

Paromita Dubey

Curriculum Vitae

Department of Data Sciences and Operations
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Employment

- 2021– **Assistant Professor (tenure track)**, Department of Data Sciences and Operations, University of Southern California, Marshall School of Business.
- 2020–2021 **Stein Fellow/Lecturer**, Department of Statistics, Stanford University.
- 2019–2020 **Postdoctoral Scholar**, Department of Statistics, University of California, Davis. Advisors: Prof. Hans-Georg Müller and Prof. Jane-Ling Wang

Education

- 2014–2019 **PhD in Statistics**, Department of Statistics, University of California, Davis. Advisor: Prof. Hans-Georg Müller
- 2012–2014 **M.Stat**, Indian Statistical Institute, Kolkata, India.
- 2009–2012 **B.Stat (Honours)**, Indian Statistical Institute, Kolkata, India.

Research Interests

Inference for growing networks- and reconstruction of network archeology.

Interface of statistics and metric geometry- broadly applicable statistical methods for analyzing metric space valued data with applications in brain imaging studies, child neurological development, network analysis, genetics and compositional data.

Functional and longitudinal data analysis and its overlap with metric geometry- with focus on studying samples of dynamic metric space data, examples being time varying networks, distributions or tree valued data.

Preprints and Publications

Accepted/Published

- 2021 **Modeling Sparse Longitudinal Data in Early Neurodevelopment**, Y. Chen, P. Dubey, H.G. Müller, J.L. Wang, M. Bruchhage, S. Deoni and RESONANCE Consortium., Neuroimage (Special Issue on Longitudinal Neuroimaging) (to appear).
- 2021 **Modeling time varying random objects and dynamic networks**, P. Dubey and H.G. Müller, Journal of the American Statistical Association (to appear).

- 2020 **Time-Dynamics of COVID-19**, C. Carroll, S. Bhattacharjee, Y. Chen, P. Dubey, J. Fan, A. Gajardo, X. Zhou, H.G. Müller, J.L. Wang, *Scientific Reports*, <https://www.medrxiv.org/content/10.1101/2020.05.21.20109405v1>.
- 2020 **Fréchet change point detection**, P. Dubey and H.G. Müller, *Annals of Statistics*, <https://arxiv.org/abs/1911.11864>.
- 2020 **Functional models for time-varying random objects (with discussion)**, P. Dubey and H.G. Müller, *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, <https://arxiv.org/pdf/1907.10829.pdf>.
- 2020 **Fréchet analysis of variance for random objects**, P. Dubey and H.G. Müller, *Biometrika*, <https://arxiv.org/pdf/1710.02761.pdf>.
- 2015 **Modeling bimodal discrete data using Conway-Maxwell-Poisson Mixture Models.**, P. Sur, Galit Schmueli, Smarajit Bose and P. Dubey, *Journal of Business and Economic Statistics*, Vol. 33, No. 3, 352- 365.

[Under revision/Submitted](#)

Learning Delay Dynamics for Multivariate Stochastic Processes, With Application to the Prediction of the Growth Rate of COVID-19 Cases in the United States, with Y. Chen, Á. Gajardo, S. Bhattacharjee, C. Carroll, Y. Zhou, H. Chen and H.G. Müller., *Journal of Mathematical Analysis and Applications (Under Major Revision)*.

Presentations

[Invited Workshops/Programs](#)

- 2022 **Structural Breaks and Shape Constraints**, *International Center for Mathematical Sciences*, Edinburgh.
- 2021 **Geometric Methods in Optimization and Sampling (Long Term Participant)**, *Simons Institute for the Theory of Computing*, Berkeley.

[Invited Talks](#)

- 2022 **International Symposium on Nonparametric Statistics (postponed because of COVID 19)**, *Paphos*.
- 2022 **1st CSDA & EcoSta Workshop on Statistical Data Science (postponed because of COVID 19)**, *Bologna*.
- 2021 **Department of Mathematics and Statistics**, *Auburn University*.
- 2021 **CMStatistics 2021**, 14th *International Conference of the ERCIM WG on Computational and Methodological Statistics*, King's College London.
- 2021 **EcoSta 2021**, 4th *International Conference on Econometrics and Statistics (virtual)*.
- 2021 **Statistics Seminar**, *University of Cambridge*.
- 2021 **Department of Math, Stat & Comp Sci**, *University of Illinois Chicago*.
- 2021 **Department of Statistics**, *University of Pittsburgh*.

- 2020 **CMStatistics 2020**, 13th International Conference of the ERCIM WG on Computational and Methodological Statistics (virtual).
- 2020 **Department of Statistics**, University of Virginia.
- 2020 **Department of Statistics**, Pennsylvania State University.
- 2020 **Department of Statistical Sciences**, University of Toronto.
- 2020 **Department of Mathematics**, University of California, San Diego.
- 2020 **Department of Statistics**, Stanford University.
- 2020 **Department of Statistics**, University of California, Los Angeles.
- 2020 **Statistics Department**, Wharton, University of Pennsylvania.
- 2020 **Department of Statistics and Data Science**, Cornell University.
- 2020 **Courant Institute of Mathematical Sciences and Center for Data Science**, New York University.
- 2020 **Department of Statistics**, University of Minnesota.
- 2020 **Department of Statistics and Operations Research**, University of North Carolina, Chapel Hill.
- 2020 **Department of Statistics**, University of British Columbia.
- 2020 **Department of Statistics**, University of Washington.
- 2019 **Department of Data Sciences and Operations**, USC Marshall School of Business.
- 2019 **Department of Statistics**, Iowa State University.
- 2019 **Discussion Paper meeting of the Research Section Committee, (October 2019)**, Royal Statistical Society, London.

Contributed Talks

- 2019 **Joint Statistical Meetings**, Denver, Colorado.
- 2018 **Joint Statistical Meetings**, Vancouver, BC.
- 2018 **New Researcher's Conference**, Vancouver, BC.
- 2018 **International Indian Statistical Association Conference**, Gainesville, Florida.

Posters

- 2019 **Fourth Workshop on Higher-Order Asymptotics and Post-Selection Inference**, Washington University in St. Louis.
- 2019 **UC Davis Peter Hall Conference: Statistics and Machine Learning**, Davis, California.

Awards and Fellowships

- 2020 **IMS New Researcher Travel Award**.

- 2019 **Peter Hall Graduate Research Award**, awarded for outstanding graduate research.
- 2019 **SF Bay Area Chapter of ASA award for Joint Statistical Meetings 2019**, for “Modeling time varying random objects and dynamic networks”.
- 2018 **Best Paper Award, Section on Nonparametric Statistics, Joint Statistical Meetings, 2018**, for “Fréchet Analysis of Variance for Random Objects”.
- 2018 **Student Paper Award, International Indian Statistical Association Conference, 2018**, for “Fréchet Analysis of Variance for Random Objects”.
- 2018 **UC Davis and Humanities Graduate Research Award**.
- 2018 **UC Davis Graduate Studies Travel Award**.
- 2015-2017 **Summer Statistics Research Fellowship Award, UC Davis**.
- 2009-2014 **INSPIRE Scholarship**, offered by the Department of Science and Technology (DST), Government of India.

Teaching Experience

Stanford University

- Winter 2021 **STATS/BIO 141 (Biostatistics)**.
- Fall 2020 **STATS 116 (Theory of Probability)**.

University of California Davis

- Spring 2019 **STA 131A (Introduction to Probability Theory)**.
- Summer 2018 **STA 13 (Elementary Statistics)**.

Mentoring Experience

- 2017-2019 **NSF Research Training Group**, *Department of Statistics, UC Davis*, undergraduate project advising.
 - *Functional data analysis of US baby name densities* with Zhihao Li
 - *Estimating taxi demand in New York* with Wangqian Ju
 - *Classification of brain connectivity maps of schizophrenic and normal subjects* with Jialu Ran

Referee Service (# papers in parentheses)

- Annals of Statistics (6)
- Annals of Applied Statistics (2)
- Stat (1)
- Journal of the Royal Statistical Society: Series B (2)
- Journal of the American Statistical Association (4)
- Biometrika (2)
- Journal of Machine Learning Research (2)

- Electronic Journal of Statistics (2)
- PLOS-ONE (1)
- Computational Statistics and Data Analysis (1)
- Statistics and Computing (1)
- Canadian Journal of Statistics (3)
- Bernoulli Journal (1)
- Journal of the Computational and Graphical Statistic (1)
- Statistica Sinica (1)

Other Academic Services

- Organizer of the Statistics Seminar series, Department of Statistics, Stanford University (Fall 2020, Spring 2021)
- Organizer of session *Functional and Complex Data Analysis*, CMStatistics 2020

Hobbies

- Sketchcrawling. I actively pursue urbansketching. <http://www.urbansketchers.org/>
- Hiking