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CITIZENSHIP: REPUBLIC OF MOLDOVA, ROMANIA
US PERMANENT RESIDENT

EMPLOYMENT & EDUCATION

Associate Professor	2019 – present	**University of Chicago**
PostDoc	2016 – 2021	CLAY RESEARCH FELLOW **Institute for Advanced Study** (2018–2019) **Harvard University, Junior Fellow** (2016–2018)
PhD	2010 – 2016	**University of Chicago**, ADVISOR: ALEX ESKIN
MA	2009 – 2010	**University of Cambridge, UK** PART III OF THE MATHEMATICAL TRIPOS *with Distinction*
AB	2005 – 2009	**Princeton University**, AB IN MATHEMATICS

PAPERS & PREPRINTS

Published or Accepted

- *Canonical currents and heights for K3 surfaces* (with V. Tosatti)
  arXiv:2103.02095 Cambridge Journal of Mathematics, accepted (2022)

- *An introduction to K3 surfaces and their dynamics*
  Panoramas et Synthèses, to appear (2023)

- *Kummer rigidity for K3 surface automorphisms via Ricci-flat metrics* (with V. Tosatti)
  American Journal of Mathematics (2021) vol. 143, no. 5, pp. 1431–1462

- *On pseudo-Anosov autoequivalences* (with Y.-W. Fan, F. Haiden, L. Katzarkov, Y. Liu)
  Advances in Mathematics (2021) vol. 384

- *Geometry and dynamics on Riemann and K3 surfaces*
  Eur. Math. Soc. Mag. (2021) vol. 119, pp. 17–22

- *Counting special Lagrangian fibrations in twistor families of K3 surfaces*
  Annales Scientifiques de l'École Normale Supérieure (2020) vol. 53(3), pp. 713–750

- *Tropical dynamics of area-preserving maps*
  Journal of Modern Dynamics (JMD) (2019) vol. 14, pp. 179–226

- *Notes on the Multiplicative Ergodic Theorem*
  Ergodic Theory and Dynamical Systems (ETDS) (2019) vol. 39(5), pp. 1153–1189

- *Smooth and Rough Positive Currents* (with V. Tosatti)
  Annales de l'Institut Fourier (AIF) (2018) vol. 68(7), pp. 2981–2999, J.-P. Demailly Anniversary Volume

- *The Algebraic Hull of the Kontsevich–Zorich Cocycle* (with A. Eskin and A. Wright)
  Annals of Mathematics (2018) vol. 188, pp. 281–313

- *Quaternionic covers and monodromy of the Kontsevich–Zorich cocycle in orthogonal groups* (with G. Forni and C. Matheus)
  Journal of the European Mathematical Society (JEMS) (2018) vol. 20, pp. 165–198

- *Zero Lyapunov exponents and monodromy of the Kontsevich–Zorich cocycle*
  Duke Math Journal (2017) vol. 166, pp. 657–706

- *Families of K3 surfaces and Lyapunov exponents*
  Israel Journal of Mathematics (2018) vol. 226, pp. 29–69

- *On Hölder-continuity of Oseledets subspaces* (with V. Araujo and A. Bufetov)
  Journal of the London Mathematical Society (JLMS) (2016) vol. 93, pp. 194–218

- *Splitting mixed Hodge structures over affine invariant manifolds*
  Annals of Mathematics (2016) vol. 183, pp. 681–713

- *Semisimplicity and rigidity of the Kontsevich–Zorich cocycle*
  Inventiones Mathematicae (2016) vol. 205, pp. 617–670

Preprints (submitted)

- *Gaps in the support of canonical currents on projective K3 surfaces* (with V. Tosatti) arXiv:2302.08633

- *Translation Surfaces: Dynamics and Hodge Theory* pdf

- *Uniformization of some weight 3 variations of Hodge structure, Anosov representations, and Lyapunov exponents* arXiv:2110.07533

- *A cyclotomic family of thin hypergeometric monodromy groups in* $\mathrm{Sp}_4(\mathbb{R})$ (with C. Fougeron) arXiv:2106.09181

- *Asymptotic shifting numbers in triangulated categories* (with Y.-W. Fan) arXiv:2008.06159

Awards

- **EMS Prize** (2020) European Mathematical Society

- **1st Dynamical Systems Prize for young mathematicians** (2016)
  (now called the Michael Brin Dynamical Systems Prize for young mathematicians)

- **Clay Research Fellowship** (2016-2021) Clay Mathematics Institute

- **Junior Fellowship** (2016-2019) Society of Fellows, Harvard University

- **NSF Grant** DMS-2005470 (2020-2023)

- *At the University of Chicago:*
  Harper Dissertation Fellowship (2015) The highest university honor for final year PhD students
  Izaak Wirszup memorial prize (2014) For excellence in research
  Lawrence and Josephine Graves Teaching Prize (2014) For effective and responsible teaching
  McCormick Scholarship (2010-2012) For incoming graduate students

- Before Graduate School:
  University of Cambridge: **Trinity College Mathematics Studentship** (2009-2010)
  Princeton University: **George B. Wood Junior Legacy prize** (2009) To a senior in recognition of exceptional achievement during the junior year; **Andrew H. Brown Prize** (2008) Mathematics Department, for exceptional work during the junior year; **Shapiro Prize for Academic Excellence** (2007) For outstanding work during the sophomore year

Service

Refereeing & Quick Opinion	Inventiones Mathematicae, JAMS, Acta Mathematica, Duke Math Journal, Crelle, GAFA, Geometry & Topology, Compositio Mathematica, IMRN, Journal of Modern Dynamics, Transactions of the AMS, Israel Journal of Math, Journal de l'École Polytechnique, Conformal Geometry & Dynamics, Archiv der Matematik, Experimental Mathematics, New York Journal of Math, SIGMA
Conference Organization	*Ergodic geometry, number theory and Margulis legacy: the next generation*, 12–15 June 2022, Chicago (US) *Workshop on Finiteness Theorems in Arithmetic and Dynamics*, 17–21 October 2022, Lake Como (Italy)
Seminar Organization	*BiSTRO seminar* via Zoom, with C. Matheus, C. McMullen, and M. Möller; Weekly (April 2020 – June 2021) then bimonthly (2022)

DEPARTMENTAL SERVICE	Graduate Admissions (2019-present), Colloquium Committee (2020-present), Junior Hiring (2021-present)
PhD STUDENTS	Seung uk Jang (co-advised with A. Eskin; graduating 2023), Polina Baron (in progress)
MENTORING	REU at UChicago, research talk for undergraduates, summer 2021; Directed Reading Program (DRP) for undergraduates, UChicago, Winter 2014; Upward Bound Program for high school students, UChicago, Fall 2014; Panelist, "Teaching in the College" workshop, Fall 2014
GRANT REVIEWS	ERC (European Union, 2021, 2022), FONDECYT (Chile, 2019)

TEACHING

UCHICAGO	UNDERGRADUATE: Complex Analysis, Algebraic Geometry, Ordinary Differential Equations, Analysis in $\mathbb{R}^n$, Linear Algebra, Multivariable Calculus, Honors Calculus (Moore's Method, IBL) GRADUATE: Dynamics and Rigidity LAWRENCE AND JOSEPHINE GRAVES TEACHING PRIZE (2014)
HARVARD	GRADUATE: Dynamics and Rigidity

INVITED TALKS AND LECTURE SERIES

Colloquia

2022	UTennessee (via Zoom)
2021	Tata Institute (TIFR) (via Zoom)
2019	UC Berkeley ($\times$2), UChicago, Harvard, Stanford
2018	Northwestern, Caltech, Yale
2017	Univ. of Indiana (Bloomington), Tufts, Rice

Schools and Lecture Series

2022	UIC, Chicago, USA (3 lectures), Geometric Structures (re)United
2019	Beijing, China (8 lectures), Summer School on Modern Dynamics
2018	Grenoble, France (3 lectures), Summer School on Teichmüller theory
2016	ICTP, Trieste, Italy (4 lectures), Summer School on Geometry and Dynamics
2016	Moscow, Russia (3 lectures), School on Hyperbolicity and Dynamics
2015	CIRM, Luminy, France (3 lectures), Summer School "Flat surfaces"
2015	Ilhabela, Brazil (3 lectures), Summer School "Holomorphic Dynamics"

Conference talks

2021	Oberwolfach, Germany, Workshop "Enumerative Geometry of Surfaces"
	European Congress of Mathematics, Prize Winner lecture
	ICERM, Providence, USA, Workshop "Computational Aspects of Discrete Subgroups of Lie Groups"
	Workshop in Dynamical Systems and Related Topics, Penn State
2020	BIRS workshop (Banff) Arithmetic Dynamics and Connections
2019	MSRI, Holomorphic differentials workshop
	Cetraro, Italy, Conference in honor of Yves Benoist
	Schloss Elmau, Germany, Simons Symposium: Algebraic, Complex and Arithmetic Dynamics
2018	Fields Institute, Canada, Symposium in memory of Maryam Mirzakhani
	Fields Institute, Canada, Translation Surfaces Workshop
	Oberwolfach, Germany, Workshop "Flat Surfaces and Algebraic Curves"
	UMaryland, Bill Veech Memorial Conference
2017	UMaryland, Maryland Analysis & Geometry Atelier
	Stonybrook, Hodge Theory, Moduli & Representation Theory
	Stanford, GEAR Senior Retreat
	Fields Institute, Canada, Workshop on Algebraic Varieties
	CIRM, Luminy, France, Conference "Espace de Teichmüller"
2016	ICERM, Providence, USA, Workshop "Cycles on Moduli Spaces, GIT, and Dynamics"

	Paris, France, Conference in honor of G. Margulis, 70 years anniversary
	Oaxaca, Mexico, Workshop "Flat Surfaces and Dynamics in Moduli Space"
2015	Oxford, UK, Clay Workshop "Geometry and Dynamics on Moduli Spaces"
	CIRM, Luminy, France, Conference "Dynamics and Geometry in Teichmüller Space"
	MPIM, Bonn, Germany, Arbeitstagung
	Ilhabela, Brazil, Conference "Hyperbolicity in Algebraic Geometry"
2014	Bordeaux, France, Conference "Paroles aux jeunes chercheurs"
	Daejong, South Korea, ICM satellite conference "Geometry and Groups"
	Oberwolfach, Germany, Workshop "Flat Surfaces and Dynamics on Moduli Space"
2013	ICERM, Providence, USA, Workshop on Geometric Structures in Dynamics
	Ventotene, Italy, Conference on Geometric and Analytic Group Theory
	Morelia, Mexico, International Conference on Surfaces of Infinite Type

Seminar talks

2022	UChicago Dynamics Seminar
2021	(all via Zoom) Orsay Seminar "Opérateurs de Dirac", Symplectic Zoominar, U. Saarlandes Saarbrücken Oberseminar Algebra und Zahlentheorie, Heidelberg Geometry Seminar, Yale Dynamics Seminar, UChicago Algebraic Geometry Seminar, Tel Aviv University Geometry & Dynamics Seminar
2019	UC Berkeley Differential Geometry Seminar, IHP Paris Séminaire "Surfaces Plates"
2018	Univ. of Maryland Dynamics Seminar, IAS Princeton Informal Dynamics Seminar, IHP Paris Séminaire "Surfaces Plates", Harvard Informal Geometry and Dynamics Seminar, Northeastern U. Geometry, Physics, and Representation Theory Seminar
2017	IAS Princeton Analysis seminar, Indiana U. Geometry & Dynamics seminar, Columbia U. Symplectic Geometry & Gauge Theory Seminar, IHP Paris Séminaire "Surfaces Plates", Princeton U. Ergodic Theory Seminar, IAS Princeton Analysis and Mathematical Physics Seminar, Stonybrook U. Algebraic Geometry Seminar, Northwestern U. Dynamics Seminar
2016	Boston College Geometry & Topology Seminar, Harvard Informal Geometry and Dynamics Seminar, Yale Geometry & Topology Seminar, UIUC GEAR Seminar, Harvard/MIT Algebraic Geometry Seminar, Caltech Geometry & Topology Seminar, Univ. of Michigan Geometry Seminar, Marseille France Séminaire Teich, Orsay France Geometry, Topology & Dynamics Seminar, Cambridge UK Geometry and Topology Seminar, IHP Paris Séminaire "Surfaces Plates", Grenoble France Séminaire d'Algèbre et Géométries
2015	MSRI Berkeley Homogeneous Dynamics Program seminar, Stanford Algebraic Geometry seminar, Northwestern U. Dynamical Systems seminar, Harvard Informal Geometry and Dynamics seminar, Courant NYU Algebraic Geometry seminar, UChicago Number Theory seminar, Penn State Dynamical Systems seminar
2014	Jussieu Paris France Séminaire de Théorie Ergodique, Grenoble France Séminaire d'Algèbre et Géométries, Marseille France Séminaire Teich, IHP Paris Séminaire "Surfaces Plates", Univ. of Maryland Dynamical Systems seminar
2013	Univ. of Utah Max Dehn seminar, UIUC Ergodic Theory seminar