

# Rituparna Sen

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Indian Statistical Institute  
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## **EDUCATION**

09/99-07/04	PhD in Statistics	University of Chicago
07/96-05/98	Master of Statistics	Indian Statistical Institute
07/93-05/96	Bachelor of Statistics	Indian Statistical Institute

## **EXPERIENCE**

09/23-06/24	Visiting Associate Professor, University of California, Santa Barbara
01/20-Present	Associate Professor, Indian Statistical Institute, India
03/21-Present	Editor, Applied Stochastic Models in Business and Industry
09/11-12/19	Assistant Professor, Indian Statistical Institute, India
08/04-08/11	Assistant Professor, University of California at Davis, USA
01/10-06/12	Visiting Scientist, University of Augsburg, Germany
06/00-08/00	Summer Intern, Bell Labs, Lucent Technologies, NJ, USA
09/98-06/99	PhD student, Statistics, Stanford University, CA, USA

## **AWARDS and RECOGNITION**

1. 2019 Young Statistical Scientist Award in the Applications category awarded by the International Indian Statistical Association (IISA).
2. 2019 Asian Development Bank travel award for attending World Statistics Congress
3. 2019-2023 Member of Council, International Society for Business and Industrial Statistics
4. 2018 Elected Member, International Statistical Institute
5. 2014 Ambarnath Shanti Ghosh Travel Grant from Indian Statistical Institute
6. 2014 Travel award from International Statistical Institute from The World Bank Trust Fund for Statistical Capacity Building and International Society for Business and Industrial Statistics
7. 2014 Plenary speaker in 8th Statistics Day Conference, The Reserve Bank of India, Mumbai
8. 2010 Summer Research Fellowship, UC Davis.
9. 2010 Faculty Development Award, UC Davis
10. 2009 Women in Mathematical Sciences Award, Technical University of Munich
11. 2004-2010 Annually, Faculty Research Travel Grant, UC Davis
12. 2001 Best Student Paper Award, ASA section on Statistical Computing
13. 2000 Bahadur Memorial Fellowship, University of Chicago
14. 1998 Abram's Award Fellowship, Stanford University
15. 1997 Gold medal for ranking 1st in B. Stat, Indian Statistical Institute

## **PUBLICATIONS**

1. Ruggeri, F., Banks, D., Cleveland, W. S., Fisher, N. I., Escobar-Anel, M., Giudici, P., Raffinetti, E., Hoerl, R. W., Lin, D. K. J., Kenett, R. S., Li, W. K., Yu, P. L. H., Poggi, J., Reis, M. S., Saporta, G., Secchi, P., Sen, R., Steland, A., Zhang, Z., (2025) “Is There a Future for Stochastic Modeling in Business and Industry in the Era of Machine Learning and Artificial Intelligence?” *Applied Stochastic Models in Business and Industry*, 41(2), e70004.
2. Lakshmi, M.V., Deb, S. and Sen, R., (2025) “Environmentally Responsible Index Tracking: Maintaining Performance while Reducing Carbon Footprint of the Portfolio”, *Statistics and Applications*, 23(1).
3. Biswas, S. and Sen, R. (2024) “Kernel Based Estimation of Spectral Risk Measures”, *The Journal of Risk*, 26(5), 17-47.
4. **(Book)** Sen, R. and Das, S. (2023) *Computational Finance with R*, Springer Indian Statistical Institute Series.
5. Biswas, S. and Sen, R. (2023) “Nonparametric Estimation of Range Value at Risk”, *Computation* 11(2): 28.
6. Chakrabarti, A. and Sen, R. (2023) Copula Estimation for Non-Synchronous Financial Data, *Sankhya B*, 85 (Suppl 1): 116-149.
7. Sen, R., Majumdar, A. and Sikaria, S. (2022) Bayesian Testing of Granger Causality in Functional Time Series, *Journal of Quantitative Economics*, 20, 191-210.
8. Sreelakshmi, N., Kattumannil, S. K. and Sen, R. (2021) Jackknife Empirical Likelihood-based Inference for S-Gini Indices, *Communications in Statistics - Simulation and Computation*, 50(6), 1645-1661.
9. Sikaria, S., Sen, R. and Upadhye, N. S. (2021) Bayesian Filtering for Multi-period Mean-Variance Portfolio Selection, *Journal of Statistical Theory and Practice*, 15(2), 1-19.
10. Das, S. and Sen, R. (2021) Sparse Portfolio Selection via Bayesian Multiple Testing, *Sankhya B*, 83(2), 585-617.
11. Lahiri, A. and Sen, R. (2020) Fractional Brownian Markets with Time-Varying Volatility and High-Frequency Data , *Econometrics and Statistics*, 16: 91-107.
12. Sen, R. and Manavathi, S. (2019) Stylized Facts of the Indian Stock Market, *Asia-Pacific Financial Markets*, 26(4): 479-493.
13. Sen, R and Klueppelberg, C (2019) Time Series of Functional Data, *Applied Stochastic Models in Business and Industry*, 35(4), 1028-1043.
14. Chaudhuri, K., R Sen and Z. Tan (2018) Testing Extreme Dependence in Financial Time Series, *Economic Modeling*, 73, 378-394.
15. Sen, R. and P. Mehrotra (2016) Modeling volatility and jumps of Indian Stock market using high-frequency data, *Journal of Quantitative Economics*, 14(1), 137–150.
16. Müller, H. G., R. Sen and U. Stadtmüller (2011) Functional Data Analysis for Volatility. *Journal of Econometrics*. 165(2) 233-245.
17. Sen, R. (2009) Hedging Options in the Incomplete Market with Stochastic Volatility. *Statistics and Its Interface*. 2(4) 469-480.
18. Sen, R. and F. Hsieh (2009) A note on testing regime switching assumption based on recurrence times. *Statistics and Probability Letters*. 79(24) 2443-2450.
19. Sen, R. and M.H. Hansen (2003) Predicting Web User's Next Access Based on Log Data. *Journal of Computational and Graphical Statistics*, 12(1): 143-155.

## **EXTERNALLY FUNDED PROJECTS**

2025 Education Statistics with Prayoga Institute of Education Research  
2023 Risk Management with Canara Bank  
2020 MATRICS research grant (MAThematical Research Impact Centric Support) for 3 years from the Science and Engineering Research Board (SERB), Government of India.  
2017 Mathematical examination of a load forecasting model for Hitachi India  
2016 Finding the best possible precision in a changing environment for Hitachi India  
2015 Predictive Analytics for Lucid Technologies  
2013 Classification of ECG for Intel Bangalore

## **TEACHING EXPERIENCE**

**University of California at Santa Barbara:** Nonparametrics, Survival Analysis, Probability, Design of Experiments.

**Indian Statistical Institute, BSDS:** Multivariate Data and Regression.

**Indian Statistical Institute, BMath:** Statistics I, Statistics II, Probability I, Probability II.

**Indian Statistical Institute, MStat:** Computational Finance, Large Sample Statistical Methods, Multivariate Analysis, Probability and Stochastic Processes I, Statistical Inference II.

**Indian Statistical Institute, Business Analytics:** Weekend classes for the professional program

**Indian Institute of Quantitative Finance:** Post Graduate Program in Financial Engineering, Certificate Program in Applied Mathematical Finance for Engineers

**Madras School of Economics:** Statistical Methods

**Chennai Mathematical Institute:** Mathematics and Finance Summer School, Certificate Program on Data Science, Risk Management

**University of California at Davis:** Advanced Topics in Mathematical Finance, Applied Statistics, Multivariate Analysis, Probability for Engineers, Probability Modeling, Mathematical Statistics, Elementary Statistics.

**University of Chicago:** Elementary Statistics.

**Joint Statistical Meetings:** Full day continuing education course.

## **STUDENTS SUPERVISED**

### **Main PhD thesis advisor for:**

Debanjana Datta ISI expected 2027

Shubhangi Sikaria IIT Madras 2023

Arnab Chakrabarti ISI 2020

Zheng Tan UC Davis 2012

Qiuyan Xu UC Davis 2008

### **Post-doctoral researchers supervised:**

Dr Kumarapandiyam Gnanasegaran, currently Assistant Professor at Madras Christian College

Dr Ashmita Gupta, currently Visiting Faculty at Asian Development Research Institute

Dr Arun Kumar, currently Assistant Professor at IIT Ropar

Dr Ayon Ganguly, currently Assistant Professor at IIT Guwahati

Dr Suparna Biswas, under Women Scientists Scheme (WOS-A) from Department of Science and Technology, Government of India

### **Masters Thesis Project supervised**

Lakshmi M V, 2023, IISER Tirupati

Siddharth Mohapatra, 2023, IISER Pune

Mbhense Lindokuhle. S, University of Zululand, 2021  
Chittala Sai Ram, IITM, 2021  
Divyashish Chowdhury, IITM, 2020  
Manavathi S., PSG College of Technology, Coimbatore 2018  
Nilabja Ray, ISI Chennai, 2013

### **INVITED TALKS (last 2 years)**

1. Mathematics Department colloquium and CIS seminar, IISER Pune, Sept 18-19, 2025.
2. National Conference on Time Series, Analytics, and Advanced Statistical Modelling, Central University of Rajasthan, Feb 10-11, 2025.
3. International conference on Quantitative Finance, Mathematical Sciences Institute Belagavi, Nov 18-22, 2024.
4. International Symposium on Business and Industrial Statistics, Yogyakarta, Indonesia, July 11-13, 2024.
5. Recent Trends in Statistical Theory and Applications (WSTA), Trivandrum, June 29 - July 2, 2024.
6. Advances in Data Analytics and Official Statistics, Pune, May 24-26, 2024.
7. Market Microstructure, Quantitative Trading, High Frequency, and Large Data, University of Chicago, Chicago, USA, May 2-4, 2024.
8. Statistics Department colloquium and CoFES seminar, Rice University, March 25-26, 2024.

### **SERVICE**

#### **Editorial and Review**

1. Associate Editor, Statistics and Applications, 2024-Present
2. Associate Editor, Journal of Indian Statistical Association, 2020-2022.
3. Member, Publications Committee, International Statistical Institute, 2020-2022.
4. Associate Editor Indian Statistical Institute book series by Springer.
5. Associate Editor of Sankhya, Series B, 2016-Present.
6. Associate Editor Applied Stochastic Models in Business and Industry 2014-2020.
7. Reviewed papers for S&PL, JASA, JRSS(B), ASMBI, JFM, JBES, JMVA, Managerial Finance, QF, JAS, Sankhya, Indian Growth and Development Review, Communications in Statistics, IIMB Management Review, Managerial and Decision Economics
8. Reviewed book proposal for Wiley, Chapman & Hall
9. Reviewed research grant proposal for Indo-French Centre for the Promotion of Advanced Research
10. Panelist for NSF Graduate Research Fellowship in the Mathematical Sciences 2007

### **Speaker at Workshop/Training/Outreach Program (last 2 years)**

1. Presidency college, April 4, 2025.
2. Maharani Women's college, Mar 18, 2025.
3. Veer Narmad South Gujarat University, Feb 13, 2025.
4. Manipal Astrostatistics School, Manipal, Dec 10-15, 2024.
5. VIT Chennai, Nov 6, 2024.
6. Faculty Development Program at VIT-AP, June 24-28, 2024.

### **Membership of professional bodies:**

ISI elected member, life member of SSCA, life member of IISA, life member of ISPS, IMS member.

### **Conference and Workshop organization**

1. Member, Organizing committee, International Day of Statistical Literacy, 21<sup>st</sup> May, 2024.
2. Organizer and resource person, Workshop on Data Analysis, Statistical Inference and Regression at University of Zululand, South Africa, 30th May - 1st June, 2023.
3. Chair, Organizing Committee, Weekend Online Program on Statistical Machine Learning, Centre for Artificial Intelligence and Machine Learning, ISI, 3 weekends in March 2021.
4. Member, Scientific Program Committee member of International Virtual Conference on Advanced Statistical Techniques in Business and Industry, CUSAT, Cochin, Dec 28-30, 2020.
5. Member, Scientific Program Committee of International Indian Statistical Association meeting, Mumbai, Dec 26-30, 2019.
6. Member, Organizing committee, Research Workshop and Conference on Statistical methods in finance at CMI, Chennai. 2015-2023. Eight conferences.
7. Organizer and resource person, Summer Training Program for BSc statistics students, ISI Chennai, May 7-June 15, 2018.
8. Member, Scientific Committee and student paper competition committee, International Conference on Business and Industrial Statistics, Athens, Greece, July 4-6, 2018.
9. Member, organizing committee, Conference in ISI Kolkata to celebrate 125th birth centenary of P. C. Mahalanobis, Jan 2-4, 2018.
10. Chair, student paper competition and member, Scientific Program Committee of International Indian Statistical Association meeting, Hyderabad, Dec 27-30, 2017.
11. Coordinator, National Level Advanced Orientation Programme in Statistics, S.D.N.B. Vaishnav College for Women, Chennai, Aug 18 -22, 2014.
12. Director, Weekend Professional Training Program on Business Analytics, ISI Chennai, Feb-Apr 2014
13. Organizer of Statistical Science Symposium in ISI Chennai, Feb 2014
14. Treasurer of IISA Conference Statistics, Science, and Society: New Challenges and Opportunities held during January 2-5, 2013.
15. Member of NBER-NSF Time Series Meeting Committee 2009

### **Others**

1. Local coordinator of Bachelors in Statistical Data Science program 2024 - Present
2. Jury member for best paper award ISBIS conference 2024
3. Free statistical consulting service for researchers and industry for one hour every week
4. Plenary talk, International conference in Mathematical Sciences organised by Alliance School of Applied Mathematics, April 28-29, 2023.
5. Committee for evaluation of Matrics grant by SERB, DST 2021-2023
6. Development of Public Affairs Index 2022 with Public Affairs Centre (PAC)
7. Country coordinator of the International Statistics Literacy Project since 2022.
8. In-charge, Student Academic affairs, ISI Chennai, 2013 - 2015
9. Question paper setting committee for CSIR-NET Junior Research Fellowship examination 2014
10. Committee for selecting Gossett lecturer, Journal Stat Editor, Jan Tinbergen Award winner, IISA young statistician
11. Webpage on Statistical concepts
12. Webinars for IISA and Limit, ISI Bangalore
13. ISI committees: PhD-DSc statistics, RFAC economics, CAIML, admission for various programs, Feasibility, Statistics RA, official statistics, MStat Project and award.
14. ISI Bangalore committees: computer, library, C-CAIR.