

# Erik Bates

## Curriculum Vitae

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### Education

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2014–present <i>Stanford, CA</i>	<b>Stanford University</b> Ph.D. candidate in Mathematics Thesis advisor: Sourav Chatterjee
2010–2014 <i>East Lansing, MI</i>	<b>Michigan State University</b> B.S. in Mathematics, Advanced Track program Member of the Honors College and Phi Beta Kappa

### Publications and preprints (by year posted)

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2017	An upper bound on the size of avoidance couplings. (with Lisa Sauer mann) <i>Preprint</i> . Localization of directed polymers with general reference walk. <i>Electron. J. Probab.</i> <b>23</b> (2018), paper no. 30, 45 pp.
2016	The endpoint distribution of directed polymers. (with Sourav Chatterjee) <i>Preprint</i> . Altered brain network dynamics in youths with autism spectrum disorder. (with Evie Malaia, Benjamin Seitzman, and Katherine Coppess) <i>Exp. Brain Res.</i> <b>234</b> (2016), no. 12, 3425-3431.

### Teaching

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Stanford <i>Spring 2018</i> <i>Summer 2016</i> <i>Spring 2016</i>	<b>Teaching assistant</b> MATH 21, ACE section: Calculus (improper integrals, sequences, and series) Stanford Mathematics Camp, Program 1: Abstract algebra and number theory MATH 51: Linear algebra and multivariable calculus
<i>Summer 2017</i>	<b>Research mentor</b> Stanford Undergraduate Research Institute in Mathematics <i>Project advised:</i> “Bernoulli convolutions” by Mason Rogers, Arianna Serafini, Anav Sood
<i>Winter 2018</i> <i>Winter 2016</i>	<b>Course assistant</b> MATH 173: Theory of Partial Differential Equations MATH 262/CME 372: Applied Fourier analysis and elements of modern signal processing
Michigan State <i>2011–2014</i>	<b>Mathematics Learning Center supervisor</b> <i>Review sessions run for:</i> MTH 132/133: Calculus I/II, MTH 116: Pre-calculus, MTH 103: College algebra, MTH 1825: Intermediate algebra

### Invited and contributed talks

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(Dec. 2018)	Carnegie Mellon University, Probability and Computational Finance Seminar, <i>Pittsburgh, PA</i>
June 2018	Recent Trends in Continuous and Discrete Probability Conference, Georgia Tech, <i>Atlanta, GA</i>
May 2018	University of California-Los Angeles, Probability Seminar, <i>Los Angeles, CA</i>
May 2018	Seminar on Stochastic Processes, Poster Session, Brown University, <i>Providence, RI</i>
Apr. 2018	Finger Lakes Probability Seminar, University of Rochester, <i>Rochester, NY</i>
Feb. 2018	University of California-Berkeley, Probability Seminar, <i>Berkeley, CA</i>
Jan. 2018	Northwestern University, Probability Seminar, <i>Evanston, IL</i>
Jan. 2018	Stanford University, Probability Seminar, <i>Stanford, CA</i>
Dec. 2017	University of Utah, Stochastics Seminar, <i>Salt Lake City, UT</i>
Nov. 2017	Northeast Probability Seminar, Columbia University, <i>New York, NY</i>
Sept. 2017	Michigan State University, Mathematical Physics Seminar, <i>East Lansing, MI</i>
Jan. 2017	University of Wisconsin-Madison, Probability Seminar, <i>Madison, WI</i>
Jan. 2015	AMS-MAA Joint Mathematics Meetings, BIG SIGMAA Paper Session, <i>San Antonio, TX</i>
Jan. 2014	AMS-MAA Joint Mathematics Meetings, Poster Session, <i>Baltimore, MD</i>

Nov. 2013	The Networked Brain Conference, Poster Session, <i>San Diego, CA</i>
July 2013	Indiana Undergraduate Research Conference, <i>Bloomington, IN</i>
May 2013	Jackson Community College Math & Science Conference, <i>Jackson, MI</i>
Jan. 2013	AMS-MAA Joint Mathematics Meetings, Poster Session, <i>San Diego, CA</i>
Aug. 2012	MAA MathFest, <i>Madison, WI</i>
July 2012	Summer Undergraduate Michigan Mathematics Research Conference, <i>East Lansing, MI</i>

## Local talks

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Stanford	<p><b>Student Probability Research Seminar</b> Oct. 2017</p> <p><b>Student Probability Seminar</b> June 2018, Mar. 2018, Oct. 2017, Apr. 2017 (2), Feb. 2017, Nov. 2016, Oct. 2016, Apr. 2016 (2) Feb. 2016, Jan. 2016</p> <p><b>Student Markov Chain Seminar</b> Mar. 2016, Feb. 2016</p> <p><b>KIDDIE Colloquium</b> Mar. 2017, Feb. 2016</p>
Michigan State	<p><b>Student Mathematics Conference</b> Apr. 2014, Mar. 2012</p>

## Service

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2017–2018	Organizer, Student Probability Research Seminar
2016–2018	Department representative, Wellness Information Network for Graduate Students
2017	Graduate student mentor, Stanford Directed Reading Program in Mathematics
2016–2017	Organizer, Student Probability Seminar
2015–2016	Co-organizer, Faculty Area Research Seminar

## Awards and honors

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2014	NSF Graduate Research Fellowship Outstanding Senior Award from Michigan State University Senior Class Council
2013	Barry M. Goldwater Scholarship Cole Excellence Award from Michigan State University Honors College
2012	Outstanding Presentation Award at MAA MathFest Best Presentation Award at the Michigan State Student Mathematics Conference

## Workshops and research programs

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June 2017	PIMS-CRM summer school in probability, University of British Columbia
Mar. 2017	Research school on random structures in statistical mechanics and mathematical physics, CIRM
June 2016	Summer school on random matrices, University of Michigan
June 2016	Workshop on Markov chain mixing times, American Institute of Mathematics
June 2015	Second summer school in analysis, University of Chicago
Summer 2014	Research in Industrial Projects for Students, Institute for Pure and Applied Mathematics <i>Sponsor:</i> Los Angeles Police Department, <i>Academic mentor:</i> Yoon-Sik Cho
Summer 2013	Indiana University mathematics REU <i>Advisor:</i> Evie Malaia
Summer 2012	Michigan State University mathematics REU <i>Advisor:</i> Daniel Dougherty
Summers 2011/12	Arizona State University NSF-FRG: Integrated mathematical methods in medical imaging <i>Advisor:</i> Anne Gelb
2010–2012	Professorial assistant, Department of Mathematics, Michigan State University <i>Advisor:</i> Jeffrey Schenker