

## NALINI RAVISHANKER: CURRICULUM VITAE

Department of Statistics  
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### Research Interests

Time Series Analysis, Times-to-events Analysis, Bayesian Dynamic Modeling, Predictive Inference for Data Science.

### Interdisciplinary Research Interests

Biomedical sciences, Civil Engineering, Computer Engineering, Ecology and Environmental Science, Finance, Insurance, Marine Sciences, Marketing, Psychology, and Transportation Engineering.

### Education

1987 Ph.D. Statistics New York University Stern School of Business.  
Advisor: Edward L. Melnick.  
Thesis: *Differential geometry of ARMA models.*  
1981 B.Sc. Statistics Presidency College, Madras, India.

### Academic and Professional Positions

2003 - present Professor, University of Connecticut, Storrs  
1995 - 2003 Associate Professor, University of Connecticut, Storrs  
1989 - 1995 Assistant Professor, University of Connecticut, Storrs  
1988 - 1989 Visiting Scientist, IBM Research Yorktown Heights, NY  
Jan 1988 - May 1988 Visiting Faculty, University of Connecticut, Storrs  
Nov 1987 - May 1988 Independent Consultant, IBM Research, Yorktown Heights  
Jan 1983 - June 1987 Graduate Assistant, New York University

### Awards Honors

Elected Fellow, AAAS (2021)  
Elected Fellow, ASA (2006)  
Elected Member, ISI (2001)  
Elected Member, CT Academy of Science and Engineering CASE (2013)  
Thomas E. Recchio UConn ECE Faculty Coordinator Award, 2019  
UConn Early College Experience ECE Faculty Coordinator Award, 2010  
UConn Faculty Undergraduate Advisor Award, 2009  
New York University Paul Willensky Scholarship Award, 1985-1986  
Government of India National Merit Scholarship, 1981-1982  
University of Madras Bysani Chetty gold medal for 1st rank B.Sc. Statistics, 1981

### Professional Honors

Chair Scientific Program Committee for ISI-WSC 2021 in The Hague.  
President, ISBIS, August 2017-August 2019.  
President-elect, ISBIS (2015-2017)

## **Professional Society Memberships**

American Statistical Association ASA (elected Fellow 2006)  
American Association for the Advancement of Science AAAS (elected Fellow 2021)  
International Statistical Institute, ISI (elected member)  
International Society for Business and Industrial Statistics, ISBIS  
Institute of Mathematical Statistics, IMS  
International Indian Statistical Association IISA (secretary 2000-2004)  
International Society for Bayesian Analysis ISBA  
CT Academy of Science and Engineering CASE (elected member 2013)

## **Editorial Activities**

April 2019-present. Associate Editor, Chilean Journal of Statistics.  
1994-present. Associate Editor, Journal of Forecasting.  
Jan 2016 - Feb. 2022. Co-Editor-in-Chief, International Statistical Review  
2008-2015. Theory and Methods Editor, Applied Stochastic Models in Business and Industry(ASMBI).  
2001-2008. Associate Editor, The American Statistician.

## **Professional Activities**

### **(a) Professional Outreach and Service**

Management Committee member of the ISI SIG on Data Science, 2021-2023.  
Vice-President for Education, New England Statistical Society (NESS), 2017-2020  
ISBIS, VP Scientific Program (2013-2015).  
International Statistical Institute Publications Committee (2012-present).  
IISA JSM Program Committee chair (2012-2013).  
ASA B&ES Section Student Award Committee (2011-2012).  
Advisor to Committee on Student Pro Bono Statistics of ASA (2010-2011).  
Quality & Productivity Research Conference Program Committee (2009).  
Quality & Productivity Research Conference Steering Committee, from 2014.  
Conference Organizing: QPRC 2017, UConn Storrs.  
Invited Session Organizing at Conferences:  
YIRCoBL 2011; ISPS 2011; ISBIS 2012; IISA 2013, ISI 201, ISBIS 2014, ISBA  
2014, QPRC2015, ISBIS 2015, ISBIS 2016, ISI RSC 2017, ISI 2017, ISBIS  
2017, QPRC 2017.  
Topics Contributed Session Organizing at Conferences:  
JSM 2004, 2005, 2006; ISI 2011, ISI2015.  
Participated in two studies for CASE: CT Disparity Study for the CT General  
Assembly and the Government Administration and Elections Committee; and the  
CT Early Childhood Regression Discontinuity Study.

### **(b) Refereeing.**

**Journal articles.** For several Statistical Methodology and Applications journals.  
**Grant Proposals.** For NSF and UConn.  
**Thesis.** External evaluator on PhD theses.  
**Promotion and Tenure.** External Evaluator on faculty tenure and promotion.  
**Programs.** External Evaluator of Statistics programs.

**(b) Selected Consulting Activities**

Cogitaas, India (2016-present).  
Nestle, CT (2016-2019).  
Quintet Strategies, Glastonbury, CT (2002-2008).  
Retirement Research LIMRA, Windsor, CT (2008).  
Hartford Life, Simsbury, CT (2006).  
University of Connecticut Health Center, Farmington, CT (1995-2000).  
Department's Statistical Consulting Services (SCS).

**(c) Workshops/Lectures/Online Lectures**

August 2019. *Bayesian Analysis of Time Series using R*, ISBIS 2019, August 16 2019, Kuala Lumpur, Malaysia (with Balaji Raman, Cogitaas, India).

May 2019. Short Course on *Advanced Time Series Analysis* at the Hartford Steam Boiler, Hartford, CT (with Jian Zou, WPI, MA).

Jan 2019. Workshop on *Projects in Regression and Time Series Analysis*. Jan 7, 2019, M.O.P. Vaishnav College for Women, Chennai, India.

Dec 2018. Workshop on *Time Series Analysis Using R*, Dec 20, 2018, University of Madras, India (with Balaji Raman, Cogitaas, India).

Oct 2018. Short Course on *Introduction to Time Series* at the Hartford Steam Boiler, Hartford, CT (with Jian Zou, WPI, MA).

Dec 2017. Workshop on *Times-to-Events and Time Series Data Analysis using R*, Dec. 15 - 18, 2017, Cochin University of Science and Technology, Cochin, India (with N. Balakrishna, CUSAT)

Dec 2017. *Workshop on Time Series in Data Science*, Dec. 20-22, 2017, PGIS, University of Peradeniya, Sri Lanka (with N. Balakrishna, CUSAT).

Dec 2017. *Introduction to Statistical Analysis using R*. Dec 27 2017, M.O.P. Vaishnav College for Women, Chennai, India.

July-August 2014, 2015, 2016, 2017. Pre College Summer @ UConn. *Data Deluge! Data, Data, Everywhere...Sorting through the deluge of data!*

May 2015. Co-organizer of the *Indo-US Workshop on Time Series Analysis* May 25-30, 2015, organized jointly by IISER, Pune and SAMSI, USA.

Jan 2015. Indian Statistical Institute Chennai Center. *International Workshop on Statistical Methods for Business and Industry Applications*. Sponsored jointly by ISBIS, Indian Statistical Institute, International Indian Statistical Association and University of Madras.

Jan 2015. Cochin University of Science and Technology. *International Workshop on Reliability and Time Series Methodology Relevant to Business and Industry*. Sponsored jointly by ISBIS, Cochin University of Science and Technology, and International Indian Statistical Association.

June 2014. University of Malaya. *Workshop on Time Series Analysis using R*.

April 2014. NYU Polytechnic School of Engineering. *Workshop on Time Series Modeling for Financial Applications*.

Jan 2014. Connecticut College (joint with Priya Kohli). *Introductory Workshop on Statistical Modeling Techniques for Life Sciences*.

June 2013. Online workshop for Welingkar Institute, Bangalore, India. *Workshop on Applied Statistics for Business Research*.

June 2013. Valparaiso Experience in Research by Undergraduate Mathematicians (VERUM), Valparaiso University, Indiana. *Dynamic Models for Stochastic Volatility*.

April 2013, 2014, 2015. Online workshop for ISI Chennai. *Dynamic Linear Models*.

Jan 2013. Workshop on Statistical Analysis of Time Series data with Applications, Cochin University of Science and Technology, Cochin, India. *Dynamic Linear Models for Time Series; Dynamic Models for Time Series of Counts*.

March 2011. Online workshop for Cognizant India. *Applied Statistics and Linear Models*.

Nov 2010. National Management School, Chennai India. *State-of-the-art Quantitative Techniques for Business Problems - Four Illustrative Scenarios*

2006. Pitney Bowes CT. *Applied Statistics; Applied Time Series*.

2017. Cochin University of Science and Technology and Cogitaas, India. ISBIS Virtual Workshop. *Bayesian Modeling-Computations and Applications*.

Dec 2017. Cochin University of Science and Technology. Workshop on Times-to-Events and Time Series Data Analysis using R.

Dec 2017. University of Peradeniya. ISBIS-Co-sponsored Workshop on Time Series in Data Science.

Dec 2017. M.O.P. Vaishnav College for Women. Statistical Analysis using R.

### **UConn ECE Workshops**

2022: virtual - *Teaching Intro Stats Students to Think with Data* – discussion.  
2021: virtual - Examples from *Statistical Practice for Data Science - with Hands-on Illustrations using R* (book under preparation).  
2019: Assessing Normality of Data and Residuals from Linear Models.  
2018: The p-value Controversy, Penalized Regression, Nonparametric Methods.  
2017: Statistics and Data Science – A Conversation.  
2016: Statistical Data Analysis using R.  
2015: Conditional Probability in Practice.  
2014: Regression with Serial correlation.  
2013: Projects and advanced methods – an application from ecology.  
2012: Statistical models in transportation safety.  
2011: Power calculations in hypothesis testing.  
2010: Assessment of the normality assumption.  
2009: Enhanced aspects in linear regression modeling.  
2008: Deterministic time series regression.  
2007: Inference in single and multi-sample problems.  
2006: Graphical techniques to match data with distributions.  
2005: Discrete probability distributions (Discrete data models).  
2004: A look at probabilities and odds and risks.

### **University Service**

Steering Committee member of the MS in Data Science Program, 2021-present.  
UConn Early College Experience Statistics Faculty Coordinator (1997 - present).  
UConn ECE Advisory Board (2008 - present).  
UConn Q Center Advisory Board (2006 - 2015).  
UConn Senate (2005 – 2008).  
UConn Senate Budget Committee (2005 – 2008).  
UConn Senate Ad Hoc Committee on Q (2002 - 2003).  
UConn Q Subcommittee of GEOC, chair (2002 - 2003).  
UConn General Education Oversight Committee GEOC (2002 - 2003).  
UConn Mentor Connection (1996 – 1998).  
UConn First Year Experience Advisory Board (1999 - 2001).  
CAMPY Statistics Workshop for High School Seniors (March 28 2001).  
Mathematics-Statistics Coop Day (May 4 2001).

### **College of Liberal Arts and Sciences (CLAS) Committee Service**

Academic Affairs Advisory Council (2006 - 2007).  
Dean's Advisory Committee on Strategic Planning (2005 - 2006).  
Undergraduate Council Member (2002 – present).  
Dean's Advisory Committee on PTR (2000 - 2003).  
Course and Curriculum Committee (1997 – 2001).

### **Departmental Service**

#### **(a) Undergraduate Program Director (Spring 1997 – Summer 2019)**

Advise Statistics and Mathematics-Statistics Majors.  
Advise Statistics Minors.  
Transfer Advising/credit evaluations.

Coordinate Undergraduate Internship STAT 4190.  
Coordinate Undergraduate Research STAT 4389.  
Coordinate Undergraduate Course and Curriculum.  
Coordinate Undergraduate Assessment.

**(b) Other Departmental service**

Statistics Boot Camp Coordination. Summer 2019.  
Search Committee 1992-1996, 2002-2003, 2004-2005, 2006-2007,  
2011-2013.  
Graduate Admissions Committee 1998-2000, 2005-present.  
Computer Committee 1996-2005.  
Colloquium Committee 1995-1996.  
Examination Review Committee Spring 1997-1998.  
Course and Curriculum Committee Spring 1997-2001.  
Consulting Committee 1997- 2005.  
Social and Behavioral Sciences Area Review Committee 1994-1997.  
Library/Technical Reports Committee 1990-1995.  
Social Committee 1990-1995.  
Celebration Committee 2001-2002.

**Student Advising**

**(a) Statistics PhD advisees**

- Jeffrey S. Pai (1994) *Bayesian analysis of ARIMA processes.*
- Zuqiang Qiou (1996) *Bayesian inference for stable processes.*
- Madhujā Mallick (2004) *Frailty modeling of multivariate times to events based on the positive stable family.*
- Zhaohui Liu (2006) *Bayesian inference for NHPP models for software reliability.*
- Jaydip Mukhopadhyay (2007) *Mining tools for high-dimensional time series data using spectral methods.*
- Shan Hu (2012) *Dynamic modeling of discrete-valued time series, with applications.*
- Volodymyr Serhiyenko (2015) *Dynamic Modeling of Multivariate Counts-Fitting, Diagnostics, and Applications.*
- Yaohua Zhang (2017). *Structure Learning and Break Detection in High-Frequency Data.*
- Renjie Chen (2019). *Topological Data Analysis for Clustering and Classifying Time Series.*
- Ellis Shaffer (2020). *Temporal Modeling Frameworks for Coastal Wave Heights.*
- Patrick Toman (2020-present). Current advisee.
- Chiranjit Dutta (2020-present). Current advisee.
- Namitha Pais (2020-present). Current advisee.
- Sreeram Anantharaman (2020-present). Current advisee.
- Ziyang Wang (2020-present). Current advisee.

## (b) Associate Advising

### **Actuarial Science:**

Guy Rosoanaivo (2001), Peng Zhou (2003), Sudath Ranasinghe (2007).

### **Computer Science and Engineering:**

Zigeng Wang (2022), Ahmed Soliman (2023).

### **Transportation Engineering:**

Xiao Qin (2005), Chen Zhang (2007), Hongmei Zhou (2010), James Mooradian (2012), Saidul Islam (2014), Khademul Haque (2014), Kevin McKernan (2014), Kai Wang (2017), Annesha Enam (2018), Ray Gerte (2018), Jingyue Zhang (2019), Sadia Sharmin (2022), Md-Julfiker Hossain (2022).

### **External to UConn:**

Haitao Liu (WPI, 2018), Yanzhao Wang (current).

## (c) Undergraduate Research Supervision

- Xiaotong Li (Spring 2018) Honors Thesis. *An Approach for Clustering Stocks using Frequency Domain Analysis of Time Series.*
- Aleya Hafez (Spring 2018) *Particle Filtering Durations.*
- Patrick Adams (Spring 2017) Honors Thesis (co-advised with Kanda Naknoi). *Real-Time Forecasting of the Target Federal Funds Rate.*
- Rajeshwari Majumdar (Spring 2015) SHARE awardee. *Topics in Time Series Modeling of Inter-event durations.*
- Yang Liu (2014-2015) *SVM for Customer Churn Prediction with longitudinal behavioral data.*
- Lilian Cheung (2012 - 2014) *Martingale estimating functions for duration models* (poster presented at UNCG, FURASH and NESS).
- James Anderson (2012 - 2013) *Martingale estimating functions for duration models* (poster presented at FURASH and NESS).
- Elizabeth Gileau (Spring 2012) *Nonlinear time series with applications to financial data.*
- Junghi Kim (Fall 2009 - Spring 2011) University Scholar, Honors Thesis (co-advised with Jun Yan and Evarist Gine) *Dependence measures in multivariate survival analysis* (poster presented at FURASH).
- Julie Silva (Spring 2011) *An application of stochastic modeling for pricing weather derivatives* (poster presented at FURASH).
- Annette Green (Fall 2009) *Spatial and spatio-temporal modeling.*
- Ysanne Richards (Spring 2003; Spring 2004) LSAMP Intern, *Poisson regression; A statistical study of age to onset of tobacco and alcohol usage in twins* (poster presented at FURASH).
- Melissa Woelfel (Spring, Summer 2004) Honors thesis (co-advised with John Silander, EEB), *Modeling invasive plant species distributions in New England.*
- Nathan White (2002) *Statistical prediction of performance of players in NHL.*

- Steven Sugrue (Spring 1999, Summer 2001) *Time series analysis of call volume for a rural paramedic Regional Intercept Program.*

## Teaching at UConn

### Undergraduate level

Introduction to Statistics I  
 Introduction to Statistics II (developed and taught online in summer 2012, 2013)  
 Statistical Methods  
 Mathematical Statistics I and II  
 Analysis of Experiments  
 Applied Time Series  
 Elementary Stochastic Processes  
 Statistical Computing

### Graduate/ Honors Undergraduate\* level

Mathematical Statistics I and II\*  
 Linear Models I and II  
 Applied Statistics I and II  
 Applied Statistics for Data Science  
 Analysis of Experiments  
 Applied Time Series  
 Seminar in Time Series  
 Applied Multivariate Analysis

## Grants

*CIRCA Research Seed Grant. Ensemble Backcasting of Wave Heights in the Long Island Sound, PI, 2022-2023.*

*TIDC C19.2020: Damage Modeling, Monitoring, and Assessment of Bridge Scour and Water Borne Debris Effects for Enhanced Structural Life. Co-PI, October 2020-September 2023 (PI: Wei Zhang, Civil Engineering, UConn).*

*Hartford Steam Boiler: UConn-HSB Collaboration: Statistical Computing Approaches for the Analysis of Multiple Time Course Data, PI, Aug 2019-Aug 2023.*

*NCHRP 17-85: Development and Application of Crash Severity Models for the Highway Safety Manual (PI: John Ivan), 1/10/19-1/9/22.*

*Center for Advanced Multimodal Mobility Solutions and Education, US Department of Transportation – University Transportation Center: Are Transportation Network Companies Synergistic with Other Shared Ride Mode Offerings? An Exploratory Analysis of Demand Data from NYC Utilizing High Resolution Spatiotemporal Models, Co-PI, Sep 2018 – Sep 2019.*

*NSF: 2017 Quality and Productivity Research Conference – Quality and Statistics: Path to a Better Life, Sep 2016 – Aug 2017.*



Year 25 New England University Transportation Center Grant, *Social Network Effects on Attitudes about Pedestrian Street Crossing Behavior* (co-P.I. with John Ivan, Civil and Environmental Engineering and Rebecca Townsend, Manchester Community College), Spring 2015 – Spring 2017.

UConn Faculty Large Grant, *Statistical Modeling of Highway Crash Severity: a Multi-stage Hierarchical Bayesian Multiple-Response Framework* (co-P.I. with John Ivan, Civil and Environmental Engineering), Fall 2013 – Spring 2014.

Center for Transportation and Livable Systems, *Effectiveness of Interventions at Midblock Crossings for Improving Senior and Other Pedestrian Safety* (co-P.I. with John Ivan), Aug 2013 - Aug 2014.

NSF/MPS: *2013 International Conference on Statistics, Science and Society: New Challenges and Opportunities*, Sep 2012 – Aug 2013.

New England University Transportation Center (USDOT), *Investigation of Road and Roadside Design Elements Associated with Elderly Pedestrian Safety* (co-P.I. with John Ivan, Civil and Environmental Engineering), Aug 2012 – Dec 2013.

Center for Transportation and Livable Systems, *Evaluation of Surrogate Measures for Pedestrian Safety in Various Road and Roadside Environments* (co-P.I. with John Ivan), Aug 2011 - Aug 2012.

New England University Transportation Center Year 23, *Temporal Modeling of Highway Crash Severity by Involved Person Age* (co-P.I. with John Ivan), Sep 2010 - Aug 2011.

UConn Faculty Large Grant, *Stochastic Models for Multivariate Time Series of Counts, with Environmental and Marketing Applications*, Fall 2010 - Spring 2011.

CT Cooperative Highway Research Program, *Incorporating Wet Pavement Friction into Traffic Safety Analysis* (co-P.I. with John Ivan), 2007-2008.

NSF-AWM Travel Award, 2008.

IBM Faculty Award, June 2002 - May 2003.

U.S. Department of Transportation: *Using Multiple Response Hierarchical Bayesian Modeling to Select Exposure Measures for More Accurate Highway Crash Prediction* (co-P.I. with John Ivan and Donald Teepas, CT Transportation Institute), Aug 2000 - Aug 2001.

Institute of Teaching and Learning, University of Connecticut, Faculty Large Grant, Spring 1999.

Society of Actuaries, *Multivariate Analysis of Pension Plan Mortality Data* (co-P.I. with Charles Vinsonhaler, Mathematics and J. Vadiveloo, Aetna), May 1998.

University of Connecticut Health Center, *Statistical Investigation of Data and Problem*, 1997 - 2000.

NSF Career Advancement Award: *Bayesian Modeling and Inference for Time Series with stable innovations*, 1995 - 1996.

U.S. Army Research Office: *Differential Geometrical Methods in Time Series*, 1991 - 1994.

Pittsburgh Supercomputing Center: several computing grants.

UConn OSP: several travel grants, 1990-present.

## Talks and Lectures

### Invited talks in Conferences

1. June 1991. 11th International Symposium on Forecasting, New York. *Multiple prediction intervals for time series: comparison of simultaneous and marginal intervals.*
2. May 1993. Workshop on Statistical Inference, Differential Geometry and Computer Algebra, Sandjberg, Denmark. *Differential geometric applications to ARMA models.*
3. June 1993. 13th International Symposium on Forecasting, Pittsburgh. *Bayesian analysis of IBM revenue using sampling based methods.*
4. Aug 1994. International Symposium on Bayesian Analysis, Toronto. *Bayesian analysis of ARFIMA models.*
5. May 1998. International Conference for Reliability and Survival Analysis, DeKalb, Illinois. *Multivariate Survival Analysis with Positive Stable Frailties.*
6. July 1998. International Indian Statistical Association IISA, Hamilton, Ontario. *Multivariate Time Series with Infinite Variance Stable Innovations.*
7. June 1999. Applications of Heavy Tailed Distributions in Economics, Engineering and Statistics, American University, Washington, DC. *Monte Carlo EM Estimation for Stable Distributions.*
8. March 2000. Statistics: Reflections on the past and visions for the future. An International Conference in honor of Prof. C. R. Rao on his 80<sup>th</sup> birthday, University of Texas at San Antonio. *Differential Geometry for Time Series.*
9. June 2000. International Conference on Statistics in the 21<sup>st</sup> century, University of Maine, Orono. *Compositional Time Series Analysis of Mortality Proportions.*
10. Nov 2000. Wesleyan University, CT (sponsored by CT Chapter of ASA and Department of Economics, Wesleyan University). *Current Methods for Modeling Long-memory Time Series.*
11. Dec 2002. International Conference on Ranking and Selection, Multiple Comparisons, and Reliability and their Applications, Chennai India. *Frailty Models for Multivariate Survival Data.*
12. Jan 2003. Statistics in Industry and Business, Cochin India. *Bayesian Methods for Software Reliability Growth Modeling with Covariate Information.*
13. Aug 2003. 10 ESTE Sao Pedro, Brazil. *Bayesian Inference for Vector Long Memory Time Series Models.*

14. Aug 2003. 10 ESTE Brazil. *Bayesian Inference for Compositional Time Series*.
15. Apr 2004. Code Red: A Feminist Call to Action, 16<sup>th</sup> annual conference on women and gender, NEWSA & UConn Women's Studies Program. *A Quantitative Analysis of the Effectiveness of Females in Managerial Positions*.
16. Aug 2007. ISBIS 2007, Azores, Portugal. *The Role of Customer Attitudes in CRM Activities*.
17. July 2008. ISBIS 2008, Prague, Czech Republic. *Spectrum Based Mining Techniques for Clustering Financial Time Series*.
18. July 2008. IWAP 2008, Compeigne, France. *Spectral Methods for Clustering Time Series*.
19. Aug 2008. Invited JBES session, JSM 2008. *Inference for Long Memory Time Series with Application to weather Derivative Pricing*.
20. May 2010. SSC 2010, Quebec City. *Fast Bayesian Estimation for Stable VARFIMA Processes via a Multivariate Preconditioned Conjugate Gradient Algorithm*.
21. Aug 2011. ISI WSC 2011 Dublin Ireland. *Value of Customer Attitudes in Measuring and Managing Customer Lifetime Value – an application of HDGLM and HDNLM*.
22. June 2011. YIRCoBL 2011, Istanbul Turkey. *Bayesian Models for Multivariate Time series of Counts, with a Marketing Application*.
23. Aug 2011. JSM 2011 Miami Beach FL. *Bayesian Models for Multivariate Time series of Counts, with a Marketing Application*.
24. June 2012. ISBIS 2012, Bangkok Thailand. *Dynamic Nonlinear Statistical Models with an application to marketing in the Pharmaceutical Industry*
25. July 2012. International Workshop on New Advances in Statistics: Theory and Applications, University of Manitoba, Winnipeg Canada. *Dynamic Models for Time Series of Counts, with Applications*.
26. Aug 2012. SAMSI Computational Advertising Workshop, Raleigh NC. *Fast Computational Approaches for Predictive Inference for Time Correlated Data Streams*.
27. Jan 2013. IISA 2013, Chennai India. *Dynamic Models for Time Series of Counts, with Applications*.
28. June 2013. SRCOS 2013, Montgomery Bell State Park, Burns TN. *Temporal Dynamics of Gastropod Abundance in a Tropical Forest: Bayesian Framework*.
29. March 2014. Ordered data Analysis, Models and Health Research Methods: an International Conference in honor of H.N. Nagaraja for his 60<sup>th</sup> birthday. *Hierarchical Dynamic Models for Multivariate Times Series of Counts, with Applications*.
30. July 2014. ISBA 2014, Cancun Mexico. *Hierarchical Dynamic Models for Multivariate Times Series of Counts*.
31. Aug 2014. JSM 2014, Boston. *Modeling Count Time Series with Inter-Event Durations*.
32. Dec 2014. IASSL, Colombo Sri Lanka. *Hierarchical Dynamic Models for Multivariate Times Series of Counts*.
33. July 2015. ISBIS 2015, Campinas Brazil. *Clustering Nonlinear and Nonstationary Financial Time Series*.
34. July 2015. ISI 2015, Rio de Janeiro, Brazil. *Fast Approximate Likelihood Evaluation for Stable VARFIMA Processes*.
35. July 2015. ISI 2015, Rio de Janeiro, Brazil. Discussion of *Sparse Bayesian Latent Factor Stochastic Volatility Models for High-dimensional Financial Time Series* by H. F. Lopes.
36. October 2015. From Industrial Statistics to Data Science 2015: A conference to honor Vijay Nair, U. Michigan. *Clustering Sets of Nonlinear and Nonstationary Time Series*.

37. May 2016. SAMSI GDRR Workshop, Raleigh NC. *Modeling Inter-Event Durations in High-Frequency Financial Transactions Data via Estimating Functions.*
38. June 2016. ISBIS 2016, Barcelona. *Customer Level Modeling of Multivariate Count Time Series.*
39. August 2016. JSM 2016, Chicago. *Fast approximate Bayesian analysis of multivariate count time series with a marketing application.*
40. May 2017. Spring Research Conference, Rutgers University. *Dynamic Models for Multivariate Time Series of Counts.*
41. June 2017. International Society of Business and Industrial Statistics (ISBIS) 2017, IBM Watson Research, Yorktown Heights. *Dynamic Models for Multivariate Time Series of Counts.*
42. July 2017. ISI-WSC 2017, Marrakech, Morocco, *Modeling Financial Durations Using Estimating Functions.*
43. Aug. 2017. SAMSI Summer Program on Transportation Statistics, Durham NC. *Dynamic Modeling of Transportation Data.*
44. Sep. 2017. StatFest, Emory University, Atlanta. Invited panelist.
45. Jan. 2018. PCM 125. ISI Kolkata. *Penalized Estimating Function Approach for Analyzing Durations in Financial Data.*
46. July 2018. ISBIS 2018. Athens, Greece. *Multiple Day Biclustering of High-frequency Financial Time Series.*
47. December 2018. Statistical Methods in Finance 2018, Chennai Mathematical Institute, India. *High-Frequency Financial Time Series Analysis.*
48. December 2018. ICASMS 2018, University of Madras. *Biclustering for High-Frequency Financial Time Series.*
49. May 2019. NESS 2019, Hartford Hilton. *Modeling Vector Time Series of Counts.*
50. May 2019. ICORS-LACSC, Guayaquil. *Biclustering Algorithms for High-Frequency Financial Time Series.*
51. June 2019. QPRC, American University, Washington DC. *Biclustering Procedures for High-frequency Financial Time Series.*
52. August 2019. ISBIS 2019, Kuala Lumpur. *Clustering High-Frequency Financial Time Series Based on Mutual Information.*
53. August 2019. ISI-WSC 2019, Kuala Lumpur. *Online Monitoring of Durations in High Frequency Time Series.*
54. Aug 2019. SAMSI-GDRR. *Modeling Approaches for High-Frequency Financial Time Series.*
55. Oct. 2020. Data'20: 2020 International Conference on Data Analytics for Business and Industry: Way Towards a Sustainable Economy (ICDABI), Bahrain (virtual conference). *Biclustering Approaches for High-Frequency Financial Time Series.*
56. Dec. 2020. ISBIS Regional Conference. CUSAT, India (virtual conference, keynote). *Biclustering Approaches for High-Frequency Time Series.*
57. Sep. 2021. ICASA. *Biclustering approaches for high-frequency time series.*
58. Jan. 2022. ICASMA, Chennai, India. *Dynamic Bayesian Modeling of Count Time Series using R-INLA with a Marketing Application*
59. Feb. 2022. IX WPSM 2022, Brazil. Virtual lecture. *Modeling Time Series of Counts.*

### **Invited talks in Institutions**

1. Oct 1990. New York University. *Multiple prediction intervals for time series.*

2. Dec 1990. Penn State University. *Differential geometrical methods in time series.*
3. Oct 1991. Boston University. *Reallocation outliers in time series.*
4. Nov 1991. Worcester Polytechnic Institute. *Relative curvature measures of nonlinearity for time series.*
5. March 1993. University of Massachusetts, Amherst. *Comparisons of tests for AR(1) parameter in regression models with autocorrelated errors.*
6. Sep 1994. New Jersey Institute of Technology. *Bayesian analysis of ARFIMA models.*
7. May 1995. Boston University. *Bayesian analysis of ARFIMA models.*
8. Oct 1994. University of Massachusetts, Amherst. *Inference for long-memory time series models.*
9. Oct 1994. C.V. Starr Center for Applied Economics, New York University. *Bayesian analysis of long memory in U.S. GNP using ARFIMA models.*
10. May 1995. Boston University. *Differential geometry of ARFIMA processes.*
11. May 1997. New York University. *Bayesian Inference for time series with Infinite Variance stable Innovations.*
12. Oct 2000. Worcester Polytechnic Institute. *Multivariate Time Series with Infinite Variance Stable Innovations.*
13. Dec 1998. Boston University. *Multivariate Survival Models with Positive Stable Frailties.*
14. March 1999. Yale University. *Multivariate Survival Models with Mixture of Positive Stable Frailties.*
15. Sep 2000. University of Waterloo, Canada. *Stable Frailty Distributions in Multivariate Survival Analysis.*
16. Nov 2000. Harvard University Department of Biostatistics. *Stable Frailty Distributions in Multivariate Survival Analysis.*
17. June 2002. IBM T. J. Watson Research, NY. *Statistical Applications of Stable Distributions and Processes.*
18. Aug 2003. UFRJ Brazil. *Modeling Multiple Time Series with Infinite Variance Stable Innovations.*
19. June 2005. IBM T. J. Watson Research, NY. *Multivariate Times to Events Analysis with a Marketing Application to Multichannel Shopping.*
20. Apr 2005. University of Texas at San Antonio. *Stable Family Frailty Models for Multivariate Times to Events.*
21. Mar 2006. Boehringer-Ingelheim CT. *Stable Family Frailty Models for Multivariate Times to Events.*
22. Oct 2006. Old Dominion University. *Stable Family Frailty Models for Multivariate Times to Events.*
23. Nov 2008. University of Massachusetts Amherst. *An Effective Estimation Approach for Vector Long-Memory Time series with Application to Weather Derivatives pricing.*
24. Dec 2008. Boston University. *An Effective Estimation Approach for Vector Long-Memory Time series with Application to Weather Derivatives pricing.*
25. Oct 2009. George Washington University. *The Role of Customer Attitudes in CRM Activities – application of HDGLM.*
26. Nov 2009. IBM T. J. Watson Research, NY. *The Role of Customer Attitudes in CRM Activities – application of HDGLM.*
27. Oct 2010. Indian Council of Medical Research, Chennai India. *Multivariate Times to Events Analysis with Stable Family Frailty Models.*

28. Oct 2010. Indian Institute of Technology, Chennai India. *Spectrum-based Comparison of Stationary Multivariate Time Series.*
29. Oct 2010. University of Madras, Chennai India. *An Introduction to Applied Time Series Modeling.*
30. Oct 2010. MOP Vaishnav College for Women, Chennai India. *Applied Statistical Research Methods.*
31. Nov 2010. Pune University India. *An Effective Estimation Approach for Vector Long-Memory Time series with Application to Weather Derivatives pricing.*
32. Nov 2010. Bharatidasan Institute of Management, Trichy India. *Multivariate Times to Events Statistical Analysis for targeting customers for channel adoption.*
33. Nov 2010. Indian School of Business ISB, Hyderabad India. *Value of Customer Attitudes in Measuring and Managing Customer Lifetime Value – an application of HDGLM and HDNLM.*
34. Nov 2011. University of Missouri Columbia. *Bayesian Models for Multivariate Time series of Counts, with a Marketing Application.*
60. Oct 2012. University of North Carolina at Greensboro. *Dynamic Models for Time Series of Counts, with Applications.*
61. Jan 2013. Research and Innovation Colloquia, M.O.P. Vaishnav College for Women, Chennai India. *Introduction to Statistics and Research.*
62. Oct. 2013. Connecticut College. *Stochastic Volatility in a Dynamic Linear Model Framework.*
63. Nov. 2013. Baylor University. *Dynamic Models for Multivariate Time Series of Counts, with Applications.*
64. Nov. 2013. NYU Polytechnic School of Engineering. *Estimation in Duration Models using Martingale Estimating Functions.*
65. June 2014. U. Malaya. *Frequency Domain Clustering of Financial Time Series.*
66. Oct. 2014. Boston University. *Estimating Function Approach for Nonlinear Time Series.*
67. Jan. 2015. M.O.P. Vaishnav College for Women. *The Evolving Role of Statistics in Big Data Analytics.*
68. March 2015. University of Nevada at Las Vegas. *Estimating Function Approaches for Nonlinear Time Series.*
69. April 2015. George Washington University. *Modeling Durations using Estimating Functions.*
70. May 2015. IISER Pune, India. *Bayesian Dynamic Modeling.*
71. May 2015. IISER Pune, India. *Hierarchical Dynamic Models for Time Series of Counts.*
72. July 2015. PUC-Lima, Peru. *Hierarchical Dynamic Models for Multivariate Times Series of Counts, with Applications.*
73. April 2016. Worcester Polytechnic Institute. *Hierarchical Dynamic Models for Multivariate Time Series of Counts.*
74. Feb 2017. Rice University. *Dynamic Models for Multivariate Time Series of Counts.*
75. April 2017. UC Riverside. *Dynamic Models for Multivariate Time Series of Counts.*
76. April 2017. Virginia Tech. *Modeling Inter-event Financial Durations using Martingale Estimating Functions.*
77. May 2017. Federal HighWay Administration (FHWA). *Dynamic and Static Statistical Approaches for Transportation Data.*
78. Dec 2017. ISI-Chennai Center. *Modeling Financial Durations using Penalized Estimating Functions.*

79. Jan 2018. University of Madras. *Modeling Financial Durations using Penalized Estimating Functions.*
80. March 2018. Nehru Memorial College, Puthanampatti, India. *Introduction to Statistics and Data Science (virtual lecture).*
81. January 2019. Department of Statistics, Manipal University, India. *Dynamic Models for Multivariate Times Series of Counts.*
82. January 2019. T.A. Pai Management Institute, Manipal, India. *Bayesian Dynamic Models for Multivariate Time Series of Counts.*
83. March 2019. Tel-Aviv University. *Modeling Inter-event Durations in High-Frequency Time Series.*
84. April 2019. UFBA, Brazil. *Hierarchical Dynamic Models for Multivariate Times Series of Counts, virtual talk.*
85. Feb. 2020. U. Buffalo. *Modeling Intra-Day Financial Time Series.*
86. Apr. 2021. SUNY Binghamton; George Washington University. *Biclustering Approaches for High-Frequency Financial Time Series.*

### **Topic Contributed and Regular Contributed Talks**

1. Aug 1989. Joint Statistical Meetings, Washington D.C. *Simultaneous prediction intervals for multiple forecasts in time series models.*
2. Apr 1990. Fourth New England Statistics Symposium. *Simultaneous prediction intervals for multiple forecasts in time series models.*
3. Aug 1990. Joint Statistical Meetings, Anaheim CA. *Differential geometry of ARMA models.*
4. Aug 1990. Joint Statistical Meetings, Anaheim CA. *Forecasting for business planning: a case study of IBM product sales.*
5. Apr 1991. Fifth New England Statistics Symposium. *Reallocation outliers in time series.*
6. Aug 1991. Joint Statistical Meetings, Atlanta. *Relative curvature measures of nonlinearity for time series models.*
7. Apr 1992. Sixth New England Statistics Symposium. *Bayesian analysis of ARMA models.*
8. Aug 1994. Joint Statistical Meetings, Toronto, Canada. *Bayesian analysis of fractionally differenced ARIMA processes using Gibbs sampling.*
9. Aug 1994. Joint Statistical Meetings, Toronto, Canada. *Planning, Forecasting and contemporaneous outlier analysis for IBM regional revenue based on shrinkage estimation.*
10. Aug 1995. Joint Statistical Meetings, Orlando. *Bayesian analysis of multivariate ARFIMA processes.*
11. June 1997. International Symposium on Forecasting, Barbados. *Bayesian inference for time series with infinite variance stable innovations.*
12. June 1998. Poster presented at the 6th Valencia International Meeting on Bayesian Statistics, Alcossebre, Spain. *Modeling Multivariate Survival Data Using Stable Frailty Distributions.*
13. Aug 2004. SBSS Topics Contributed Paper, Joint Statistical Meetings, Toronto. *Dynamic Reliability Models for Software using Time-dependent Covariates.*
14. Aug 2006. Topics Contributed Paper, Joint Statistical Meetings, Seattle. *Multivariate Times to Events Analysis with Stable Family Frailty Models.*

15. July 2007. IMS Topics Contributed Paper, Joint Statistical Meetings, Salt Lake City. *Exact Maximum Likelihood Estimation for Vector ARFIMA Processes via the EM Algorithm.*
16. July 2012. B&ES Topics Contributed Paper, Joint Statistical Meetings, San Diego. *Fast Approaches for Time Series Modeling and Prediction.*
17. Jan 2017. Poster, TRB Conference, Washington DC. *Where can Conflicts be Surrogates for Crashes? An Investigation Based on a Semi-Parametric Statistical Approach.*
18. Aug. 2017. Topics Contributed Paper, Joint Statistical Meetings, Baltimore. *Modeling High Frequency Financial Time Series.*

### Departmental Talks

1. Nov 1990. Student Seminar Series. *What is the initial examination of data?*
2. Mar 1991. Stochastics Seminar. *Differential geometry of ARMA models.*
3. Dec 1991. Department colloquium. *Reallocation outliers in time series.*

### Workshop Participation

Feb 2018. NII Shonan Meeting: "Analysing Large Collections of Time Series".

### Publications

#### Books

Ravishanker, N. and Dey, D. K. (2001). *A First Course in Linear Model Theory.* Chapman & Hall/CRC: New York. ISBN 1-58488-247-6.

Davis, R. A., Holan, S. H., Lund, R. and Ravishanker, N. (2016). *Handbook of Discrete-Valued Time Series.* Chapman & Hall/CRC: New York. ISBN 9781466577732 – CAT# K16804

Ravishanker, N., Chi, Z., and Dey, D. K. (2021). *A First Course in Linear Model Theory.* Chapman & Hall/CRC: New York, Second edition.

Ravishanker, N., Raman, B., and Soyer, R. (2022). *Dynamic Time Series Models using R-INLA: An Applied Perspective.* Chapman & Hall/CRC: New York.

#### Refereed Articles

1. Ravishanker, N., Hochberg, Y. and Melnick, E. L. (1987). Approximate Simultaneous Prediction Intervals for Multiple Forecasts. *Technometrics* 29, 371-376.
2. Ravishanker, N., Melnick, E. L., and Tsai, C. L. (1990). Differential geometry of ARMA models. *J. Time Series Analysis* 11, 259-274.
3. Wu, L. S-Y., Ravishanker, N., and Hosking, J. R. M. (1991). Forecasting IBM Product Sales - Are Time Series Methods Appropriate for Business Planning? *J. Forecasting* 10, 579-595.



4. Ravishanker, N., Wu, L. S-Y., and Glaz, J. (1991). Multiple Prediction Intervals for Time Series: Comparison of Simultaneous and Marginal Intervals. *J. Forecasting* 12, 57-63.
5. Glaz, J. and Ravishanker, N. (1991). Simultaneous Prediction Intervals for Multiple Forecasts based on Bonferroni and Product-type Inequalities. *Statistics and Probability Letters* 12, 57-63.
6. Hosking, J. R. M. and Ravishanker, N. (1993). Approximate Simultaneous Significance Intervals for Residual Autocorrelations of ARMA Time Series Models. *J. Time Series Analysis* 14, 19-26.
7. Wu, L. S-Y., Hosking, J. R. M. and Ravishanker, N. (1993). Reallocation outliers in time series. *Applied Statistics* 42, 301-313.
8. Ravishanker, N. (1994). Relative Curvature Measures of Nonlinearity for ARMA models. *Communications in Statistics: Simulation and Computation* 23, 415-430.
9. Pai, J. S., Ravishanker, N., and Gelfand, A. E. (1994). Bayesian analysis of Concurrent Time Series with Application to Regional IBM Revenue Data. *J. Forecasting* 13, 463-479.
10. Marriott, J., Ravishanker, N., Gelfand, A. E., and Pai, J. S. (1995). Bayesian Analysis of ARMA Processes: Complete Sampling Based Inference under Exact Likelihoods. *Bayesian Statistics and Econometrics: Essays in honor of Arnold Zellner*, D. Berry, K. Chaloner and J. Geweke, eds., John Wiley & sons, 241-254.
11. Pai, J. S. and Ravishanker, N. (1996). Bayesian Modeling of ARFIMA Processes by Markov Chain Monte Carlo Methods. *J. Forecasting* 15, 63-82.
12. Pai, J. S. and Ravishanker, N. (1996). Exact likelihood function forms for an ARFIMA process. *Data Analysis and Information Systems*, H.H. Bock and W. Polasek, eds., Springer-Verlag 323-331.
13. Ravishanker, N., Dey, D. K. and Wu, L. S-Y. (1995). Shrinkage Estimation in Time Series using a Bootstrapped Covariance Estimate. *J. Statistical Computation and Simulation* 53, 259-267.
14. Ravishanker, N., Dey, D. K. and Wu, L. S-Y. (1996). Shrinkage Estimation of Contemporaneous Outliers in Concurrent Time Series. *Communications in Statistics, Simulation and Computation* 25, 643-656.
15. Pai, J. S. and Ravishanker, N. (1998). Bayesian analysis of autoregressive fractionally integrated moving average processes. *J. Time Series Analysis* 19, 99- 112.
16. Ravishanker, N. and Ray, B. K. (1997). Bayesian analysis of vector ARFIMA processes. *Australian J. Statistics* 39, 295-312.
17. Ravishanker, N. and Ray, B. K. (1997). Bayesian analysis of vector ARMA models using Gibbs sampling. *J. Forecasting* 16, 177-194.
18. Qiou, Z. and Ravishanker, N. (1998). Bayesian inference for time series with stable innovations. *J. Time Series Analysis* 19, 235-249.
19. Ravishanker, N. and Qiou, Z. (1998). Bayesian inference for time series with infinite variance stable innovations, in *A User's Guide to Heavy Tails: Statistical techniques for analyzing heavy tailed distributions and processes*, eds. R. J. Adler, R. Feldman, M. S. Taqqu. Birkhauser: Boston 259-280.
20. Qiou, Z. and Ravishanker, N. (1998). Bayesian inference for multivariate time series with stable innovations. *Sankhya, Series A* 60, 459-475.
21. Qiou, Z., Ravishanker, N., and Dey, D. K. (1999). Multivariate Survival Analysis with Positive Stable Frailties. *Biometrics* 55, 637-644.
22. Ravishanker, N. and Qiou, Z. (1999). Monte Carlo EM Estimation for Multivariate Stable Distributions, *Statistics and Probability Letters* 335-340.

23. Dey, D. K. and Ravishanker, N. (2000). Bayesian Approaches for Overdispersion in Generalized Linear Models, in *Generalized Linear Models: A Bayesian Perspective*, eds. D. K. Dey, S. K. Ghosh and B. K. Mallick, Marcel-Dekker 73-88.
24. Gelfand, A. E., Ravishanker, N., and Ecker, M. (2000). Modeling and Inference for Point Referenced Binary Spatial data, in *Generalized Linear Models: A Bayesian Perspective*, eds. D. K. Dey, S. K. Ghosh and B. K. Mallick, Marcel-Dekker, 373-386.
25. Ravishanker, N. (2000). Monte Carlo EM Estimation for Modeling with Stable Distributions. *Proceedings of Applications of Heavy Tailed Distributions in Economics, Engineering and Statistics*, eds. J. P. Nolan and A. Swami, CD-ROM.
26. Zhao, M., Ivan, J. N., and Ravishanker, N. (2000). Freeway Link Traffic Volumes by Time of Day Estimation Procedures. *Traffic and Transportation Studies, Proceedings of ICTTS 2000*, ASCE 519-526.
27. Ravishanker, N. and Dey, D. K. (2000). Multivariate Survival Models with a Mixture of Positive Stable Frailties. *Methodology and Computing in Applied Probability* 2:3, 293-308.
28. Vinsonhaler, C., Ravishanker, N., Vadiveloo, J., and Rasoanaivo, G. (2001). Multivariate Analysis of Pension Plan Mortality Data. *North American Actuarial Journal* 5:2, 126-138.
29. Rasoanaivo, G., Ravishanker, N., Vinsonhaler, C., and Vadiveloo, J. (2001). Multivariate Analysis of Pension Plan Mortality Data. *Contingencies* 80-83.
30. Ravishanker, N. (2001). Differential geometry of ARFIMA processes. *Communications in Statistics, Theory and Methods* (special issue in honor of Prof. C. R. Rao) 30 (8 &9), 1889-1902.
31. Ravishanker, N., Dey, D. K., and Iyengar, M. (2001). Compositional Time Series Analysis of Mortality Proportions. *Communications in Statistics, Theory and Methods* 30(11), 2281-2291.
32. Ravishanker, N. and Ray, B. K. (2002). Bayesian Prediction for Vector ARFIMA Processes. *International Journal of Forecasting* 18, 207-214.
33. Ravishanker, N. and Tsai, C. L. (2003). Comparisons of tests for AR(1) parameter in regression models with autocorrelated errors. *Journal of Probability and Statistical Science* 1(1), 91-102.
34. Qin, X., Ivan, J. N., and N. Ravishanker (2004). Selecting exposure measures in crash rate prediction for two-lane highway segments. *Accident Analysis and Prevention* 36, 183-191.
35. Liu, Z., Ravishanker, N., and Ray, B. K. (2003). Modeling Dynamic Reliability Growth using Bayesian methods. *Reliability Review* 23, 5-15.
36. Mallick, M. and Ravishanker, N. (2004). Multivariate Survival Analysis with PVF Frailty Models. *Advances in Ranking and Selection, Multiple Comparisons, and Reliability, with Applications*, eds. N. Balakrishnan, N. Kannan and H. N. Nagaraja, Birkhauser: Boston, 369-384.
37. Qin, X., Ivan, J. N., Ravishanker, N., and Liu, J. (2005). Hierarchical Bayesian Estimation of Safety Performance Functions for Two-Lane Highways Using MCMC Modeling. *ASCE Journal of Transportation Engineering* 131, 345-351.
38. Liu, Z., Ravishanker, N., and Ray, B. K. (2005). NHPP Models for Categorized Software Defects. *Applied Stochastic Models in Business and Industry* 21, 509-524.
39. Ray, B. K., Liu, Z., and Ravishanker, N. (2006). Dynamic Reliability Models for Software using Time-dependent Covariates. *Technometrics* 1, 1-10.
40. Mallick, M. and Ravishanker, N. (2006). PVF Frailty Models with a Flexible Baseline Hazard. *International Journal of Statistics and Systems* 1, 57-80.
41. Mallick, M. and Ravishanker, N. (2006). Additive Positive Stable Frailty Models. *Methodology and Computing in Applied Probability* 8, 541-558.

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43. Qin, X., Ivan, J. N., Ravishanker, N., Liu, J., and Tepas, D. (2006). Bayesian Estimation of Hourly Exposure Functions by Crash Type and Time of Day. *Accident Analysis and Prevention* 38, 1071-1080.
44. Gupta, S., Hanssens, D., Hardie, B., Kahn, W., Kumar, V., Lin, N., Ravishanker, N., and Sriram, S. (2006). Modeling Customer Lifetime Value. *Journal of Service Research* 9(2), 139-155.
45. Kannan, N. and Ravishanker, N. (2007). High Resolution Estimation of DOA's in the Linear Array Model: Gaussian and sub-Gaussian Stable Signals. *IET Signal Processing* 1, 35-42.
46. Lopes, H. F., Mueller, P., and Ravishanker, N. (2007). Bayesian Computational Methods in Biomedical Research, in *Computational Methods in Biomedical Research*, eds. R. Khattree and D. N. Naik, Chapman & Hall/CRC 211-260.
47. Ravishanker, N., Liu, Z., and Ray, B. K. (2008). NHPP Models with Markov Switching for Software Reliability. *Computational Statistics and Data Analysis* 52(8), 3988- 3999.
48. Mallick, M., Ravishanker, N., and Kannan, N. (2008). Bivariate Positive Stable Frailty Models. *Statistics and Probability Letters* 78(15), 2371-2377.
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51. Nolan, J. P. and Ravishanker, N. (2009). Simultaneous Prediction Intervals for ARMA Processes with Stable Innovations. *J. Forecasting* 28, 235-246.
52. Pai, J. S. and Ravishanker, N. (2009). A Multivariate Preconditioned Conjugate Gradient Approach for Maximum Likelihood Estimation in Vector Long Memory Processes. *Statistics and Probability Letters* 79(9), 1282-1289.
53. Pai, J. S. and Ravishanker, N. (2009). Maximum Likelihood Estimation in Vector Long Memory Processes via EM Algorithm. *Computational Statistics and Data Analysis* 53(12), 4133-4142.
54. Ravishanker, N., Hosking, J. R. M., and Mukhopadhyay, J. (2010). Spectrum-Based Comparison of Stationary Multivariate Time Series. *Methodology and Computing in Applied Probability* 12(4), 749-762.
55. Zhou, H., Ivan, J. N., Sadek, A. W., and Ravishanker, N. (2010). Safety Effects of Exclusive Left-Turn Lanes at Unsignalized Intersections and Driveways. *Journal of Transportation Safety and Security* 2(3), 221-229.
56. Pai, J. S. and Ravishanker, N. (2010). Fast Bayesian Estimation for VARFIMA Processes with Stable Errors. *Journal of Statistical Theory and Practice* 4, 663-677.
57. Thavaneswaran, A., Liang, Y., and Ravishanker, N. (2012). Inference for Diffusion Processes using Combined Estimating Functions. *Sri Lanka Journal of Applied Statistics* 12, 145-160. DOI: <http://doi.org/10.4038/sljastats.v12i0.4972>.
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59. Ivan, J. N., Ocana, J., Ravishanker, N., Serhiyenko, V., and Islam, S. (2012). Street Design and Land Development Factors Associated with Pedestrian-Vehicle Conflicts, in Proc. Of the 4<sup>th</sup> Urban Street Symposium, Transportation Research Board, Chicago IL, June 2012.

60. Borsos, A., Koren, K., Ivan, J. N., and Ravishanker, N. (2012). Long-term safety trends related to vehicle ownership in 26 countries. *Transportation Research Record* 2280, 154 -161. \*TRB Committee ANB20 2012 Outstanding Paper Award.
61. Mooradian, J., Ivan, J. N., Ravishanker, N., and Hu, S. (2012). Temporal Modeling of Highway Crash Severity for Seniors and Other Involved Persons. Transportation Research Board Annual Meeting, Paper No. 12-3582, Washington, DC, Jan. 2012.
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63. Mooradian, J., Ivan, J. N., Ravishanker, N., and Hu, S. (2013). Analysis of Driver and Passenger Crash Severity using Partial Proportional Odds Models. *Accident Analysis and Prevention* 58, 53-58.
64. Borsos, A., Koren, K., Ivan, J. N., and Ravishanker, N. (2013). Analysis of aggregate crash data in the USA for 1967-2010. Transportation Research Board 92nd Annual Meeting. Washington DC, USA, January 13-17, 19 pages.
65. Thavaneswaran, A., Ravishanker, N., and Liang, Y. (2013). Inference for Linear and Nonlinear Stable Error Processes via Estimating Functions. *Journal of Statistical Planning and Inference* 143(4), 827-841.
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68. Hu, S., Ivan, J. N., Ravishanker, N., and Mooradian, J. (2013). Temporal Modeling of Highway Crash Counts for Senior and Non-Senior Drivers. *Accident Analysis and Prevention* 50, 1003-1013.
69. Serhiyenko, V., Ivan, J. N., and Ravishanker, N., and Islam, S. (2014). Dynamic Compositional Modeling of Pedestrian Crash Counts on Urban Roads in Connecticut. *Accident Analysis and Prevention* 64, 78-85.
70. Islam, S., Serhiyenko, V., Ivan, J. N., Ravishanker, N., and Garder, P. E. (2014). Explaining Pedestrian Safety Experience at Urban and Suburban Street Crossing Considering Observed Conflicts and Pedestrian Counts. *Journal of Transportation Safety and Security* 6, 335-355.
71. Ravishanker, N., Serhiyenko, V., and Willig, M. R. (2014). Hierarchical Dynamic Models for Multivariate Time Series of Counts. *Statistics and Its Interface*, 7(4), 559-570.
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91. Zhang, Y., Zou, J., Ravishanker, N., and Thavaneswaran, A. (2019). Modeling Financial Durations using Penalized Estimating Functions, *Computational Statistics and Data Analysis*, 131, 145-158.
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95. Gerte, R., K. Konduri, N. Ravishanker, A. Mondal and N. Eluru (2019), "Understanding the Relationships Between Demand for Shared Ride Modes: A Case Study Using Open Data From New York City," *Transportation Research Record* Vol. 2673 (12) 30-39.
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### **Manuscripts under Preparation**

1. Dynamic time series models for monthly insurance claims (with P. Toman, and N. Lally).
2. Sparse Logarithmic Vector Multiplicative Error Model Using Multivariate Gamma Errors (with C. Dutta and S. Basu).
3. Modeling Multiple Irregularly Spaced Financial Time Series (with C. Dutta and S. Basu).
4. Monitoring and Managing Energy Usage Across Locations and Time (with D. Lim, M.-H. Chen, H. Zhou, M. Sun, Md. T. Sheikh, M. H. Linder, M. Bolduc, B. McKeon, S. Nolan).

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