

# Curriculum Vitae

## Pronoy Kanti Mondal

PhD Student in Statistics  
Human Genetics Unit, Biological Science Division  
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### Education

**Indian Statistical Institute (ISI)**, Kolkata, India

**Ph.D. Student, Statistics, 2015 to 2021**

Supervisor: Dr. Indranil Mukhopadhyay

Thesis title: On some statistical problems in single-cell transcriptome data analysis.

**M.Stat, Statistics, 2014**

Dissertation title: On high dimensional two-sample tests based on nearest neighbors.

**B.Stat, Statistics, 2012**

### Publications

1. Mondal PK, Saha US, Mukhopadhyay I. (2021), PseudoGA: cell pseudotime reconstruction based on genetic algorithm, *Nucleic Acids Research*, **49(14)**, 7909 - 7924.
2. Das S, Mondal PK, Ghosh S and Mukhopadhyay, I. (2018), Family-based genome-wide association of inflammation biomarkers and fenofibrate treatment response in the GOLDN study, *BMC Proceedings*, **12**, 41.
3. Misra SK, Mondal PK, Faiheng AL, Jami J, Langstieh BT, Mukhopadhyay I and Ghosh P (2019), A Hospital Based Prospective Study On Functional Change In Cases Of Ankylosing Spondylosis In Eastern India, *Journal of Physical Medicine Rehabilitation & Disabilities*, **5**: 033.
4. Mondal PK, Biswas M and Ghosh AK (2015), On high dimensional two-sample tests based on nearest neighbors, *Journal of Multivariate Analysis*, **141**, 168-178.
5. Pal AK, Mondal PK and Ghosh AK (2016), High dimensional nearest neighbor classification based on mean absolute differences of inter-point distances, *Pattern Recognition Letters*, **74**, 1-8.
6. Basak D, Jamal Z, Ghosh A, Mondal PK et al. (2021), Reciprocal Interplay between Asporin and Decorin: Implications in Gastric Cancer Prognosis, *PLoS ONE*, **16(8)**, e0255915.
7. Roy AS, Gorain PC, Paul I, Sengupta S, Mondal PK, Pal R (2018), Phytoplankton nutrient dynamics and flow cytometry based population study of a eutrophic wetland habitat in eastern India, a Ramsar site, *RSC Advances*, **17**.

## **Manuscripts under preparation/ ready to be submitted**

1. Mondal PK, Mukhopadhyay I, RIBBON: Modeling Single-cell RNA-Seq data with Generalized Linear Model Statistical method accounting for both technological and biological dropouts in single-cell gene expression analysis.
2. Mondal PK, Speed TP, Mukhopadhyay I, SCIDI: A fast clustering based method for Single Cell Data Integration.

## **Work under progress**

1. A change-point detection based method to detect transcriptional bursting.

## **Academic Employment**

**Indian Statistical Institute (ISI)**, Kolkata, India

Junior Research Fellow, 2015 to 2017

Senior Research Fellow, 2017 to 2022

## **Awards and Fellowships**

Indian Academy of Sciences Summer Fellowship, 2012

International Genetic Epidemiological Society (IGES) Travel Award for developing countries, 2016

Next Generation Biotechnology (NGBT) Students Travel Award, 2016

Junior Research Fellowship based on National Eligibility Test (NET), 2015

Indian Statistical Institute Junior Research Fellowship, 2015

## **Workshops attended**

### **Workshop on Quantitative Methods for Drug Discovery and Development, 2017**

Institute of Mathematical Sciences, National University of Singapore

### **Workshop on Statistical Data Integration, 2019**

Institute of Mathematical Sciences, National University of Singapore

### **NIBMG-Uchicago workshop on Big Data Analysis in BioMedical Genomics, 2016**

National Institute of Biomedical Genomics, Kalyani, India

### **ISI-Intel workshop on deep learning, 2019**

ISI, Kolkata, India

## **Conferences and presentations**

International Triennial Calcutta Symposium on Probability and Statistics, 2015 (Kolkata, India)

Platform Presentation: **On high dimensional two-sample tests based on nearest neighbors**

Next Generation Biotechnology (NGBT), 2016 Annual Meeting (Cochin, India)

Poster Presentation: **IQML: A Robust Statistical Approach for Isoform Level Quantification from RNA-Seq Data**

American Society of Human Genetics (ASHG), 2016 Annual Meeting (Vancouver, Canada)

Poster Presentation: **On testing of gene-gene interaction based on case-control data using genotype similarity between individuals**

International Genetic Epidemiological Society (IGES), 2016 Annual Meeting (Toronto, Canada)

Poster Presentation: **A novel robust statistical approach for isoform quantification from RNA-seq data**

Indo-French Conference on Applied Mathematics (IFCAM), 2017 ( IISc Bangalore, India)

Platform Presentation: **RISQ: A novel robust statistical approach for isoform quantification from RNA-seq data**

Indian Society of Human Genetics (ISHG), 2017 Annual Meeting (Bangalore, India)

Poster Presentation: **On testing of gene-gene interaction based on case-control data using genotype similarity between individuals**

Calcutta Consortium of Human Genetics Annual Symposium, 2018 ( NIBMG, Kalyani, India)

Platform Presentation: **RISQ: A novel robust statistical approach for isoform quantification from RNA-seq data**

## **Nonacademic Employment**

### **IMRB International**

Associate Research Manager, 2014 to 2015

## **Teaching Experience**

### **Statistical Inference**

Spring 2018

Teaching Assistant, with Prof. Saurabh Ghosh

### **Statistical Genetics**

Spring 2019

Teaching Assistant, with Prof. Saurabh Ghosh

## **Experience as resource person in workshop**

### **Hands-on workshop on public health analysis and disease modelling**

May, 2017

North Eastern Hill University (NEHU), Shillong, India

### **Follow-up of Hands-on workshop on public health analysis and disease modelling**

December, 2017

North Eastern Hill University (NEHU), Shillong, India

## **Programming Languages known**

R, Unix shell, C, MATLAB, Python (Basic), HTML (Basic)

## **Other known softwares**

SPSS, Tensorflow

Also, I am comfortable with cloud computing.

## **Language**

Native Bengali, Hindi

Fluent English