

Curriculum Vitæ of
BERTRAND S. CLARKE

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Mailing & Office Address

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Academic Positions

Department of Statistics, University of Nebraska-Lincoln, U. S. A.:

August 2013–Present — *Professor and Department Chair.*

Miller School of Medicine, University of Miami, U. S. A.:

August 2008–July 2013 — *Professor*

Department of Statistics, University of British Columbia, Vancouver, Canada:

July 2008 – June 2009 — *Professor*

July 1997 – June 2008 — *Associate Professor*

July 1992 – June 1997 — *Assistant Professor*

Department of Statistics, Purdue University, West Lafayette, U.S.A.:

August 1989 – May 1992 – *Assistant Professor*

Other Appointments

Visiting Associate Professor, Department of Statistics, North Carolina State University, U.S.A., August 2005—December 2005.

Visiting Associate Professor, Institute of Statistics and Decision Sciences, Duke University, U.S.A., August 2004 – December 2004

Sabbatical leave as Duke-SAMSI Fellow, hosted by Department of Statistical Sciences, Duke University, U.S.A., August 2003 – May 2004 .

Sabbatical leave at the Department of Statistical Sciences, University College London, U.K., August 1998 – May 1999.

Education

Ph.D. (Statistics), 1989, University of Illinois

B. Sc. (Pure Mathematics and Theoretical Statistics), 1984, University of Toronto, Toronto, Canada.

Awards and Recognition

1. Fellow of the Institute of Mathematical Statistics, April 2019.
2. President's invited address, Classification Society Conference, University of Missouri, 'On the interpretation of ensemble classifiers in terms of Bayes classifiers,' June 2016.
3. Fellow of the American Statistical Association, May 2014.
4. Discussed paper at the Objective Bayes Conference (Shanghai), 'Posterior weighted prediction,' June 2011.
5. *Bayesian Analysis* invited session at the Joint Statistical Meetings, 'Desiderata for a predictive theory of statistics,' Miami, August 2011.
6. Browder J. Thompson best paper award amongst all IEEE journals in 1989 & 1990, by authors under 30, October 1990.

Funded Research

1. **National Science Foundation (DMS-Statistics):** *Inference after predictor selection*. Proposal number 1307642. Funding level US\$140,000. Single PI. Duration 08/1/2014–31/7/15/2017.
2. **National Institute for Mental Health:** *Biological predictors of development of syndromal post traumatic stress disorder*. Funding level US\$2,055,599. Role: Co-investigator at 5% effort. Duration: 04/01/2012–12/30/2018.
3. **National Science Foundation/Defence Threat Reduction Agency:** *Statistical Ensembles for the Identification of Bacterial Genomes*. Funding level \$829,168, over two sites. Co-PI. Duration: 08/15/2011–08/14/2015.
4. **Natural Science and Engineering Research Council (Canada):** Operating grant. Funding level C\$76,000. Single PI. Duration 07/01/2004 – 06/30/2008.
5. **Natural Science and Engineering Research Council (Canada):** Operating grant. Funding level C\$76,000. Single PI. Duration 07/01/2000 – 06/30/2004.
6. **Natural Science and Engineering Research Council (Canada):** Operating grant. Funding level C\$69,600. Single PI. Duration 07/01/1996 – 06/30/2000.
7. **Natural Science and Engineering Research Council (Canada):** Operating grant. Funding level C\$60,000. Single PI. Duration 07/01/1992 – 06/30/2006.
8. **University of British Columbia/Natural Science and Engineering Research Council (Canada):** *Genetic modeling*. Funding level C\$20,000. Single PI. 1992.

Other Support

1. Sir Isaac Newton Institute (Cambridge, UK) program participant grant, January-March 2008.
2. Institute of Statistics and Decision Sciences, Duke University, salary support for sabbatical, 2003–2004.
3. Department of Statistical Sciences, University College London, salary support for sabbatical, 1998–1999.
4. Natural Science and Engineering Research Council (Canada): Equipment grant. Funding level C\$14,893. Single PI. 1993.

Current Research Interests

Online prediction & predictive inference

Model uncertainty and mis-specification

Analysis of multi-type data

Bayesian Inference

Asymptotic Statistics

Biomedical applications

Advising – MS, PhD and post-docs

Current Students

1. **Dean Dustin** Summer 2023(?) (PhD)
Tentative Thesis title: Partitioning model uncertainty.

Students Graduated/Finished (In reverse chronological order)

1. **Dean Dustin:** May 2020. (MSc)
Thesis title: *Using stability to select a shrinkage method.*
Continuing to PhD.

2. **Merlin Mpoudeu:** May 2018. (Post-doc)
Main area: Model selection.
Vice President Quantitative Finance Analysis, Bank of America.
3. **Merlin Mpoudeu:** August 2017. (PhD)
Thesis title: *On the Use of the Vapnik-Chervonenkis Dimension in Model Selection.*
4. **Tri Le:** August 2017. (Post-doc)
Main area: Predictive statistics.
Assistant Professor, Mercer University, Atlanta, Georgia.
5. **Saeid Amiri:** June 2016. (post-doc)
Main area: Detecting bacterial genomes.
Working in the Department of Transportation Engineering at the École Polytechnique à Montréal.
6. **Chi Wai Yu:** May 2009. (PhD)
Thesis title: *Median Loss Analysis and its Application to Model Selection and Prediction.*
Lecturer, Department of Mathematics, Hong Kong University of Science and Technology.
7. **Hoyt Koepke:** August 2008. (MS)
Thesis title: *Bayesian Cluster Validation.*
Research Scientist at Apple Corp.
8. **Ernest Fokoué:** August 2004. (Post-doc)
Main area: Data Mining and machine learning.
Associate Professor, School of Mathematics, Rochester Institute of Technology.
9. **Xiaodong Lin:** July 2004. (post-doc)
Main area: Information-theoretic information conversion.
Associate Professor, Department of Management Science and Information Systems, Rutgers University, New Jersey.
10. **Hubert Wong:** August 2000. (PhD)
Thesis title: *Small Sample Improvement over Bayes Prediction under Model Uncertainty.*

Associate Professor, Department of Health Care and Epidemiology, University of British Columbia, Vancouver, Canada.

11. **Ao Yuan:** June 1997. (PhD)

Thesis title: *A Minimally Informative Likelihood Approach to Bayesian Inference and Decision Analysis* .

Associate Professor, Department of Biostatistics, Bioinformatics & Biomathematics, Georgetown University Medical Center. Washington, D.C.

Publications

(in reverse chronological order.)

Books and book-length contributions

1. Clarke, B. and Clarke, J. (2018) *Predictive Statistics: Analysis and Inference Beyond Models*, Cambridge University Press, U.K. (600 p.)
2. Severinski, C., Clarke, B., Fokoué, E., and Zhang, H. (2010) *Solutions manual for 'Principles and Theory for Data Mining and Machine Learning'* by Clarke, Fokoué, and Zhang. (e-copy for instructors only) Springer, New York. (450 p.)
3. Clarke, B., Fokoué, E., and Zhang, H. (2009) *Principles and Theory for Data Mining and Machine Learning*, Springer, New York. (800 p.)
4. Clarke, B. and Ghosal, S. (2008). *Pushing the Limits of Contemporary Statistics: Contributions in Honor of Professor Jayanta K. Ghosh*. IMS Collections Volume **3**, Institute of Mathematical Statistics, Beachwood, OH. (330 p.)

Refereed Papers

- Papers Published or in Press in Journals (bold indicates advisees)

1. **Le, T.** and Clarke, B. (2020) In praise of partially interpretable predictors. *J. Statistical Analysis and Data Mining*, **13**, 113-133.
2. Clarke, B. **Amiri, S.**, Clarke, J. and Koepke, H. (2019) A stabilized hybrid clustering strategy. *Journal of Computational and Graphical Statistics*, **28**, 540-551.
3. Dobra, A., Valdes, C., Ajdic, D., Clarke, B. and Clarke, J. (2019) Assessing statistical dependence within microbial communities with clique log-linear models. *Ann. Appl. Statist.*, **13**, 931-957
4. **Mpoudeu, M.** and Clarke, B. (2019) Model selection via the VC dimension. *Journal of Machine Learning Research*, Vol **20**, paper #88, 1-26.
5. **Amiri, S.**, Clarke, B., and Clarke, J. (2018) Clustering categorical data via ensembling dissimilarity matrices. *Journal of Computational and Graphical Statistics* Vol. 27, 195-208. (This is in the top ten most downloaded papers from this journal since its inception in 1992; it places 7th.)
6. **Le, T.** and Clarke, B. (2018) On the interpretation of ensemble classifiers in terms of Bayes classifiers. *Journal of Classification* Vol. 35, 198-229.
7. **Le, T.** and Clarke, B. (2017) A Bayesian interpretation of stacking for M-complete and M-open problems. *Bayesian Analysis* Vol. 12, 807-829. Supplementals: doi:10.1214/16-BA1023SUPP
8. **Le, T.** and Clarke, B. (2016) Using the Bayes Shtarkov solution for prediction. *Computational Statistics and Data Analysis* Vol. 104, 183-196.
9. Clarke, B., **Amiri, S.**, and Clarke, J. (2016) EnstCat: Clustering of categorical data by ensembling. *BMC Bioinformatics* Vol. 17:380 (13 pages).

10. **Yu, C.-W.** and Clarke, B. (2015) Median Based Cross-Validation for Model Selection. *Statistical Analysis and Data Mining* Vol. 8, 14-33.
11. Clarke, B., Valdes, C., Dobra, A., and Clarke, J. (2015) Bayesian approach to metagenomic profiling in bacteria. *Statistics and Its Interface* Vol. 8, 173-185.
12. Valdes, C., Brennan, M., Dobra, A., Clarke, B. and Clarke, J. (2015) Detecting bacterial genomes in a metagenomic sample using NGS reads. *Statistics and its Interface* Vol. 8, 477-494.
13. Clarke, B. and Clarke, J. (2014) Estimating proportions in a mixed sample using transcriptomics. *STAT* Vol. 3, 313-325.
14. Clarke, B. and Chu, J. (2014) "Generic feature selection with short, fat data. Invited paper for a special issue of *Journal of the Indian Society of Agricultural Statistics* Vol. 68, 145-162.
15. Clarke, B., Clarke, J. and **Yu, C.-W.** (2014) Statistical problem classes and their links to information theory. Invited paper for the Zellner Memorial Issue of *Econometric Reviews* Vol. 33, 337-371.
16. **Koepke, H.** and Clarke, B. (2013) A Bayesian Criterion for Clustering Stability. *Statistical Analysis and Data Mining* Vol. 4, 346-374.
17. **Yu, C.-W.**, Clarke, B. and Clarke, J. (2013) Bayes Prediction in the M-complete problem class with moderate sample size. *Bayesian Analysis* Vol. 8, 647-690.
18. Clarke, B. and Clarke, J. (2012) How to Predict in Several Conventional Settings. *Statistics Surveys* Vol. 6, 1-73.
19. **Koepke, H.** and Clarke, B. (2011) On The Limits of Clustering in High Dimensions via Cost Functions. *Statistical Analysis and Data Mining*. Vol. 4, 30-53.
20. **Fokoue, E.** and Clarke, B. (2011) Variance Bias Tradeoff for Prequential Model List Selection. *Statistical Papers* Vol. 52, 813-833.

21. Clarke, B. (2010) Desiderata for a Predictive Theory for Statistics. *Bayesian Analysis* Vol. 5, 283-318.
22. **Yu, C.-W.** and Clarke, B. (2010) Asymptotics of Bayesian Median Loss Estimation. *Journal of Multivariate Analysis* Vol. 101, 1950-1958.
23. Clarke, J., Seo, P. and Clarke, B. (2010). Statistical expression deconvolution from mixed tissue samples. *Bionformatics* Vol. 26,1043-1049.
24. Clarke, B. and Ghosal, S. (2010) Reference priors for exponential families with increasing dimensions. *Electronic. Journal of Statistics*. Vol. 4, 737-780.
25. **Yu, C.-W.** and Clarke, B. (2010) Median Loss Decision Theory. *Journal of Statistical Planning and Inference* Vol 141, 611-623.
26. Clarke, J. and Clarke, B. (2009) Prequential Analysis of Complex Data with Adaptive Model Reselection. *Statistical Analysis and Data Mining* Vol. 2, 274-290.
27. Clarke, B. (2007). Information Optimality and Bayes Models. *Journal of Econometrics* Vol. 138, No. 2, 405-429.
28. **Lin, X.**, Pittman, J. and Clarke, B. (2007). Information Conversion, Effective Samples & Parametric Size. *IEEE Transactions on Information Theory* Vol. 53, 4438-4456.
29. Clarke, B. and **Yuan, A.** (2006). Closed Form Expressions for Bayesian Sample Sizes. *Annals of Statistics* Vol. 34, 1293-1330.
30. Gustafson, P. and Clarke, B. (2004). A Decomposition for the Posterior Variance. *Journal of Statistical Planning and Inference* Vol. 119, 311-327.
31. Clarke, B. and **Yuan, A.** (2004). Partial Information Reference Priors: Derivation and Interpretations. *Journal of Statistical Planning and Inference* Vol. 123, 313-345.
32. **Yuan, A.** and Clarke, B. (2004). Asymptotic Normality of the Posterior Given a Statistic. *Canadian Journal of Statistics* Vol. 32, 119-137.

33. Clarke, B., Mittenthal, J. and Fawcett, G. (2004). Netscan: An Algorithm for Assembling Molecular Networks. *Journal of Theoretical Biology* Vol. 230, No. 4, 591-602.
34. **Wong, H.** and Clarke, B. (2004). Improvement over Bayes Prediction in Small Samples in the Presence of Model Uncertainty. *Canadian Journal of Statistics* Vol. 32, 269-283.
35. **Wong, H.** and Clarke, B. (2004). Characterizing Model Weights Given Partial Information in Normal Models. *Statistics and Probability Letters* Vol. 68, 27-37.
36. Clarke, B. and Song, X. (2004). Approximating the Dependence Structure of Discrete and Continuous Stochastic Processes. *Sankhyā A* Vol. 66, 536-547.
37. Mittenthal, J.E., Clarke, B. and Scheeline, A. (2003). How Cells Avoid Errors in Metabolic and Signaling Networks. *International Journal of Physics B*. Vol. 17, 2005-2022.
38. Clarke, B. (2003). Comparing Bayes and Non-Bayes Model Averaging When Model Approximation Error Cannot Be Ignored. *Journal of Machine Learning Research* Vol. 4, 683-712
39. **Yuan, A.** and Clarke, B. (2001). Manifest Characterization and Testing for Two Latent Traits. *Annals of Statistics* Vol. 29, 876-898
40. Mittenthal, J.E., Clarke, B., Waddell, T., and Fawcett, G. (2001). A New Method for Assembling Metabolic Networks, with Application to the Krebs Citric Acid Cycle. *Journal of Theoretical Biology* Vol. 208, 361-382.
41. Clarke, B. (2001). Combining Model Selection Procedures for Online Prediction. *Sankhyā A* Vol. 63, Part 2, 229-249.
42. Clarke, B. and Sun, D. (1999). Asymptotics of the Expected Posterior. *Annals of the Institute of Statistical Mathematics* Vol. 51, 163-185.

43. **Yuan, A.** and Clarke, B. (1999). A Minimally Informative Likelihood for Decision Analysis: Illustration and Robustness. *Canadian Journal of Statistics* Vol. 27, 649-665.
44. Clarke, B. (1999). Asymptotic Normality of the Posterior in Relative Entropy. *IEEE Transactions on Information Theory* 45, 165-176.
45. **Yuan, A.** and Clarke, B. (1999). An Information Criterion for Likelihood Selection. *IEEE Transactions on Information Theory* Vol. 45, 562-571.
46. Mittenthal, J.E., **Yuan, A.**, Clarke, B., and Scheeline, A. (1998). Designing Metabolism: Alternative Connectivities for the Pentose Phosphate Pathway. *Bulletin of Mathematical Biology* Vol. 60, 815-856.
47. Clarke, B. and Gustafson, P. (1998). On the overall sensitivity of the posterior distribution to its inputs. *Journal of Statistical Planning and Inference* 71: 137-150.
48. Clarke, B. and Sun, D. (1997). Reference Priors Under the Chi-Square Distance. *Sankhyā A* Vol. 59, Part II, 215-231.
49. Clarke, B. (1996). Implications of Reference Priors for Prior Information and Sample Size. *Journal of the American Statistical Association* Vol. 91, 173-184.
50. Clarke, B., McKay, I., Grigliatti, T., Lloyd, V., **Yuan, A.** (1996). A Markov Model for the Assembly of Heterochromatic Regions in Position-Effect Variegation. *Journal of Theoretical Biology* Vol. 181, 137-155.
51. Clarke, B. and Wasserman, L.A. (1995). Information Tradeoff. *TEST* Vol. 4, 19-38.
52. Clarke, B. and Ghosh, J. K. (1995). Posterior Convergence Given the Mean. *Annals of Statistics* Vol. 23, 2116-2144.
53. Clarke, B. and Barron, A. (1994). Jeffreys' Prior is Asymptotically Least Favorable Under Entropy Risk. *Journal of Statistical Planning and Inference* Vol 41, 37-60.

54. Clarke, B., Mittenthal, J. and Senn, M. (1993). A Model for the Evolution of Networks of Genes. *Journal of Theoretical Biology* Vol. 165, 269-289.
55. Clarke, B. and Wasserman, L. (1993). Non Informative Priors and Nuisance Parameters. *Journal of the American Statistical Association* Vol. 88, 1427-1432.
56. Clarke, B. and Mittenthal, J. (1992). Modularity and Reliability in the Organization of Organisms. *Bulletin of Mathematical Biology* Vol. 54, 1-20.
57. Clarke, B. and Barron, A. (1990). Information Theoretic Asymptotics of Bayes Methods. *IEEE Transactions on Information Theory* Vol. 36, 453-471.
58. Clarke, B., Mittenthal, J. and Arcuri, P. (1988). An Optimality Criterion for Epimorphic Regeneration. *Bulletin of Mathematical Biology* Vol. 50, 395-434.
- Papers Published in Collections (refereed)
 - 59. Clarke, B. and **Yuan, A.** (2010) Reference Priors for Empirical Likelihoods. In: *Frontiers of Statistical Decision Making and Bayesian Analysis*. Co-Editors: Chen, M., Dey, D., Mueller, P. Sun, D. and Ye, K. Springer, New York, p. 56-68.
 - 60. Clarke, B. S. and Ghosal, S. (2008). J. K. Ghosh's contribution to statistics: A brief outline. In: *IMS Collection 3: Pushing the Limits of Contemporary Statistics: Contributions in honor of Professor Jayanta K. Ghosh* (B. Clarke and S. Ghosal, eds.), 1-18. Institute of Mathematical Statistics, Beachwood, OH.
 - 61. Datta, G., Bhattacharya, A. and Clarke, B. (2008) Bayesian Tests for the Zero Inflated Poisson Model. In: *Beyond Parametrics in Interdisciplinary Research: Festschrift in Honor of P. K. Sen* Balakrishnan, A., Pena, E, and Silvapulle, M. Eds. p. 89-104.

62. Mitterthal, J., Clarke, B. and Levinthal, M. (1993). Designing Bacteria. In: *Thinking about Biology*. W. Stein and F. Varela, Eds. Addison-Wesley, Redwood City, CA, 65-104.

Submitted Papers (Preprints available)

63. **Le, T.** and Clarke, B. (2020) Interpreting the uninterpretable: Kernel methods, Shtarkov solutions, and random forests. Invited by: *Statistical Theory and Related Fields* as a discussion paper.
64. **Le, T.** and Clarke, B. (2020) Model averaging beats model selection from an asymptotic Bayesian predictive perspective. To: *J. Machine Learning Research*.
65. Jarquin, D., Roy, A., Clarke, B., and Ghosal, S. (2020). Prediction with sparse logistic classifiers using multitype data. To: *Bioinformatics*.

Papers in Preparation for Submission

66. **Dustin, D.**, Clarke, J, and Clarke, B. Adaptively choosing a shrinkage method by stability optimization.
67. **Dustin, D.** and Clarke, B. A decomposition of post-model selection prediction intervals.
68. Clarke, B. Predictive Thinking in Statistics. A review paper on modern prediction.

Discussions, Software, and Miscellaneous

1. Clarke, B. and Datta, G. Preface to Special Issue in honor of J. K. Ghosh, *Sankhya B*, **82**, No. 2, 2020.
2. Clarke, B. (2019) Invited comment on ‘Prior-based Bayesian Information Criterion’ by Bayarri et . al. *Statistical Theory and Related Fields* Vol. 3, 26-29.

3. Clarke, B. (2018) Invited comment on ‘Using Stacking to Average Bayesian Predictive Distributions’ by Yao et al. *Bayesian Analysis* Vol. 13, 31-36.
4. **Amiri, S.**, Clarke B., Clarke, J. (2018) <https://github.com/saeidamiri1/GHC/wiki>. Software to implement hybrid K-means, single linkage clustering.
5. **Amiri, S.**, Clarke, B. and Clarke, J. ENSCAT (2016) an R package to do ensemble clustering of categorical data.
6. **Koepke, H.**, Hu, Z. and Clarke, B. (2013) EASYSTAB an R package for assessing clustering stability. See <https://cran.r-project.org/src/contrib/Archive/easystab/>.
7. Clarke, B. (2013) Guest Editorial for Special Issue of *Statistical Analysis and Data Mining* Vol. 6, No. 4., 271-272.
8. Clarke, B. and Holt, G. (2013) Comment on ‘Nonparametric Bayes Inference – Why and How’ by Mueller and Mitra. *Bayesian Analysis* Vol. 8, 329-331.
9. Clarke, B. (2012) Invited comment on ‘Catching up faster by switching sooner’ by van Erven et al. *Journal of the Royal Statistical Society Series B* Vol. 74, 47-50.
10. Clarke, B. (2012) Invited comment on ‘Universality of Bayes predictions’ by Sancetta, *Bayesian Analysis* Vol. 7, 37-43.
11. Clarke, B. and Severinski, C. (2011) Invited comment on ‘Shrink globally, act locally’ by Polson and Scott. *Proceedings of the IX Valencia Conference on Bayesian Statistics*, Bernardo, J. M. et al. Eds. 523-528. Oxford Univ. Press. Title: Subordinators, Adaptive Shrinkage and a Prequential Comparison of Three Sparsity Methods.
12. Clarke, B. (2011) Comment on a paper by J. M. Bernardo. *Proceedings of the IX Valencia Conference on Bayesian Statistics*, Bernardo, J. M.

- et al. Eds. 30-32, Oxford Univ. Press, Oxford. Title: Integrated Analysis = Benchmark Analysis.
13. Clarke, B. and Clarke J. (2009) Unsubmitted: Thoughts on Refereeing. *Bulletin of the IMS* Vol. 38, No. 6, 8-9.
 14. Clarke, B. (2007) Comment on ‘Objective Bayesian Analysis for the Multivariate Normal Model’ by Sun and Berger. In: *Bayesian Statistics 8: Proceedings of the 8-th Valencia International Meeting on Bayesian Statistics*, Bayarri M. et al. Eds. 551-553. Oxford Univ. Press, Oxford.
 15. Clarke, B. (2007). Statistics: We should be Leading not Serving. *Bulletin of the IMS*, Vol 36 No. 6, 8-9.
 16. Clarke, B. (2003). A conversation with Constance van Eeden, Liaison, 17-4, 28-35. (Available at: http://www.ssc.ca/main/about/history/vaneeden_e.html.)
 17. Clarke, B., Mittenthal, J. and Fawcett, G. (2002) NETSCAN: Software to list sets of reactions that satisfy a biochemical constraint in order of size of reaction network.
 18. Clarke, B., Mittenthal, J. and Fawcett, G. (2002). NETSCAN Reaction Network Finder. A manual for the NETSCAN software.
 19. Clarke, B. (1999). Discussion of the papers by Rissanen, and by Wallace and Dowe. *The Computer Journal* Vol. 42, 338-339.
 20. Clarke, B. (1992) Comment on ‘On the Development of the Reference Prior Method’ by Berger, J. and Bernardo, J. In: *Bayesian Statistics 4: Proceedings of the Fourth Valencia International Meeting on Bayesian Statistics*, Dawid, et al. Eds. 51-52. Clarendon Press, Oxford.
 21. Clarke, B. (1992) Comment on ‘Non-Informative Priors’ by Ghosh, J.K. and Mukerjee, R. In: *Bayesian Statistics 4: Proceedings of the Fourth Valencia International Meeting on Bayesian Statistics*, 207-208. Clarendon Press, Oxford.

22. Clarke, B. and Mittenthal, (1992) J. Reliability of Networks of Genes. In: *Principles of Organization of Organisms, Proceedings Volume 13*, Santa Fe Institute Studies in the Sciences of Complexity, 333-336. Addison-Wesley, Reading, Massachusetts.
23. Junker, B. and Clarke, B. (1991). Inference from the Product of Marginals of a Dependent Likelihood. Technical Report #508, Department of Statistics, Carnegie-Mellon University.
24. Clarke, B. and Barron, A.R. (1989). Information Theoretic Asymptotics of Bayes Methods. Technical Report #26, Department of Statistics, University of Illinois.

University and Professional Services

- **Editorial activities**

1. Editor-in-Chief, *Statistical Analysis and Data Mining*, Jan 2021-present.
2. Associate Editor, *Bayesian Analysis*, 2018–present.
3. Co-Editor, *Sankhyā*, the Indian Journal of Statistics, Series B, 2016–present.
4. Associate Editor, *Computational Statistics and Data analysis*, July 2020 – present.
5. Associate Editor, *Journal of Econometrics and Statistics*, 2016–present.
6. Executive/Area/Associate Editor, *Statistical Analysis and Data Mining*, 2012–2020.
7. Lead Editor, *Sankhyā*, the Indian Journal of Statistics, Series B, special volume in honor of J. K. Ghosh, **82**, Issue 2, 2020.
8. Associate editor, *Statistics and Probability Letters*, 2010–2014.
9. Associate Editor, *Statistical Papers*, 2006–2014.
10. Guest Editor, *Statistical Analysis and Data Mining*, **6**, Issue 4, 2013.

11. Associate Editor, *Journal of Statistical Planning and Inference*, 2006–2012.
12. Associate Editor, *Journal of the American Statistical Association*, 2005–2007.
13. Corresponding Editor for the *Bulletin of the IMS*, 1994–1996.

- **Academic Leadership**

Department Chair, Department of Statistics U. Nebraska-Lincoln, August 2013–July 2019. Completely overhauled MS, PhD, and consulting programs. Have brought new FTE's into my department; mentored junior hires. Re-appointed in 2019 to a second 5-year term. Have submitted a proposal for an undergraduate degree program in Statistics and Data Mining to begin August 2021.

Interim Chief of the Biostatistics Shared Resource, U. Miami, February 2010 – March 2012.

Created the PhD in biostatistics program at U. Miami 2011.

Created the MS in biostatistics program at U. Miami 2010.

Elected regional representative for the Canadian Statistical Society 2006-2007.

Group Leader for the 'Large p , small n ' working group at SAMSI, 2003-2004.

- **Academic Service**

Elected Program Chair, Section on Industrial Statistics, ISBA, 2019.

Member, Lindley Prize Committee, ISBA, 2018.

Member, ISBA Awards Committee, 2015-2018; Head of ISBA Awards Committee Feb. 2016–May 2017.

Head, Savage Award Committee, ISBA, 2015.

Member, Lindley Prize Committee, ISBA, 2014.

Member, Savage Award Committee, ISBA, 2013.

Head, Savage Award Committee, ISBA, 2012.

Member, Savage Award Committee, ISBA, 2011.

Member, Student Paper Prize Committee, Section on Risk Analysis, ASA, 2009

Member, Student Paper Prize Committee, Section on Statistical Learning, ASA, 2011.

Letters of support for U.S. permanent residency, promotion, tenure, and awards: 2002, 2006, 2009, 2010, 2011, 2012, 2014, 2015 (2), 2016, 2017, 2018 (2), 2019 (3), 2020 (2).

Referee, often multiple times, for many journals including *Bayesian Analysis*, *Statistical Analysis and Data Mining*, *Canadian Journal of Statistics*, *Biometrika*, *Transactions on Information Theory*, *Journal of Computational and Graphical Statistics*, *Journal of Statistical Planning and Inference*, *Annals of Statistics*, *Journal of the American Statistical Association*, *Journal of Classification*, and *the Electronic Journal of Statistics*.

• Doctoral Committee Participation

University of Nebraska-Lincoln: Dola Pathak (Statistics 2018), Mateusz Mittek (EE, 2020).

University of British Columbia:

PhD Comprehensive Examination Committees of:

– Xiaochun Li, Jian-Meng Xu, Michael Armstrong, Sonia Mazzi, Renjun Ma, Yinshan Zhao, and Isabella Ghement

Chair of PhD Defense Committees of:

– Chaoqui Yuan, Fatima Al-Qallaf, Shixin Wang's, Rita Sharma, and David Olmos

University PhD Examiner for:

– Lawrence McCandless, Andrew Mottus, Richard Price, and Michael Saliba

- **External Examiner for:**

1. Alexandre LeBlanc, PhD Committee, Département de Mathématiques et de Statistiques, Université de Montréal, 2002 (en français).
2. Holger Scholl, PhD Committee, Department of Mathematics, University of Kaiserslautern, 1998.
3. John Blanch, Masters Committee, Department of Electrical Engineering, Masters Committee, Purdue University. May 1990.

- **Committee work**

University of Nebraska-Lincoln:

Chair of Department. Manage teaching assignments, teaching assistant assignments, department finances, annual evaluations, salary increases, and hiring of junior faculty; oversee graduate admissions process, interactions with other Chairs and upper administration, maintain and upgrade facilities (both physical and computational), etc. Help other departments improve their statistics curriculum and hire staff/faculty in quantitative fields.

University of Miami:

Led curriculum re-development of two MS level courses in the Epidemiology Department. Led development of statistics web-pages for the Program in Biostatistics and in the Department of Medicine.

University of British Columbia:

Curriculum Committee 2006-2007, including new course development and approval.

Graduate Advisor Sept. 1996-June 1998 & July 2000-June 2003: Sole responsibility for the Master's Program, the Ph.D. Program, and the Co-op Program, including: recruitment (domestic and international), admissions, placement, first year advising, funding decisions, teaching assistant training, assignment, and evaluation,

performance based discipline and dismissal, liaison with Graduate Council. Primarily in charge of setting, administering, and marking written qualifying examinations.

Peer teaching evaluation procedures and policy group, Fall 2003 and several (3) peer evaluation of teaching reports over the intervening years.

Dean's Head Search Committee for the Statistics Department, Jan 2002-July 2002.

Dean's committee on first year science courses and programs, Jan-May 2000 to revamp Faculty wide requirements.

Various other committees including: Department Openhouse organizer October 1995. Regular member of Departmental Committee on Hiring (at all ranks, including some staff positions). Seminar Organizer Jan. 1994 – June 1995. Library Serials Cuts Committee, 1992-1993.

Presentations

• Invited Talks at Conferences

1. CMStatistics, Pisa, Italy, December 2018.
2. Ninth International Purdue Symposium on Statistics, West Lafayette, June 2018.
3. First Midwest Statistical Machine Learning Colloquium, Iowa State U. May. 2018.
4. Classification Society Conference, U. Missouri, June 2016.
5. CMStatistics, Pisa, Italy, December 2014.
6. Conference in Honor of Malay Ghosh, U. Maryland College Park, May 2014.
7. ISBA, Kyoto, June, 2012.
8. Current Challenges in Statistical Learning, Banff International Research Station, Canada 2011.

9. JSM, Miami, 2011.
10. Objective Bayes Conference, Shanghai, 2011.
11. International Indian Statistical Society Conference, Raleigh, NC, 2010.
12. Conference on Bayesian Information and Econometrics and Statistics, American University, Washington D.C., 2010.
13. UIUC Statistics Symposium, Champaign, IL, March 2010.
14. Frontiers of Decision-making and Bayes Statistics, U. Texas, San Antonio, March 2010.
15. IMS session at JSM, Washington D.C., August 2009.
16. The New Statistics, Banff International Research Station, September 2008.
17. International Indian Statistical Association Conference, U. Connecticut, May 2008.
18. Frontiers in High Dimensional Statistics, Sir Isaac Newton Institute, Cambridge U.K., January 2008.
19. Interdisciplinary Mathematics & Statistical Techniques, Shanghai, May 2007.
20. JSM, Minneapolis, August 2005.
21. Information and Entropy Economics, American University, Washington, D.C., September 2003.
22. Danish Theoretical Statistics Society Conference, Odense University, Denmark, May 1999.
23. Second Triennial Calcutta University Symposium, Calcutta, January 1995.
24. IEEE Workshop on Information Theory, Alexandria, VA., October 1994.
25. Purdue Symposium, W. Lafayette, IN., June 1992.
26. IEEE Workshop on Information Theory, Ithaca, N.Y., July 1989.

- **Invited Discussant at Conferences**

27. Objective Bayes Conference, Duke University. Discussant of a paper by Liu et al., October 2013.
28. Ninth Valencia Conference, Alicante, Spain. Discussant of a paper by Polson and Scott, June 2010.
29. Objective Bayes 6, Rome, Italy. Discussant of a paper by T. Sweeting, June 2007.
30. Objective Bayes Methods 5, Branson, Missouri. Discussant of a paper by Sun et al. June 2005.
31. Objective Bayes Conference, Granada, Spain. Discussant of a paper by Reid et al. December 2002.
32. Valencia Conference on Objective Bayes Procedures. Discussant of a paper by T. Sweeting. June 1999.
33. SSC Annual Meeting, Waterloo, Canada. Discussant of a paper by Ramsey and Stout. June 1996.

- **Refereed Talks at Conferences**

34. ISBA Conference, Edinburgh, June 2018.
35. 10th International Symposium on Artificial Intelligence and Mathematics, Fort Lauderdale, Florida, January 2008. (Given by my student H. Kopeke.)
36. ISBA Conference, Vina del Mar, Chile, June 2004.

- **Shortcourses/Lecture Series**

37. Continuing Education shortcourse *Nonlinear regression and ensemble methods* at JSM 2012.
38. Notre Dame University, Beirut Lebanon: Series of four 1.5 hour lectures *Current Statistical Machine Learning*, July 2011.
39. Department of Statistics, University of Dortmund, Germany. Series of three lectures *Bayesian Robustness*, July 1997.

40. Department of Statistics, University of Dortmund, Germany. Series of three lectures *Information Theory and Statistics*, July 1996.

• **Invited Speaker at Departments**

41. Department of Statistics, Kansas State U., March 2018.
42. Department of Statistics, U. Iowa, Oct. 2016.
43. Department of Statistics, NC State, April 2016.
44. Department of Statistics, Iowa State University, December 2014.
45. Department of Statistics, E. China Normal Univ., PRC, May 2014.
46. Department of Mathematics and Statistics, Zhejiang Univ., PRC, May 2014.
47. Department of Statistics, Univ. Connecticut, February 2013.
48. Department of Mathematics and Statistics, York U., Canada, January. 2013.
49. Department of Statistics, U. Nebraska-Lincoln, December, 2012.
50. Department of Statistics, Florida State University, November, 2011.
51. National Human Genome Research Institute, Washington, D.C., September, 2010.
52. Department of Statistics, University of Florida, October 2009.
53. Centre de Recherche de Montréal, October 2007.
54. Department of Statistics, University of Minnesota, September 2007.
55. Department of Mathematics, University of Miami, May 2007.
56. Department of Epidemiology and Public Health, University of Miami, July 2006.
57. Department of Statistics, UNC-Chapel Hill, April 2004.

58. Institute of Statistics and Decision Sciences, Duke University, August 2003.
59. Department of Statistics, University of Missouri-Columbia, November 2002.
60. Department of Electrical Engineering, University of Toronto, Canada, July 2001.
61. Department of Statistics, Waterloo, Canada, December, 2000.
62. Department of Mathematics & Statistics, University of Bristol, UK, June 1999.
63. Department of Computer Science, Royal Holloway College, UK, February 1999.
64. Department of Statistics, Simon Fraser University, Vancouver, Canada, September 1992.
65. Department of Statistics, Royal Roads College, Canada, Victoria, Canada, November 1992.
66. Département de Statistiques, Université de Montréal, Montreal, Canada, November 1991.
67. Department of Statistics, University of British Columbia, June 1991.
68. Department of Statistics, Carnegie Mellon University, Pittsburgh, PA., February 1991.

• **Contributed Talks – Conferences**

69. JSM, (topic contributed) August Baltimore 2017.
70. JSM (topic contributed), August Chicago, 2016.
71. JSM (topic contributed), August Montreal, 2013.
72. JSM, San Diego, August 2012.
73. JSM Toronto, August 2004.
74. ICSA Conference in Singapore, July 2004.

75. Closing Workshop, Data Mining and Machine Learning, SAMSI, NC, May 2004.
76. Midterm Workshop in Data Mining and Machine Learning, SAMSI, NC, February 2004.
77. JSM Atlanta, August 2001.
78. ISBA Conference, Chicago, August 1996.
79. JSM Orlando, Florida, August 1995.
80. JSM San Francisco, August 1993.

• **Contributed Talks – Departments**

81. Center for Computational Sciences, University of Miami, September 2009.
82. Statistics Division, Howard University, August 2001.
83. Department of Statistics, University of Toronto, Canada, July 1999.
84. Department of Statistical Science, University College London, U.K., May 1999.
85. Department of Statistical Science, University College London, U.K., February 1999.
86. Department of Mathematics and Statistics, American University of Beirut, November, 1998.
87. Department of Statistical Science, University College London, U.K., October, 1998.
88. Indian Statistical Institute, Delhi, India, December 1994.

• **Poster presenter at**

89. Objective Bayes Conference, East China Normal University, Shanghai, June 2011.
90. Valencia International Meetings on Bayesian Statistics, Peniscola Spain, 1991.

- **Conference and Session Organizing**

Organizer for 1 session at each of ENBIS 2020, INFORMS 2020.

Session organizer for CMStatistics London (UK), 2019. (Co-organized three sessions.)

Member of Scientific Program Committee for CMStatistics (and session organizer), Pisa, 2018.

Member of Scientific Program Committee for Economics and Statistics Conference Hong Kong, 2017.

Co-chair with Ana Colubi for the CMStatistics Conference, London (UK) 2017.

Organizer of multiple sessions for the CMStatistics/CFEconometrics conferences in Seville, Hong Kong, and London (UK), 2014-2016

IMS Program Chair for contributed papers JSM 2014.

Member of the Program Committee for the Solomonoff Memorial Conference, 2011.

Organizer for a session on Predictive Statistics, JSM, 2009.

Reviewer for NIPS 2008 conference.

Organizer for session Stability Concepts for the International Indian Statistics Association conference, 2008.

Elected 2008 Program Chair for the Risk Analysis Section of ASA.

Program and advisory committee member for Information and Entropy Econometrics: Conference in Honor of Geroge Judge, 2005.

Organizer for 3 proposed sessions at ISBA 2004 Chile. (These were competitive; two were accepted.)

Organizer for a session on Nonstandard Bayesian Techniques, JSM, 2001

Registration for Pacific Northwest Probability and Statistics Conference 1993.

- **Society Membership**

Institute of Mathematical Statistics (IMS), Bethesda, Maryland, U.

S. A. (life member)

Indian International Statistical Association. (life member)

International Society for Bayesian Analysis (ISBA). (life member).

Also: life member of 6 sections.

Classification Society 2016–2019.

American Statistical Association, 1989–present.

IEEE and Section on Information Theory, 1989–present.

Canadian Statistical Society, 1992–2010.

Teaching Experience

1. University of Nebraska-Lincoln:

- Phd level statistical theory
- PhD level data mining and machine learning
- Measure theoretic probability
- Seminar course on the statistics profession including history and philosophy of the field

2. University of British Columbia:

- Asymptotic statistics
- PhD-level introduction to nonparametric Bayes
- First and second courses on PhD level theoretical statistics
- First and second courses on MS level theoretical statistics
- First course on consulting
- Intermediate design of experiments
- Multivariate analysis
- Nonparametric statistics (classical)

- Survey sampling
- Quality control
- Undergraduate linear regression
- Introduction to statistics
- Introduction to probability theory

3. Purdue University:

- First and second courses on MS level theoretical statistics
- Introductory and intermediate courses on MS level linear regression
- Introduction to Statistics for students in the life sciences
- Introduction to Statistics for technology students

4. Other:

- Duke University, Durham NC 2003-4: First and second courses on MS-level theoretical statistics and Introduction to Statistics
- University College London 1998-1999: Recitation sessions for introductory statistics