Evrydiki Xenia Nestoridi

Contact Information

Department of Mathematics
Fine Hall, Washington Road
Princeton NJ 08544-1000 USA
Email Address: exn@princeton.edu

Research Interests

Random Walks on Groups, Combinatorics, Representation Theory, Probability

Current and Past Employment

Princeton University, Department of Mathematics, Princeton, NJ, USA
Assistant Professor of Mathematics since September 2019

Cambridge University, Department of Mathematics, Cambridge, UK
Research Associate October 2018-September 2019

Princeton University, Department of Mathematics, Princeton, NJ, USA
Instructor of Mathematics September 2016-June 2018

Education

Stanford University, Stanford, CA, USA
Ph.D., Mathematics, *Completed:* June 2016
Advisor: Persi Diaconis
Thesis Title: Rates of convergence of Markov chains to stationarity: strong stationary times, coupling, Gelfand pairs and comparison theory

National and Kapodistrian University of Athens, Athens, Greece
B.S., Mathematics, average 9.83/10, June 2011

Awards

Research Member, fall 2021 MSRI
NSF research grant DMS-2052659, 2021-2024 $224,195
Princeton Departmental Teaching Award 2018 Princeton University
Centennial Teaching Award 2014-2015 Stanford University
The Colleen and Robert D. Haas Graduate Fellowship Stanford University

Accepted Articles

Limit Profiles for Reversible Markov Chains
in collaboration with Sam Olesker-Taylor, Probability Theory and Related Fields, accepted (arXiv:2005.13437)

Generalized Harmonic Functions on Trees: Universality and Frequent Universality
in collaboration with N. Biehler and V. Nestoridis,
Journal of Mathematical Analysis and Applications, accepted (arXiv:2010.02149)

On the spectrum of random walks on complete finite d–ary trees.
in collaboration with Oanh Nguyen, Electronic Journal of Probability (arXiv:1912.06771)

Cutoff for the Bernoulli-Laplace urn model with o(n) swaps.
in collaboration with Alexandros Eskenazis, Ann. de l'Institut Henri Poincaré (2020)

On the mixing time of the Diaconis-Gangolli random walk on contingency tables over $\mathbb{Z}/q\mathbb{Z}$.(arxiv:1808.06157)
in collaboration with Oanh Nguyen, Annales de l'Institut Henri Poincaré (2019)

Cutoff for cyclic adjacent transpositions.(arXiv:1805.10508)

in collaboration with Danny Nam, Annals of Applied Probability (2019)

Cutoff for random to random card shuffle.(arXiv:1703.06210)
in collaboration with M. Bernstein, Annals of Probability (Dec 2018).

Super-character theory and comparison arguments for a random walk on the upper triangular matrices. (arXiv:1609.01238)
Journal of Algebra (November 2018).

Optimal strong stationary times for random walks on the chambers of a hyperplane arrangement.
(arXiv:1706.00310)
Probability Theory and Related Fields (September 2018).

Shuffling big decks of cards and the Bernoulli-Laplace Urn model.
(arXiv:1606.01437)
in collaboration with G. White,
Journal of Theoretical Probability (February 2018).

A non local Markov Chain on the hypercube. (arxiv:1507.05690)
Advances in Applied Probability (December 2017).

Preprints

Bounded cutoff window for the non-backtracking random walk on Ramanujan Graphs
in collaboration with Peter Sarnak, (arxiv:2103.15176)

Cutoff on trees is rare
in collaboration with Nina Gantert and Dominik Schmid, (arXiv:2012.11484)

The random walk on upper triangular matrices over $\mathbb{Z}/m\mathbb{Z}$
in collaboration with Allan Sly, (arxiv:2012.08731)

Mixing times for the simple exclusion process with open boundaries.
in collaboration with Nina Gantert and Dominik Schmid, submitted, (arXiv:2003.03781)

Seminar Organization

What's happening in Fine Hall, Princeton University, since Fall 2020

Topics in Probability, Princeton University,
co-organized with Duncan Dauvergne and Oanh Nguyen. since Fall 2019

Princeton Math Colloquium,
co-organized with Gabriele Di Cerbo and Paul Yang. Fall 2017-Spring 2018

Topics in Probability, Princeton University,
co-organized with Oanh Nguyen. Fall 2017-Spring 2018

Refereeing

Advances in Mathematics
American Mathematical Monthly
Annales de l'Institut Henri Poincaré
Annals of Probability
Annals of Applied Probability

Brazilian Journal of Probability and Statistics
Electronic Communications in Probability
Electronic Journal of Probability
IEEE Transactions on Information Theory
Journal of Theoretical Probability
Random Structures and Algorithms

Conference and Seminar Talks

Brandeis-Harvard-MIT-Northeastern joint Colloquium October 2021

Stony Brook University: Colloquium October 2021

University of Pennsylvania: Colloquium October 2021

University of Michigan Ann-Arbor: Colloquium September 2021

MSRI Connections Workshop: Universality and Integrability in Random Matrix Theory and Interacting Particle Systems September 2021

UC Davis: Mathematical Physics and Probability Seminar
Bounded cutoff window for the non-backtracking random walk on Ramanujan Graphs
May 2021

Conference on New Developments in Probability
Bounded cutoff window for the non-backtracking random walk on Ramanujan Graphs
May 2021

WIM: UCD
Limit Profiles for Reversible Markov chains May 2021

Princeton University: Probability Seminar
Mixing time of the upper triangular matrix walk over Z/mZ. November 2020.

UBC: Probability Seminar
Mixing time of the upper triangular matrix walk over Z/mZ. September 2020.

BIRS, Banff: Permutations and Probability
The interchange and exclusion process with open boundaries September 2020.

Stanford University: Talking Across Fields A Conference in Honor of Persi Diaconis
Mixing time of the upper triangular matrix walk over Z/mZ. January 2020.

Technical University of Munich
Mixing time of the upper triangular matrix walk over Z/mZ. June 2019.

Paul Sebatie University
Mixing time of the upper triangular matrix walk over Z/mZ. June 2019.

York: Pine Meeting"
Mixing time of the upper triangular matrix walk over Z/mZ. May 2019.

York: LMS "Applied Algebra and Geometry"

On the mixing time of the Diaconis-Gangolli random walk on contingency tables over $\mathbb{Z}/q\mathbb{Z}$. January 2019.

Duke University: Math Colloquium
Mixing times and the cutoff phenomenon. January 2019.

Drexel University: Math Colloquium
Mixing times and the cutoff phenomenon. January 2019.

Stanford University: Probability Seminar
Mixing time of the upper triangular matrix walk over Z/mZ. January 2019.

Stanford University: Math Colloquium
Mixing times and the cutoff phenomenon. January 2019.

Purdue University: Math Colloquium
Mixing times and the cutoff phenomenon. December 2018.

Greece: FCGM-2018
On the mixing time of the Diaconis-Gangolli random walk on contingency tables over $\mathbb{Z}/q\mathbb{Z}$. June 2018

Algorithms and Randomness Workshop, Georgia Tech
Hyperplane arrangements and Stopping times. May 2018

Stony Brook University: Analysis seminar
Studying cutoff for card shuffling. April 2018

Athens probability day
Studying cutoff for card shuffling. March 2018

NYU: Probability Seminar
Cutoff for the random to random shuffle. February 2018

Columbia University: Statistics seminar
Studying cutoff for card shuffling. February 2018

USC: Colloquium Seminar
Studying cutoff for card shuffling. January 2018

Rutgers University: Probability Seminar
Cutoff for the random to random shuffle. November 2017

Columbia University: Probability Seminar
Cutoff for the random to random shuffle. October 2017

UPenn: Probability Seminar
Cutoff for the random to random shuffle. September 2017

LMS-EPSRC Durham Symposium
Hyperplane arrangements and Stopping times. July 2017

Princeton University: IDeaS

A random walk on the upper triangular matrices. April 2017

Brown University
Hyperplane arrangements and Stopping times. April 2017

Rutgers University: Experimental Mathematics Seminar
Shuffling large decks of cards and the Bernoulli-Laplace Urn model. April 2017

Yale University: Analysis Seminar
Hyperplane arrangements and Stopping times. February 2017

University of Florida: Discrete Math Seminar
Hyperplane arrangements and Stopping times. January 2017

Princeton University: Special Lecture
A random walk on the upper triangular matrices. December 2016

Cornell University: Probability Seminar
Hyperplane arrangements and Stopping times. November 2016

Princeton University: Ergodic Theory and Statistical Mechanics
Shuffling large decks of cards and the Bernoulli-Laplace Urn model. October 2016

University of Tennessee, Knoxville: Colloquium seminar
Hyperplane arrangements and Stopping times. April 2016

UC Berkeley: Combinatorics seminar
Hyperplane arrangements and Stopping times. January 2016

Stanford University: Probability seminar
Hyperplane arrangements and Stopping times. November 2015

Princeton University: Probability seminar
Hyperplane arrangements and Stopping times. November 2015

Cambridge University: Probability seminar
Hyperplane arrangements and Stopping times. October 2015

National and Kapodistrian University of Athens, Athens, Greece
Shuffling big decks of cards and the Bernoulli-Laplace Urn model. September 2014

Institute for Advanced Study
Shuffling big decks of cards and the Bernoulli-Laplace Urn model. May 2014

Offered Summer School Courses

Open Online Probability School
Mixing time bounds, cutoff and limit profiles for Markov chains August 2021

Calouste Gulbenkian Foundation, Lisbon
Introducing Probability to undergraduate students September 2019

Senior Thesis Advising

Jackson Blitz
Princeton University 2020-2021

Riley Chabot
Princeton University 2019-2020

Mentoring

Mentor Fall 2015
EDGE Doctoral Fellowship Program
Stanford University

Reaserch Mentor Summer 2014
Stanford Undergraduate Research Institute in Mathematics
Department of Mathematics, Stanford University

Organizer of the Teaching Mentoring Program 2014- 2015
Department of Mathematics, Stanford University

Teaching Mentor Spring 2014
Department of Mathematics, Stanford University

Teaching Experience

Head Instructor Fall 2020
Math 103 - Calculus I
Department of Mathematics, Princeton University

Supervisions
Markov Chains Fall 2018
Department of Mathematics, Cambridge University

Head Instructor Spring 2018
Math 215 - Real Analysis
Department of Mathematics, Princeton University

Instructor Fall 2017
Math 202 - Linear Algebra
Department of Mathematics, Princeton University

Instructor Spring 2017
Math 104 - Calculus II
Department of Mathematics, Princeton University

Instructor Fall 2016
Math 103 - Calculus I
Department of Mathematics, Princeton University

Math 19 - Calculus Summer 2014
Department of Mathematics, Stanford University

Languages

Greek (maternal), English (fluent), French (very good)