

Birthdate: January 25, 1979  
Birthplace: Lvov, Ukraine  
Russian Citizen,  
US permanent resident application pending

**Address**

IMS, 5D-148, Math Tower  
Stony Brook University,  
Stony Brook, NY, 11794, USA

Phone: (631) 632 73 08  
bachurin@math.sunysb.edu

**Employment**

August 2008 - present - Lecturer, Institute of Mathematical Sciences, SUNY at Stony Brook,  
August 2006 - July 2008 - Post-doctoral fellow, University of Toronto

**Education**

Ph.D. in Mathematics, Princeton University, May 2006  
Thesis Advisor: Sinai, Ya.G.  
Thesis Title: *The structure of singularity manifolds of multi-dimensional dispersing billiards.*  
B.A. in Mathematics, June 2001, Moscow State University

**Current research interests**

*Dynamical Systems and Ergodic Theory*

**Publications and preprints**

- On a relation between time averages and minimal attractors, *Russian Math. Surveys*, **54** (1999), no. 6, pp. 1233–1235,
- On the structure of the singularity manifolds of dispersing billiards, preprint, May 2005, *math.DS/0505620*
- (with Ch. Fefferman) The volume near the zeroes of a smooth function, *Revista Mat. Iberoamericana*, **23** (2007), no. 7, pp. 259–267,
- (with P. Balint, I.P. Toth) Local ergodicity for systems with growth properties including multi-dimensional dispersing billiards, *Israel J. Math*, accepted (2007)
- (with K. Khanin, J. Marklof, A. Plakhov) Exits for a semi-infinite tube, *in preparation*

**Invited Talks**

”Combinatorics, Dynamics, Probabilities” Conference, Stockholm, October 2000,  
Dynamical Systems Seminar, Cornell University, November 2000,  
Ergodic Theory Seminar, Princeton University, April 2005,  
Analysis Seminar, Cornell University, November 2005,

Dynamics and Global Analysis Seminar, University of Chicago, February 2006,  
Dynamical Systems Seminar, Imperial College, London, February 2006,  
Workshop on Dynamical Systems and Related Topics, University of Maryland, March 2006,  
Dynamical Systems Seminar, Queen's University, Kingston, October 2006,  
Analysis Seminar, McGill University, Montreal, November 2006  
Dynamical Systems Seminar, University of Toronto, Toronto, November 2006,  
CMS Meeting, Toronto, December 2006,  
Dynamical Systems Seminar, University of Toronto, Toronto, September 2007,  
Geometry, Topology and Dynamical Systems, University of Illinois, Chicago, November 2006,  
Colloquium, University of Alabama, Birmingham, January 2008,  
Spectrum and Dynamics Workshop, CRM, Montreal, April 2008,  
Workshop on Hyperbolic Dynamical Systems with Singularities, ESI, Vienna, June 2008,  
School and Workshop on Dynamical Systems, ICTP, Trieste, July 2008,  
Dynamical Systems Seminar, SUNY at Stony Brook, September, 2008

### **Other Academic Experience**

NATO Advanced Study Institute Summer School, "Asymptotic combinatorics with applications to mathematical physics", July 9-22, 2001 Saint-Petersburg, Russia,  
Conference, "Dynamical systems", October 2002, Princeton, USA,  
Summer School and Conference, "Dynamics in the Teichmuller Space and Applications to Rational Billiards", July 2003, Marseille, France  
Semi-annual Workshop in Dynamical Systems, October 2003, Penn State University, USA,  
Conference, "Representation Theory, Dynamical Systems and Asymptotic Combinatorics", June 2004, St.Petersburg, Russia,  
Summer School and Conference, "Dynamical Systems", July 2004, ICTP, Trieste, Italy  
Summer School, "Mathematical Statistical Physics", July 2005, Les Houches, France,  
Semi-annual Workshop in Dynamical Systems, October 2005, Penn State University, USA,  
Workshop on Partially Hyperbolic Systems, Laminations and Teichmuller Flow, January 2006, Toronto, Canada  
International Workshop on Global Dynamics Beyond Uniform Hyperbolicity, May 2006, Northwestern University, Evanston, USA  
Clay Summer School on Homogeneous Flows, Moduli Spaces and Arithmetic, June 2007 Pisa, Italy  
Summer School on Mathematical Billiards, July 2007, Cologne, Germany

### **Visiting positions**

Cornell University, November 2000,  
Caltech, June 2003,  
Technical University of Budapest, Budapest, Hungary, December 2005,  
Max Plank Institute for Mathematical Sciences, Bonn, Germany, May 2008,  
Erwin Schrodinger Institute for Mathematical Physics, Vienna, Austria, June 2008

### **Teaching experience**

#### **Princeton University:**

*Instructor, Course Head*, "Linear Algebra and Calculus for Economists", Spring 2003  
*Instructor*, "Analysis in a Single Variable", Fall 2003,

*Teaching Assistant*, "Multivariable Calculus", "Linear Algebra with Applications", "Advanced Linear Algebra with Applications", "Honors Linear Algebra", "Analysis in Several Variables", "Advanced Topics in Analysis", "Stochastic Processes", Fall 2001–Fall 2005,

**University of Toronto:**

*Instructor*, "Calculus and Linear Algebra for Commerce", Fall 2006/Spring 2007,

*Instructor*, "Linear Algebra", Fall 2007,

*Instructor, Course Head*, "Ordinary Differential Equations and Modeling", Spring 2008

**SUNY, Stony Brook:**

*Instructor*, "Calculus A", Fall 2008

**Other experience**

- 2006–2008, co-organizer of the Dynamical Systems Seminar at University of Toronto,
- 2008–present, organizer of the Dynamical Systems Seminar at SUNY, Stony Brook,
- Referee for SIAM Journal of Mathematical Analysis