; Stanford University; SUNY at Stony Brook; Cornell.

2009 Rice; Stanford;

2012 Berkeley;

2013 Courant; Princeton; Distinguished Lecture in Dynamics, 2 lectures, Tel Aviv University;

2014 Rice, University of Houston; Penn State University; Urbana-Champain; Universita degli Studi Roma Tre.

2015 Joint Brandeis-Harvard-MIT-Northeastern; Princeton; Geneva; Universita degli Studi Roma "Tor Vergata".

2016 Berkeley.

2017 ITS-ETH.

Minicourses

1. *The Hilbert-16th problem and Bifurcation of elementary polycycle*, Dijon, France, September, 1999, 5 lectures;

2. *Stretched exponential estimates on growth of # of periodic points for prevalent diffeomorphisms*, Penn State University, December, 1999, 6 lectures;

3. *The Hilbert-16th problem and an estimate of cyclicity of elementary polycycle*, CRM, Monreal, Canada, June, 2000, 5 lectures;

4. *Growth of # of periodic points*, CRM, Montreal, Canada, July, 2002, 5 lectures;

5. *Aubry-Mather theory*, Winter School, Mayorca, Spain, February, 2003, 4 lectures;

6. *Arnold diffusion*, Institute Henry Poincaré, Paris, France, September, 2003, 8 lectures;

7. *Mather theory and variational constructions of diffusing orbits in Hamiltonian systems*, Recent Trends in Nonlinear Science, Palma de Mallorca, February, 2006, 6 lectures;

8. *Principle of minimal action in dynamics* Universitat Politécnica de Catalunya, Barcelona, Spain, Jule 2011, 6 lectures;

9. *Arnold diffusion*, Institute for Advanced Study, Princeton, March, 2013, 6 lectures (joint with Ke Zhang);

10. *KAM theory*, in the Summer School "Integrable Systems and Semiclassical Analysis", École Polytechnique Fédérale de Lausanne, Switzerland, July, 2013, 3 lectures;

11. *Introduction to Hamiltonian Dynamics*, Karazin Kharkiv University, August, 2013, 8 lectures;

12. *Convex Billiards and inverse spectral problems*, Karazin Kharkiv University, December, 2013, 6 lectures;

13. *Arnold diffusion*, Universita degli Studi Roma Tre, April, 2014, 3 lectures;

14. *Convex Billiards and inverse spectral problems*, University of Maryland, August, 2014, 8 lectures;

15. *Arnold diffusion*, (joint with K. Zhang) Institute of Henri Poincare, December, 2016, 10 lectures;

16. *Stochastic Arnold Diffusion*, Engelberg, February, 2017, 5 lectures.

17. *On spectral rigidity for planar domains*, April 2017, Higher School of Economics, Moscow, 6 lectures;

18. *Arnold diffusion*, Asiago Astronomic Observatory, Italy, June, 2018, 4 lectures;