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, Manolis Kellis (PI)
Computer Science and Artificial Intelligence Lab

Teaching experience

2014 Teaching assistant, "Computational Biology: Genomes, Networks, Evolution" (fall)

Pre-prints

1. Yongjin Park*, **Abhishek K. Sarkar***, et al. "Multi-tissue polygenic models for transcriptome-wide association studies." BioRxiv. (2017) *Equal contribution
2. Kunal Bhutani, **Abhishek Sarkar**, et al. "Modeling prediction error improves power of transcriptome-wide association studies." BioRxiv. (2017) *Equal contribution
3. 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
4. **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
5. 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).

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 Accepted to Leena Peltonen School of Human Genomics

2011 Awarded NSF Graduate Research Fellowship

2011 Inducted into Phi Beta Kappa honors fraternity