

## Yakov (Yasha) Savelyev

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Research Fellow  
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### PERSONAL

Born: January 17, 1980, Moscow, Russia.  
Citizenship: USA, Russia

### EDUCATION

Ph.D. SUNY Stony Brook, August 2008  
Ph.D Advisor: Dusa McDuff  
B.S. Mathematics, SUNY Stony Brook, 2002

### APPOINTMENTS

Visiting Assistant Professor, University of Massachusetts, Amherst 2008- 2011  
Postdoctoral Fellow, MSRI, spring 2010  
Postdoctoral Fellow CRM-Montreal, August 2011- August 2013  
Postdoctoral Fellow, ICMAT, Madrid, current

### RESEARCH INTERESTS

Symplectic and differential geometry, especially Gromov-Witten and Floer theory, mathematical physics, dynamical systems, and various interactions of these subjects.

### PUBLICATIONS, PREPRINTS AND WORKS IN PROGRESS, (LINKS AVAILABLE ON MY WEBSITE)

*Quantum characteristic classes and the Hofer metric*, Geometry & Topology, 12 (2008), pp. 2277–2326.

*Virtual Morse theory on  $\Omega\text{Ham}(M, \omega)$* , J. Differ. Geom., 84 (2010), pp. 409–425.

*Bott periodicity and stable quantum classes*, Selecta Math.(2013) 19: 439-460

*Gromov K-area and jumping curves in  $\mathbb{CP}^n$* , 2012, Algebraic and Geometric Topology

Proof of the index conjecture in Hofer geometry, *Math. Res. Letters*, Volume 20 (2013), 981-984

Morse theory for the Hofer length functional, *Journal of topology and analysis*, 08/2013; 06(02),

Global Fukaya category and the space of  $A_\infty$  categories I, *arxiv preprint 2013*

Yang Mills theory and jumping curves, *arxiv preprint 2013*

Global Fukaya category and the space of  $A_\infty$  categories II, *arxiv preprint, 2014*

Non degenerate volume preserving diffeomorphisms of  $S^2$  and the injectivity radius conjecture,

*arxiv preprint, 2014*

On the injectivity radius in Hofer geometry, with Francois Lalonde, Electronic Research Announcements, (accepted) 2014

*Not ready for publication but I am about to finish the second one:*

Spectral geometry of the group of Hamiltonian diffeomorphisms, arxiv preprint, 2011

*On configuration spaces of stable maps*, arxiv preprint, 2011

#### SERVICE

Referee for mathematical journals. Co-organizer for symplectic geometry seminar at CRM-Montreal for the 2012-2013 year.

[link to list of speakers](#)

#### FELLOWSHIPS AND AWARDS

Department research award, 2006 Stony Brook  
Department travel grant, 2007 Stony Brook  
Chair's award for outstanding thesis, 2008 Stony Brook  
MSRI Postdoctoral fellowship, spring 2010,  
CRM-Montreal postdoctoral fellowship, 2011-2013  
ICMAT Madrid postdoctoral fellowship, current

#### RECENT INVITED TALKS

CRM, Montreal, 2007.

Courant Institute of Mathematics, NYC, 2007.

Tel Aviv University, Topology and dynamics seminar, 2009.

UW Madison, geometry-topology seminar, 2009.

UMASS, Amherst, geometry-topology seminar, (2 talks), 2008.

UMASS, Amherst, geometry-topology seminar, 2009.

Columbia University, geometry-topology seminar, 2009.

MSRI, research seminar, 2010.

CRM-Montreal, symplectic geometry seminar, 2011

UQAM, Montreal, CIRGET Seminar, 2012

IBS, Pohang, Korea, 2013

ICMAT, Madrid 2013 (a series of lectures)

University of Toronto, topology seminar, 2013

QGM, Aarhus, Denmark, 2013

Kyoto University, Institute of Mathematical sciences, 2014

Jerusalem University, Israel, 2014

University of Montpellier, France, 2014

#### CONFERENCE TALKS

ICMS, conference on “Symplectic Geometry and Transformation Groups”, in honor of H. Hofer, 2010.

Georgia topology conference, 2011

Lodz, Poland conference: “Contact and symplectic topology, with a focus on open problems” (Part of the joint Israeli-Polish mathematical societies meeting.), 2011

Tokyo IMPU, Floer and Novikov homology, Contact topology and related topics, 2014

#### TEACHING EXPERIENCE

3 years of lecturing experience as a graduate student at Stony Brook university. With 1 course per semester load. These were very large calculus sections with 100 or more enrolled students per section. I also TA'd at Stony Brook for calculus, business calculus, and graduate algebraic topology (a couple of times).

Another 2.5 years of lecturing experience as a visiting assistant professor at University of Massachusetts, Amherst. (Away for half a semester at MSRI). I was doing 2 courses/sections per semester. Each section was small about 20-30 enrolled students. These were calculus and multivariable calculus sections.