Abhishek Sarkar

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Research interests

Complex traits, regulatory genomics, epigenomics, Bayesian inference

Education

2017 Ph.D. Computer Science, Massachusetts Institute of Technology (expected)

2013 M.S. Computer Science, Massachusetts Institute of Technology

2011 B.S. Computer Science with Highest Honors, University of North Carolina at Chapel Hill

Research experience

2011– **Massachusetts Institute of Technology**
Research Assistant
Computational Biology Group
Computer Science and Artificial Intelligence Lab

2008–2011 **University of North Carolina at Chapel Hill**
Undergraduate Research Assistant
Computational Genetics Working Group

Pre-prints

1. Felix Day, …, **Abhishek K. Sarkar**, et al. "Genomic analyses for age at menarche identify 389 independent signals and indicate BMI-independent effects of puberty timing on cancer susceptibility." *BioRxiv*. (2016) *Author 9/215*

2. **Abhishek K. Sarkar**, Lucas D. Ward, Manolis Kellis. "Functional enrichments of disease variants across thousands of independent loci in eight diseases." *BioRxiv*. (2016) `doi:10.1101/048066`

3. Yaping Liu, **Abhishek Sarkar**, Manolis Kellis. "Evidence of a recombination rate valley in human regulatory domains." *BioRxiv*. (2016) `doi:10.1101/048827`

Peer-reviewed publications

1. Roadmap Epigenomics Consortium et al. "Integrative analysis of 111 reference human epigenomes." *Nature*, 518(7539), 317–330 (2015). *Integrative analysis lead (equal contributor).*

2. David L. Aylor, et al. "Genetic Analysis of Complex Traits in the Emerging Collaborative Cross." *Genome Research*. 2011; 21(8):1213-22. *Author 21/49.*

3. Qi Zhang, Yi Liu, **Abhishek Sarkar**, Wei Wang. "Split-Order Distance for Clustering and Classification Hierarchies." *Proceedings of the 21st International Conference on Scientific and Statistical Database Management*, New Orleans, LA, USA. Springer-Verlag, 2009. 517–534.

Presentations

1. **Abhishek Sarkar**, Yongjin Park, Manolis Kellis. "Dissecting the non-infinitesimal architecture of complex traits using group spike-and-slab priors" (contributed talk). Workshop on Machine Learning in Computational Biology, Thirtieth Annual Conference on Neural Information Processing Systems, Barcelona, Spain. 2016.

2. **Abhishek Sarkar**, Yongjin Park, Manolis Kellis. "Dissecting the non-infinitesimal architecture of complex traits" (poster). 68th meeting of the American Society of Human Genetics, Vancouver, Canada. 2016.

3. **Abhishek Sarkar**, Luke Ward, Manolis Kellis. "Functional enrichments of disease variants across thousands of independent loci in eight diseases." (talk). Leena Peltonen School of Human Genomics, Wellcome Trust Sanger Institute, Hinxton, Cambridge, UK. 2016.

4. Yongjin Park, **Abhishek Sarkar**, Nick Mancuso, Alexander Gusev, Bogdan Pasaniuc, Manolis Kellis. "Computational discovery of epigenetic mediators in Alzheimer's disease from imputed methyome-wide association statistics" (poster). The Biology of Genomes, Cold Spring Harbor, NY, USA. 2016.

5. Kunal Bhutani*, **Abhishek Sarkar***, Yongjin Park, Manolis Kellis, Nicholas Schork. "Propagating uncertainty of predicted expression in transcriptome-wide association studies" (poster). The Biology of Genomes, Cold Spring Harbor, NY, USA. 2016. *Equal contribution*

6. **Abhishek Sarkar**, Lucas D. Ward, Manolis Kellis. "Regulatory annotations implicate thousands of independent loci" (poster). 67th meeting of the American Society of Human Genetics, Baltimore, MD, USA. 2015.

7. **Abhishek K. Sarkar**, Lucas D. Ward, Manolis Kellis. "Genome-wide enrichments for regulatory regions across thousands of unlinked disease-associated variants" (poster). 65th meeting of the American Society of Human Genetics, Boston, MA, USA. 2013.

8. Vineeta Agarwala, **Abhishek Sarkar**, Kyle Gaulton. "Using the Epigenome Roadmap data to analyze genetic studies of Type 2 Diabetes" (workshop talk). 65th meeting of the American Society of Human Genetics, Boston, MA, USA. 2013.

9. **Abhishek K. Sarkar**, Lucas D. Ward, Manolis Kellis. "Systematically interpreting GWAS using regions from Roadmap" (poster). Epigenomics: A Roadmap to the Living Genome, Boston, MA, USA. 2013.

10. Lucas Ward, **Abhishek Sarkar**, Manolis Kellis. "Global contributions of regulatory elements to disease risk and evolutionary fitness in the human population" (poster). 5th annual RECOMB Conference on Regulatory and Systems Genomics, San Francisco, CA, USA. 2012.

11. **Abhishek Sarkar**. "Functional GWAS enrichments across tens of thousands of enhancer elements" (talk). Epigenomics Seminar Series, Broad Institute, Cambridge, MA, USA. 2011.

Honors

2016 Invited to Leena Peltonen School of Human Genomics

2011 NSF Graduate Research Fellow

2011 Honorable Mention, CRA Outstanding Undergraduate Researcher Awards

2011 Inducted into Phi Beta Kappa undergraduate honors fraternity