

Nathaniel T. Stevens

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Dr. Stevens is an award-winning researcher and teacher, and an internationally recognized scholar who is interested in using statistics to solve practical problems and who has a passion for inspiring and training students to do the same.

Education

Degree	Discipline	Institution	Dates
Doctor of Philosophy	Statistics	University of Waterloo	2011–2015
Master of Mathematics	Statistics	University of Waterloo	2010–2011
Bachelor of Mathematics	Statistics	University of Waterloo	2005–2010

Academic Positions

Position	Institution	Department	Start Date	End Date
Director, Undergraduate Data Science	University of Waterloo	Statistics & Actuarial Science	October 2021	--
Assistant Professor	University of Waterloo	Statistics & Actuarial Science	January 2019	--
Adjunct Professor	University of San Francisco	Data Science	January 2019	--
Director, Undergraduate Data Science	University of San Francisco	Mathematics & Statistics	August 2017	December 2018
Assistant Professor	University of San Francisco	Mathematics & Statistics	August 2015	December 2018

Peer-Reviewed Publications

Number of publications	Number of Google Scholar citations
42	564

Published & Accepted (* indicate student co-authors)

- 42 Sen, A., **Stevens N.T.**, Tran, N.K., Agarwal, R.R., Zhang Q., and Dubin, J.A. (2023+). Forecasting Daily COVID-19 Cases with Gradient Boosted Trees and Other Methods: Evidence from U.S. Cities. *Frontiers in Public Health*, in press.

41. Nadi, A.A.*, **Stevens N.T.** and Steiner, S.H. (2023+) Assessing measurement system agreement in the presence of reproducibility and repeatability. *Technometrics*, in press.
40. Larsen, N.*, Stallrich, J.W., Sengupta, S., Deng, A., Kohavi, R. and **Stevens N.T.** (2023) Statistical Challenges in Online Controlled Experiments: A Review of A/B Testing Methodology. *The American Statistician*, in press.
39. Rigdon S.E., **Stevens N.T.**, Wilson, J.D. and Woodall, W.H. (2023) First to signal criterion for comparing control chart performance. *Quality Engineering*, 36(2):427-438.
38. Smucker, B.J., **Stevens N.T.**, Asscher, J., and Goos, P. (2023) Profiles in the Teaching of Experimental Design and Analysis. *Journal of Statistics and Data Science Education*, 31(3):211–224.
37. Bui, T*, Steiner S.H. and **Stevens N.T.** (2023) General Additive Network Effect Models. *The New England Journal of Statistics in Data Science*, 1(3):342–360.
36. **Stevens N.T.** (2023) Is designed data collection still relevant in the big data era? A discussion. *Quality and Reliability Engineering International*, 39(4):1107–1109.
35. Anderson-Cook C.M., Lu L., Brenneman W., De Mast J., Faltin F., Freeman L., Guthrie W., Hoerl R., Jensen W., Jones-Farmer L.A, Leber D., Patterson A., Perry M.B., Steiner S.H., **Stevens N.T.** (2022) Statistical Engineering – Part 1: Past and Present. *Quality Engineering* 34(4):426–445.
34. Anderson-Cook C.M., Lu L., Brenneman W., De Mast J., Faltin F., Freeman L., Guthrie W., Hoerl R., Jensen W., Jones-Farmer L.A, Leber D., Patterson A., Perry M.B., Steiner S.H., **Stevens N.T.** (2022) Statistical Engineering – Part 2: Future. *Quality Engineering* 34(4):446–467.
33. **Stevens N.T.** and Hagar L.* (2022). Comparative probability metrics: Using posterior probabilities to account for practical equivalence in A/B tests. *The American Statistician* 76(3):224–237.
32. Lu L., Anderson-Cook C.M., **Stevens N.T.**, and Hagar L.* (2022) Using a Baseline with the Probability of Agreement to Compare Distribution Characteristics. *Quality Engineering* 34(3):322–343.
31. **Stevens N.T.**, Sen, A., Kiwon, F.*, Morita, P.P., Steiner, S.H. and Zhang Q. (2022). Estimating the effects of non-pharmaceutical intervention and population mobility on daily COVID-19 cases: Evidence from Ontario. *Canadian Public Policy* 48(1):144–161.
30. Yu L., Zwetsloot I.M., **Stevens N.T.**, Wilson J.D. and Tsui, K.L. (2022). Monitoring dynamic networks: a simulation-based strategy for comparing monitoring methods and a comparative study. *Quality and Reliability Engineering International* 38(3):1226–1250.
29. **Stevens N.T.**, Wilson J.D. (2021). The past, present, and future of network monitoring: A panel discussion. *Quality Engineering* 33(4): 715–718.
28. **Stevens N.T.**, Wilson J.D., Driscoll A.R., McCulloh I., Michailidis G., Paris C., Paynabar K., Perry M.B., Gahrooei M.R., Sengupta S., and Sparks R. (2021). Foundations of network monitoring: Definitions and applications. *Quality Engineering* 33(4): 719–730.
27. **Stevens N.T.**, Wilson J.D., Driscoll A.R., McCulloh I., Paris C., Paynabar K., Perry M.B., Gahrooei M.R., Sengupta S., and Sparks R. (2021). The

- interdisciplinary nature of network monitoring: Advantages and disadvantages. *Quality Engineering* 33(4): 731–735.
26. **Stevens N.T.**, Wilson J.D., Driscoll A.R., McCulloh I., Michailidis G., Paris C., Parker P., Paynabar K., Perry M.B., Gahrooei M.R., Sengupta S., and Sparks R. (2021). Research in network monitoring: Connections with SPM and new directions. *Quality Engineering* 33(4): 736–748.
 25. **Stevens N.T.**, Wilson J.D., Driscoll A.R., McCulloh I., Michailidis G., Paris C., Paynabar K., Perry M.B., Gahrooei M.R., Sengupta S., and Sparks R. (2021). Broader impacts of network monitoring: Its role in government, industry, technology, and beyond. *Quality Engineering* 33(4): 749–757.
 24. Motalebi N.*, **Stevens N.T.**, and Steiner S.H. (2021). Hurdle blockmodels for sparse network modeling. *The American Statistician* 75(4): 383–393.
 23. **Stevens N.T.** and Lu L. (2020). Comparing Kaplan-Meier curves with the probability of agreement. *Statistics in Medicine* 39(30): 4621–4635.
 22. Parker R.A., Scott C., Inacio De Carvalho V. and **Stevens N.T.** (2020). Using multiple agreement methods for continuous repeated measures data: A tutorial for practitioners. *BMC Medical Research Methodology* 20(1): 1–14.
 21. **Stevens N.T.**, Lu L., Anderson-Cook C.M. and Rigdon S.E. (2020). Bayesian Probability of Agreement for Comparing Survival or Reliability Functions with Parametric Lifetime Regression Models. *Quality Engineering* 32(3): 312–332.
 20. **Stevens N.T.**, Rigdon S.E. and Anderson-Cook C.M. (2020). Bayesian Probability of Agreement for Comparing the Similarity of Response Surfaces. *Journal of Quality Technology* 52(1): 67–80.
 19. **Stevens N.T.** (2020) Discussion of “Statistics = Analytics?”. *Quality Engineering* 32(2): 145–148.
 18. Wilson J.D., **Stevens N.T.**, Woodall W.H. (2019). Modeling and detecting change in temporal networks via the degree stochastic block model. *Quality and Reliability Engineering International* 35(5): 1363–1378.
 17. Steiner S.H., **Stevens N.T.**, Jensen W.A., MacKay R.J. (2019). Replacing a current measurement system in an inspection scheme: A case study. *Quality Engineering* 31(4): 615–626.
 16. **Stevens N.T.** and Anderson-Cook C.M. (2019). Design and analysis of confirmation experiments. *Journal of Quality Technology* 51(2): 109–124.
 15. Zhao M.J.*, Driscoll A.R., Sengupta S., **Stevens N.T.**, Fricker RD. and Woodall W.H. (2018). The effect of data aggregation level in social network monitoring. *PLoS one*, 13(12): e0209075.
 14. Jeske D.R., **Stevens N.T.**, Tartakovsky A.M. and Wilson J.D. (2018). Statistical Methods for Network Surveillance. *Applied Stochastic Models in Business and Industry*, 34(4): 425–445.
 13. **Stevens N.T.**, Rigdon S.E. and Anderson-Cook C.M. (2018). Bayesian probability of predictive agreement for comparing the outcome of two separate regressions. *Quality and Reliability Engineering International*, 34(6): 968–978.
 12. Da Rocha L.T.* and **Stevens N.T.** (2018). Comparing two measurement systems using the probability of agreement web app. *Quality Engineering*, 30(3): 525–533.

11. **Stevens N.T.**, Steiner S.H. and MacKay R.J. (2018). Comparing heteroscedastic measurement systems with the probability of agreement. *Statistical Methods in Medical Research*, 27(11): 3420–3435.
10. **Stevens N.T.** and Anderson-Cook C.M. (2017). Quantifying similarity in reliability surfaces using the probability of agreement. *Quality Engineering*, 29(3): 395–408.
9. **Stevens N.T.** and Anderson-Cook C.M. (2017). Comparing the reliability of related populations with the probability of agreement, *Technometrics*, 59(3): 371–380.
8. **Stevens N.T.** and Jones-Farmer L.A. (2017). Discussion of “Analyzing behavioral big data: Methodological, practical, ethical, and moral issues”, *Quality Engineering*, 29(1): 84–86.
7. Jones-Farmer L.A. and **Stevens N.T.** (2017). Discussion of “Bridging the gap between theory and practice in basic statistical process monitoring”, *Quality Engineering*, 29(1): 22–26.
6. **Stevens N.T.**, Steiner S.H. and MacKay R.J. (2017). Assessing agreement between two measurement systems: An alternative to the limits of agreement approach. *Statistical Methods in Medical Research*, 26(6): 2487–2504.
5. **Stevens N.T.**, Steiner S.H. and MacKay R.J. (2015). Being smart about parts, *Quality Progress*, 48(3): 32–37.
4. **Stevens N.T.**, Steiner S.H., Browne R. and MacKay R.J. (2013). Gauge R&R studies that incorporate baseline information, *IIE Transactions*, 45(11): 1166–1175.
3. Steiner S.H., **Stevens N.T.**, Browne R. and MacKay R.J. (2011). Planning and analysis of measurement reliability studies, *Canadian Journal of Statistics*, 39(2): 344–355.
2. **Stevens N.T.**, Smith I.R., Steiner S.H. and MacKay R.J. (2011). Monitoring radiation in cardiology imaging equipment, *Medical Physics*, 38(1): 317–326.
1. **Stevens N.T.**, Browne R., Steiner S.H. and MacKay R.J. (2010). Augmented measurement system assessment, *Journal of Quality Technology*, 42(4): 388–399.

Submitted for Publication (* indicate student co-authors)

1. Steiner S.H., Stevens N.T., MacKay R.J. (2024+) Statistical Process Control Charting: A View of the Fundamental Definitions and Terminology. Submitted to *Frontiers in Statistical Quality Control 14*.
2. Deng A., Hagar L.*, **Stevens N.T.**, Xifara T., Gandhi A.K. (2024+) Metric Decomposition in A/B tests. Submitted to *ACM Knowledge Discovery and Data Mining*.
3. Hagar L.* and **Stevens N.T.** (2024+) Scalable Design with Posterior-Based Operating Characteristics. Submitted to *Journal of the American Statistical Association*.
4. Hagar L.* and **Stevens N.T.** (2024+) Posterior Ramifications of Prior Dependence Structures. Submitted to *Statistical Science*.
5. Hagar L.* and **Stevens N.T.** (2024+) Power Analysis without Pivotal Quantities. Submitted to *Journal of Computational and Graphical Statistics*.

6. Hagar L.* and **Stevens N.T.** (2024+) Fast Power Curve Approximation for Posterior Analyses. Submitted to *Bayesian Analysis*.
7. Bui T.*, **Stevens N.T.** and Steiner S.H. (2024+) Optimal Bayesian Designs for Experiments on Networks. Submitted to *Technometrics*.

Theses

- **Stevens N.T.** (2014). *Assessment and comparison of continuous measurement systems*. (PhD thesis).

Internal Recognitions (University of Waterloo)

- **2022 Faculty of Mathematics Distinction in Teaching Award**
This award is given to Faculty of Mathematics professors at the University of Waterloo who consistently demonstrate outstanding pedagogical skills and a deep commitment to students.
- **2020 Outstanding Performance Award**
This award is presented annually by the University of Waterloo to recognize professors that have made outstanding contributions to the university by way of their teaching, scholarship, and service.
- **2020 Dept. of Statistics & Actuarial Science Distinction in Teaching Award**
This award recognizes excellence in teaching each year within the Department of Statistics and Actuarial Science at the University of Waterloo.
- **2015 Amit & Meena Chakma Award for Exceptional Teaching by a Student**
Each year this award is presented to up to four University of Waterloo students who have a formal teaching role and who have displayed excellence in communication, intellectual vigor and sensitivity to student needs.

External Recognitions

- **2023 ENBIS Young Statistician Award**
This award recognizes the work of an outstanding young statistician who introduces innovative methods, promotes the use of statistics, and/or uses it in daily practice.
- **2023 ASQ Feigenbaum Medal**
The Feigenbaum Medal is presented to an individual who is 35 years of age or younger who has displayed outstanding characteristics of leadership, professionalism, and potential in the field of quality and also whose work has been or, will become of distinct benefit to mankind.
- **2021 ASQ Søren Bisgaard Award**
The award recognizes the paper appearing in *Quality Engineering* each year with the greatest potential for advancing the practice of quality improvement. The awarded paper is *Paper #21*.

- 2020 ASQ Lloyd S. Nelson Award**
 The award recognizes the paper appearing in the *Journal of Quality Technology* each year with the greatest immediate impact to practitioners. The awarded paper is *Paper #16*.
- 2019 ASQ Shewell Award**
 This award is presented for the best presentation at the ASQ Fall Technical Conference each year. The awarded presentation is *Invited Presentation #7*.
- 2018 Quality Engineering Best Reliability Paper Award**
 This recognition is awarded to the authors of the best paper in the *Quality Engineering* journal on the topic of reliability analysis in the given years. The awarded paper is *Paper #10*.
- 2017-2018 Applied Stochastic Models in Business and Industry Impact Award**
Paper #14 was the top downloaded article in *Applied Stochastic Models in Business and Industry* in the given years and was recognized as one of the top 20 most read articles in that journal.

Research Funding History

Program	Role	Total Funding	Start Date	End Date
NSERC Discovery	PI	\$150,500	April 2019	March 2025
	The average grant size for a funded Early Career Researcher in Mathematics and Statistics for the 2019 NSERC Discovery Grant competition was \$98,825.			
UW Startup Grant	PI	\$50,000	January 2019	December 2023
NSERC CGS-D	PI	\$105,000	September 2011	August 2014
NSERC CGS-M	PI	\$17,500	September 2010	August 2011
TOTAL		\$323,000		

Present Student Supervision (Research)

Student	Dr. Stevens' role	Degree	Period	Current Status
Ryan Wu	Supervisor	MMath, UW	02/2024 – Present	MMath Candidate, UWaterloo
Bernadette Chan	Co-Supervisor	MMath, UW	02/2024 – Present	MMath Candidate, UWaterloo

Kyu Min Shim	Supervisor	MMath, UW	09/2022 – Present	MMath Candidate, UWaterloo
Adel Ahmadi Nadi	Co- Supervisor	Postdoc, UW	05/2022 – Present	Postdoctoral Fellow, UWaterloo
	• <i>Adel co-authored Accepted Paper #41</i>			
Luke Hagar	Supervisor	PhD, UW	09/2021 – Present	PhD Candidate, UWaterloo
		MMath, UW	09/2020 – 08/2021	
		BMath, UW	09/2019 – 08/2020	
	<ul style="list-style-type: none"> • <i>Thesis topic: Design of equivalence & noninferiority tests</i> • <i>Luke co-authored Papers #32 and 33, and Submitted Papers #2-6</i> 			
Trang Bui	Co- Supervisor	PhD, UW	01/2019 – Present	PhD Candidate, UWaterloo
	<ul style="list-style-type: none"> • <i>Thesis topic: Designed experiments for social networks</i> • <i>Trang co-authored Paper #37 and Submitted Paper #7</i> 			

Past Student Supervision (Research)

Student	Dr. Stevens' role	Degree	Period	Current Status
Laura Bader	Supervisor	MMath, UW	01/2023 – 08/2023	Analytics Consulting Intern
	• <i>Essay: Comparison of Temporal Convolutional Neural Networks and Multilayer Perceptrons for Time Series Anomaly Detection</i>			
Emiliano Penazola	Supervisor	MMath, UW	11/2022 – 08/2023	PhD Candidate, McGill University
	• <i>Essay: Detecting Change in Community Structures in Highly Attributed Dynamic Networks</i>			
Maziar Dadbin	Supervisor	MMath, UW	01/2020 – 05/2021	Applied Scientist, Synthesis Health
	• <i>Thesis: Comparing Distributions with the Probability of Agreement.</i>			
Kenny Guo	Co- Supervisor	MMath, UW	09/2019 – 05/2021	Reports Analyst, Simply Group
	• <i>Essay: Statistical methods for hospital comparison</i>			
Murad Ahmed	Supervisor	MMath, UW	01/2020 – 08/2020	Research Analyst, GlobeScan
	• <i>Essay: An overview and investigation of the binomial bandit</i>			

Narges Motalebi	Co-Supervisor	PhD, Yazd U	09/2018 – 06/2019	PhD Candidate, Yazd University
	<ul style="list-style-type: none"> • <i>Narges was a PhD exchange student from Yazd University who Dr. Stevens co-supervised at University of Waterloo.</i> • <i>Narges co-authored Paper #24.</i> 			
Meng Zhao	Committee Member	PhD, Virginia Tech	06/2015 – 08/2017	Research Scientist, Eli Lilly & Co.
	<ul style="list-style-type: none"> • <i>Meng co-authored Paper #15.</i> 			
Laura da Rocha	Supervisor	BSc, U of Brazil	05/2016 – 08/2016	Sr. Data Scientist, Infoblox
	<ul style="list-style-type: none"> • <i>Laura was an undergraduate research assistant on exchange through Brazil's Scientific Mobility Program.</i> • <i>Laura co-authored Paper #12.</i> 			

Past Student Supervision (Internship)

The students listed below were University of San Francisco MSc in Data Science students whose 9-month industry internships Dr. Stevens oversaw. Dr. Stevens' mentorship role involved training the students to develop innovative solutions to industry problems, and to communicate effectively.

Student	Period	Current Status
Grace Zhang	2018–2019	Software Engineer, Twitch
Anna Zeng	2018–2019	Sr. Data Scientist, Visa
Yihan Wang	2018–2019	Data Scientist, Verizon Media
Feiran Ji	2017–2018	Sr. Data Scientist, LinkedIn
Lingzhi Du	2017–2018	Director of Data Science, Zest AI
Kunal Kotian	2017–2018	Applied Scientist, Amazon
Jingjue Wang	2017–2018	Data Engineer, Confluent
David Kes	2017–2018	Data Scientist, Kaiser Permanente
Danai Avgerinou	2017–2018	Product Analyst, Pinterest
Shannon McNish	2017–2018	Data Scientist, Lyft
John Rumpel	2017–2018	High School Math Teacher
Kaya Tollas	2017–2018	Data Scientist, Metropolitan Transportation Commission
Stephen Hsu	2017–2018	Data Scientist, Sutter Health
Deena John	2017–2018	Sr. Data Scientist, Vungle
Patrick Yang	2017–2018	Data Scientist, Vungle
Cameron Carlin	2016–2017	Lead Data Scientist, City of Hope
Mikaela Hoffman-Stapleton	2016–2017	Data Scientist, Arable
Sheri Nguyen	2016–2017	Data Scientist, Abnormal Security
Keyang Zhang	2016–2017	Applied Scientist, Twitch

Matt McClelland	2016–2017	Product Analyst, Square
Ruixuan Zhang	2016–2017	Sr. Data Scientist, Airbnb
Roger Wu	2016–2017	Software Engineer, Thumbtack
Brigit Lawrence-Gomez	2016–2017	Director, Marketing Analytics, Sephora
Arda Aysu	2016–2017	Data Scientist, Intuitive
Tim Zhao	2016–2017	Data Analyst, University of Waterloo
Zefeng Zhang	2016–2017	Machine Learning Engineer, Facebook
Meg Ellis	2015–2016	Data Scientist, SAP Concur
Jack Norman	2015–2016	Sr. Data Scientist, Vida Health
Gabriella Corbett	2015–2016	Data Scientist, Facebook
Jason Helgren	2015–2016	Data Scientist, Uber
Mrun Bhagwat	2015–2016	Analyst Manager, Rakuten Rewards
Erica Lee	2015–2016	Data Scientist, Apple
Binjie Lai	2015–2016	Data Science Manager, Adobe
Felipe Ferreira	2015–2016	Data Scientist, Cortex
Jacob Pollard	2015–2016	Data Scientist, Apple

Invited Seminars, Panels, and Conference Presentations

44. *General Additive Network Effect Models*
New England Statistical Society NEJSDS Webinar, March 2024
43. *A/B Testing on Social Networks: Some Thoughts and New Directions*
University of San Francisco, January 2024
42. *General Additive Network Effect Models: A Framework for the Design and Analysis of Experiments on Networks*
Computational and Methodological (CM)Statistics, December 2023
41. *A Bayesian Approach to Experimentation*
Airbnb AirAcademy Webinar Series, November 2023
40. *Comparative Probability Metrics: Using Posterior Probabilities to Account for Practical Equivalence in A/B Tests*
ENBIS-23 Valencia Conference, September 2023
39. *How a Netflix Job Ad Inspired a Response Surface Methodology Final Project*
Joint Statistical Meetings, August 2023
38. *An Overview of Statistical Challenges in Online Controlled Experiments*
ISI World Statistics Congress, July 2023
37. *Bayesian probability of agreement for comparing survival or reliability functions with parametric lifetime regression models*
Spring Research Conference, May 2023
36. *The Same, Similar, or Different? The Probability of Agreement Methodology for Evaluating Practical Equivalence*
JMP Statistically Speaking Series, May 2023
35. *An Overview of Statistical Challenges in Online Controlled Experiments*
International Conference on Design of Experiments, May 2023

34. *General Additive Network Effect Models: A Framework for the Design and Analysis of Experiments on Networks*
DSCO23, March 2023
33. *Beyond Machine Learning: Causal Inference in Data Science*
University of San Francisco, January 2023
32. *Innovative Experimental Design Education: Active Learning, Data Science, and Computer-Generated Designs*
Joint Statistical Meetings, August 2022
31. *General Additive Network Effect Models: A Framework for the Design and Analysis of Experiments on Networks*
Quality and Productivity Research Conference, June 2022
30. *Beyond Machine Learning: Causal Inference in Data Science*
Université Catholique de Louvain, March 2022
29. *Comparative Probability Metrics: Using Posterior Probabilities to Account for Practical Equivalence in A/B Tests*
HEC Montréal, March 2022
28. *Almost Matching Exactly, A Discussion*
Stu Hunter Research Conference, March 2022
27. *Comparative Probability Metrics: Using Posterior Probabilities to Account for Practical Equivalence in A/B Tests*
Airbnb Data Science Learning Lunch, January 2022
26. *Bayesian Probability of Agreement for Comparing Survival or Reliability Functions with Parametric Lifetime Regression Models*
Fall Technical Conference Webinar Series, October 2021
25. *Modern Design of Experiments for Computational Advertising*
Statistical Methods for Computational Advertising (BIRS), October 2021
24. *Optimizing the online user experience: Design and Analysis of A/B tests with Bayesian Comparative Probability Metrics*
Joint Statistical Meetings, August 2021
23. *Optimizing the online user experience: Design and Analysis of A/B tests with Bayesian Comparative Probability Metrics*
Quality and Productivity Research Conference, July 2021
22. *Design and Analysis of Confirmation Experiments*
King's College London, May 2021
21. *Design and Analysis of Confirmation Experiments*
Arizona State University, March 2021
20. *Design and Analysis of Confirmation Experiments*
University of North Carolina Greensboro, March 2021
19. *Design and Analysis of Confirmation Experiments*
University of Alberta, November 2020
18. *Design and Analysis of Confirmation Experiments*
Fall Technical Conference Webinar Series, November 2020
17. *Designed Experiments in Data Science: A Pedagogical Evolution*
Joint Statistical Meetings, August 2020
16. *The Importance of an Experimental Design Course in Data Science Programs*
National Workshop on Data Science Education, June 2020

15. *Comparing Two Kaplan-Meier Curves with the Probability of Agreement*
CPID Webinar, May 2020
14. *You're Probably A/B Testing Incorrectly*
University of San Francisco, February 2020
13. *Hurdle Block Models for Sparse Network Modeling*
University of California Riverside, February 2020
12. *Hurdle Block Models for Sparse Network Modeling*
City University of Hong Kong, December 2019
11. *Designed Experiments in Data Science: A Pedagogical Evolution*
Miami University, September 2019
10. *The Analysis of A/B Tests with Comparative Probability Metrics*
International Conference on Design of Experiments, May 2019
9. *The Analysis of A/B Tests with Comparative Probability Metrics*
Spring Research Conference, May 2019
8. *Statistics = Analytics? A Discussion*
Stu Hunter Research Conference, February 2019
7. *Comparing Two Kaplan-Meier Curves with the Probability of Agreement*
Fall Technical Conference, October 2018
6. *Comparing the Reliability of Related Populations with the Probability of Agreement*
Joint Statistical Meetings, July 2018
5. *Detecting Change in Dynamic Networks*
University of California Davis, April 2018
4. *Quantifying the Agreement Between Two Methods of Measurement Using the Probability of Agreement*
Genentech Biostatistics Seminar Series, November 2016
3. *A Random Graph Model for Benchmarking Network Surveillance Techniques*
Quality and Productivity Research Conference, June 2016
2. *Practical Applications of the Probability of Agreement Analysis*
Spring Research Conference, May 2015
1. *Design and Analysis of Measurement System Comparison Studies*
Joint Research Conference, June 2014

Conference Workshops

- *Bayesian Methods in A/B Testing*
DSCO 2023, March 2023
- *Introductory Overview Lecture: Experimental Design in Computational Advertising*
Joint Statistical Meetings, August 2022
- *The Data Scientist's Workflow: EDA and Statistical Modeling with Python Notebooks*
Statistical Society of Canada Annual Meeting, June 2021
- *Designed Experiments for Data Scientists*
Data Institute SF Annual Conference, October 2017
- *Introduction to Forecasting and Time Series Analysis*
National Forum on Criminal Justice, August 2017

Corporate Training

- *Design and Analysis of Experiments*
Nfinite, November 2023
- *Asking The Right Questions: Information Gathering to Ensure Appropriate Statistical Practice*
Procter & Gamble, September 2022
- *Design and Analysis of Experiments*
San Francisco 49ers, June 2018
- *A/B Testing and Beyond: Designed Experiments for Data Scientists*
San Francisco Data Institute, Fall 2017 and Fall 2018
- *Introduction to Probability and Statistics*
Capital One, November 2016

Conference Session & Webinar Organization

- 2023 Joint Statistical Meetings (August 2023)
 - *The Past, Present, and Future of Statistical Engineering*
- 2023 World Statistics Congress (July 2023)
 - *Recent Theoretical and Methodological Advances in Business, Finance, and Actuarial Science*
- 2023 ISBIS Symposium (July 2023)
 - *y-BIS: Recent Advances in Online Controlled Experiments*
- 2023 Spring Research Conference (May 2023)
 - *Advances in Network Monitoring*
- DSCO 2023 (March 2023)
 - *Practical Issues and Advances in A/B Testing I and II*
- 2022 ISBIS Symposium (June 2022)
 - *y-BIS: Recent Statistical Advances by Young Statisticians in Italy*
- 2022 SSC Data Science and Analytics Section Webinar Series
- 2021 ISEA Summit (November 2021)
 - *Statistical Engineering Case Studies*
- 2021 World Statistics Congress (July 2021)
 - *y-BIS: Statistical Analysis of Complex Data*
- 2021 Statistical Society of Canada Annual Meeting (June 2021)
 - *Online Experimentation: Problems and Solutions*
 - *Data Science Case Studies in Industry: Stories from Recent Grads*
- COPSS-NISS COVID-19 Data Science Webinar Series (February 2021)
 - *Misinformation and Attitude Formation Analyzed Through Social Media*
- International Society for Business and Industrial Statistics Webinar Series (January 2021)
 - *Data Science in Industry*
- DSCO 2019 (March 2019)
 - *Design of Experiments*
- DSCO 2017 (October 2017)
 - *Experimental Design I & II*

- 2017 Statistical Society of Canada Annual Meeting (June 2017)
 - *Business Problems, Data Science Solutions*
 - *Staying Sane Pre-Tenure: Addressing the Challenges of New Investigators*

Editorial Activities

Guest Co-Editor

- *Quality Engineering*, Special Issue on Reliability (May 2022 – December 2023)
- *Quality Engineering*, Special Discussion on Network Monitoring (October 2020 – October 2021)

Associate Editor

- *The American Statistician* (January 2019 – Present)
- *Applied Stochastic Models in Business and Industry* (February 2024 – Present)

Editorial Review Board

- *Journal of Quality Technology* (July 2022 – Present)
- *Quality Engineering* (February 2019 – Present)

Reviewer

- *Biometrics, BMC Medical Research Methodology, Canadian Journal of Statistics, IEEE Transactions on Systems, Man and Cybernetics, IISE Transactions, Journal of Humanities and Applied Social Sciences, Journal of Quality Technology, Journal of Statistics and Data Science Education, Journal of The Royal Statistical Society: Series C, Journal of Verification, Validation and Uncertainty Quantification, PLOS ONE, Quality and Reliability Engineering International, Quality Engineering, Statistics in Medicine, Statistical Methods in Medical Research, Technometrics, The American Statistician, The Scandinavian Journal of Statistics, Transactions on Network Science and Engineering*

Committee Memberships

ASA/ IMS 2024 Joint Research Conference

- Co-Chair (Program), Chair (Local Arrangements) January 2023 – Present

Strategic Planning Committee, Statistical Society of Canada

- Member, September 2023 – Present

International Society for Business and Industrial Statistics

- Vice President Scientific Program, July 2023 – Present
- Vice President y-BIS, July 2021 – June 2023

International Statistical Engineering Association

- Past Chair, January 2024 – Present
- Chair, January 2023 – December 2023
- Chair Elect, January 2022 – December 2022
- Treasurer, January 2021 – December 2022
- Chair, Summit Organizing Committee, January 2021 – December 2021

Steering Committee, Quality and Productivity Research Conference

- Member, January 2021 – Present

ASA Lloyd Nelson Award Committee

- Member, May 2022 – August 2023

Quality Engineering Editor Selection Committee

- Member, June 2023 – October 2023

ISBIS Satellite Conference Scientific Program Committee

- Chair, September 2022 – July 2023

World Statistics Congress Scientific Program Committee

- ISBIS Representative, May 2022 – July 2023

Data Science and Analytics Section, Statistical Society of Canada

- Past President, July 2022 – June 2023
- President, July 2021 – June 2022
- President-Elect, July 2020 – June 2021

Committee on Membership, Statistical Society of Canada

- Member, July 2019 – June 2022

Spring Research Conference Program Committee,

- Member, January 2021 – May 2023

Technometrics Management Committee

- ASA Representative, January 2019 – December 2021

Program Committee, Fall Technical Conference

- CPID Representative, October 2019 – December 2021

Organizing Committee, COPSS-NISS COVID-19 Data Science Webinar Series

- Statistical Society of Canada Representative, November 2020 – April 2021

Organizing Committee, Y-BIS Data Science in Industry Webinar Series

- Member, September 2020 – January 2021

Committee on New Investigators, Statistical Society of Canada

- Chair, July 2017 – June 2019
- Member, July 2016 – June 2017

List of International Co-authors

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 - This collaboration led to the papers that won the Lloyd Nelson Award; the Søren Bisgaard Award; the *Quality Engineering* Best Reliability Paper Award
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- William Brenneman, Procter & Gamble
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- Vanda I. de Carvalho, University of Edinburgh
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- Peter Goos, KU Leuven and University of Antwerp
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 - This collaboration led to the paper that won the Søren Bisgaard Award.
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- Peter Parker, NASA
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 - This collaboration led to the paper that won the Søren Bisgaard Award.
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