Arnab Bhattacharyya

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EDUCATION

- **Massachusetts Institute of Technology**, Cambridge, MA
  Ph.D. Candidate in Computer Science, started: 2006
  Advisor: Ronitt Rubinfeld
  Current GPA: 5.0/5.0

- **Massachusetts Institute of Technology**, Cambridge, MA
  Master of Engineering in Computer Science, 2006
  Bachelor of Science in Computer Science and Physics, 2005
  M.Eng. Advisor: Gerald J. Sussman
  GPA: 4.9/5.0

HONORS

- **Krell/Department of Energy Computational Science Graduate Fellow**, 2006
- **Hertz Fellowship Finalist**, 2006
- Member of the **Phi Beta Kappa**, **Tau Beta Pi**, and **Eta Kappa Nu** honor societies
- **National Merit Scholar**, 2001

RESEARCH INTERESTS

- **Theory of Computation**
  - Property Testing
  - Computational Complexity Theory
  - Combinatorics, Probability, Discrete Fourier analysis
- **A formal theory of evolvability and development**

PUBLICATION

- Arnab Bhattacharyya, Eldar Fischer, Ronitt Rubinfeld, and Paul Valiant. *Testing Monotonicity of Distributions on General Poset Domains.* Submitted.
- Arnab Bhattacharyya and Bernhard Haeupler. *Robust Regulatory Networks*. Submitted, available at http://arxiv.org/abs/0904.4360.
- Arnab Bhattacharyya, Elena Grigorescu, Kyomin Jung, Sofya Raskhodnikova, and David Woodruff. *Transitive-Closure Spanners of the Hypercube and the Hypergrid*. Submitted, available as ECCC Report TR09-046 at http://eccc.hpi-web.de/eccc-reports/2009/TR09-046/index.html.
- Arnab Bhattacharyya and Ning Xie. *Lower Bounds for Testing Triangle-freeness in Boolean Functions*. Submitted, available at http://web.mit.edu/abhatt/www/QLBT.pdf.

- Arnab Bhattacharyya, Victor Chen, Madhu Sudan, and Ning Xie. *Testing Linear-Invariant Non-Linear Properties*. Symposium on Theoretical Aspects of Computer Science 2009.
- Arnab Bhattacharyya, Elena Grigorescu, Kyomin Jung, Sofya Raskhodnikova, and David Woodruff. *Transitive Closure Spanners*. Symposium on Discrete Algorithms, 2009.
- Arnab Bhattacharyya. *Morphogenesis on an Amorphous Computer*. ACM International Conference on Computing Frontiers, 2006.
- Arnab Bhattacharyya. *Implementing Probabilistically Checkable Proofs of Proximity*. MIT CSAIL Technical Report 998, 2005.

TEACHING

- Teaching Assistant for 6.001 (Structure and Interpretation of Computer Programs) in Spring 2006
- Teaching Assistant for 6.821 (Programming Languages) in Fall 2005
- Teacher at SPLASH program for the MIT Educational Studies Program in 2002 and 2004

TALKS

- "Lower Bounds for Testing Triangle-freeness in Boolean Functions". CSAIL Algorithms & Complexity Seminar (05/11/2009), Theory Seminar at the Technion (06/03/2009), Theory Seminar at Haifa University (06/04/2009).
- "Testing Linear-Invariant Non-Linear Properties". Dagstuhl Seminar on Sublinear Algorithms (19/08/2008), CSAIL Complexity Reading Group (10/06/2008), and IIT Kanpur Theory Seminar (01/27/2009).
- "Transitive-Closure Spanners". CSAIL Algorithms and Complexity Seminar (05/02/2008), SODA (01/06/2009)
- "The Direct Product Lemma, Hardness Amplification, and All That". CSAIL Crypto/Complexity Reading Group (12/01/2006).
- "Approximation Algorithms for Unique Games". CSAIL Theory of Computation Student Seminar (12/01/2005).

PERSONAL DATA

- Indian Citizen
- U.S. Permanent Resident
- Fluent in English and Bengali. Conversant in Hindi.