

Paromita Dubey

Curriculum Vitae

Department of Data Sciences and Operations
USC Marshall School of Business
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Employment

- 2021–present **Assistant Professor (tenure track)**, *Department of Data Sciences and Operations, University of Southern California, Marshall School of Business*
- 2020–2021 **Stein Fellow**, *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*

Awards and Honors

- 2023-2026 **National Science Foundation, Division of Mathematical Sciences, Award No. 2311034.**
- 2022 **USC Zumberge Individual Research Award**
- 2021 **Invited as a Long Term Participant in the “Geometric Methods in Optimization and Sampling” program**, *Simons Institute for the Theory of Computing, University of California, Berkeley*
- 2020 **IMS New Researcher Travel Award**
- 2019 **Invited to present in the Discussion Paper meeting of the Research Section Committee**, *Royal Statistical Society, London*
- 2019 **Peter Hall Graduate Research Award**, 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**
- 2011 **Indian Academy of Sciences Summer Research Fellowship**
- 2009-2014 **Innovation in Science Pursuit for Inspired Research (INSPIRE) Scholarship**, Department of Science and Technology (DST), Government of India

Preprints and Publications

- 2023+ **Change Point Detection for Random Objects using Distance Profiles.**,
-with M. Zheng, arxiv indentifier: <https://arxiv.org/abs/2311.16025>, Submitted.
- 2023+ **Metric Statistics: Exploration and Inference for Random Objects With Distance Profiles.**,
-with Y. Chen and H.G. Müller, arxiv indentifier: <https://arxiv.org/abs/2202.06117>, Submitted.
- 2023+ **Online network change point detection with missing values**,
-with H. Xu and Y. Yu, arxiv indentifier: <https://arxiv.org/abs/2110.06450>, Submitted.
- 2022 **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., arxiv indentifier: <https://arxiv.org/abs/2109.07059>, Journal of Mathematical Analysis and Applications 514.2 (2022): 125677
- 2021 **Modeling time varying random objects and dynamic networks**,
-with H.G. Müller, arxiv indentifier: <https://arxiv.org/abs/2104.04628>, Journal of the American Statistical Association (2021): 1-16
- 2021 **Modeling Sparse Longitudinal Data in Early Neurodevelopment**,
-with Y. Chen, P. Dubey, H.G. Müller, J.L. Wang, M. Bruchhage, S. Deoni and RESONANCE Consortium., pubmed indentifier: <https://pubmed.ncbi.nlm.nih.gov/33273598/>, NeuroImage 237 (2021): 118079

- 2020 **Time-Dynamics of COVID-19**,
-with C. Carroll, S. Bhattacharjee, Y. Chen, P. Dubey, J. Fan, A. Gajardo,
X. Zhou, H.G. Müller, J.L. Wang, pubmed indentifier: <https://pubmed.ncbi.nlm.nih.gov/33273598/>, Scientific reports 10.1 (2020): 1-14
- 2020 **Fréchet change point detection**,
- with H.G. Müller, Annals of Statistics, arxiv indentifier: <https://arxiv.org/abs/1911.11864>
The Annals of Statistics 48.6 (2020): 3312-3335
- 2020 **Functional models for time-varying random objects (Discussion Paper)**,
- with H.G. Müller, arxiv indentifier: <https://arxiv.org/abs/1907.10829>, Journal of the Royal Statistical Society: Series B (Statistical Methodology) 82.2 (2020): 275-327
- 2020 **Fréchet analysis of variance for random objects**,
-with H.G. Müller, arxiv indentifier: <https://arxiv.org/abs/1710.02761>, Biometrika 106.4 (2019): 803-821
- 2015 **Modeling bimodal discrete data using Conway-Maxwell-Poisson Mixture Models**,
-with P. Sur, Galit Schmueli, Smarajit Bose and P. Dubey, arxiv indentifier: <https://arxiv.org/abs/1309.0579>, Journal of Business & Economic Statistics 33.3 (2015): 352-365

Presentations

Invited Workshops/Programs

- 2023 **Workshop on Change Point Analysis**, *Department of Statistics, University of Warwick*
- 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, University of California, Berkeley*

Invited Talks

- 2023 **2023 IMS International Conference on Statistics and Data Science (ICSDS)**, *Lisbon*
- 2023 **Stat Math Unit, Indian Statistical Institute, Kolkata**
- 2023 **IMS Young Mathematical Scientists Forum — Statistics and Data Science**, *National University of Singapore*
- 2023 **Department of Statistics, University of California, Riverside**

- 2023 **Neyman Seminar, Department of Statistics, University of California, Berkeley**
- 2023 **12th ICSA International Conference, Chinese University of Hong Kong**
- 2023 **Joint Statistical Meetings (session on “Current Advances in Complex Data Analysis”), Toronto**
- 2023 **2023 WNAR/IMS annual meeting, Anchorage**
- 2023 **Statistics and Stochastics Seminar, Massachusetts Institute of Technology**
- 2023 **Probability and Statistics Seminar, University of Southern California**
- 2023 **Geometric Methods in Optimization and Sampling Reunion Workshop, Simons Institute for the Theory of Computing**
- 2022 **International Indian Statistical Association Conference, Indian Institute of Science, Bengaluru**
- 2022 **Department of Biostatistics, University of California, Los Angeles**
- 2022 **Stat Math Unit, Indian Statistical Institute, Kolkata**
- 2022 **Joint Statistical Meetings (session on “Analysis of Random Objects”), Washington, DC**
- 2022 **IMS Annual Meeting 2022 (session on “Statistical inference for continuous-time stochastic processes”), London**
- 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**
- 2022 **International Conference on Econometrics and Statistics (EcoSta 2022), Ryukoku University, Kyoto**
- 2022 **Department of Statistical Science, Duke University**
- 2022 **Department of Statistics, Brigham Young University**
- 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, *Gainsville, 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***

Funding

- 2023-2026 **Division of Mathematical Sciences Award #2311034, National Science Foundation., *Project Title: "Geometry Aware Exploratory Data Analysis and Inference Methods for Complex Data" (Solo PI), (\$275,000).***

2022-2023 **Zumberge Individual Research Award**, (\$23,520).

Student Mentoring

- 2022- **Minxing Zheng**, *DSO Department, USC Marshall Business School*
- 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

Courses Taught

- Spring 2022, 2023 **BUAD 310 (Applied Business Statistics)**, *USC Marshall Business School*
- Winter 2021 **STATS/BIO 141-Biostatistics**, *Stanford University*
- Fall 2020 **STATS 116- Theory of Probability**, *Stanford University*
- Spring 2019 **STAT 131A-Introduction to Probability Theory**, *University of California, Davis*
- Summer 2018 **STAT 13- Elementary Statistics**, *University of California, Davis*
- 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

- The Annals of Statistics
- The Annals of Applied Statistics
- Stat
- Journal of the Royal Statistical Society: Series B
- Journal of the American Statistical Association-Theory and Methods
- Biometrika
- Journal of Machine Learning Research
- Journal of Econometrics
- Electronic Journal of Statistics
- PLOS-ONE
- Computational Statistics and Data Analysis
- Statistics and Computing

- Canadian Journal of Statistics
- Bernoulli Journal
- Journal of the Computational and Graphical Statistics
- Statistica Sinica
- Statistical Science
- Journal of Multivariate Analysis
- Biometrics

Other Academic Services

- Organizer of the invited session *Current Advances in Complex Data Analysis*, JSM 2023
- Organizer of the Statistics Seminar series, DSO Department, USC Marshall Business School (Fall 2022, Spring 2022)
- Organizer of the Statistics Seminar series, Department of Statistics, Stanford University (Fall 2020, Spring 2021)
- Organizer of the invited session *Functional and Complex Data Analysis*, CMStatistics 2020