Curriculum Vitae
Sevak Mkrtchyan

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Date of Birth: 15 Sep 1983

Employment

2012 –present Postdoctoral associate, **Carnegie Mellon University**
2012 Spring   Postdoctoral Fellow, **Mathematical Sciences Research Institute (MSRI)**
2009 – 2012   G.C. Evans Instructor of Mathematics, **Rice University**

Education

2004 – 2009   **University of California, Berkeley**, Ph.D. in Mathematics
               Advisor: Nicolai Reshetikhin
2001 – 2004   **University of Pittsburgh**
2000 – 2001   **Moscow Institute of Physics and Technology**

Research interests

Random tilings, determinantal point processes and random matrix theory, asymptotic representation theory and asymptotic combinatorics.

Publications and preprints

1. *Plane partitions with 2-periodic weights.* 25 pages. <u>arXiv:1309.4825</u> Submitted.

2. *Entropy and the Shannon-McMillan-Breiman theorem for beta random matrix ensembles* (joint with A. Bufetov, M. Shcherbina and A. Soshnikov), **Journal of Statistical Physics**, 152(1):1-14, 2013.

3. *Entropy of Schur–Weyl measures*, to appear in **Annales de l'Institut Henri Poincaré**. 47 pages.

4. *Asymptotics of the maximal and the typical dimensions of isotypic components of tensor representations of the symmetric group*, **European Journal of Combinatorics**, special issue "Groups, graphs, and languages." 33(7):1631-1652, 2012.

5. *Scaling limits of random skew plane partitions with arbitrarily sloped back walls*, **Communications in Mathematical Physics**, 305(3):711–739, 2011.

6. *Random skew plane partitions with a piecewise periodic back wall* (joint with C. Boutillier, N. Reshetikhin and P. Tingley), **Annales Henri Poincaré**, 13(2):271–296, 2012.

7. *Scaling limits of random skew plane partitions*, <u>Ph.D. Thesis</u>, University of California, Berkeley, 2009.

Honors and awards

2013 – Spring	MRC collaboration grant, AMS/NSF
2012	Mathematical Sciences Research Institute Postdoctoral Fellowship
2009	Outstanding Graduate Student Instructor Award, University of California, Berkeley
2001 – 2004	Chancellor's Scholarship, University of Pittsburgh
2004	University Scholar, University of Pittsburgh
2002 – 2004	Mathematics Department Culver Prize, University of Pittsburgh in 2004, 2003, 2002
2002 – 2003	Second Prize (2003) and Honorable Mention (2002), William Lowell Putnam Competition
1998 – 2000	Silver and Bronze Medals at the International Mathematical Olympiad in 2000, 1999, 1998

Invited lectures and presentations

Conferences

2013 Feb.	*Random Tilings Workshop*, Simons Center, Stony Brook
2012 Jun.	*Geometry and Representation Theory Related to Geometric Complexity and Other Variants of P v. NP.*, AMS MRC program
2012 Jan.	*Joint Mathematical Meetings of the AMS* (Boston), Special Session on Uniformly and Partially Hyperbolic Dynamical Systems
2011 Sep.	*Workshop on Representation Theory, Geometry and Combinatorics*, University of California, Berkeley
2011 Aug.	*The Sixth International Conference on Differential and Functional Differential Equations*, Steklov Mathematical Institute of the Russian Academy of Sciences
2011 Jul.	*International Conference on Dynamical Systems, Nonlinear Analysis and their Applications*, Institute of Mathematics, National Academy of Sciences of Armenia
2011 Apr.	*Workshop on Dynamical Systems and Related Topics*, University of Maryland
2011 Mar.	*Group Actions on Measure Spaces*, Texas A&M University
2011 Mar.	*Texas Ergodic Theory Workshop*, University of Houston
2008 Sep.	*Workshop on Random Tilings, Random Partitions and Stochastic Growth Processes*, Centre de recherches mathématiques (Montreal, Canada)

Seminars

2014 Feb.	*TBD*, University of California, Berkeley
2013 Oct.	*Probability and Computational Finance Seminar*, Carnegie Mellon University
2013 Oct.	*Algebra, Geometry and Combinatorics Seminar*, University of Pittsburgh
2013 Mar.	*Geometry Seminar*, Texas A&M University
2013 Jan.	*Departmental Colloquium*, University of Pittsburgh
2012 Oct.	*Probability and Computational Finance Seminar*, Carnegie Mellon University
2012 Oct.	*Algebra, Geometry and Combinatorics Seminar*, University of Pittsburgh (2 lectures)
2012 Sep.	*Algorithms, Combinatorics and Optimization Seminar*, Carnegie Mellon University
2012 Apr.	*FRAGMENT Seminar*, Colorado State University and University of Colorado, Boulder
2012 Mar.	*Departmental Colloquium*, University of Mississippi
2012 Mar.	*Probability Seminar*, University of Rochester
2012 Feb.	*Postdoc seminar*, MSRI
2012 Feb.	*sRTGC seminar*, University of California, Berkeley
2012 Feb.	*Mathematical Physics and Probability Seminar*, University of California, Davis
2011 Nov.	*Geometry-Analysis Seminar*, Rice University
2011 Feb.	*Geometry-Analysis Seminar*, Rice University
2010 Oct.	*Groups and Dynamics Seminar*, Texas A&M University
2009 Oct.	*Laboratoire de Probabilités*, Paris VI
2009 Sep.	*Geometry-Analysis Seminar*, Rice University

Departmental service

2011	Fall	Departmental Colloquium Committee (member), Rice University
2010	Fall	Putnam Seminar organizer (joint with Michael Boshernitzan), Rice University
2009 – 2010		Current Math Seminar organizer (joint with Prudence Heck), Rice University

Supervising activities

2010 Summer   Designed and organized a new 8-week VIGRE Summer Research Experience for Undergraduates. Rice University. At the beginning of the REU taught the required background material and later provided daily supervision and guidance for the students' research activities.
Topic: Exact Sampling of Skew Young Diagrams
Students: Georgene Jalbuena, Joshua Cory
Results: The results are published online at http://cnx.org/content/m34949/latest/.

Teaching experience

Carnegie Mellon University

2013	Fall	Algebraic Structures - (Math 21-373)
2013	Fall	Linear Algebra I - (Math 21-341)
2012	Fall	Probability - (Math 21-325)
2012	Fall	Linear Algebra I - (Math 21-341)

Rice University

2011	Fall	Introduction to Random Matrix Theory - (Math 521) - Graduate topics course offered for the first time at Rice University
2011	Fall	Ordinary Differential Equations and Linear Algebra - (Math 211)
2011	Spring	Calculus 2 - (Math 102)
2010	Fall	Lie Theory - (Math 371) - Offered for the first time at Rice University. Designed and taught the course.
2010	Fall	Ordinary Differential Equations and Linear Algebra - (Math 211)
2010	Spring	Calculus 2 - (Math 102)
2009	Fall	Introduction to Partial Differential Equations - (Math 381)
2009	Fall	Calculus 2 - (Math 102)

University of California, Berkeley

2008	Fall	Analytical Geometry and Calculus - (Math 16A)
2008	Summer	Linear Algebra and Differential Equations - (Math 54)
2006	Fall	Linear Algebra and Differential Equations - (Math 54)
2006	Summer	Linear Algebra and Differential Equations - (Math 54)
2005	Fall	Calculus 2 - (Math 1B)
2005	Spring	Linear Algebra and Differential Equations - (Math 54)
2004	Fall	Calculus 2 - (Math 1B)

Outreach

2013	Jul.	Summer Undergraduate Applied Mathematics Institute REU, Carnegie Mellon University
2012	Nov.	Math Club, Carnegie Mellon University
2012	Oct.	Undergraduate Colloquium, Carnegie Mellon University
2012	Apr.	Undergraduate Colloquium, University of Northern Colorado
2012	Jan.	A lecture at the Marin Math Circle
2011	Jul.	A mini-course (with Alexander Bufetov) at a summer school organized by the Russian Academy of Sciences
		Topic: Orthogonal Polynomials

Computing

Computer Languages: Mathematica, Java, C/C++, Assembler, HTML
Familiarity with Linux

Languages

Fluent in English, Russian and Armenian, basic knowledge in German