

UNIVERSITÀ DEGLI STUDI DI MILANO

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Peyman Eslami Curriculum Vitae

1. PERSONAL INFORMATION

Last name: Eslami
First name: Peyman
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2. EDUCATION

- 2011** Ph.D. in Mathematics, Concordia University, Montréal, Québec, Canada. (Thesis Advisor: Pawel Góra)
- 2004** MSc in Mathematics, University of Alabama at Birmingham, Birmingham, Alabama, USA
- 2003** BSc in Mathematics (*Minor in Computer Engineering*), University of Alabama at Birmingham, Birmingham, Alabama, USA

3. APPOINTMENTS

- 2019-** Postdoc, Università degli Studi di Roma Tor Vergata, Rome, Italy. (Supervisor: Carlangelo Liverani)
- 2015-2018** Postdoc (ERC AdG STOCHETHOMOG), University of Warwick, Coventry, UK. (Supervisor: Ian Melbourne)
- 2014-2015** Postdoc (ERC AdG MALADY), Università degli Studi di Roma Tor Vergata, Rome, Italy. (Supervisor: Carlangelo Liverani)
- 2012-2014** Postdoc (INdAM-COFUND Marie Curie), Università degli Studi di Roma Tor Vergata, Rome, Italy. (Supervisor: Carlangelo Liverani)
- 2012** Research Assistant Professor, Concordia University, Montréal, Québec, Canada.
- 2007-2011** Ph.D candidate/Research Assistant, Concordia University, Montréal, Québec, Canada. (Supervisor: Pawel Góra)
- 2010** FQRNT International Intern, Indiana University Purdue University Indianapolis, Indianapolis, Indiana, USA. (Supervisor: Michal Misiurewicz)
- 2001-2006** Fast-Track Student, University of Alabama at Birmingham, Birmingham, Alabama, USA. (Mentors: Lex Oversteegen)

4. PUBLICATIONS

- 1** Mixing rates for symplectic almost Anosov maps (with Carlangelo Liverani), to appear in *Nonlinearity*.

- 2** Inducing schemes for multi-dimensional piecewise expanding maps, preprint.
- 3** Sharp statistical properties for a family of multidimensional non-Markovian non-conformal intermittent maps (with S. Vaienti and I. Melbourne), preprint.
- 4** On piecewise expanding maps, available at <http://peymaneslami.com/>.
- 5** Stretched-exponential mixing for $\mathcal{C}^{1+\alpha}$ skew products with discontinuities, *Ergod. Th. and Dynamical Systems*. **37** (2017), no. 1, 146–175.
- 6** Exponential mixing for skew products with discontinuities (with O. Butterley), *Trans. Amer. Math. Soc.* **369** (2017), no. 2, 783–803.
- 7** Chaos for successive maxima map implies chaos for the original map (with A. Boyarsky, P. Góra, Zh. Li, J. Meddaugh, B. Raines) *Nonlinear Dyn.* **79** (2015), no. 3, 2165–2175.
- 8** Stronger Lasota-Yorke inequality for one-dimensional piecewise expanding transformations (with P. Góra), *Proc. Amer. Math. Soc.* **141** (2013), no. 12, 4249–4260.
- 9** A Family of Piecewise Expanding Maps having Singular Measure as a limit of ACIM's (with Zh. Li, P. Góra, A. Boyarsky, H. Proppe), *Ergod. Th. and Dynamical Systems* **33** (2013), no. 1, 158–167.
- 10** Singular limits of absolutely continuous invariant measures for families of transitive maps (with M. Misiurewicz), *J. Difference Equ. Appl.* **18** (2012), no. 4, 739–750.
- 11** Metastable systems as random maps (with P. Góra and A. Boyarsky), *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **22** (2012), no. 11, 1250279, 11 pages.
- 12** On eventually expanding maps of the interval (with P. Góra), *Amer. Math. Monthly* **118** (2011) 629–635.
- 13** On open maps between dendrites (with G. Acosta and L. Oversteegen), *Houston J. Math.* **3** (2007) 753–770.

5. TEACHING EXPERIENCE

- 2007-2011** Taught 6 undergraduate level classes in Finite Mathematics and Intermediate Algebra. Concordia University, Montréal, Québec, Canada.
- 2011** Taught undergraduate Business Mathematics, Dawson College, Montréal, Québec, Canada.
- 2004-2006** Taught 9 undergraduate level courses in Business Calculus, Intermediate Algebra, Pre-calculus Trigonometry, and Basic Algebra. University of Alabama at Birmingham, Birmingham, Alabama, USA.
- 2002-2004** Teacher's Assistant University of Alabama at Birmingham, Birmingham, Alabama, USA.
- 2001-2002** Math Tutor at the Math Resources Center and Maple Lab, University of Alabama at Birmingham, Birmingham, Alabama, USA.
- 2000** Math Tutor, Student Support Services, Jefferson State Community College, Birmingham, Alabama, USA.

6. HONORS AND AWARDS

- 2018** Assistant-Professorship at Sharif University of Technology (declined)
- 2012** INdAM Marie-Curie fellowship
- 2010** CRM/FQRNT International Internship
- 2008** International Tuition Fee Remission Award – Concordia University
- 2008** Carolyn and Richard Renaud Teaching Assistantship Award – Concordia University
- 2003-2006** Teaching Assistantship and Tuition Waiver Scholarship – University of Alabama at Birmingham
- 2001-2005** Mathematics Fast-Track Scholarship – University of Alabama at Birmingham

7. ORGANIZATION

- 2016/17/18** Organizer of the weekly Ergodic Theory and Dynamical Systems seminar at University of Warwick.
- 2009-2011** President of the Mathematics and Statistic Graduate Student Association (MASGSA) of Concordia University. Organized seminars, social events, Putnam competition tutorials, etc.

8. PROGRAMMING

C, VectorCast, Fortran, Java, Python, Assembly language, HTML, PHP, Perl, Javascript, OpenGL, Maple, Matlab, Mathematica, Access, SQL, Latex.
 I worked as a programmer at NEAT s.r.l (<https://www.neat.it>).

9. INVITED TALKS (SINCE 2010)

- Sep 2019** Talk delivered in Smooth and homogeneous dynamics conference and workshop, ICTS Bangalore, India.
- Sep 2019** Talk delivered in Dynamics, Equations and Applicaiton (DEA) conference, Krakow, Poland.
- Jun 2019** Talk delivered in Dinamici workshop, Pisa, Italy.
- Apr 2019** Talk delivered in ICTP dynamical systems seminar, ICTP, Trieste, Italy.
- Sep 2018** *Statistical properties of multi-dimensional piecewise expanding maps*, Talk delivered at the 38th Dynamics Days Europe conference, Loughborough University, United Kingdom.
- May 2018** *Statistical properties of dynamical systems*, Mini-course delivered at Tarbiat Modares University (TMU-ICTP School and Conference on Dynamical Systems Theory), Tehran, Iran.
- Mar 2018** *Exponential equidistribution of standard pairs for piecewise expanding maps of metric spaces*, Talk delivered at Concordia University, Montreal, QC, Canada.
- Mar 2018** *Exponential equidistribution of standard pairs for piecewise expanding maps of metric spaces*, Talk delivered at University of Toronto, Ontario, Canada.
- Nov 2017** *Exponential equidistribution of standard pairs for piecewise expanding maps of metric spaces*, Talk delivered at University of Exeter, Exeter, United Kingdom.
- Oct 2017** *Exponential equidistribution of standard pairs for piecewise expanding maps of metric spaces*, Talk delivered at Imperial College London, London, United Kingdom.
- Aug 2017** *Exponential equidistribution of standard pairs for piecewise expanding maps of metric spaces*, Talk delivered at Institute of Mathematics of the Polish Academy of Sciences (IMPAN), Bedlewo, Poland.
- Jul 2017** *Exponential memory loss for piecewise expanding maps of metric spaces*, Talk delivered in the 5th Conference of Frontiers in Mathematical Sciences at Institute for Research in Fundamental Sciences (IPM), Tehran, Iran.
- May 2017** *Exponential memory loss for piecewise expanding maps of metric spaces*, Talk delivered in the Conference in Dynamical systems at Institute for Research in Fundamental Sciences (IPM), Tehran, Iran.
- May 2017** *A quantitative approach to the study of chaotic dynamical systems*, Talk delivered in Dynamical systems seminar at Shahid Bahonar University, Kerman, Iran.

- May 2017** *Two approaches for the quantitative study of chaotic dynamical systems*, Talks delivered as a workshop in the Thematic Program in Dynamical systems at Institute for Research in Fundamental Sciences (IPM), Tehran, Iran.
- Mar 2017** *Coupling for piecewise expanding maps*, Talk Delivered at Imperial College, London, United Kingdom.
- Nov 2016** *Coupling for piecewise expanding maps*, Talk Delivered at UFBA, Salvador, Brazil.
- Sept 2016** *Coupling for piecewise expanding maps*, Talk Delivered at Institute de Mathématiques de Marseille, Luminy, France.
- Jun 2016** *Coupling for piecewise expanding maps*, Talk Delivered at the one-day Ergodic Theory Meeting, University of Warwick, England.
- Apr 2016** *Coupling for piecewise expanding maps*, Talk Delivered at the Edwin Schrödinger International Institute for Mathematics and Physics, Vienna, Austria.
- May 2015** *Decay of correlations for skew products with singularities* (Dedicated to the memory of Nikolai Chernov), Talk Delivered at University of Alabama at Birmingham, Birmingham, Alabama, USA.
- Jun 2014** *Decay of correlations for skew products with discontinuities*, Talk delivered at University of Vienna, Vienna, Austria.
- Mar 2013** *Absolute continuity of Bernoulli Convolutions*, Talk delivered at Concordia University, Montreal, Canada.
- Jan 2013** *Invariant measures in one-dimensional dynamics*, Talk delivered at at Institute for Studies in Theoretical Physics and Mathematics (IPM), Tehran, Iran.
- Dec 2012** *Statistical properties of dynamical systems*, Talk delivered at Shahid Bahonar University of Kerman, Kerman, Iran.
- Oct 2012** *Fat Solenoidal Attractors*, Talk delivered at University of Rome Tor Vergata, Rome, Italy.
- Oct 2012** *Singular limits of absolutely continuous invariant measures for families of transitive maps*, Talk delivered at University of Tor Vergara, Rome, Italy.
- 2012** *On the acim-stability of piecewise expanding dynamical systems*, Talk delivered at at Banff International Research Station, Banff, Alberta, Canada.
- 2010** *Singular limits of absolutely continuous invariant measures*, Talk delivered at at IUPUI Dynamical Systems Seminar, Indianapolis, Indiana, USA.

10. CONFERENCES AND WORKSHOPS (SINCE 2010)

- Jul 2019** Research school *Thermodynamic Formalism: Modern Techniques in Smooth Ergodic Theory*, Centre International de Rencontres Mathématiques (CIRM), Luminy, France.
- Nov 2018** *Conference on probabilistic limit theorems for dynamical systems*, Centre International de Rencontres Mathématiques (CIRM), Luminy, France.
- Aug 2018** *International Congress of Mathematicians (ICM 2018)*, Rio de Janeiro, Brazil.
- Jun 2018** *Thermodynamic formalism in dynamical systems*, International centre for mathematical sciences, Edinburgh, United Kingdom.
- Jun 2018** *British Mathematical Colloquium*, University of St. Andrews, St Andrews, United Kingdom.
- Apr 2018** *Probability, Analysis and Dynamics '18 Three-Day Conference*, University of Bristol, Bristol, United Kingdom.
- Mar 2018** *Workshop: New Developments in Open Dynamical Systems and Their Applications*, Banff International Research Station (BIRS), Banff, Alberta, Canada.

- Aug 2017** *Current Trends in Dynamical Systems and the Mathematical Legacy of Rufus Bowen*, Pacific Institute for the Mathematical Sciences (PIMS), Vancouver, Canada.
- Jul 2017** *School on Analytical Aspects of Hyperbolic Flows in Partnership with ERC*, Centre de Mathématiques Henri Lebesgue, Nantes, France.
- Jun 2017** *Workshop on Hyperbolic Dynamics*, International Center for Theoretical Physics (ICTP), Trieste, Italy.
- Jun 2017** *School on Hyperbolic Dynamics*, Centro di Ricerca Matematica Ennio de Giorgi, Pisa, Italy.
- Jun 2017** *5th DinAmici Workshop*, Istituto Nazionale di Alta Matematica “F. Severi” (INdAM), Rome, Italy.
- Feb 2017** *Nonuniformly Hyperbolic Dynamical Systems, Coupling and Renewal Theory*, Centre International de Rencontres Mathématiques (CIRM), Luminy, France.
- Nov 2016** *New Trends in One-Dimensional Dynamics*, Instituto de Matemática Pura e Aplicada (IMPA), Rio de Janeiro, Brazil.
- Jun 2016** *Analytical Methods in Classical and Quantum Dynamical Systems*, Centro di Ricerca Matematica Ennio de Giorgi, Pisa, Italy.
- Jun 2015** *Stochastic Methods for Non-Equilibrium Dynamical Systems*, American Institute of Mathematics (AIM), San Jose, California.
- May 2015** *Averaging and Homogenization in Deterministic and Stochastic Systems* CIRM, Luminy, France.
- Apr 2015** *Statistical Properties of Dynamical Systems* LMS-CMI Research School, Loughborough, UK.
- Jul 2014** *Limit Theorems and Applications*, CIRM, Luminy, France.
- May 2014** *Advances and Perspectives in Ergodic Theory and Dynamical Systems*, Erlangen, Germany.
- Dec 2013** *Hyperbolicity and Dimension*, CIRM, Luminy, France.
- Jun 2013** *Workshop on Mathematical Paradigms of Climate Science*, INdAM, Rome, Italy.
- Jun 2013** *Third Workshop of the Young Italian Dynamicists*, Corinaldo, Italy.
- Jun 2013** *Conference on Limit Theorems for dynamical systems*, CIB-EPFL, Lausanne, Switzerland.
- May 2013** *Geometric, Analytic and Probabilistic approaches to Dynamics in Negative Curvature*, Rome, Italy.
- May 2012** *ICTP-ESF School and Conference in Dynamical Systems*, ICTP, Trieste, Italy.
- May 2010** *Fields Institute Workshop on Recent Advances in Topological and Measure-Theoretic Methods in Dynamical Systems*, Nipissing University, North Bay, Ontario, Canada.

11. REFERENCES

- (1) Carlangelo Liverani. liverani@mat.uniroma2.it
- (2) Ian Melbourne. I.Melbourne@warwick.ac.uk
- (3) Pawel Gora. pawel.gora@concordia.ca