

Aminul Huq

Address Department of Mathematics e-mail: aminul@brandeis.edu
MS 050, Brandeis University (781) 736-3076 or (646) 546-7833
415 South St, Waltham, MA 02454 <http://www.brandeis.edu/~aminul>

Education *PhD* candidate in Mathematics, May 2009 (expected)
Brandeis University, Waltham, MA
Concentration: Combinatorics
Advisor: Ira M. Gessel
Bachelor of Science in Mathematics, July 2003
Dhaka University, Dhaka, Bangladesh,
First Class First Position- Highest honors
Minor: Computer science, Physics and Statistics

Honors & Awards

- Summer research support 2006 and 2008, Brandeis University
- A F Muzibur Rahman Foundation Award for Excellence in Mathematics
Awarded to one graduating senior in Mathematics from Dhaka University.
- Sushikkha Barsha Award 2003, Dhaka University
Awarded to one graduating senior from each department.
- Provost Award 2003, Dhaka University
Awarded to one graduating senior from each department.
- Dean's Award 2003, Dhaka University
Awarded to only two students from the College of Arts and Sciences in 2003.
- Begum Hasina Siddique Merit Scholarship, Dhaka University
Awarded to one Junior in Mathematics.
- Undergraduate Merit Scholarship, Dhaka University

Experience Brandeis University, Waltham, MA

- *Mathematics Instructor* Fall '05 – Summer '08
Taught three semesters of Differential Calculus, three semesters of Integral Calculus and one semester of Introduction to Probability and Statistics.
- *Teaching Assistant* Fall '04 – Present
Tutored and graded undergraduate courses.
- *Information Desk Assistant*, Gerstenzang Science Library Jun '06 – Present
Answer factual reference questions using print and electronic resources; assist patrons with use of public computing workstations and appropriate databases
- *LATTE Support team*, Library and Technology Services Jun '07 – Aug '07
Provided content migration support in developing Brandeis University's new on-line learning environment.
- *Mathematics Tutor*, Student Support Services Fall '05 – Spring '06
Advised, mentored and tutored undergraduate students. Helped students better understand course material, prepare for an exam, or answer questions related to the class.

Seventh-Sense-Software Ltd., Dhaka, Bangladesh.

- *Scientific Programmer* Jan '03 – Nov '03
Provided logical background for projects involving mathematical structures and writing algorithms. Delivered required product(s) for each project, phase or stage. Ensured successful completion of all projects by coordinating with Director. Anticipated problems and resolved them by direct action or escalation to appropriate level.

Research Interests	My research interest lies mostly in enumerative combinatorics and random matrices. I've been studying generalizations of the Chung-Feller theorem for lattice paths with restrictions using the cycle lemma and generating function approaches, super ballot numbers, compositional inverse of power series and graph theory. On the random matrix side, I've been studying PDE's related to Dyson's non-intersecting Brownian motion with a few outliers, also known as the r -Airy process.
Publication	"Compositions of Graphs Revisited", Electron. J. Combin. 14 (2007), N15. http://www.combinatorics.org/Volume_14/Abstracts/v14i1n15.html
Talks	<i>Brandeis Graduate Student Seminar</i> <ul style="list-style-type: none"> • "From Ising and Potts to Tutte and back" • "Game Theory" • "Lattice Path Enumeration and Chung-Feller Theorems"
Courses	<i>Taught:</i> Differential Calculus, Integral Calculus, Calculus with Analytic Geometry, Introduction to Probability and Statistics. <i>Tutored:</i> Bio-Statistics, Laplace Transforms, Differential Equations, Linear Algebra. <i>Graded:</i> Mathematical Statistics, Linear Algebra and Intermediate Calculus.
Professional Memberships	AMS: American Mathematical Society SIAM: Society for Industrial and Applied Mathematics NYBAP: Network of Young Bangladeshi American Professionals
Conferences Attended	<ul style="list-style-type: none"> • "Workshop on Representation Theory, Geometry and Combinatorics" UC Berkeley, June 2–6, 2008 • AMS-IMS-SIAM Summer Research Conference on "Interactions of Random Matrix Theory, Integrable Systems, and Stochastic Processes" Snowbird, Utah, June 24–28, 2007 • "CO40 Conference on Combinatorics and Optimization" Waterloo, CA, June 18–23, 2007
Skills	<i>Computer:</i> Programming Language C++, Mathematica, MATLAB, etc. <i>Language:</i> Bangla, English, Hindi, Urdu, French (beginner).
Other activities	<ul style="list-style-type: none"> • Project leader– House of Volunteers (HOV), MIT, Cambridge, 2007–Present • <i>Fellow</i>– Brandeis University Interfaith Leadership Development (BUILD), 2007 & 2008 • <i>Graduate Student Representative</i> – Muslim Student Association, 2006–Present Managing events and discussions among muslim students at Brandeis University. • <i>Graduate Student Representative</i> – Department of Mathematics, 2005–2007 Organized student seminar, attended departmental meetings. • <i>Volunteer</i>– Vocational Training Centre for the Blind, Dhaka, Bangladesh, 2003–2004
Referees	Department of Mathematics, Brandeis University Ira M Gessel, (781) 736-3060, gessel@brandeis.edu Susan Parker, (781) 736-3053, parker@brandeis.edu Daniel Ruberman, (781) 736-3074, ruberman@brandeis.edu Mark Adler, (781) 736-3055, adler@brandeis.edu