

ARJUN KRISHNAN

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RESEARCH INTERESTS

Probability theory, percolation and disordered systems, stochastic homogenization of Hamilton-Jacobi equations, ergodic theory, concentration of measure.

EMPLOYMENT

Assistant Professor <i>University of Rochester, Department of Mathematics</i>	July 2017–Present
Wiley Assistant Professor/Lecturer <i>University of Utah, Department of Mathematics</i>	January 2015–June 2017
Fields Postdoctoral Fellow <i>Fields Institute for Research in Mathematical Sciences</i>	July–December 2014
Associate Research Engineer <i>New Technologies Division, MTU Detroit Diesel Inc., Redford, MI</i>	October 2008–June 2009

EDUCATION

Doctor of Philosophy in Mathematics <i>New York University, Courant Institute of Mathematical Sciences</i> Advisors: S.R.S. Varadhan, S. Chatterjee Dissertation: Variational formula for the time-constant of first-passage percolation	May 2014
Master of Science in Mechanical Engineering <i>University of Michigan</i> Advisor: B.I. Epureanu Thesis: The Random Walker: Stochastic Mechano-Chemical Models for Motor Proteins	August 2008
Bachelor of Technology in Mechanical Engineering <i>Indian Institute of Technology Madras</i> Advisors: A. Ramesh, V. Babu, R.I. Sujith	July 2006

AWARDS

AMS Simons Travel Grant	May 2014
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MacCracken Fellowship Awarded by New York University in support of graduate studies in mathematics	2010–2014
William Mirsky Memorial Award Awarded by University of Michigan for outstanding research and academic achievements	March 2008
Bronze Medalist Represented India at the International Chemistry Olympiad.	August 2002
Best Experimental Work Award Awarded by the Indian National Chemistry Olympiad	June 2002

PUBLICATIONS AND PREPRINTS

J. Chaika and A. Krishnan. Stationary coalescing walks on the lattice. *Probability Theory and Related Fields* (2018). DOI: <https://doi.org/10.1007/s00440-018-0893-2>

A. Krishnan and J. Quastel. Tracy–Widom fluctuations for perturbations of the log-gamma polymer in intermediate disorder. *Ann. Appl. Probab.* 28.6 (2018), pp. 3736–3764. ISSN: 1050-5164. DOI: 10.1214/18-AAP1404

A. Krishnan. Variational Formula for the Time Constant of First-Passage Percolation. *Comm. Pure. Appl. Math.* 69.10 (June 2016), pp. 1984–2012. DOI: 10.1002/cpa.21648.

A. Krishnan. Variational formula for the time-constant of first-passage percolation. Thesis (Ph.D.)–New York University. ProQuest LLC, Ann Arbor, MI, 2014. ISBN: 978-1-321-16163-2.

A. Krishnan and B. I. Epureanu. Renewal-Reward Process Formulation of Motor Protein Dynamics. *Bulletin of mathematical biology* 73.10 (2011), pp. 2452–2482

CONFERENCE PROCEEDINGS

A. Krishnan and B. I. Epureanu. A stochastic mechano-chemical model for cooperative motor protein dynamics. *Proceedings of SMASIS 2008*. 2008

A. Krishnan, K. Balasubramaniam, and R. I. Sujith. Asymptotic Solution for the One Dimensional Euler Equations for Isentropic Flow in a Variable Area Duct. *Proceedings of the 37th AIAA Fluid Dynamics Conference and Exhibit*. 2007. DOI: 10.2514/6.2007-4005

A. Krishnan et al. Prediction of NO_x reduction with Exhaust Gas Recirculation using the Flame Temperature Correlation Technique. *Proceedings of the National Conference on Advances in Mechanical Engineering*. 2006, pp. 18–19

TEACHING

Instructor

University of Rochester

- MTH 201 Introduction to Probability

Spring 2019

- MTH 201 Introduction to Probability Fall 2018
- MTH 504 Stochastic Processes Spring 2018
- MTH 202 Introduction to Stochastic Processes Spring 2018
- MTH 201 Introduction to Probability Fall 2017

University of Utah

- Stochastic Processes and Simulation - II Spring 2017
- Stochastic Processes and Simulation - I Fall 2016
- Introduction to Probability Spring 2016
- Actuarial Mathematics Spring 2016
- Introduction to Statistics Spring 2015

New York University

- Putnam Mathematical Competition Fall 2011
- Calculus II Summer 2011
- Putnam Mathematical Competition Fall 2010
- Calculus I Summer 2010

Teaching Assistant

New York University

- Theory of Numbers Fall 2012
- Probability Limit Theorems II Spring 2012
- Basic Probability Spring 2012
- Ordinary Differential Equations Spring 2011

Graduate Student Instructor

University of Michigan

- Thermodynamics Winter 2008
- Fluid Dynamics Fall 2007
- Thermodynamics Winter 2007

TALKS AND PRESENTATIONS

Stationary coalescing walks

- *Probability Seminar*, Carnegie Mellon, Oct 2018.
- *Probability Seminar*, University of Minnesota, Sep 2018.
- *Probability Seminar*, Temple University, Sep 2018.
- *AMS Sectional Meeting*, Boston University, April 2018.
- *Probability Seminar*, Northwestern University, Feb 2018.
- *Probability Seminar*, University of Connecticut, Sep 2017.
- *Random Structures in Statistical Mechanics and Mathematical Physics*, C.I.R.M Luminy, Mar-Apr 2017.

Fluctuations of polymer models in intermediate disorder

- *Special Session on Probability, AMS Spring Sectional*, Fargo, ND, Apr 2016.
- *Special Session on Probability, Combinatorics and Statistical Mechanics, III of the AMS Fall Eastern Sectional Meeting*, Rutgers University, November 2015.
- *PDE and Probability Seminar*, University of British Columbia, May 2015.
- *Probability Seminar*, University of Illinois at Urbana-Champaign, March 2015.

Stochastic Homogenization and First-Passage Percolation

- *Special Seminar*, Temple University, Dec 2016.
- *Special Seminar*, Penn State University, Feb 2016.
- *Special Seminar*, Carnegie Mellon University, Jan 2016.
- *Statistical Science Seminar*, University College London, August 2015.
- *Arbeitsgemeinschaft ANGEWANDTE ANALYSIS*, Max Planck Institute, Leipzig, April 2015.

A stochastic homogenization approach to first-passage percolation

- *Fall Semester Postdoctoral Seminar*, Fields Institute, October 2014.

Variational formula for the time-constant of first-passage percolation

- *Probability Seminar*, University of Wisconsin-Madison, December 2014.
- Invited talk, *Workshop on First-Passage Percolation*, Instituto Nacional de Matemática Pura e Aplicada, November 2014.
- *Mathematical Finance and Probability Seminar*, Rutgers University, October 2014.
- Contributed talk, *37th Conference on Stochastic Processes and their Applications*, Universidad de Buenos Aires, July 2014.

Variational Formula for the Limit Shape of First-Passage Percolation

- *Frontier Probability Days*, University of Arizona, May 2014.
- *ZiF Summer School*, Bielefeld University, August 2013.
- *9th Cornell Probability Summer School*, Cornell University, July 2013.
- *Graduate Student Seminar*, NYU Courant Institute, April 2013.

Renewal-Reward Processes and Single-Molecule Experiments on Motor Proteins

- *Mostly Biomathematics Lunchtime Seminar*, NYU Courant Institute, November 2009.

ACADEMIC SERVICE

Organizer

University of Rochester, Department of Mathematics

- (co-organizer) Colloquium 2018–Present
- (co-organizer) Wing Lectures 2018–Present
- (co-organizer) Probability, Ergodic Theory, Mathematical Physics Seminar 2017–Present

University of Utah, Department of Mathematics

- (with Tom Alberts) Stochastics Seminars 2015–2017

New York University, Courant Institute of Mathematics

- Graduate Student/Postdoc Seminar Series 2012–2014

PROFESSIONAL SERVICE

Organizer

AMS Spring Western Sectional Meeting

- (with Tom Alberts) Special Session on Topics in Probability April 2016

PROFESSIONAL MEMBERSHIPS

American Mathematical Society (AMS)

2010–Present