

# Sneha Dey Subramanian

## PERSONAL INFORMATION

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## EDUCATION

2009-2014  
(Expected) University of Pennsylvania  
Doctor of Philosophy in Mathematics  
Doctoral Advisor: Robin Pemantle

2007-2009 Indian Statistical Institute, Kolkata  
Masters in Statistics  
Specialization: Applied Statistics and Data Analysis

2004-2007 St. Xaviers' College, Kolkata  
Bachelor of Science with Major in Mathematics, and Minors in Statistics and Computer Science

## AWARDS

2009-2014 Benjamin Franklin Fellowship, University of Pennsylvania  
Fellowship covering tuition and stipend for five years as a graduate student in the Mathematics department.

2012-2013 Herbert S. Wilf Memorial Prize  
Prize awarded in recognition of outstanding research and communication.

Summer 2012 Good Teaching Award  
Award received for Math 170 (Instructor).

Fall 2010 Good Teaching Award  
Award received for Math 508 (Teaching Assistant).

## PUBLICATIONS

2012 On the distribution of critical points of a polynomial  
*Electronic Communications in Probability*  
This paper proves that if points  $Z_1, Z_2, \dots$  are chosen independently and identically using some measure  $\mu$  from the unit circle in the complex plane, with  $p_n(z) = (z - Z_1)(z - Z_2)\dots(z - Z_n)$ , then the empirical distribution of the critical points of  $p_n$  converges weakly to  $\mu$ .

2014 Behavior under iterated differentiation of a translation invariant zero set of a random analytic function

with Robin Pemantle, *In preparation*

## TEACHING EXPERIENCE

### Instructor of Record

*Summer 2012*

Math 170 (Ideas in Mathematics): A course for non-math majors, with topics ranging from logic, sets, number theory, probability, cryptography, and their relevance to contemporary science and society.

### Teaching Assistant

*Spring 2011*

Math 103 (Introduction to Calculus): A course that introduces concepts and methods of calculus for students with little or no previous calculus experience.

*Fall 2010*

Math 508 (Advanced Analysis I): A course for math majors on analysis on Euclidean spaces.

### Grader

*Fall 2011 & 2013*

Math 546 (Probability Theory): A course for advanced math or stat majors as well as beginning Ph.D. students of mathematics or statistics.

*Spring 2012*

Math 547 (Stochastic Processes): A course for advanced math or stat majors as well as beginning Ph.D. students of mathematics or statistics.

## OTHER TEACHING DUTIES

*2013*

### Math/Maple Online Help

Provided help in solving problems and understanding concepts weekly at an online discussion board and forum for students of all the calculus courses.

*2011-2012*

### Master TA

Trained new teaching assistants in the mathematics department.

*2011-2012*

### Coordinator of Penn Undergraduate Math Mentorship Program

Organized a program that pairs up undergraduate students with graduate students of like mathematical interests (mentors) to stimulate learning and research.

*2010-2012*

### Mentor for Penn Undergraduate Math Mentorship Program

Mentored two undergraduate students during two academic years.

*Fall 2011*

### Sunday Night Reviewer for Math 115 (Calculus II with Probability and Matrices)

Conducted a review session every Sunday night for the course, which included helping students with problems and conceptual questions.

## TALKS

*October 2013*

### Random zero sets under repeated differentiation

Combinatorics and Probability Seminar, University of Pennsylvania.

- October 2012*      Polynomials, Zeros, Critical Points and Probability  
Probability Seminar, University of California, Berkeley.
- October 2012*      Polynomials, Zeros, Critical Points and Probability  
Combinatorics and Probability Seminar, University of Pennsylvania.
- September 2011*      Candidate problems and more  
Pizza Seminar, University of Pennsylvania.

## CONFERENCES AND WORKSHOPS

- October 2013*      Midwest Probability Colloquium  
Northwestern University, Evanston, IL
- July 2012*      Cornell Probability Summer School  
Cornell University, Ithaca, NY
- April 2012*      Graduate Student Probability Conference  
Georgia Tech University, Atlanta, GA
- November 2011*      Tenth Northeast Probability Seminar  
New York University, New York, NY
- November 2010*      Ninth Northeast Probability Seminar  
City University of New York, New York, NY

November 7, 2013