


Purba Das

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Date of birth: May 13, 1995. Citizenship: Indian. Languages: Bengali (Native), English, Hindi.

Professional activity

Aug 2022-Present **Byrne Research Assistant Professor**, University of Michigan, Ann arbor.

Academic history

- 2018-2022 **Dphil in Mathematics**, University of Oxford
PhD thesis, Roughness properties of paths and signals, **Advisor: Prof. Rama Cont.**
- 2016-2018 **Masters**, Applications of Mathematics, Chennai Mathematical Institute (CMI), India.
Masters thesis, On completely mixed stochastic games, **Advisor: Prof. T Parthasarathy.**
- 2013-2016 **Undergraduate**, Honours in Mathematics and Computer Science. Chennai Mathematical Institute (CMI), India.

Publications and preprints

Estimating the roughness of a signal

RAMA CONT AND PURBA DAS

Working paper

Rough volatility: fact or artefact?

RAMA CONT AND PURBA DAS

2022

Functions with quadratic variation along refining partitions

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2021

Journal of Mathematical Analysis and Applications

Pathwise quadratic variation and quadratic roughness

RAMA CONT AND PURBA DAS

2020

To appear: Bernoulli

On Completely Mixed Stochastic Games

PURBA DAS, T. PARTHASARATHY, G. RAVINDRAN.

2018

To appear: Operation research forum

Understanding Sea Ice Melting via Functional Data Analysis

PURBA DAS, ANANYA LAHIRI, SOURISH DAS

2018

Current Science, Volume 115, Issue 5, Pages 920–929.

Talks and poster presentations

- Upcomming **Contributed talk**, Financial matematics seminer, University of Michigan *Ann Arbor,USA*
- June 2022 **Contributed talk**, Oxford-ETH Workshop on Mathematical & Computational Finance *Zurich*
- June 2022 **Contributed talk**, 11th world congress of the bachelier finance society *Online*
- May, 2022 **Contributed talk**, 15th Berlin-Oxford Young Researchers Meeting on Applied Stochastic Analysis *Berlin, Germany*
- May, 2022 **Invited talk**, Dynamic systems / stochastics seminer, Free University, Berlin *Berlin, Germany*
- April, 2022 **Invited talk**, IRTG Graduate Student Seminar, Technische Universität Berlin *Berlin, Germany*
- Apr, 2022 **Invited talk**, Mathematical finance seminar, Imperial college London *London, UK*
- Jan, 2022 **Invited talk**, Mathematical finance seminar, University of Michigan *Michigan, USA*
- Oct, 2021 **Contributed talk**, Mathematical and computational finance internal seminar *Oxford, UK*
- Oct, 2021 **Contributed talk**, Junior female researchers in probability *Berlin, Germany*
- Aug, 2021 **Contributed talk**, 6th Berlin Workshop for Young Researchers on Mathematical Finance *Online*

July, 2021	Contributed talk , Bernoulli-IMS 10th World Congress in Probability and Statistics	Online
July, 2021	Contributed talk , Young Researcher's Session, Statistical Methods in Finance 2021	Online
Jan 2020	Contributed talk , Bachelier Colloquiums, Mathematical Finance and stochastic calculus	Metabief, France
July 2019	Poster presentation , LMS Research School on Probability	Bath, UK
March 2019	Contributed Talk , Oxford-ETH Workshop on Mathematical Finance.	Oxford, UK
April 2018	Invited Talk , Internal Seminar at Indian statistical Institute.	Chennai, India
April 2018	Research seminar talk , Chennai Mathematical Institute (CIM), India.	Chennai, India
March 2018	Invited talk , Research seminar, Indian Institute of Technology, India.	Chennai, India
Dec, 2017	Poster presentation , International conference on statistics.	Hydrabad, India
Sep 2016	Contributed talk , Workshop on Linear Complementarity and Generalisations.	ISI Chennai, India

Teaching

Fall 2022	Primary instructor: MATH 423- Mathematics of Finance , Department of mathematics, University of Michigan.
HT 2022	Teaching Assistance: Integration , Queens college, University of Oxford.
MT 2021	Tutor: Probability, measure and martingale , Mathematical Institute, University of Oxford.
TT 2021	Tutor: Continuous Martingales and Stochastic Calculus , Mansfield College, University of Oxford.
HT 2021	Tutor: Continuous martingale and Stochastic calculus , Mathematical Institute, University of Oxford.
HT 2021	Tutor: Optimisation , Mathematical Institute, University of Oxford.
HT 2021	Tutor: Stochastic calculus , Mathematical Institute, University of Oxford.
MT 2020	Tutor: Probability- Measure and Martingales , Mathematical Institute, University of Oxford.
HT 2020	Teaching Assistance: Optimisation , Mathematical Institute, University of Oxford.
HT 2020	Teaching Assistance: Continuous martingale and stochastic calculus , Mathematical Institute, University of Oxford.
MT 2019	Teaching Assistance: Stochastic Differential Equations , Mathematical Institute, University of Oxford.
MT 2019	Teaching Assistance: Probability, Measure and Martingales , Mathematical Institute, University of Oxford.
HT 2019	Teaching Assistance: Continuous Optimisations , Mathematical Institute, University of Oxford.
2018	Teaching Assistance: Game Theory , Chennai Mathematical Institute.
2017	Teaching Assistance: Regression and Classification , Chennai Mathematical Institute, India.
2016	Teaching Assistance: Optimisation techniques , Chennai Mathematical Institute, India.
2016	Teaching Assistance: Financial Risk Management , Chennai Mathematical Institute, India.

Reading and research projects

May-July 2016	On Completely mixed Stochastic Games , Summer internship at Chennai Mathematical Institute.	T. Parthasarathy
May-July 2016	Functional Data analysis , Summer internship at Chennai Mathematical Institute.	Sourish Das
May-July 2015	Bimatrix Games , Summer internship at Chennai Mathematical Institute.	T. Parthasarathy
Dec 2014	Characteristic function and moment generating function , Winter internship at at Indian statistical Institute.	Prof. Krishanu Maulik
June-July 2014	Introduction on Markov chain and Poisson process , Summer internship at Chennai Mathematical Institute.	Nandini Karnan
May-June 2014	Graph algorithms , Summer internship at Indian statistical Institute.	Krishnendu Mukopadhayaya
Dec 2013	Introduction of graph theory and graph algorithms , Winter internship at Indian statistical Institute.	Krishnendu Mukopadhayaya

Scholarships

2018-2022	Mathematical Institute Studentship at University of Oxford , A full waiver of the tuition fees and monthly fellowship towards living cost
2016-2018	Postgraduate studentship at Chennai Mathematical Institute, India , A full waiver of the tuition fees and monthly fellowship towards living cost
2013-2016	Undergraduate studentship at Chennai Mathematical Institute, India , A full waiver of the tuition fees and monthly fellowship towards living cost

Awards and other activities

July 2022	Research visit at Warsaw school of economics, Hosted by Rafał Łochowski
Apr-May 2022	Research visit at Freie Universität Berlin, Hosted by Nicholas Perkowski
Jun 2021	Best student paper at Statistical Methods in Finance 2021.
2020-2021	Organising committee for Mathematrix
2020-2021	Organising committee for Women's coffee
March 2018	First Prize for the best poster at 'Tata Consultancy Services (TCS) Poster Competition'.
Dec 2017	Honourable mention for the poster presentation at International conference on statistic.
2016	Organising committee for Annual Fest in Chennai Mathematical Institute

Computer skills:

Programming Languages: Haskell, C, C++, Java, Python, R.

Packages: LaTeX, Matlab, Scilab.