Ryan Martin — Curriculum Vitæ[1]

Contact Information

Department of Statistics
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Appointments

Professor — 2026–present
Department of Statistics
Purdue University

Professor — 2020–2026
Associate Professor — 2016–2020
Department of Statistics
North Carolina State University

Associate Professor — 2015–2016
Assistant Professor — 2011–2015
Department of Mathematics, Statistics, and Computer Science
University of Illinois at Chicago (UIC)

Assistant Professor — 2009–2011
Department of Mathematical Sciences
Indiana University–Purdue University Indianapolis

Education

Ph.D., Statistics, Purdue University	August 2009
M.S., Statistics, Indiana University–Purdue University Indianapolis	May 2005
B.A., Mathematics, Franklin College	May 2003

Awards, etc.

D. D. Mason Award, NCSU, 2022.

Van Dantzig Seminar Speaker, Dutch nationwide statistics seminar series, 2021.

Sigma Xi, Scientific Research Honor Society, full member nominee, 2020, 2026.

[1] Updated: September 1, 2026

Thank-a-Teacher Award, NCSU, 2018.

Department Faculty Teaching Award, UIC, 2015.

Liberal Arts & Sciences Undergraduate Research Initiative Award, UIC, 2014–2015.

I. W. Burr Award, Department of Statistics, Purdue University, 2010.

Student Paper Competition Winner, ASA, Bayesian Statistical Science, 2009.

William J. Studden Publication Award, Department of Statistics, Purdue University, 2009.

Award for Outstanding Teaching by a Statistics Teaching Assistant, Department of Statistics, Purdue University, 2009.

Outstanding Poster Award, First Midwest Statistics Research Colloquium, 2008.

NSF VIGRE Fellowship, Department of Statistics, Purdue University, 2005 & 2009.

Research Grants

National Science Foundation, DMS, PI, 2024–2027.

National Science Foundation, DMS/MMS, PI, 2021–2024.

National Science Foundation, DMS, PI, 2018–2021.

National Science Foundation, DMS, PI, 2016–2019.

National Science Foundation, DMS, PI, 2015–2018.

Society of Actuaries Individual Grant, co-PI, 2016.

U.S. Army Short Term Innovative Research Award, PI, 2015–2016.

Society of Actuaries/Casualty Actuarial Society Individual Grant, co-PI, 2015.

National Security Agency, Young Investigator Award, PI, 2013–2015.

National Science Foundation, DMS, PI, 2012–2015.

Current Research Interests

Foundations of statistics & probability; generalized Bayes and Gibbs posterior distributions; high-dimensional problems; imprecise probability; machine learning.

Books, etc.

R. Martin (202x). *Fundamentals of Statistical Inference*, in progress (350+ pages).

R. Martin and C. Liu (2015). *Inferential Models: Reasoning with Uncertainty*, Monographs in Applied Probability and Statistics, Chapman & Hall/CRC Press.

R. Martin (2009). *Fast Nonparametric Estimation of a Mixing Distribution with Application to High Dimensional Inference*, PhD thesis, Purdue University.

Lecture Notes[2]

Lecture Notes on Advanced Statistical Theory, 01/2017, 145 pages.

Lecture Notes on Statistical Theory, 01/2015, 117 pages.

Less-complete notes on probability for stat undergrads, 11/2021, 138 pages.

Less-complete notes on stat theory for first-year stat PhDs, 05/2022, 135 pages.

Published Papers, etc.[3]

139. R. Martin (202x). No-prior Bayes reIMagined: probabilistic approximations of possibilistic inferential models. *Statistical Science* (with discussion), to appear.

138. E. Hector and R. Martin (202x). Comments on: Empirical Bayes for data integration, by Rognon-Vael & Rossell (invited). *TEST*, to appear.

137. R. Martin (202x). An efficient Monte Carlo method for valid prior-free possibilistic statistical inference. *Journal of the American Statistical Association*, to appear.

136. F. Coolen et al (2026). Thomas Augustin's contributions to imprecise probability and statistics. *International Journal of Approximate Reasoning*, volume 198, paper 109781. Special issue in honor of the late Thomas Augustin.

135. N. Dey, R. Martin, and J. Williams (2026). Generalized universal inference on risk minimizers. *Journal of the Royal Statistical Society, Series B*, volume 88, pages 756–778.

134. E. Yanchenko, J. Williams, and R. Martin (2026). Hypothesis testing for community structure in temporal networks using e-values. *Network Science*, volume 14, paper e14.

133. V. Dixit and R. Martin (2026). E-processes, predictive recursion, and objective empirical probability. *ERCIM News*.

132. R. Martin, S. Prim, and J. Williams (2026). Decision-making with possibilistic inferential models. *International Journal of Approximate Reasoning*, volume 196, paper 109720.

131. R. Martin (2026). Regularized e-processes: anytime valid inference with knowledge-based efficiency gains. *Bernoulli*, volume 32, pages 1947–1974.

130. R. Martin (2026). Possibilistic inferential models: a review. *Journal of the American Statistical Association*, volume 552, pages 807–826.

129. Y. Jiang, Z. Zhang, R. Martin, and C. Liu (2026). The typicality principle and its implications for statistics and data science. *Journal of Data Science*, volume 24, pages 4–25.

[2]These lecture notes (see my website) are still "works-in-progress," but they're readable/usable.

[3]Open-access versions of all of my papers are available at my website. Details about the *Researchers.One* platform can be found on page 29 below.

128. N. Dey, R. Martin, and J. Williams (2026). Multiple testing in generalized universal inference. *Statistics & Probability Letters*, volume 228, paper 110559. Special issue on e-values and multiple testing.

127. J. Lee, M. Chae, and R. Martin (2025). Advances in Bayesian model selection consistency for high-dimensional generalized linear models. *The Annals of Statistics*, volume 53, pages 2012–2039.

126. R. Martin (2025). Decision-theoretic properties of possibilistic inferential models. In *Proceedings of the Fourteenth International Symposium on Imprecise Probabilities: Theories and Applications* (Destercke, Erreygers, Nendel, Riedel, and Troffaes, editors), pages 183–195.

125. L. Cella and R. Martin (2025). Computationally efficient variational-like approximations of possibilistic inferential models. *International Journal of Approximate Reasoning*, volume 186, paper 109506.

124. V. Dixit and R. Martin (2025). Anytime valid and asymptotically optimal inference via predictive recursion. *Biometrika*, volume 112, paper asae066.

123. R. Martin and J. Williams (2025). Asymptotic efficiency of inferential models and a possibilistic Bernstein–von Mises theorem. *International Journal of Approximate Reasoning*, volume 180, paper 109389.

122. C. Liu, R. Martin, and W. Shen (2025). Empirical priors and posterior concentration in a piecewise polynomial sequence model. *Statistica Sinica*, volume 35, pages 225–247.

121. R. Martin (2024). A possibility-theoretic solution to Basu's Bayesian–frequentist via media. *Sankhya A*, volume 86, pages 43–70. Special issue in honor of Debabrata Basu's birth centenary.

120. L. Cella and R. Martin (2024). Variational approximations of possibilistic inferential models. In *Proceedings of the 8th International Conference on Belief Functions Theory and Applications* (Bi, Jousselme, and Denoeux, editors), pages 121–130.

119. R. Martin and J. Williams (2024). Large-sample theory for inferential models: a possibilistic Bernstein–von Mises theorem. In *Proceedings of the 8th International Conference on Belief Functions Theory and Applications* (Bi, Jousselme, and Denoeux, editors), pages 111–120.

118. R. Martin (2024). Which statistical hypotheses are afflicted with false confidence? In *Proceedings of the 8th International Conference on Belief Functions Theory and Applications* (Bi, Jousselme, and Denoeux, editors), pages 140–149.

117. R. Martin (2024). Seconder of the vote of thanks to Grünwald, de Heide, and Koolen and contribution to the discussion of "Safe Testing." *Journal of the Royal Statistical Society, Series B*, volume 86, pages 1131–1133.

116. N. Dey, R. Martin, and J. Williams (2024). Contribution to the discussion of "Safe Testing" by Grünwald, de Heide, and Koolen. *Journal of the Royal Statistical Society, Series B*, volume 86, pages 1147–1148.

115. Y. Tang and R. Martin (2024). Empirical Bayes inference in sparse high-dimensional generalized linear models. *Electronic Journal of Statistics*, volume 18, pages 3212–3246.

114. E. Hector and R. Martin (2024). Turning the information-sharing dial: efficient inference from different data sources. *Electronic Journal of Statistics*, volume 18, pages 2974–3020.

113. H. Mao, R. Martin, and B. Reich (2024). Valid model-free spatial prediction. *Journal of the American Statistical Association*, volume 119, pages 904–914.

112. C. Liu and R. Martin (2024). Inferential models and possibility measures. In *Handbook of Bayes, Fiducial, and Frequentist Inference* (Berger, Meng, Reid, Xie, editors), volume 12, pages 344–363.

111. R. Martin (2024). Contribution to the discussion of "Estimating means of bounded random variables by betting" by Waudby-Smith and Ramdas. *Journal of the Royal Statistical Society, Series B*, volume 86, pages 43–44.

110. L. Cella and R. Martin (2023). Possibility-theoretic statistical inference offers performance and probativeness assurances. *International Journal of Approximate Reasoning*, volume 163, article 109060.

109. V. Dixit and R. Martin (2023). A PRticle filter algorithm for nonparametric estimation of multivariate mixing distributions. *Statistics and Computing*, volume 33, article 76.

108. R. Martin (2023). Fiducial inference viewed through a possibility-theoretic inferential model lens. In *Proceedings of Machine Learning Research* (2023 International Symposium on Imprecise Probabilities Theory and Applications; Miranda, Montes, Quaeghebeur, and Vantaggi, editors), volume 215, pages 299–310.

107. V. Dixit and R. Martin (2023). Revisiting consistency of a recursive estimator of mixing distributions. *Electronic Journal of Statistics*, volume 17, pages 1007–1042.

106. N. Syring and R. Martin (2023). Gibbs posterior concentration rates under sub-exponential type losses. *Bernoulli*, volume 29, pages 1080–1108.

105. P.-S. Wu and R. Martin (2023). A comparison of learning rate selection methods in generalized Bayesian inference. *Bayesian Analysis*, volume 18, pages 105–132.

104. L. Cella and R. Martin (2022). Direct and approximately valid probabilistic inference on a class of statistical functionals. *International Journal of Approximate Reasoning*, volume 151, pages 205–224. (*BELIEF 2021* Best Paper Award winner)

103. L. Cella and R. Martin (2022). Valid possibilistic statistical inference offers performance and probativeness guarantees. In *Proceedings of the 7th International Conference on Belief Functions Theory and Applications* (Le Hégarat-Mascle, Bloch, Aldea, editors), Springer LNCS volume 13506, pages 219–228.

102. D. Hose, M. Hanss, and R. Martin (2022). A practical strategy for valid partial prior-dependent possibilistic inference. In *Proceedings of the 7th International Conference on Belief Functions Theory and Applications* (Le Hégarat-Mascle, Bloch, and Aldea, editors), Springer LNCS volume 13506, pages 197–206.

101. R. Martin and N. Syring (2022). Direct Gibbs posterior inference on risk minimizers: construction, concentration, and calibration. In *Handbook of Statistics: Advancements in Bayesian Methods and Implementation* (Srinivasa Rao, Young, and Rao, editors), volume 47, pages 1–41.

100. V. Dixit and R. Martin (2022). Estimating a mixing distribution on the sphere using predictive recursion. *Sankhya B*, volume 84, pages 596–626.

99. L. Cella and R. Martin (2022). Valid inferential models for prediction in supervised learning problems. *International Journal of Approximate Reasoning*, volume 150, pages 1–18. (*ISIPTA 2021* Young Researcher Award winner)

98. L. Cella and R. Martin (2022). Validity, consonant plausibility, and conformal prediction. *International Journal of Approximate Reasoning*, volume 141, pages 110–130. Special issue in honor of Glenn Shafer's 75th birthday.

97. R. Martin (2022). Asymptotically optimal inference in sparse sequence models with a simple data-dependent measure. *Researchers.One*.

96. I. Bhattacharya and R. Martin (2022). Gibbs posterior inference on multivariate quantiles. *Journal of Statistical Planning and Inference*, volume 218, pages 106–121.

95. L. Hong and R. Martin (2022). Imprecise credibility theory. *Annals of Actuarial Science*, volume 36, pages 136–150.

94. W. Shi, S. Ghoshal, and R. Martin (2021). Bayesian estimation of sparse precision matrices in the presence of Gaussian measurement errors. *Electronic Journal of Statistics*, volume 15, pages 4545–4579.

93. L. Cella and R. Martin (2021). Approximately valid, model-free possibilistic inference. In *Proceedings of the 6th International Conference on Belief Functions Theory and Applications* (Denoeux, Lefevre, Liu, and Pichon, editors). Springer LNCS volume 12915, pages 127–136.

92. R. Martin (2021). Towards a theory of valid inferential models with partial prior information. In *Proceedings of the 6th International Conference on Belief Functions Theory and Applications* (Denoeux, Lefevre, Liu, and Pichon, editors). Springer LNCS volume 12915, pages 137–146.

91. J. Cahoon and R. Martin (2021). Generalized inferential models for censored data. *International Journal of Approximate Reasoning*, volume 137, pages 51–66.

90. L. Cella and R. Martin (2021). Valid inferential models for prediction in supervised learning problems. In *Proceedings of Machine Learning Research* (2021 International Symposium on Imprecise Probabilities Theory and Applications; A. Cano, J. De Bock, E. Miranda, and S. Moral, editors), volume 147, pages 72–82.

89. N. Syring and R. Martin (2021). Stochastic optimization for numerical evaluation of imprecise probabilities. In *Proceedings of Machine Learning Research* (2021 International Symposium on Imprecise Probabilities Theory and Applications; A. Cano, J. De Bock, E. Miranda, and S. Moral, editors), volume 147, pages 289–298.

88. C. Liu and R. Martin (2021). Settle the unsettling: An inferential model perspective. (Invited comment on Gong and Meng's "Judicious judgment meets unsettling updating: Dilation, sure loss, and Simpson's paradox.") *Statistical Science*, volume 36, pages 196–200.

87. R. Martin (2021). Comment on G. Shafer's "Testing by betting: A strategy for statistical and scientific communication." *Journal of the Royal Statistical Society, Series A*, volume 184, pages 456–457.

86. L. Hong and R. Martin (2021). Valid model-free prediction of future insurance claims. *North American Actuarial Journal*, volume 25, pages 473–483.

85. C. Liu, Y. Yang, H. Bondell, and R. Martin (2021). Bayesian inference in high-dimensional linear models using an empirical correlation-adaptive prior. *Statistica Sinica*, volume 31, pages 2051–2072.

84. S. Tokdar and R. Martin (2021). A Bayesian test of normality versus a Dirichlet process mixture alternative. *Sankhya B*, volume 83, pages 66–96. Special issue in memory of Professor Jayanta K. Ghosh.

83. R. Martin (2021). A survey of nonparametric mixing density estimation via the predictive recursion algorithm. *Sankhya B*, volume 83, pages 97–121. Special issue in memory of Professor Jayanta K. Ghosh.

82. H. Crane, R. Martin, and M. Stephenson (2021). Zero-knowledge data analysis to solve the "other" file drawer problem. *Researchers.One*.

81. L. Hong and R. Martin (2021). Discussion of "q-credibility" by O. Le Courtois, *Variance: Journal of the Casualty Actuarial Society*, volume 14, pages 1–4.

80. R. Martin and B. Ning (2020). Empirical priors and coverage of posterior credible sets in a sparse normal mean model. *Sankhya A*, volume 82, pages 477–498. Special issue in memory of Professor Jayanta K. Ghosh.

79. J. Cahoon and R. Martin (2020). Generalized inferential models for meta-analyses based on few studies. *Statistics and Applications*, volume 18, pages 299–316. Special issue in honor of Drs. Bikas & Bimal Sinha on their 75th birthday.

78. L. Hong and R. Martin (2020). Model misspecification, Bayes versus credibility estimation, and Gibbs posteriors. *Scandinavian Actuarial Journal*, volume 2020, pages 634–649.

77. N. Syring and R. Martin (2020). Robust and rate optimal Gibbs posterior inference on the boundary of a noisy image. *The Annals of Statistics*, volume 48, pages 1498–1513.

76. R. Martin and Y. Tang (2020). Empirical priors for prediction in sparse high-dimensional linear regression. *Journal of Machine Learning Research*, volume 21, pages 1–30.

75. Z. Wang and R. Martin (2020). Model-free posterior inference on the area under the receiver operating characteristic curve. *Journal of Statistical Planning and Inference*, volume 209, pages 174–186.

74. H. Crane, J. Guinness, and R. Martin (2020). Comment on the proposal to rename the R. A. Fisher lecture. *Researchers.One*.

73. Y. Yang and R. Martin (2020). Variational approximations of empirical Bayes posteriors in high-dimensional linear models. `arXiv:2007.15930`

72. C. Liu and R. Martin (2020). An empirical G-Wishart prior for sparse high-dimensional Gaussian graphical models. `arXiv:1912.03807` (ASA–SBSS Student Paper Competition winner)

71. Y. Lin, R. Martin, and M. Yang (2019). On optimal designs for non-regular models. *The Annals of Statistics*, volume 47, pages 3335–3359.

70. R. Martin (2019). False confidence, non-additive beliefs, and valid statistical inference. *International Journal of Approximate Reasoning*, volume 113, pages 39–73.

69. M. S. Balch, R. Martin, and S. Ferson (2019). Satellite conjunction analysis and the false confidence theorem. *Proceedings of the Royal Society, Series A*, volume 475, paper 2018.0565.

    — (2021). Response to the comment "Confidence in confidence distributions!" by Cunen, Hjort, and Schweder. *Proceedings of the Royal Society, Series A*.

68. R. Martin (2019). Empirical priors and posterior concentration rates for a monotone density. *Sankhya A*, volume 81, pages 493–509.

67. H. Crane and R. Martin (2019). Rethinking probabilistic prediction: lessons learned from the 2016 U.S. presidential election. *Researchers.One*.

66. R. Martin and S. G. Walker (2019). Data-driven priors and their posterior concentration rates. *Electronic Journal of Statistics*, volume 13, pages 3049–3081.

65. N. Syring, L. Hong, and R. Martin (2019). Gibbs posterior inference on value-at-risk. *Scandinavian Actuarial Journal*, volume 2019, pages 548–557.

64. R. Martin (2019). Discussion of "Nonparametric generalized fiducial inference for survival functions under censoring." *Biometrika*, volume 106, pages 519–522.

63. J. Cahoon and R. Martin (2019). Possibility measures for valid statistical inference based on censored data. In *Proceedings of Machine Learning Research* (2019 International Symposium on Imprecise Probabilities Theory and Applications; De Bock, de Cooman, de Campos, Quaeghebeur, and Wheeler, editors), volume 103, pages 49–58.

62. L. Cella and R. Martin (2019). Incorporating expert opinion in an inferential model while retaining validity. In *Proceedings of Machine Learning Research* (2019 International Symposium on Imprecise Probabilities Theory and Applications; De Bock, de Cooman, de Campos, Quaeghebeur, and Wheeler, editors), volume 103, pages 68–77.

61. R. Martin and N. Syring (2019). Validity-preservation properties of rules for combining inferential models. In *Proceedings of Machine Learning Research* (2019 International Symposium on Imprecise Probabilities Theory and Applications; De Bock, de Cooman, de Campos, Quaeghebeur, and Wheeler, editors), volume 103, pages 286–294.

60. R. Martin (2019). On valid uncertainty quantification about a model. In *Proceedings of Machine Learning Research* (2019 International Symposium on Imprecise Probabilities Theory and Applications; De Bock, de Cooman, de Campos, Quaeghebeur, and Wheeler, editors), volume 103, pages 295–303.

59. M. Chae, R. Martin, and S. G. Walker (2019). On an algorithm solving Fredholm equations of the first kind. *Statistics and Computing*, volume 29, pages 645–654.

58. N. Syring and R. Martin (2019). Calibrating general posterior credible regions. *Biometrika*, volume 106, pages 479–486.

57. L. Hong and R. Martin (2019). Real-time Bayesian nonparametric prediction of solvency risk. *Annals of Actuarial Science*, volume 13, pages 67–79.

56. Y. Yang, R. Martin, and H. Bondell (2019). Variational approximations using Fisher divergence. `arXiv:1905.05284`

55. J. P. Tennant and others (2019). Ten hot topics around scholarly publication. *Publications*, volume 7, paper 34.

54. H. Crane and R. Martin (2019). What is the purpose of peer review? *Heterodox Academy Blog*.

53. H. Crane and R. Martin (2018). Academia's case of Stockholm syndrome. *Quillette*.

52. H. Crane and R. Martin (2018). The RESEARCHERS.ONE mission. *Researchers.One*.

51. L. Hong, T. Kuffner, and R. Martin (2018). On predicting future insurance claims when the model is uncertain. *Variance: Journal of the Casualty Actuarial Society*, volume 12, pages 90–99.

50. P. R. Hahn, R. Martin, and S. G. Walker (2018). On recursive Bayesian predictive distributions. *Journal of the American Statistical Association*, volume 113, pages 1085–1093.

49. M. Chae, R. Martin, and S. G. Walker (2018). Convergence of an iterative algorithm to the nonparametric MLE of a mixing distribution. *Statistics & Probability Letters*, volume 140, pages 142–146.

48. L. Hong, T. Kuffner, and R. Martin (2018). On overfitting and post-selection uncertainty assessments. *Biometrika*, volume 105, pages 221–224.

47. R. Martin, C. Ouyang, and F. Domagni (2018). 'Purposely misspecified' posterior inference on the volatility of a jump diffusion process. *Statistics & Probability Letters*, volume 134, pages 106–113.

46. L. Hong and R. Martin (2018). Dirichlet process mixture models for insurance loss data. *Scandinavian Actuarial Journal*, volume 2018, pages 545–554.

45. R. Martin (2018). On an inferential model construction using generalized associations. *Journal of Statistical Planning and Inference*, volume 195, pages 105–115.

44. H. Crane and R. Martin (2018). In peer review we (don't) trust: How peer review's filtering poses systemic risk to science. *Researchers.One*.

43. H. Crane and R. Martin (2018). Is statistics meeting the needs of science? *Researchers.One*.

42. R. Martin (2017). Invited comment on the article ("Uncertainty quantification for the horseshoe") by van der Pas, Szabó, and van der Vaart. *Bayesian Analysis*, volume 12, pages 1254–1258.

41. R. Martin, R. Mess, and S. G. Walker (2017). Empirical Bayes posterior concentration in sparse high-dimensional linear models. *Bernoulli*, volume 23, pages 1822–1847.

40. N. Syring and R. Martin (2017). Gibbs posterior inference on the minimum clinically important difference. *Journal of Statistical Planning and Inference*, volume 187, pages 67–77.

39. R. Martin (2017). A statistical inference course based on p-values. *The American Statistician*, volume 71, pages 128–136.

38. R. Martin (2017). Inferential models. *Wiley StatsRef: Statistics Reference Online*.

37. L. Hong and R. Martin (2017). A review of Bayesian asymptotics in general insurance applications. *European Actuarial Journal*, volume 7, pages 231–255.

36. L. Hong and R. Martin (2017). A flexible Bayesian nonparametric model for predicting future insurance claims. *North American Actuarial Journal*, volume 21, pages 228–241.

35. C. Liu, R. Martin, and N. Syring (2017). Efficient simulation from a gamma distribution with small shape parameter. *Computational Statistics*, volume 32, pages 1767–1775.

34. R. Martin (2017). Prior-free probabilistic inference for econometricians. In *Robustness in Econometrics*, Kreinovich, Sriboonchitta, and Huynh, Eds. Springer International, Studies in Computational Intelligence, volume 692, pages 169–186.

33. R. Martin, J. Stufken, and M. Yang (2016). A conversation with Samad Hedayat. *Statistical Science*, volume 31, pages 637–647.

32. R. Martin and R. Lingham (2016). Prior-free probabilistic prediction of future observations. *Technometrics*, volume 58, pages 225–235.

31. R. Martin and Y. Lin (2016). Exact prior-free probabilistic inference in a class of non-regular models. *Stat*, volume 5, pages 312–321.

30. L. Hong and R. Martin (2016). Discussion on "Credibility estimation of distribution functions with applications to experience rating in general insurance." *North American Actuarial Journal*, volume 20, pages 95–98.

29. R. Martin and Z. Han (2016). A semiparametric scale-mixture regression model and predictive recursion maximum likelihood. *Computational Statistics and Data Analysis*, volume 94, pages 75–85.

28. R. Martin, H. Xu, Z. Zhang, and C. Liu (2016). Valid uncertainty quantification about the model in linear regression. `arXiv:1412.5139`

27. R. Martin (2015). Plausibility functions and exact frequentist inference. *Journal of the American Statistical Association*, volume 110, pages 1552–1561.

26. R. Martin and C. Liu (2015). Marginal inferential models: prior-free probabilistic inference on interest parameters. *Journal of the American Statistical Association*, volume 110, pages 1621–1631.

25. R. Martin and C. Liu (2015). Conditional inferential models: combining information for prior-free probabilistic inference. *Journal of the Royal Statistical Society, Series B*, volume 77, pages 195–217.

24. R. V. Ramamoorthi, K. Sriram, and R. Martin (2015). On posterior concentration in misspecified models. *Bayesian Analysis*, volume 10, pages 759–789.

23. C. Liu and R. Martin (2015). Frameworks for prior-free posterior probabilistic inference. *WIREs Computational Statistics*, volume 7, pages 77–85.

22. R. Martin (2015). Asymptotically optimal nonparametric empirical Bayes via predictive recursion. *Communications in Statistics–Theory & Methods*, volume 44, pages 286–299.

21. Q. Cheng, X. Gao, and R. Martin (2014). Exact prior-free probabilistic inference on the heritability coefficient in a normal linear mixed model. *Electronic Journal of Statistics*, volume 8, pages 3062–3076.

20. R. Martin and S. G. Walker (2014). Asymptotically minimax empirical Bayes estimation of a sparse normal mean vector. *Electronic Journal of Statistics*, volume 8, pages 2188–2206.

19. R. Martin (2014). Random sets and exact confidence regions. *Sankhya A*, volume 76, pages 288–304.

18. R. Martin and C. Liu (2014). A note on p-values interpreted as plausibilities. *Statistica Sinica*, volume 24, pages 1703–1716.

17. R. Martin and C. Liu (2014). Discussion: Foundations of statistical inference, revisited. *Statistical Science*, volume 29, pages 247–251. (Invited comment on Mayo's "On the Birnbaum argument for the strong likelihood principle.")

16. R. Martin and C. Liu (2013). Inferential models: A framework for prior-free posterior probabilistic inference. *Journal of the American Statistical Association*, volume 108, pages 301–313. (Correction, ibid., pages 1138–1139.)

15. R. Martin (2013). An approximate Bayesian marginal likelihood approach for estimating finite mixtures. *Communications in Statistics–Simulation & Computation*, volume 42, pages 1533–1548.

14. R. Martin, D. Ermini Leaf, and C. Liu (2013). Optimal inferential models for a Poisson mean. `arXiv:1207.0105`

13. L. Hong, R. Martin, and S. Walker (2013). On Bayesian convergence rates under local prior support conditions. `arXiv:1201.3102`

12. R. Martin and S. T. Tokdar (2012). A nonparametric empirical Bayes framework for large-scale multiple testing. *Biostatistics*, volume 13, pages 427–439.

11. R. Martin and O. Tilak (2012). On ε-optimality of the pursuit learning algorithm. *Journal of Applied Probability*, volume 49, pages 795–805.

10. R. Martin (2012). Convergence rate for predictive recursion estimation of finite mixtures. *Statistics & Probability Letters*, volume 82, pages 378–384.

9. L. Hong and R. Martin (2012). On convergence rates of Bayesian predictive densities and posterior distributions. `arXiv:1210.0103`

8. R. Martin and S. T. Tokdar (2011). Semiparametric inference in mixture models with predictive recursion marginal likelihood. *Biometrika*, volume 98, 567–582.

7. Z. Zhang, H. Xu, R. Martin, and C. Liu (2011). Inferential models for linear regression. *Pakistan Journal of Statistics and Operations Research*, volume 7, pages 413–432.

6. O. Tilak, R. Martin, and S. Mukhopadhyay (2011). A decentralized indirect method for learning automata games. *IEEE Transactions on Systems, Man, and Cybernetics, Series B*, volume 41, pages 1213–1223.

5. R. Martin, J. Zhang, and C. Liu (2010). Dempster–Shafer theory and statistical inference with weak beliefs. *Statistical Science*, volume 25, pages 72–87.

4. R. Martin and S. T. Tokdar (2009). Asymptotic properties of predictive recursion: Robustness and rate of convergence. *Electronic Journal of Statistics*, volume 3, pages 1455–1472.

3. S. T. Tokdar, R. Martin and J. K. Ghosh (2009). Consistency of a recursive estimate of mixing distributions. *The Annals of Statistics*, volume 37, pages 2502–2522.

2. R. Martin and J. K. Ghosh (2008). Stochastic approximation and Newton's estimate of a mixing distribution. *Statistical Science*, volume 23, pages 365–382.

1. J. K. Ghosh and R. Martin (2008). On two fast algorithms for estimating the mixing distribution in mixture models. In *Frontiers in Applied and Computational Mathematics*, Blackmore, Bose, and Petropoulos, Eds. World Scientific, Hackensack, NJ, pages 154–161.

Working Papers, etc.

— Induction and the rule of succession through a possibilistic inferential model lens, with S.-N. Prim, M. Raner, and J. Williams. `arXiv:2608.11935`

— Universal inference for model selection on networks, with E. Yanchenko and J. Williams. `arXiv:2606.30981`

— Valid and efficient possibilistic structure learning in Gaussian linear regression, with N. Singer and J. Williams. `arXiv:2511.09305`

— Divide-and-conquer with finite sample sizes: valid and efficient possibilistic inference, with L. Cella and E. Hector. `arXiv:2503.22812`

— Variational empirical Bayes variable selection in high-dimensional logistic regression, with Y. Tang. `arXiv:2502.10532`

— Fisher's underworld and the behavioral–statistical reliability balance in scientific inference. `arXiv:2312.14912`

— Valid and efficient imprecise-probabilistic inference using partial priors, III. Marginalization. `arXiv:2309.13454`

— Valid and efficient imprecise-probabilistic inference using partial priors, II. General framework. `arXiv:2211.14567`

— Valid and efficient imprecise-probabilistic inference using partial priors, I. First results. `arXiv:2203.06703`

— An imprecise-probabilistic characterization of frequentist statistical inference. `arXiv:2112.10904`

— Generalized Bayes inference on a linear personalized minimum clinically important difference, with P.-S. Wu. arXiv:2208.12565

— Gibbs posterior inference on a Lévy density under discrete sampling, with Z. Wang. arXiv:2109.06567

— Calibrating generalized predictive distributions, with P.-S. Wu. arXiv:2107.01688

— Permutation-based uncertainty quantification about a mixing distribution, with V. Dixit. arXiv:1906.05349

Seminar/Colloquium Talks

Mathematics, Statistics, and Computer Science Colloquium
TBD
University of Illinois–Chicago, 09/2026.

JMP Research Seminar
Possibilistic inferential models, properties, and Monte Carlo computations
Cary, NC 06/2026.

Department of Statistics Colloquium
No-prior Bayes reIMagined: probabilistic approximations of possibilistic inferential models
Purdue University, 02/2026.

Department of Mathematics & Statistics Colloquium
No-prior Bayes reIMagined: probabilistic approximations of possibilistic inferential models
Boston University, 02/2026.

Department of Statistics Seminar
No-prior Bayes reIMagined: probabilistic approximations of possibilistic inferential models
University of Illinois, 01/2026.

Department of Statistics Seminar
Imprecise probability in statistical inference: why, what, where, and how
University of Pittsburgh, 01/2025.

Department of Statistics Seminar
Regularized e-processes: Anytime valid inference with a knowledge-based efficiency boost
Purdue University, 11/2024.

Department of Statistics Seminar
Regularized e-processes: Anytime valid inference with a knowledge-based efficiency boost
University of Florida, 10/2024.

Department of Statistics Seminar
Imprecise probability in statistical inference: why, what, where, and how
University of Missouri, 04/2024

Department of Statistics Seminar
Imprecise probability in statistical inference: why, what, where, and how
North Carolina State University, 10/2023

Society of Imprecise Probabilities Theory & Applications Seminar
Fisher's underworld and the behavioral–statistical reliability balance in scientific inference
Virtual, 10/2023

Department of Mathematical Sciences Colloquium
A possibility-theoretic solution to the Bayesian-versus-frequentist predicament
University of Texas at Dallas, 04/2023

Foundations of Probability Panel Discussion
Cournot's principle and Lewis's best-system interpretation
Rutgers University, 02/2022

Algorithms & Computationally Intensive Inference Seminar
Data-driven calibration of generalized posteriors
University of Warwick, UK, 01/2022

School of Mathematics & Statistics Seminar
Generalized inferential models: Basics and beyond
Northwestern Polytechnical University, China, 11/2021

Statistics Power Half-Hour
Checking model assumptions: Why, how, and will it hurt?
NC State Library, 10/2021

Van Dantzig Seminar
Imprecise probability and valid statistical inference
Netherlands, 04/2021

Department of Statistics Seminar
Imprecise probability and valid statistical inference
North Carolina State University, 04/2021

Theoretical and Applied Data Science Seminar
Valid inferential models and conformal prediction
Iowa State University, 03/2021

Machine Learning Research Group Seminar
Valid inferential models and conformal prediction
Purdue University, 03/2021

Statistics Power Half-Hour
Statistical Reasoning 101
University Library, NCSU, 03/2021

Department of Data Science and Operations
Empirical priors for inference on structured high-dimensional problems
University of Southern California, 10/2020

Institute for Risk and Uncertainty Seminar
False confidence, non-additive beliefs, and valid statistical inference
University of Liverpool, UK, 06/2020

School of Mathematical and Statistical Sciences Colloquium
Gibbs posteriors for direct, model-free inference on interest parameters
Clemson University, 11/2019

Department of Mathematics and Statistics Colloquium
Empirical priors and posterior concentration rates
University of Maryland Baltimore County, 09/2019

ACMS Department Colloquium
False confidence, non-additive beliefs, and valid statistical inference
University of Notre Dame, 02/2019

Department of Statistics Seminar
Empirical priors and target posterior concentration rates
Penn State University, 10/2018

Department of Statistics Seminar
Empirical priors and target posterior concentration rates
University of Georgia, 10/2018

Foundations of Probability Seminar
Probability dilution, false confidence, and non-additive beliefs
Rutgers University, 04/2018

Laber Labs Workshop
A not-so-brief introduction to stochastic approximation theory and applications
North Carolina State University, 04/2017

Department of Mathematics, Statistics Seminar
On valid prior-free probabilistic inference
Washington University at St. Louis, 04/2017

Department of Statistics Seminar
Posterior inference without (really) using Bayes
North Carolina State University, 12/2016

Department of Statistics and Biostatistics Seminar
Valid prior-free probabilistic inference
Rutgers University, 12/2015

Department of Statistics Colloquium
Inferential models: a framework for prior-free probabilistic inference
North Carolina State University, 11/2015

MSCS Department Colloquium
What is statistical inference?
University of Illinois at Chicago, 10/2015

Department of Statistics Colloquium
High-dimensional posterior inference via double empirical Bayes
Texas A&M University, 02/2015

Division of Statistics Colloquium
Plausibility functions and exact frequentist inference
Northern Illinois University, 03/2014

MSCS Graduate Student Recruitment Day Talk
Bayesian inference on infinite-dimensional parameters
University of Illinois at Chicago, 03/2014

Department of Statistics Seminar
Asymptotically minimax empirical Bayes estimation of a sparse normal mean
University of Illinois at Urbana–Champaign, 09/2013

MSCS Department Colloquium
New foundations of statistical inference—an application of random sets
University of Illinois at Chicago, 04/2013

Department of Statistics Seminar
A Bayesian test of normality versus a Dirichlet process mixture alternative
Northwestern University, 01/2013

Department of Statistical Sciences Seminar
Inferential models: a framework for prior-free probabilistic inference
Duke University, 11/2012

Statistics & Probability Department Colloquium
Plausibility functions and exact frequentist inference
Michigan State University, 10/2012

Applied Math Department Colloquium
A nonparametric empirical Bayes framework for large-scale multiple testing
Illinois Institute of Technology, 01/2012

Statistics Department Research Colloquium
A Bayesian test of normality versus a Dirichlet process mixture alternative
Purdue University, 11/2011

ACMS Department Colloquium
Predictive recursion marginal likelihood and large-scale simultaneous testing
University of Notre Dame, 01/2011

MSCS Department Colloquium
Predictive recursion marginal likelihood and large-scale simultaneous testing
University of Illinois at Chicago, 01/2011

Department of Mathematics Colloquium
Testing thousands of hypotheses simultaneously
Franklin College, 10/2010

MSCS Department Colloquium
Recursive nonparametric estimation of mixing distributions
University of Illinois at Chicago, 02/2010

Joint Biostatistics Seminar
A nonparametric empirical Bayes framework for large-scale multiple testing
Indiana University–Purdue University Indianapolis, 12/2009

Conference/Workshop Talks

Society of Imprecise Probability's "SIPTA School"
Statistics, imprecise probabilities, and possibilistic inferential models **(3-hour course)**
University of Munich, Germany, 07/2026

Duke Industry Statistics Symposium
Conformal prediction through a possibility-theoretic lens
SAS Campus, NC, 04/2026

Brin Mathematics Research Center Workshop: Statistics & Uncertainty Quantification
IMprecision is IMperative for reliable UQ
University of Maryland, 02/2026

EurIPS 2025 Workshop: Epistemic Intelligence in Machine Learning
Imprecision is imperative for valid uncertainty quantification in machine learning
Copenhagen, Denmark, 12/2025

7th Belief Function and Applications Society School
Reliable statistical inference using consonant belief functions
Granada, Spain, 10/2025

Joint Statistical Meetings
Anytime-valid inference on risk minimizers
Nashville, 08/2025

14th International Symposium on Imprecise Probability (ISIPTA 2023)
–*Decision-theoretic properties of possibilistic inferential models.*
–*An efficient Monte Carlo method for valid prior-free possibilistic statistical inference*
Bielefeld, Germany, 07/2025

0'Bayes 2025
O'Bayes reIMagined: probabilistic approximations of possibilistic inferential models
Athens, Greece 06/2025

Post-Bayes Seminar Series
Learning rate selection for Gibbs posterior distributions
Virtual 03/2025

8th International Conference on Belief Functions
–*Which statistical hypotheses are afflicted with false confidence?*

– *Variational approximations of possibilistic inferential models*
Ulster University, Belfast, UK, 09/2024

Finnish Statistical Society's "Statistical Days 2024"
Imprecision in statistical inference: why, what, and how? **(keynote)**
University of Aalto, Finland, 06/2024

Finnish Doctoral Education Network in Statistics & Stochastics Intensive Course
Topics in Statistical Inference **(5-day course)**
Lammi Biological Station, Finland, 05/2024

Workshop on Game-theoretic Statistical Inference
Safe & reliable possibilistic e-UQ
Oberwolfach Mathematical Research Institute, Germany, 05/2024

6th Belief Function and Applications Society School
Old and new developments in consonant belief functions for statistical inference
Ishikawa, Japan, 10/2023

13th International Symposium on Imprecise Probability (ISIPTA 2023)
Fiducial inference viewed through a possibility-theoretic inferential model lens
Ovideo, Spain, 07/2023

10th International Purdue Symposium on Statistics
— *Imprecision in statistical inference: why, what, and how?*
— *Inferential Models* **(4-hour short course)**
Purdue University, 06/2023

8th Bayes, Fiducial, and Frequentist (BFF) Workshop
Valid and efficient possibilistic inference in machine learning problems
University of Cincinnati, 05/2023

7th International Conference on Belief Functions
A practical strategy for valid partial prior-dependent possibilistic inference
Paris, France, 10/2022

Conference on Advances in Data Science
All Bayesian inference is approximate
Texas A&M University, 10/2022

Joint Statistical Meetings
Leveraging low-dimensional structure for efficient Gibbs posterior inference
Washington DC, 08/2022

Workshop on Distribution-Free Uncertainty Quantification (ICML 2022 spin-off)
Valid inferential models for prediction in supervised learning problems
Baltimore, MD 07/2022

WSTA 2022: Webinar on Recent Trends in Statistics Theory & Applications
Valid and efficient possibilistic inference across a spectrum of partial prior information

(Special session honoring Professor J. K. Ghosh)
University of Kerala, India, 07/2022

ECOSTA 2022
Gibbs posterior distributions: Construction, concentration, and calibration
Kyoto, Japan, 06/2022

7th Bayes, Fiducial, and Frequentist (BFF) Workshop
Valid and efficient possibilistic inference across a spectrum of partial prior information
Toronto, Canada, 05/2022

CMStatistics 2021
False confidence, imprecise probability, and valid statistical inference
London, UK, 12/2021

6th International Conference on Belief Functions
Towards a theory of valid inferential models with partial prior information
Shanghai, China, 10/2021

6.5th Bayes, Fiducial, and Frequentist (BFF) Virtual Workshop
Imprecise probability in frequentist inference
Researchers.One, 02/2021

Society of Imprecise Probability's "SIPTA School"
Inferential Models **(two-day virtual short course)**
Institute of Risk & Uncertainty, University of Liverpool, 01/2021

Joint Statistical Meetings
Empirical priors for inference on structured high-dimensional problems
Virtual, 07/2020

BayesComp 2020
Gibbs posterior distributions
University of Florida, 01/2020

Joint Statistical Meetings
Permutation-based uncertainty quantification about a mixing distribution
(Invited session in memory of Professor J. K. Ghosh)
Denver, 08/2019

11th International Symposium on Imprecise Probability (ISIPTA 2019)
— *On uncertainty quantification about a model*
— *Incorporating expert opinion in an inferential model while retaining validity*
— *Possibility measures for valid statistical inference based on censored data*
Ghent, Belgium, 07/2019

O'Bayes 2019
Objective data-dependent distributions
(Invited one-hour talk, with discussion)
University of Warwick, UK, 07/2019

6th African International Conference on Statistics
— *False confidence, non-additive beliefs, and valid statistical inference*
— *Construction, concentration, and calibration of Gibbs posteriors*
Arsi University, Ethiopia, 05/2019

SAMSI Working Group: Foundations of Model Uncertainty
On valid uncertainty quantification about a model
My office (electronic), 11/2018

5th International Conference on Belief Functions
Belief functions and valid statistical inference **(plenary)**
Compiègne, France, 09/2018

IMS Annual Meeting
Construction, concentration, and calibration of Gibbs posteriors
Vilnius, Lithuania, 07/2018

ISBA World Meeting
Empirical priors for wranglin' with structured high-dimensional problems
(Editor's Choice Session: "Lassos and horseshoes for the sparse Bayesian cowboy")
Edinburgh, UK, 06/2018

IISA International Conference on Statistics
Fast nonparametric estimation of a smooth mixing density
(Memorial session for Professor J. K. Ghosh)
University of Florida, 05/2018

5th Bayesian, Fiducial, and Frequentist (BFF) Conference
Probability dilution, false confidence, and non-additive beliefs
University of Michigan, 05/2018

Probability and Statistics Day 2018
Fast nonparametric estimation of a smooth mixing density **(keynote)**
University of Maryland Baltimore County, 04/2018

10th International Conference: CMStatistics 2017
Posterior concentration rates using new empirical priors
London, UK, 12/2017

2nd Workshop of Higher-order Asymptotics and Post-Selection Inference
On valid post-selection prediction in regression
Washington University of St. Louis, 08/2017

Joint Statistical Meetings
Discussant: Session on Data Integration
Baltimore, MD, 08/2017

11th Conference on Bayesian Nonparametrics
Model misspecification on purpose
Paris, France, 06/2017

4th Bayesian, Fiducial, and Frequentist (BFF) Conference
Confidence, probability, and plausibility
Harvard University, 05/2017

10th International Conference of the Thailand Econometric Society
Valid prior-free probabilistic inference **(keynote)**
Chiang Mai, Thailand, 01/2017

Latent Variables Conference
A double empirical Bayes approach for high-dimensional problems
University of South Carolina, 10/2016

Workshop of Higher-order Asymptotics and Post-Selection Inference
A double empirical Bayes approach for high-dimensional problems
Washington University of St. Louis, 09/2016

ICSA Applied Statistics Symposium
A new double empirical Bayes approach for high-dimensional problems
Atlanta, GA, 06/2016

Fusion Learning, "BFF," and Statistical Foundations Conference
Beliefs, validity, and the foundations of statistics
Rutgers University, 04/2016

Joint Statistical Meetings
Prior-less probabilistic inference with double empirical Bayes
Seattle, WA, 08/2015

Int'l Conference on Advances in Interdisciplinary Statistics & Combinatorics
Empirical Bayes posterior concentration in sparse high-dimensional linear models
University of North Carolina Greensboro, 10/2014

Joint Statistical Meetings
Optimal prior-free probabilistic variable selection in regression
Boston, MA, 08/2014

ICSA Applied Statistics Symposium
Generalized inferential models
Portland, OR, 06/2014

American Statistical Association–Northeastern Illinois Chapter Meeting
A nonparametric empirical Bayes framework for large-scale multiple testing
Northbrook, IL, 10/2012

Joint Statistical Meetings
A nonparametric empirical Bayes framework for large-scale multiple testing
San Diego, CA, 08/2012

International Statistics Symposium
Inferential models: a framework for prior-free probabilistic inference
Purdue University, 07/2012

Joint Statistical Meetings
Predictive Recursion: convergence theory, extensions, and applications
Vancouver, BC, 08/2010

ICSA Applied Statistics Symposium
On probabilistic inference without priors
Indianapolis, IN, 06/2010

Joint Statistical Meetings
A nonparametric empirical Bayes framework for large-scale multiple testing
Washington D.C., 08/2009

Joint Statistical Meetings
Stochastic approximation and Newton's estimate of a mixing distribution
Denver, CO, 08/2008

Student Mentoring

Ph.D. dissertation committee chair:

Ms. Shih-Ni Prim (2026)
Uncertainty Quantification in Confounding Adjustment, Contour Location, and General Decision-Making
Co-chairs: B. Reich and J. Williams, Statistics, NCSU

Mr. Neil Dey (2025)
Valid Inference in Machine Learning
Co-Chair: J. Williams, Statistics, NCSU

Ms. Yiqi (Annie) Tang (2023)
Sparsity-Encouraging Data-driven Priors in High-dimensional Problems

Mr. Alex Cloud (2022)
Topics in Games and Reinforcement Learning
Co-Chair: E. Laber, Statistics, Duke

Ms. Pei-Shien (Candace) Wu (2022)
Calibrating Generalized Posterior and Predictive Distributions

Ms. Vaidehi Dixit (2022)
Nonparametric Estimation of a Mixing Distribution with Applications

Ms. Zhe (April) Wang (2021)
Gibbs Posterior Inference with Applications to Biostatistics and Finance

Mr. Wenli Shi (2021)
Bayesian Inference in Gaussian Graphical Models under Measurement Error
Co-chair: S. Ghosal, Statistics, NCSU

Mr. Leonardo Cella (2021)
New Imprecise-Probabilistic Methods for Statistical Inference and Prediction

Ms. Joyce Cahoon (2020)
Generalized Inferential Models: New Developments and Applications

Ms. Yue Yang (2020)
Topics in Bayesian Computation for High-Dimensional Problems

Mr. Chang Liu (2020)
Empirical Priors for High-Dimensional Structure Learning Problems

Ms. Yi Lin (2017)
Hellinger Information and Optimal Designs for Non-regular Models
Co-chair: M. Yang, Statistics, UIC

Mr. Nicholas Syring (2017)
Gibbs Posterior Distributions: New Theory and Applications

Ph.D. dissertation committee member:

Ms. Naomi Singer (2025)
Astronomy-Driven Finite Sample Inference and Uncertainty Quantification
Chairs: S. Ghosh & J. Williams, Statistics, NCSU

Mr. Ahmed Shaban (2024)
Spatially Resolved Galactic Outflows in Gravitationally Lensed Galaxies
Chair: R. Bordoloi, Physics, NCSU

Mr. Yukun Song (2024)
Statistical Inference on Random Graphs
Chair: M. Tang, Statistics, NCSU

Mr. Eric Yanchenko (2023)
Prior Distributions for Scale Parameters in Hierarchical Models and Inference for Meso-Structures in Networks
Chairs: B. Reich & S. Sengupta, Statistics, NCSU

Mr. Yifu Tang (2023)
Bayesian Nonparametric Spectral Analysis of Time Series
Chair: R. Meyer, Statistics, University of Auckland

Ms. Indrila Ganguly (2023)
Selected Topics in Modern Statistical Inference: Scalable Resampling, Spatiotemporal Forecasting, and Posterior Consistency for Multivariate Densities
Chairs: S. Ghosh & S. Sengupta, Statistics, NCSU

Mr. Kang Wang (2023)
Nonparametric Bayesian Inference Under Shape Restrictions
Chair: S. Ghosal, Statistics, NCSU

Mr. Herschel Kade Young (2023)
Optimal Design and Analysis Approaches for Supersaturated Screening with the Lasso
Chair: J. Stallrich, Statistics, NCSU

Mr. Kyle Duke (2022)
Inference in Dynamic Treatment Regimes
Chairs: M. Davidian & E. Laber, Statistics, NCSU

Mr. Michael McKibben (2022)
Variance Estimation for Variable Selection in Screening Experiments
Chair: J. Stallrich, Statistics, NCSU

Mr. Dominik Hose (2022)
Possibilistic Reasoning with Imprecise Probabilities
Chair: M. Hanss, Engineering & Computational Mechanics, University of Stuttgart

Ms. Robin Dunn (2021)
Advances in Nonasymptotic and Nonparametric Inference
Chairs: A. Ramdas & L. Wasserman, Statistics, Carnegie Mellon

Mr. Bowen Liu (2021)
Bayesian Structured Variable Selection Methods with Overlaps
Chair: S. Ghosh, Statistics, NCSU

Ms. Lu Lu (2021)
Multivariate Dependence using Nonparametric Copula Models
Chair: S. Ghosh, Statistics, NCSU

Ms. Katherine Harris (2021)
Real Algebraic Geometry with Numerical Homotopy Methods
Chair: A. Szanto, Mathematics, NCSU

Ms. Indrabati Bhattacharya (2020)
Bayesian Inference on Multivariate Medians and Quantiles
Chair: S. Ghosal, Statistics, NCSU

Ms. Yuan Tian (2020)
Bayesian Semi-parametric Models in Extreme Value Analysis
Chair: B. Reich, Statistics, NCSU

Ms. Xingqui Lou (2020)
Fashion Design and Development Deciphered
Chair: T. Little, Textiles, NCSU

Ms. Marlee Trandel (2020)
Cell Wall Polysaccharides in Grafted and Non-grafted Watermelon with Hollow Heart
Chair: P. Perkins-Veazie, Horticultural Science, NCSU

Ms. Rui Zhu (2019)
Bayesian Semi-Supervised Learning with Application to ROC Surface Estimation
Chair: S. Ghosal, Statistics, NCSU

Mr. Seonghyun Jeong (2019)
Frequentist Properties of Bayesian Procedures for High-Dimensional Sparse Regression
Chair: S. Ghosal, Statistics, NCSU

Mr. Zhou Lan (2019)
Spatial Modeling of Positive Definite Matrices and Its Applications...
Chair: B. Reich, Statistics, NCSU

Ms. Moumita Chakraborty (2019)
Bayesian Inference Under Shape Constraints
Chair: S. Ghosal, Statistics, NCSU

Mr. Prasenjit Ghosh (2017)
Some Theoretical and Methodological Aspects of Simultaneous Inference
Chair: A. Chakrabarti, Statistics, ISI–Kolkata

Mr. Andrew Swanlund (2016)
Correcting for Rater Bias in the Presence of Non-Ignorable Missing Ratings
Chair: G. Karabatsos, Educational Psychology, UIC

Ms. Jennifer Padja–De La O (2016)
On the Law of Iterated Logarithm for Brownian Motion on a Compact Manifold
Chair: C. Ouyang, Statistics, UIC

Mr. Alessandro Panella (2015)
Multiagent Stochastic Planning with Bayesian Policy Recognition
Chair: P. Gmytrasiewicz, Computer Science, UIC

Mr. Ting Yuan (2015)
On Structured Matrix Optimization with Two Applications in Statistics
Chair: S. Hedayat, Statistics, UIC

Ms. Jing Wang (2015)
Two Applications of Topic Models
Chair: C. Yu, Computer Science, UIC

Mr. Ken Fujimoto (2014)
Dependent Dirichlet Process Mixture Modeling of Rating Category Usage
Chair: G. Karabatsos, Educational Psychology, UIC

Ms. Zhifan Zhang (2014)
Portfolio Choice with General Pricing Kernel
Chair: J. Yang, Statistics, UIC

Mr. Tu Xu (2013)
New Developments of Minimum Clinically Important Difference
Chair: S. Hedayat, Statistics, UIC

M.S. dissertation committee member:

Mr. Jay Gilenwater (2020)
Quantitative Trait Loci Mapping of Seed Composition Traits and Assessment of Yield in Two Soybean Populations
Chair: R. Mian, Crop Science, NCSU

Ms. Brandy Benz (2020)
Ground-Layer Vegetation Response to Silvicultural Treatments for Oak Regeneration in Southern Appalachian Forests
Chair: J. Forrester, Forestry & Environmental Resources, NCSU

Ms. Kathryn Hayes (2019)
Analysis and Improvement of the Medical Textile Supply Chain in North Carolina.
Chair: B. Godfrey, Textiles, NCSU

Graduate student research/independent study course: 5 times (at UIC)

Undergraduate student research/independent study:
Bayesian estimation in autoregressive models, N. Rogers (at UIC)

Chair and creator, UIC Graduate Statistics Seminar, 2013–2014

Student Honors and Awards

Ms. Shih-Ni Prim: Accepted presentation, 21st International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems, 2026

Ms. Shih-Ni Prim: Invited submission, *International Journal of Approximate Reasoning* special issue for top-rated papers presented at the *ISIPTA 2025* conference

Mr. Leonardo Cella: Invited submission, *International Journal of Approximate Reasoning* special issue for top-rated papers presented at the *BELIEF 2024* conference

Mr. Leonardo Cella: Invited submission, *International Journal of Approximate Reasoning* special issue for top-rated papers presented at the *ISIPTA 2023* conference

Mr. Leonardo Cella: Invited submission, *International Journal of Approximate Reasoning* special issue for top-rated papers presented at the *BELIEF 2022* conference

Mr. Leonardo Cella: Invited submission, *International Journal of Approximate Reasoning* special issue for top-rated papers presented at the *BELIEF 2021* conference

Mr. Leonardo Cella: Best Paper Award, *BELIEF 2021*

Mr. Leonardo Cella: Invited submission, *International Journal of Approximate Reasoning* special issue for top-rated papers presented at the *ISIPTA 2021* conference

Mr. Leonardo Cella: Young Researcher Award, *ISIPTA 2021*

Mr. Leonardo Cella: Outstanding Teaching Assistant Award, 2020

Ms. Yiqi Tang: B. B. Bhattacharyya Graduate Student Excellence Award, 2020

Ms. Vaidehi Dixit: Accepted presentation, Statistics and Data Science Symposium, 2020

Mr. Chang Liu: ASA–SBSS Student Paper Competition, Joint Statistical Meetings, 2020

Ms. Joyce Cahoon: Invited submission, *International Journal of Approximate Reasoning* special issue for top-rated papers presented at ISIPTA 2019

Ms. Yiqi Tang: Travel Award, Women in Statistics & Data Science Conference, 2019

Mr. Nathan Rogers: Best Paper Award, Rose–Hulman Undergrad Math Conference, 2015

Teaching

@ North Carolina State University:
- ST421—*Introduction to Mathematical Statistics I* (3 times)
- ST422—*Introduction to Mathematical Statistics II*
- ST431—*Introduction to Experimental Design*
- ST503—*Fundamentals of Linear Models and Regression* (3 times)
- ST512—*Experimental Statistics for Biological Science II* (4 times)
- ST701—*Statistical Theory I* (2 times)
- ST702—*Statistical Theory II* (5 times)
- ST790—*Special Topics* (Imprecise-Probabilistic Foundations of Statistics[4])

@ University of Illinois at Chicago:
- Stat 401—*Introduction to Probability*
- Stat 411—*Statistical Theory* (3 times)
- Stat 451—*Computational Statistics* (2 times)
- Stat 511—*Advanced Statistical Theory I* (4 times)
- Stat 512—*Advanced Statistical Theory II*
- Stat 591—*Advanced Topics in Statistics* (Bayesian Analysis)
- Stat 591—*Advanced Topics in Statistics* (Prior-free Probabilistic Inference)

@ Indiana University–Purdue University Indianapolis:
- Stat 350—*Introduction to Statistics* (4 times)
- Stat 511—*Statistical Methods I*
- Stat 521—*Statistical Computing*
- Stat 628—*Advanced Statistical Inference*

@ Purdue University:
- Stat 225—*Introduction to Probability Models* (6 times)
- Stat 301—*Elementary Statistical Methods*

[4]All the course materials, including lecture videos, are available at `https://wordpress-courses2223.wolfware.ncsu.edu/st-790-001-fall-2022/`

Professional Service

Co-founder (with H. Crane) of *Researchers.One* (`https://researchers.one`), an online peer-review/publication platform and the associated 501(c)(3) non-profit organization. *Researchers.One* aims to empower researchers with the

- *Authority* to pursue their passions, however non-standard or controversial
- *Autonomy* to develop and disseminate their ideas
- *Access* to engage with the international community of scholars

Specifically, the *Researchers.One* platform features peer review & scholarly publication, virtual conferences, journals, and more

Society of Imprecise Probability Theories and Applications (SIPTA)
Executive Committee, Member-at-large, 2021–2023; 2023–2025

Led creation of an undergraduate major in Statistics at UIC (Started Fall 2014)

Editorial work:
Associate Editor, *Bayesian Analysis*, 2016–2018
Reviewed lots of papers for many journals

Grant proposal reviewer/panel member:
NSF–DMS, NSF–MMS, NSERC (Canada), ERC (Europe)

Reviewer of textbooks/monographs:
Chapman & Hall/CRC Press (twice); Cambridge University Press; Springer

ASA–SBSS Student Paper Competition committee, 2015

Conference administration:
Program Committee member, BELIEF 2026, Nanjing, China, October 2026

Program Committee member, ISIPTA 2025, Bielefeld, Germany, July 2025

Program Committee member, BELIEF 2024, Belfast, UK, October 2024

Program Committee member, ISIPTA 2023, Oviedo, Spain, July 2023

Program Committee member, BELIEF 2022, Paris, France, October 2022

Organizing Committee member, BFF7, University of Toronto, May 2022

Program Committee member, BELIEF 2021, Shanghai, China, October 2021

Program Committee member, ISIPTA 2021, Granada, Spain, July 2021

Organizer, BFF-6.5 Virtual Workshop, *Researchers.One*, February 2021

Program Committee member, ISIPTA 2019, Ghent, Belgium, July 2019

Chair and Organizer of an invited session, "The state of peer review and publication in statistics and science," Joint Statistical Meetings, August 2018

Organizing Committee member, BFF4, Harvard University, May 2017

Program Committee member, Spring Research Conference, Chicago, May 2016

Departmental Committee Service:

@ NCSU:

Post-Tenure Review Committee (2023, 2026)
Course and Curriculum Committee (2018–2024; chair)
Admissions Committee (2021, 2022)
Tenure-track Faculty Search Committee (twice; chair once)
Seminar Committee (2017–2018, chair)
Qualifying Exam Committee (several times; chair twice)

@ UIC:

Admissions and Fellowship Committee (2012–2013; 2014–2015)
Department Advisory Committee (2012–2014, secretary)
Department Colloquium Chair (2013–2014);
Masters Exam Committee (2012–2013)
Research Assistant Professor Search Committee (2015–2016)
Statistics Seminar Chair (2014–2015)
Undergraduate Awards Committee (2012–2013);
Undergraduate Studies Committee (2012–2015)
Visitor Fund Committee (2012–2014)