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## EDUCATION

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|---|---|
| **Ph.D.** 8/91 | Department of Statistics, Purdue University, West Lafayette, Indiana; Thesis – Numerical Integration in Bayesian Statistics; Advisor – Prof. J. O. Berger. |
| **M.S.** 10/88; 6/85 | Computer Science and Business; Mathematics and Physics Education, Technical University and University of Vienna, Austria. |

## ACADEMIC POSITIONS

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| 2017 – present | UT Austin, Dept. of Statistics and Data Science; chair (ad interim) |
| 2011 – present | U. Texas at Austin, Dept. of Mathematics and Dept. of Statistics and Data Science; Professor; McCombes School of Business; courtesy appointment. |
| 2012 – present | U. Texas, M.D. Anderson Cancer Center, Dept. of Biostatistics; Adjunct Professor. |
| 2007 – 2011 | U. Texas, M.D. Anderson Cancer Center, Dept. of Biostatistics; Robert R. Herring Dinstinguished Professor in Clinical Research. |
| 2001 – 2007 | U. Texas, M.D. Anderson Cancer Center, Dept. of Biostatistics; Professor. |
| 2001 – 2012 | Rice University, Dept. of Statistics; Adjunct Professor. |
| 1991 – 2002 | ISDS, Duke University; Associate Professor (1998 – 2002), Assistant Professor (1991–1998). |
| **Visiting Scholar:** | |
| Summer 1990 & 93 | Inst. für Statistik und Ökonometrie, Univ. Basel, Switzerland. |
| Summer 1995 & 96 | Universidad Politecnica de Madrid, Spain. |
| March 1996 | Universidad Simon Bolivar, Caracas, Venezuela. |
| Summer 1997 | Consiglio Nazionale delle Ricerche, CNR-IAMI, Milano, Italy. |
| Summer 1999 | Universidad Catolica, Santiago, Chile. |
| Fall 2010 | Technische Universität Dortmund, Germany. |
| **Graduate Assistant:** Fall 1986 – Fall 1991 | Teaching assistant; Thesis related research; Statistical consulting; Department of Statistics, Purdue University. |

## HONORS

Fellow of the Institute of Mathematical Statistics, Fellow of the American Statistical Association, Fellow of the International Society for Bayesian Analysis, President of the International Society for Bayesian Analysis (2010), Chair of the Section on Bayesian Statistical Science, American Statistical Association (2016), Robert R. Herring Dinstinguished Professorship in Clinical Research (2007–2011).

Mitchell Prize for outstanding applied Bayesian paper (2016).

## RESEARCH INTERESTS

Bayesian analysis and decision making: Markov chain Monte Carlo methods simulation based optimal design, sequential design, dynamic models, clinical trial design. .

Nonparametric Bayes: semiparametric mixture models, mixture of Dirichlet process models, random partitions, clustering.

Modeling: dependent gene expression, longitudinal data models, pharmacokinetic/pharmacodynamic models, case-control studies, hierarchical models.

## PUBLISHED PAPERS

### Refereed Papers

1. Zuanetti, D., Müller, P., Zhu, Y., Yang, S., and Ji Y. (2017), Clustering Distributions with the Marginalized Nested Dirichlet Process, *Biometrics*, in press.

2. Ni, Y., Müller, P., Zhu, Y. and Ji, Y. (2017), Heterogeneous Reciprocal Graphical Models, *Biometrics*, in press.

3. Shpak, M., Ni, Y., Lu, J. and Müller, P. (2017), Estimation of Pairwise Genetic Distances Under Independent Sampling of Segregating Sites vs. Multilocus Haplotype Sampling, *Theoretical Population Biology*, in press.

4. Schnell, P., Müller, P., Tang, Q. and Carlin, B. (2017). Multiplicity-Adjusted Semiparametric Benefiting Subgroup Identification in Clinical Trials, *Clinical Trials*, in press.

5. Thall, P., Müller, P., Xu, Y, and Guindani, M. (2017). "Bayesian Nonparametric Statistics: A New Toolkit for Discovery in Cancer Research", *Pharmaceutical Statistics*, in press.

6. Müller, P., Xu, Y. and Jara, A. (2017). A Short Tutorial on Bayesian Nonparametrics, *Journal of Statistical Research*, 48-50 (2), 1-19.

7. Mitra, R., Müller, P. and Ji, Y. (2017). Bayesian Multiplicity Control for Multiple Graphs, *Canadian Journal of Statistics*, 45, 4461.

8. Sivaganesan, S, Müller, P, Huang, B. (2017). Subgroup finding via Bayesian additive regression trees, *Statistics in Medicine*, to appear.

9. Sivaganesan, S., Liu, J., Laud, P.W. and Müller, P. (2017). A Bayesian subgroup analysis using collections of ANOVA models, *Biometrical Journal*, to appear.

10. Morita, S.and Müller, P. (2017). Bayesian Population Finding with Biomarkers in a Randomized Clinical Trial, *Biometrics*, in press.

11. P. Schnell, Q. Tang, Peter Müller and B. Carlin (2017). Subgroup inference for multiple treatments and multiple endpoints in an Alzheimers disease treatment trial, *Annals of Applied Statistics*, in press.

12. Hu, Z., Lancaster, J.N., Ehrlich, L.I.R. and Müller, P. (2017). Detecting T Cell Activation Using a Varying Dimension Bayesian Model, *Journal of Applied Statistics*, in press.

13. Jo, S., Lee, J., Müller, P., Quintana, F. and Trippa, L. (2017), "Dependent Species Sampling Models for Spatial Density Estimation", *Bayesian Analysis*, 12, 379-406.

14. Xu Y, Thall P, Müller P, and Mehran R, A Bayesian Nonparametric Utility-Based Design for Comparing Treatments to Resolve Air Leaks After Lung Surgery (2017), *Bayesian Analysis*, 12, 639-652.

15. Müller, P., Xu, Y. and Thall, P. (2016). Clinical Trial Design as a Decision Problem, *Applied Stochastic Models in Business and Industry*, 33, 296301.

16. Lee, J., Müller, P., Sengupta, S., Gulukota, K. and Ji, Y. (2016), "Bayesian Inference for Intra-Tumor Heterogeneity in Mutations and Copy Number Variation", *J. Royal Stat. Society C*, 65: 547563. NIHMS #788717

17. Lee, J., Thall, P. F., Ji, Y. and Müller, P. (2016), A Decision-Theoretic Phase I-II Design for Ordinal Outcomes in Two Cycles. *Biostatistics*, 17, pp. 304319, PMC #4834949

18. Xu Y, Müller P, and Telesca D, (2016), Bayesian Inference for Latent Biologic Structure with Determinantal Point Processes, *Biometrics*, 72, 955964, NIHMS #757534

19. Zhu, Y. Hernandez, L.H., Müller, P., Dong, Y., Hirschfeld, S. and Forman, M.R. (2016), "Predictive models for characterizing disparities in exclusive breastfeeding performance in a multi-ethnic population in the US," *Maternal and Child Health Journal*, 20(2), 398-407.

20. Xu Y, Trippa L, Mueller P, Ji Y. (2016), "Subgroup-Based Adaptive (SUBA) Designs for Multi-Arm Biomarker Trials," *Statistics in Biosciences*, 8, 159180, doi=10.1007/s12561-014-9117-1.

21. Xu Y, Müller P, Thall PF and Wahed AS, (2016). "Bayesian Nonparametric Estimation for Dynamic Treatment Regimes with Sequential Transition Times," *Journal of the American Statistical Association*, 111, 921-950. NIHMS 788724

22. Mitra, R., Müller, P. and Ji, Y. (2016) "Bayesian Graphical Models for Differential Pathways", *Bayesian Analysis*, 11, 99-124.

23. Lee, JH, Thall, PF, Ji Y, Mueller, P. (2015), "Bayesian Dose-Finding in Two Treatment Cycles Based on the Joint Utility of Efficacy and Toxicity", *Journal of American Statistical Association*, 110, 711-722. PMID:26366026

24. Lee, J., Müller, P., Ji, Y. and Gulukota, K. (2015) "A Bayesian Feature Allocation Model for Tumor Heterogeneity." *Annals of Applied Statistics*, 9, 621-639.

25. Lee, J., Ji, Y., Liang, S., Cai, G. and Mueller, P. (2015), "Bayesian Hierarchical Model for Differential Gene Expression Using RNA-seq Data." *Statistics in Biosciences*, 7, 4867.

26. Quintana, F., Müller, P and Papoila, A.L. (2015), "Cluster-Specific Variable Selection for Product Partition Models" *Scandinavian Journal of Statistics*, 42(4), 10651077.

27. Yajima, M., Telesca, D., Ji, Y., and Müller, P. (2015), "Detecting differential patterns of interaction in molecular pathways." *Biostatistics*, 16(2): 240251.

28. Xu Y, Müller P, Yuan Y, Gulukota K and Ji Y, (2015). "MAD Bayes for Tumor Heterogeneity – Feature Allocation with Exponential Family Sampling." *Journal of the American Statistical Association*, 110, 503-514, PMID:26170513

29. Zhu, Y., Xu, Y., Helseth, D. L., Gulukota, K., Yang, S., Pesce, L., Mitra, R., Müller, P., Sengupta, S., Guo, S., Silverstein, J., Foster, I., Parsad, N., White, K., and Ji, Y. (2015). "Zodiac: A Comprehensive Depiction of Genetic Interactions in Cancer by Integrating TCGA Data" *Journal of the National Cancer Institute*, 107 (8), doi:10.1093/jnci/djv129.

30. Mitra R, Mueller P, Qiu P, Ji Y, (2014), "Bayesian Hierarchical Models for Protein Networks in Single Cell Mass Cytometry", *Cancer Informatics*, 13(Suppl 4), 79-89.

31. Mueller P, Mitra R, and Ji Y, (2014), "Bayesian Graphical Models for Epigenomic Heterogeneity". *Calcutta Statistical Association Bulletin*, 65, 257–260.

32. Mitra R, Muller P, Ji Y, Zhu Y, Mills G, Lu Y. (2014), "A Bayesian Hierarchical Model for Inference Across Related RPPA Experiments", *Journal of Applied Statistics*, 41, 2483-2492.

33. Müller, P, Quintana, Rosner, G.L. and Maitland, M.L. (2014), " Bayesian Inference for Longitudinal Data with Nonparametric Treatment Effects" *Biostatistics*, 15, 341-52, PMCID: PMC3944972

34. Guindani, M., Sepulveda, N., Paulino, C.D. and Müller, P. (2014), "A Bayesian Semiparametric Approach for the Differential Analysis of Sequence Counts Data." *Applied Statistics*, 63, 385404, PMCID: PMC4017673.

35. Herrmann, S. and Schwender, H. and Ickstadt, K. and Müller, P. (2014), "A Bayesian changepoint analysis of ChIP-Seq data of Lamin B" *Biochimica et Biophysica Acta (BBA)-Proteins and Proteomics*, 1844, 138-144

36. Müller, P. and Mitra, R. (2013) "Bayesian nonparametrics – how and why," *Bayesian Analysis*, 8, 269-302.

37. Mitra, R., Müller, P. and Ji, Y. (2013) "Propriety conditions for the Bayesian autologistic model." *Journal of Statistical Theory and Practice*, 7, 248–258.

38. Mitra, R., Müller, P., Liang, S. Xu, Y. and Y. Ji (2013) "Towards Breaking the Histone Code - Bayesian Graphical Models for Histone Modifications", *Circ. Cardiovasc Genet.*, 6; 419-426.

39. Zhu, Y., Hernandez, L.M., Mueller, P., Dong, Y., and Forman, M. (2013), "Data collection and preprocessing in studies on humans: what is not taught in statistics classes?", *American Statistician*, 67(4):235-241.

40. Lee, J., Mueller, P, Zhu, Y. and Ji, Y. (2013) "A Nonparametric Bayesian Model for Local Clustering." *Journal of the American Statistics Association*, 108, 775 – 788, PMCID:PMC3821783.

41. Xu, Y., Lee, J., Yuan, Y., Mitra, R., Shoudan, L., Müller, P. and Ji, Y. (2013) "Nonparametric Bayesian Bi-Clustering for ChIP-Seq Count Data." *Bayesian Analysis,*, 8(4); 759–780.

42. Jiang, F., Lee, J.J., and Müller, P. (2013) "A Bayesian decision-theoretic sequentialresponse adaptive randomization design," *Statistics in Medicine*, 32, 1975–1994. DOI: 10.1002/sim.5735. PMID: 23315678 [PubMed - in process]

43. Cruz-Marcelo, A., Rosner, G.L., Müller, P. and Stewart, C.F. (2013), "Effect on Prediction when Modeling Covariates in Bayesian Nonparametric Models," *Journal of Statistical Theory and Practice*, 7, 204 – 218.

44. Lee, J., Quintana, F., Müller, P. and Trippa, L. (2013), "Defining Predictive Probability Functions for Species Sampling Models," *Statistical Science*, 28, 209-222.

45. Mitra, R., Müller, P., Liang, S., Yue, L, and Ji, Y. (2013), "A Bayesian Graphical Model for Chip-Seq Data on Histone Modifications," *Journal of the American Statistical Association*, 108, 69-80.

46. León-Novelo, L., Müller, P., Do, K-A., Arap, W., Sun, J. and Pasqualini, R. (2013), "Semi-Parametric Bayesian Inference for Phage Display Data," *Biometrics*, 69, 174-183, PMCID:PMC3840910 DOI: 10.1111/j.1541-0420.2012.01817.x.

47. Rossell, D. and Müller, P. (2013) "Sequential stopping for high-throughput hypothesis testing experiments," *Biostatistics*, 14, 75-86.

48. Di Lucca, M.A., Guglielmi, A., Müller, P., and Quintana, F. (2013), "Bayesian autoregressive nonparametric models", *Bayesian Analysis*, 8, 63-88.

49. Trentini F, Ji Y, Iwamoto T, Qi Y, Pusztai L, and Müller, P. (2013) "Bayesian Mixture Models for Assessment of Gene Differential Behaviour and Prediction of pCR through the Integration of Copy Number and Gene Expression Data." PLoS ONE, 8(7), e68071. doi:10.1371/journal.pone.0068071

50. León-Novelo, L., Müller, P., Do, K-A., Arap, W., Sun, J. and Pasqualini, R. (2013), "Bayesian Decision Theoretic Multiple Comparison Procedures: An Application to Phage Display Data", *Biometrical Journal*, 55, 478-489. PMCID: PMC3840910.

51. Ji, Y., Mitra, R., Quintana, F., Müller, P., Jara, A., Liu, P., Lu, Y. and Liang, S. (2012), "BM-BC: A Bayesian method of base calling for Solexa sequence data" *BMC Bioinformatics*, 13:S6, doi:10.1186/1471-2105-13-S13-S6

52. Guoshuai Cai, Hua Li, Yue Lu, Xuelin Huang, Juhee Lee, Peter Müller, Yuan Ji and Shoudan Liang (2012), "Accuracy of RNA-Seq and its dependence on sequencing depth," *BMC Bioinformatics*, 13(Suppl 13):S5 doi:10.1186/1471-2105-13-S13-S5.

53. Telesca, D., Müller, P, Parmigiani, G., and Freedman, R. (2012), "Modeling Dependent Gene Expression", *Annals of Applied Statistics*, 6, 542-560.

54. Telesca, D., Müller, P, Kornblau, S., Suchard, M., and Ji, Y. (2012), "Modeling Protein Expression and Protein Signaling Pathways", *Journal of the American Statistical Association*, 107, 1372-1384.

55. Berger, J., Jefferys, W., and Müller, P. (2012), "Bayesian Nonparametric Shrinkage Applied to Cepheid Star Oscillations," *Statistical Science*, 27, 3-10.

56. Morita, S., Thall, P. and Müller, P. (2012), "Prior Effective Sample Size in Conditionally Independent Hierarchical Models," *Bayesian Analysis*, 7, 591 - 614.

57. Leon-Novelo, L., Bekele, B.N., Müller, P., Quintana, F. and Wathen, K., (2012), "Borrowing Strength with Non-Exchangeable Priors over Subpopulations", *Biometrics*, 68 (2), 550-558, PMID 22040065.

58. Nieto-Barajas, L., Müller, P., Ji, Y., Lu, Y. and Mills, G. (2012), "Time Series Dependent Dirichlet Process." *Biometrics*, 68, 859 – 868.

59. Trippa, L, Rosner, G., and Müller, P. (2012), "Bayesian Enrichment Strategies for Randomized Discontinuation Trials", with discussion, *Biometrics*, 68, 203211.

60. Nieto-Barajas, L. and Müller, P. (2012), "Rubbery Polya Tree." *Scandinavian Journal of Statistics*, 39, 166184.

61. Lee, J., Ji, Y., Liang, S., Cai, G., and Müller, P. (2011), "On Differential Gene Expression Using RNA-Seq Data", *Cancer Informatics*, 10, 205-215.

62. Trippa, L, Müller, P. and Johnson, W. (2011), "The Multivariate Beta Process and an Extension of the Polya Tree Model," *Biometrika*, 98 (1), 17–34, PMCID:PMC3744636, doi:10.1093/biomet/asq072

63. Müller, P., Quintana, F, and Rosner, G. (2011), "A product partition model with regression on covariates", *Journal of Computational and Graphical Statistics*, Mar 2011, 20(1): 260-278, PMC3090756.

64. Sivaganesan, S., Laud, P. and Müller, P. (2011), "A Bayesian Subgroup Analysis with a Zero-Enriched Polya Urn Scheme." , *Statistics in Medicine*, 30, 312323, DOI: 10.1002/sim.4108, PMID:21225894

65. Jara, A., Hanson, T., Quintana, F., Müller, P., and Rosner, G. (2011) "DPpackage: Bayesian Non- and Semi-parametric Modelling in R", *Journal of Statistical Software*, 40 (5), 1-30.

66. Li, Y., Müller, P. and Lin, X. (2011), "Center-Adjusted Inference for a Nonparametric Bayesian Random Effect Distribution." *Statistica Sinica*, 21 (3), 1201-23, PMCID:PMC3870168.

67. Yang, Y., Müller, P. and Rosner, G. (2010) "Semiparametric Bayesian Inference for Repeated Fractional Measurement Data." *Chilean Journal of Statistics*, 1, 1: 59–74.

68. Harvey, C., Liechty, J., Liechty, M., and Müller, P. (2010), "Portfolio Selection with Higher Moments." *Quantitative Finance*, 10 (5), 469 – 485.

69. Morita, S., Thall, P. and Müller, P. (2010), Evaluating the Impact of Prior Assumptions in Bayesian Biostatistics *Statistics in Biosciences*, 2(1):1-17, PMCID: PMC2910452

70. Chen, Y.,A., Almeida, J.S., Richards, A.J., Müller, P., Carroll, R.J., and Roherer, B. (2010), "A nonparametric approach to detect local correlation in gene expression." *Journal of Graphical and Computational Statistics*, 19, 552-568.

71. Leon-Novelo, L.G, Zhou, X., Bekele, B., and Müller, P. (2010), "Assessing Toxicities in a Clinical Trial: Bayesian Inference for Ordinal Data Nested within Categories" *Biometrics*, 66, 966-74.

72. Müller, P. and Quintana, F. (2010), "Random Partition Models with Regression on Covariates", *Journal of Statistical Inference and Planning*, 140 (10), 2801–2808, doi:10.1016/j.jspi.2010.03.002

73. Zhang, S., Müller, P., and Do, K.-A. (2010), "A Bayesian Semiparametric Method for Jointly Modeling a Primary Endpoint and Longitudinal Measurements." *Biometrics*, 66, 435–443. DOI: 10.1111/j.1541-0420.2009.01276.x (on-line advance publication).

74. Li, Y., Lin, X., and Müller, P. (2010), "Bayesian inference in semiparametric mixed models for longitudinal data," *Biometrics*, 66 (1), 70-78, DOI: 10.1111/j.1541-0420.2009.01227.x.

75. Guindani, M., Zhang, S. and Müller, P. (2009), "A Bayesian Discovery Procedure," *Journal of the Royal Statistical Society, Series B*, 71, 905–925.

76. Liechty, M.W., Liechty, J.C., and Müller, P. (2009), "The Shadow Prior", *Journal of Computational and Graphical Statistics*, 18, 368–383.

77. De Iorio, M., Johnson, W., Müller, P., and Rosner, G. (2009). "A DDP Model for Survival Regression", *Biometrics*, 65, 762-71, PMCID: PMC2748143

78. Quintana, F., Müller, P., Rosner, G. and Relling, M.V. (2008) "A Semiparametric Bayesian Model for Repeated Repeated Binary Outcomes", *Applied Statistics*, 57, 419–431.

79. Quintana, F., Müller, P., Rosner, G. and Munsell, M. (2008), "Semi-parametric Bayesian Inference for Multi-Season Baseball Data", *Bayesian Analysis*, 3, 317-338.

80. Polson, N., Stroud, J., and Müller, P. (2008), "Practical Filtering with Sequential Parameter Learning." *Journal of the Royal Statistical Society, Series B (Methodological)*, 70, 413-28.

81. Ding, M., Rosner, G., and Müller, P. (2008), "Bayesian Optimal Design for Phase II Screening Trials". *Biometrics*, 64(3), 886 – 894

82. Inoue, L., Etzioni, R., Morrell, C., and Müller, P. (2008), "Modeling Disease Progression with Longitudinal Markers." *Journal of the American Statistical Association*, 103, 259-270.

83. Morita, S., Thall, P.F., and Müller, P. (2008), "Determining the Effective Sample Size of a Parametric Prior" *Biometrics*, 64, 595–602, PMC3081791

84. Navarrete, C., Quintana, F.A. and Müller, P. (2008), "Some Issues on Nonparametric Bayesian Modeling Using Species Sampling Models", *Statistical Modeling: International Journal*, 8, 3–21.

85. Liz Y. Han, Mavis S. Fletcher, Michael T. Deavers, Diana L. Urbauer, Peter Mueller, Charles N. Landen, Aparna A. Kamat, Yvonne G. Lin, William M. Merritt, Whitney Spannuth, David M. Gershenson, Susan K. Lutgendorf, Soldano Ferrone, and Anil K. Sood (2008), "HLA class I antigen processing machinery component expression and intratumoral T-cell infiltrate as independent prognostic markers in ovarian carcinoma" *Clinical Cancer Research*, 14(11), 3372-3379, doi: 10.1158/1078-0432.CCR-07-4433.

86. De la Cruz-Mesía, Quintana, F., and Müller, P. (2007), "Semiparametric Bayesian Classification with Longitudinal Markers." *Applied Statistics*, 56, 119-137.

87. Zhang, S. Shih, Y.-C., and Müller, P. (2007). "A Spatially-adjusted Bayesian Additive Regression Tree Model to Merge Two Datasets", *Bayesian Analysis*, 3, 611-34.

88. Rossell, D., Müller, P. and Rosner, G. (2007), "Screening Designs for Drug Development." *Biostatistics*, 8, 595–608.

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90. Müller, P., Berry, D.A., Grieve, A.P., and Krams, M. (2006). "A Bayesian Decision-Theoretic Dose Finding Trial", *Decision Analysis*, 3, 197-207.

91. Han,L.Y.,Landen, C.N.,Kamat, A.A., Lopez,A, Müller, P., Schmandt, R., Gershenson, D.M., and Sood, A.A. (2006). "Preoperative serum tissue factor (TF) levels are an independent prognostic factor in patients with ovarian carcinoma", *Journal of Clinical Oncology* 24(5):755-761.

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93. Müller, P., Berry, D., Grieve, A., Smith, M., and Krams, M. (2006). "Simulation-Based Sequential Bayesian Design" *Journal of Statistical Planning and Inference*, 137, 3140–50.

94. Swartz, M., Kimmel, M., Müller, P., and Amos, C. (2006), "Stochastic Search Gene Suggestion: A Bayesian Hierarchical Model for Gene Mapping," *Biometrics*, 62, 495–503. *Clinical Cancer Research*

95. Wang, E., Ngalame, Y., Panelli, M. C., Nguyen-Jackson, H., Deavers, M., Mueller, P., Hu, W., Savary, C. A., Kobayashi, R., Freedman, R. S. and Marincola, F. M. (2005), "Peritoneal and subperitoneal stroma may facilitate regional spread of ovarian cancer" 11, 113–122, *Clinical Cancer Research*

96. Do, K-A., Müller, P., and Tang, F. (2005). "A Bayesian Mixture Model for Differential Gene Expression." *Applied Statistics*, 54 (3), 627-644.

97. Müller, P., Rosner, G., De Iorio, M., and MacEachern, S. (2005). "A Nonparametric Bayesian Model for Inference in Related Studies." *Applied Statistics*, 54 (3), 611-626.

98. Menchero, A., Montes Diez, R., Rios Insua, D. and Müller, P. (2005), "Bayesian analysis of non-linear autoregression models based on neural networks," *Neural Computation*, 17, 453–485.

99. Kottas, A., Müller, P. and Quintana, F. (2004), "Nonparametric Bayesian modeling for multivariate ordinal data." *Journal of Computational and Graphical Statistics*, 13, 213-231.

100. Christen, J.A., Müller, P., Wathen, K., and Wolf, J. (2004). "A Bayesian Randomized Clinical Trial: A Decision Theoretic Sequential Design", *Canadian Journal of Statistics*, 32(4), 387–402.

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103. De Iorio, M., Müller, P., Rosner, G., and Maceachern, S. (2004). "An ANOVA Model for Dependent Random Measures," *Journal of the American Statistical Association*, 99(465), 205–215.

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105. Müller, P., Quintana, F. and Rosner, G. (2004). "Hierarchical Meta-Analysis over Related Non-parametric Bayesian Models." *Journal of the Royal Statistical Society, Series B (Methodological)*, 66, 735–749.

106. Müller, P., and Quintana, F. (2004). "Nonparametric Bayesian Data Analysis," *Statistical Science*, 19, 95–110.

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113. Calder, C., Lavine, M., Müller, P., and Clark, J. (2003). "Incorporating Multiple Sources of Stochasticity into Dynamic Population Models." *Ecology*, 84(6), 1395–1402.

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116. Stroud, J.R., Müller, P. and Rosner G.L. (2001). "Optimal Sampling Times in Population Pharmacokinetic Studies," *Applied Statistics*, 50, 345-359.

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**PAPERS UNDER REVIEW**

204. Zhou, T., Müller, P., Sengupta, S. and Ji, Y. (2016), PairClone: A Bayesian Subclone Caller Based on Mutation Pairs.

205. Müller, P., Quintana, F., and Page, G. (2017), Nonparametric Bayesian Inference in Applications, Peter Müller.

206. Zuanetti, D., Müller, P., Zhu, Y., Yang, S. and Ji, Y. (2017), Big Data Clustering.

207. Zou, Y., Sivaganesan, S. and Müller, P. (2017). A Bayesian Approach to Robust Non-Linear Models, *Statistics in Medicine*, revision under review.

208. Yajima, M., Telesca, D., Rosner, G., and Müller, P. (2013), "Bayesian Modeling of Population Pharmacogenetics."

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209. Polson, N., Stroud, J., and Müller, P. (2001). "Affine State Dependent Variance Models," http://faculty.chicagobooth.edu/nicholas.polson/research/papers/atsm2.pdf.

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**BOOKS**

216. Müller, P., Quintana, F., Jara, A., and Hanson, T. (2015), *Bayesian Nonparametric Data Analysis*, Springer Series in Statistics, Springer-Verlag.

217. Müller, P. and Rodriguez, A., (2012) *Nonparametric Bayesian Inference*, IMS Lecture Notes.

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**BOOKS (edited volumes)**

219. Mitra, R. and Müller, P. (2015) *Nonparametric Bayesian Methods in Biostatistics and Bioinformatics*, Springer-Verlag, New York.

220. Chen, M.-H., Dey, D.K., Müller, P, Sun, D. and Ye, K. (eds.) (2010), *Frontiers of Statistical Decision Making and Bayesian Analysis*, Springer-Verlag, New York.

221. Hjort, N., Holmes, C., Müller, P. and Walker, S. (eds.), (2010) *Bayesian Nonparametrics*, Cambridge University Press.

222. Do, K.-A., Vannucci, M., and Müller, P. (eds.) (2006). *Bayesian Inference for Gene Expression and Proteomics*, Cambridge University Press.

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224. Dey, D., Müller, P. and Sinha, D. (eds.) (1998). *Practical Nonparametric and Semiparametric Bayesian Statistics*, Springer-Verlag, New York.

**SOFTWARE**

All programs are available (directly or linked) at *http://odin.mdacc.tmc.edu/∼pm/prog.html*.

**Drug screening:** Screening designs for drug development (R package *seqdesphII*).

**Microarray group comparison:** A semiparametric Bayesian mixture model for differential gene expression.

**Semiparametric mixture models:** Bayesian inference for Dirichlet process mixture of normal models (R package *mdp*).

**Dependent random probability measures:** Hierarchical DP mixture of normals (R package *hdpmn*)

**Dependent DP models:** ANOVA DDP model (R package *ddpanova*).

**Special purpose software:** several additional software packages that implement specific examples in published papers.

## GRANTS

### Major Grants

*Current:*

NIH/NCI, "Bayesian Inference for Tumor Heterogeneity with Next-Generation Sequencing Data", co-P.I. (Yuan JI, P.I.)

"Bayesian approaches for missingness and causality in cancer and behavior studies," NIH/NCI, co-investigator (with M. Daniels, P.I.)

*Completed:*

"Statistical Methods and Software for More Efficient, Ethical, and Affordable Clinical Trials", NIH/NCI, coinvestigator (with B. Carlin), 2012-2014.

"Bayesian models for cancer prognosis by integrating diverse types of data", NIH/NCI, co-P.I. (with Y. Ji), 2009-2013.

"Population PK/PD: Statistical Issues," NIH/NCI, co-P.I. (with G. Rosner), 2007-2013.

"Continuous Drug Screening: Simulation Based Sequential Design," NIH/BISTI, P.I. (with G. Rosner), 2003-2006.

Gynecologic Cancer NIH/SPORE (Specialized Programs of Research Excellence), P50 CA098259, 2002-2007, PI Biostatistics Core.

"Population Pharmacokinetics/Dynamics: Statistical Issues," NIH, co-PI (with G. Rosner, P.I), 2001-2006, $398,850.

"Statistical Methodology for Spatial Modeling and Interpolation of Air and Deposition Pollutants," with M. Fuentes (P.I.), EPA, 2000-2002, $469,978.

"Multi-Scale Modeling and Simulation in Scientific Inference: Hierarchical Methods for Parameter Estimation in Porous Flow," With J. Trangenstein, D. Higdon, A. Datta-Gupta (P.I.'s) and other collaborators, NSF, KD (Knowledge and distributed intelligence) program, 1999-2002, $ 2,300,000 ($ 800,000 at ISDS).

"Bayesian preposterior simulation", NSF/DMS (DMS-9704934), Principal investigator, $146,000, 1997-2001.

"Population Pharmacokinetics/Dynamics: Statistical Issues," NIH (1R01CA75981-01), Principal investigator (with G. Rosner), $253,000, 1998-2001.

"Bayesian Regression in Nonlinear AR, Neural Networks, Wavelet Representations and Longitudinal Data Models", NSF/DMS (DMS-9404151), Principal investigator, $65,000, 1994–96.

"Mathematical Sciences Computing Research Environments," SCREMS grant, NSF/DMS (DMS-9305699), Collaborating investigator (3 out of 5 subprojects), $88,978, 1993–95.

NIH: "Functional Data Analysis" co-investigator 10%, (P.I. J. Morris, Biostatistics)

### Minor Grants (*all completed*)

NSF, "Travel Support for the Objective Bayes Workshop, 2017.

NIH, "Travel Support for the 10th ISBA World Meeting on Bayesian Statistics", 2010.

NSF/DMS, "Travel Support for the 10th ISBA World Meeting on Bayesian Statistics",

2010.

NSF/DMS, "Travel Support for the 9th ISBA World Meeting on Bayesian Statistics", 2008.

NIH/NCI R01: "HOX genes in ovarian neoplasia", co-investigator 5%, (PI: H. Naora, Gyn. Oncology).

"Fourth International Workshop on Objective Prior Methodology," NSF/DMS-0245166. Travel support grant, P.I., 2003.

"Simulation based sequential design: Species Diversity", NSF/INT, P.I. (with A. Christen, Guanajuato), pending.

"International: Bayesian preposterior simulation – Partially Exchangeable Binary Sequences," NSF/INT, P.I. (with F. Quintana, Santiago), $4,312.

"ICTNEO: A Decision Support System for Jaundice Management in Newborn Babies," FIS (Spanish equivalent of NIH), consultant, 1997/98.

"A New Methodology for Hydropower Resources Management," Iberdrola Foundation (Spain), consultant, 1996/97.

"Meta analysis over related case-control studies", Duke University Research Council Grant, 1996/97, $2500.

Estancias temporales de cientificos y tecnologos extranjeros en España (Visiting grants for foreign researchers in Spain). With S. Rios Insua, UPM Madrid, Pts. 1,920,000 (= $12,000), 1995.

"Computational Procedures for Optimal Design of Experiments under Uncertainty" Duke University Research Council, Seed grant, co-principal investigator (with G. Parmigiani, co-principal investigator), 1993/94, $2200.

## DELIVERED TALKS

**Invited Talks at Conferences and Workshops (2010 – present)**

A Bayesian Nonparametric Utility-Based Design for Comparing Treatments to Resolve Air Leaks After Lung Surgery, CEN-ISBS, Joint Conference on Biometrics & Biopharmaceutical Statistics, Vienna, Austria, August 2017.

A Nonparametric Bayesian Basket Trial Design 38th Annual Conference of the International Society for Clinical Biostatistics, Vigo, Spain, July 2017.

A Nonparametric Bayesian Basket Trial Design, IMS, Singapore, July 2017.

A Bayesian Nonparametric Utility-Based Design for Comparing Treatments to Resolve Air Leaks After Lung Surgery, 11th Conference on Bayesian Nonparametrics, Paris, France, June 2017.

Bayesian Inference for Latent Biologic Structure with Determinantal Point Processes (DPP), BISP (Bayesian Inference for Stochastic Processes), Milano, Italy, June 2017.

A Population-Finding Design with Covariate-Dependent Random Partitions (in Spanish), Congreso Bayesiano de Amrica Latina (COBAL), Guanajuato, Mexico, June 2017.

Reciprocal Graphical Models for Integrative Gene Regulatory Network Analysis, Graybill 2017 conference, Fort Collins, CO, June 2017.

Bayesian Inference for Latent Biologic Structure with Determinantal Point Processes (DPP), ENAR, Washington, DC, March 2017.

Dynamic treatment regimes - Nonparametric Bayes for causal inference, Korean Statistics Society, keynote talk, Daejeon, South Korea, November 2016.

Bayesian Multiplicity Control for Multiple Graphs, JSM, Chicago, IL, August 2016.

Modeling and inference with feature allocation models (keynote), BayesM, Firenze, Italy, June 2016.

Comparing Graphs, ISBA World Meeting, Cagliari, Italy, June 2016.

Modeling and inference with feature allocation models, MCMSki, Lenzerheide, Switzerland, January 2016.

Dynamic treatment regimes - Nonparametric Bayes for causal inference, StatFoo conference, Google, Mountainview, CA, October 2015.

Bayesian Inference for Latent Biologic Structure with Determinantal Point Processes (DPP), plenary talk, Congresso SPE2015 Sociedade Portuguesa de Estadistica, Faro, Portugal, October 2015.

Feature allocation models for tumor heterogeneity, Joint Statistical Meeting, Seattle, WA, August 2015.

Nonparametric Bayesian survival regression with variable dimension covariate vector, keynote speaker, Workshop on Flexible Models for Longitudinal and Survival Data with Applications in Biostatistics, Warwick, U.K., July 2015.

Dynamic treatment regimes - Nonparametric Bayes for causal inference, Novartis Biostatistics Workshop, Shanghai, China, July 2015.

Subgroup Reporting using Nonparametric Bayesian Inference, ISBS-DIA Joint Symposium on Biopharmaceutical Statistics, Beijing, China, June 2015.

A Population-Finding Design with Nonparametric Bayesian Response Model, Workshop on Design and Analysis of Experiments in Healthcare, Isaac Newton Institute, Cambridge, U.K., July 2015.

BNP Inference for Dynamic Treatment Regimes, 10th Workshop on Nonparametric Bayesian inference, Raleigh, NC, June 2015.

Subgroup Reporting using Nonparametric Bayesian Inference, New England Statistics Symposium, Storrs, CT, April 2015.

Subgroup Reporting using Nonparametric Bayesian Inference, Conference of Texas Statisticians, UT Austin, TX, April 2015.

A Bayes rule for subgroup reporting – Bayesian adaptive enrichment designs, ENAR, Miami, FL, March 2015.

Nonparametric Bayesian regression, XIV Escola de Modelos de Regressão, Campinas, Brazil, March 2015.

A Bayesian Feature Allocation Model for Tumor Heterogeneity, III Forum Mineiro de Estatistica e Probabilidade, UFMG, Belo Horizonte, Brasil, August 2014.

A Bayesian Feature Allocation Model for Tumor Heterogeneity (in Spanish), III Jornada Internacional de Probabilidad y Estadistica, Pontificia Univ. Catolica del Peru, Lima, Peru, August 2014.

Nonparametric Bayesian Data Analysis, JSM 2014, Boston, MA, August 2014.

Nonparametric Bayesian Data Analysis, Foundations lecture, ISBA World Meeting, Cancun, Mexico, July 2014.

Tutorial: Bayesian Inference and Multiplicity Control 2014 International Workshop on Controlling Multiplicity in Statistical Analysis, Shanghai, China, June 2014.

Two Adaptive Enrichment Designs with Covariate-Dependent Random Partitions, 2014 International Workshop on Controlling Multiplicity in Statistical Analysis, Shanghai, China, June 2014.

Modeling tumor heterogeneity, Plenary talk, SRCOS 2014 Summer Research Conference, Galveston, TX, June 2014.

A Bayesian Feature Allocation Model for Tumor Heterogeneity Abel Symposium 2014, Lofoten, Norway, May 2014.

Bayesian Subgroup finding by Stochastic Optimization, SIAM Conference on Uncertainty Quantification, Savannah, GA, April 2014.

A Bayesian Feature Allocation Model for Tumor Heterogeneity, ENAR, Baltimore, MD, March 2014.

A Bayesian Feature Allocation Model for Tumor Heterogeneity, Big Data in Biomedicine, Warwick, U.K., February 2014.

A Bayes Rule for Subgroup Reporting – Adaptive Enrichment Designs, Bayesian Biostatistics and Bioinformatics Conference Houston, TX, February 2014.

A Nonparametric Bayesian Approach to Subgroup Analysis, MCMSki, Chamonix, France, January 2014.

Subgroup Reporting using Nonparametric Bayesian Inference, ERCIM 2013, London, December 2013.

A Nonparametric Bayesian Model for Local Clustering with Application to Proteomics, San Antonio Area Chapter of the ASA, San Antonio, TX, November 2013.

A Nonparametric Bayesian Model for Local Clustering with Application to Proteomics, 3rd Workshop on Bayesian Inference for Latent Gaussian Models, Reykjavik, Iceland, September 2013.

Estimation for Bayesian adaptive designs, ASA/FDA Workshop, Washington DC, September 2013.

A nonparametric Bayesian model for a clinical trial design for targeted agents, European Meeting of Statistics, Budapest, July 2013.

Flexible BNP Regression in Bayesian Biostat, 9th Workshop on Bayesian Nonparametrics, Leiden, June 2013.

A Bayesian clinical trial design for targeted agents in metastatic cancer, 7th Workshop in Simulation, Rimini, Italy, May 2013.

Bayesian Graphical Models for Differential Pathways, ENAR, Washington DC, March 2013.

Towards Breaking the Histone Code – Bayesian Graphical Models for Histone Modifications, ISBA Regional Meeting, Varanasi, India, January 2013.

Towards Breaking the Histone Code  Bayesian Graphical Models for Histone Modifications, Eighth International Triennial Calcutta Symposium, Calcutta, India, December 2012.

A Nonparametric Bayesian Model for Local Clustering, The Impact of Statistical Thinking in Economics and Life Sciences (workshop), Bocconi University, Milano, Italy, September 2012.

A Nonparametric Bayesian Model for Local Clustering, Bayesian Nonparametrics, ICERM, Brown University, September 2012.

A Time-Series DDP for Functional Proteomics Profiles, 8th World COngress in Probability and Statistics, Istanbul, Turkey, July 2012.

A Bayesian Graphical Model for ChIP-Seq Data on Histone Modifications, ISBA World Meeting, Kyoto, Japan, June 2012.

A Nonparametric Bayesian Model for Local Clustering, Biometric Society (WNAR), Fort Collins, CO, June 2012.

A Bayesian Graphical Model for ChIP-Seq Data on Histone Modifications, Biometric Society (ENAR), Washington DC, March 2012.

A Bayes Rule for Subgroup Reporting, 5th Annual Bayesian Biostatistics Conference, M.D. Anderson Cancer Center, Houston, TX, January 2012.

Diseños adaptativos para ensayos cl´ínicos: oportunidades y desaf´íos para los métodos Bayesianos, III Latin Americal Meeting on Bayesian Statistics (COBAL), Pucon, Chile, October 2011.

Bayesian decision theoretic MCP: application to phage display data, 7th International Conference on Multiple Comparison Procedures, Washington, DC, September 2011.

Sequential stopping for high-throughput experiments, Optimal design for mixed effects non-linear and generalised linear models, Isaac Newton Institute, U.K., August 2011.

Bayesian decision theoretic multiplicity control – an applicatoin to phage display data, Hierarchical Models and Markov Chain Monte Carlo, Crete, Greece, June 2011.

Random Partition Models – BNP and Random Clustering, 8th Workshop on Bayesian Nonparametrics, Veracruz, Mexico, June 2011.

A Dependent Polya Tree Model: Bayesian Nonparametric Survival Regression, 8th ICSA International Conference: Frontiers of Interdisciplinary and Methodological Statistical Research, Guangzho, China, December 2010.

A Bayesian Discovery Procedure, Adaptive Deisgns and multiple testing procedures workshop, Vienna, Austria, September 2010.

A Nonparametric Bayesian Approach to Biomarker Discovery, Joint Statistical Meetings, Vancouver, Canada, August 2010.

Nonparametric Bayes for population PK/PD, Workshop on semiparametric Bayesian inference: applications in pharmacokinetics and pharmacodynamics, SAMSI, RTP, NC, July 2010.

Modeling dependent gene expression, Annual ICSA Applied Statistics Symposium, Indianapolis, IN, June 2010.

Modeling Dependent Gene Expression, Workshop on Model Unvertainty, CRISM, Warwick, UK, May 2010.

Bayesian Clustering with Regression, Conference on Nonparametric Statistics and Statistical Learning, Columbus, OH, May 2010.

Borrowing strength with non-exchangeable priors over subpopulations, ENAR, New Orleans, March 2010.

Covariate-Dependent Bayesian Clustering – PPMx, Workshop on Mixture Estimation and Applications, ICMS, Edinburgh, UK, March 2010.

107 invited talks at conferences and workshops, 1989–2009.

**Invited Departmental Seminars (2010 – present)**

Reciprocal Graphical Models for Integrative Gene Regulatory Network Analysis, Johns Hopkins University, Baltimore, MD, April 2017.

Bayesian Inference for Latent Biologic Structure with Determinantal Point Processes (DPP), Pennsylvania State University, March 2017.

Dynamic treatment regimes - Nonparametric Bayes for causal inference, Vanderbilt University, Nashville, December 2016.

Reciprocal Graphical Models for Integrative Gene Regulatory Network Analysis, Seoul National University, Seoul, Korea, November 2016.

Reciprocal Graphical Models for Integrative Gene Regulatory Network Analysis, PhD/Post Doc workshop at Klaekken, University in Oslo, September 2016.

Nonparametric Bayes & Biostatistics, University in Oslo, November 2016.

Bayesian Inference for Latent Biologic Structure with Determinantal Point Processes, UC Irvine, May 2016.

Dynamic treatment regimes - Nonparametric Bayes for causal inference, UNC Chapel Hill, NC, March 2016.

A Bayesian Feature Allocation Model for Tumor Heterogeneity, U. Conneticut, Storrs, CT, April 2015.

A Bayesian Feature Allocation Model for Tumor Heterogeneity, NIH/NICHD, Rockville, MD, November 2014.

A Bayesian Feature Allocation Model for Tumor Heterogeneity, Yale University, New Haven, CT, October 2014.

A Bayesian Feature Allocation Model for Tumor Heterogeneity, Emory University, September 2014.

A Bayes rule for subgroup reporting with an application in a population finding design, Grand Rounds talk, UTSW/Parkland Hospital, Dallas, TX, June 2014.

A Bayes Rule for Subgroup Reporting  Adaptive Enrichment Designs, University of Chicago, May 2014.

A Bayesian Feature Allocation Model for Tumor Heterogeneity, Univ. of South Carolina, Columbia, SC, March 2014.

Bayesian Subgroup finding by Stochastic Optimization, Univ. of South Carolina, Columbia, SC, March 2014.

A Bayes rule for subgroup reporting – Bayesian adaptive enrichment designs, Johns Hopkins University, Baltimore, MD, November 2013

A Nonparametric Bayesian Model for Local Clustering with Application to Proteomics, Purdue University, West Lafayette, IN, October 2013.

A Nonparametric Bayesian Model for Local Clustering, U. Torino, Italy, July 2013.

Bayesian Dose-Finding in Two Treatment Cycles Based On the Joint Utility of Efficacy and Toxicity, Novartis, Basel, June 2013.

A Nonparametric Bayesian Model for Local Clustering with Application to Proteomics, April 2013.

A Nonparametric Bayesian Model for Local Clustering, University of Oslo, Norway, March 2013.

A Nonparametric Bayesian Model for Local Clustering, McGill University, Canada, November 2012.

Nonparametric Bayesian Inference, University of Northern Illinois, October 2012.

A Nonparametric Bayesian Model for Local Clustering, Duke University, October 2012.

A Bayes Rule for Subgroup Reporting, Brigham Young University, March 2012.

Bayesian Clustering with Regression, U. of Illinois, Urbana-Champaign, February 2012.

Semiparametric Bayesian inference for phage display experiments, PUC, Santiago, Chile, May 2011.

Bayesian Approaches to Multiple Testing, Humboldt Universität Berlin, Germany, October 2010.

Bayesian Clustering with Regression, Technische Universität Dortmund, Germany, November 2010.

Innovative Planung von Klinischenen Studien, Technische Universität Dortmund, Germany, November 2010.

A Dependent Polya Tree Model: Bayesian Nonparametric Survival Regression, Bristol University, June 2010.

Bayesian Clustering with Regression, Johns Hopkins University, March 2010.

A Dependent Polya Tree Model: Bayesian Nonparametric Survival Regression, UT Austin, March 2010.

Modeling Dependent Gene Expression, Bocconi University, Milano, Italy, March 2010.

A Dependent Polya Tree Model: Bayesian Nonparametric Survival Regression, UC Bekely, January 2010.

93 invited departmental seminars, 1995-2010.

**Contributed Talks and Posters at Conferences and Workshops (2001 – present)**

Nonparametric Bayes for causal inference - Dynamic treatment regimes, 11th International Workshop Objective Bayes Methodology, Valencia, Spain, June 2015.

A Bayesian Subgroup Analysis with a Zero-Enriched Polya Urn Scheme, ROeS (Austrian Swiss Region of the Biometric Society), Linz, Austria, September 2009.

Borrowing strength with non-exchangeable priors across subpopulations, Biometric Society/EMR, Istanbul, May 2009.

Semiparametric Bayesian Inference for Multilevel Repeated Measurment Data, Congreso Bayesiano de América Latina COBAL2, Los Cabos, Mexico, February 2005.

Borrowing Strength: Incorporating Information from Early Phase Cancer Clinical Studies into the Analysis of Large, Phase III Cancer Clinical Trials. Case Studies in Bayesian Stats Workshop VI, Pittsburgh, 2001.

17 contributed talks and posters, 1989–2001.

**Other Talks (2013 – present)**

A Nonparametric Bayesian Model for Local Clustering with Application to Proteomics, UT Austin Undergraduate Mathematics Society, October 2013.

Statistics In Clinical Trial Design, Saturday Morning Math Group, UT Austin, February 2013.

## CONFERENCE AND WORKSHOP ORGANIZATION

2007 – present.

*Scientific committee:* O'Bayes, Austin, TX (2017); Bayesian nonparametric inference: dependence structures and their applications, BIRS, Oaxaca, Mexico (2017); Shortcourses (ISBA World Meeting), Cagliari, Italy (2016); Bayesian Biostatistics 2014, Zuerich, Switzerland (2014); Bayesian Biostatistics and Bioinformatics Conference Houston (2014); Conference on Bayesian nonparametrics, Amsterdam, Netherlands (2013); ISBA 2012 World Meeting on Bayesian Statistics, Kyoto, Japan (2012); Bayesian nonparametric inference, Veracruz, Mexico (2011); Design of Experiments in Healthcare, Isaac Newton Institute, Cambridge, U.K. (2011); MCMSki, Salt Lake City, Utah (2011); Frontiers of Statistical Decision Making and Bayesian Analysis, San Antonio, TX (2010); ISBA 2010 World Meeting on Bayesian Statistics, Valencia, Spain (2010); Semiparametric Bayesian Inference: Applications in Pharmacokinetics and Pharmacodynamics, SAMSI, Durham, NC (2010); Bayesian nonparametric inference, Torino, Italy (2009); MCMSki, Bormio, Italy (2008); Encontro Brasileiro de Estatistica Bayesiana, Maresias, SP, Brazil (2008); 8th ISBA World Meeting on Bayesian Analysis, Hamilton Island, Australia (2008); Bayesian Nonparametric Regression, Isaac Newton Institute, Cambridge, U.K. (2007); Bayesian inference in stochastic processes, Valencia, Spain (2007).

*Organizing Committee:* O'Bayes, Austin, TX (2017); Bayesian nonparametric inference: dependence structures and their applications, BIRS, Oaxaca, Mexico (2017); Design of Experiments in Healthcare, Isaac Newton Institute, Cambridge, U.K. (2011); Frontiers of Statistical Decision Making and Bayesian Analysis, San Antonio, TX (2010); Semiparametric Bayesian Inference: Applications in Pharmacokinetics and Pharmacodynamics, SAMSI, Durham, NC (2010); Bayesian Nonparametric Regression, Isaac Newton Institute, Cambridge, U.K. (2007).

## EDITORIAL SERVICE

Associate editor for *Journal of the American Statistical Association* (2002-2005; 2012-2017), *Biometrics* (2001-2004), *Statistical Science* (2005 – current), *Sankhyā* (2009 – current).
Guest editor for *Bayesian Analysis*, *Statistical Modeling: International Journal*, *Statistics and Computing*, *Biometrical Journal*.
Frequent referee for other statistics journals.

## OTHER EXTRAMURAL SERVICE

Chair, 2018, ISBA/BNP, chair-elect 2017, past-chair 2019.

Secretary, ISBA/BioPharm (International Society for Bayesian Analysis, Section on Biostatistics and Pharmaceutical Statistics), 2012-14.

President, ISBA (International Society for Bayesian Analysis), 2010, President-Elect 2009, Past-President 2011.

Treasurer, ISBA (International Society for Bayesian Analysis), 2002-2004. Program vice-chair, 2007-2008.

Program Chair, ASA/SBSS (American Statistical Association, Section on Bayesian Statistical Science), 2004.

Board of directors, ISBA, 2005-2007.

Service on NIH and NSF review panels: member NIH/BMRD (2006-2010); ad-hoc member in various study groups.

National Research Council, Committee on Human Health Risks of Trichlorethylene, 2005.

## GRADUATE STUDENTS

1991–present: Committee member on 4 M.Sc. committees and 20 Ph.D. committees. Advisor to three M.Sc. students and seven Ph.D. students.

*Ph.D. students supervised:*

Daiane Zuanetti, Ph.D. student, mentor for thesis research, UFSCar, Sao Carlos, 2016.

Tianjian Zhou, Ph.D. student, UT Austin, 2017, "Bayesian Nonparametric Models for Biomedical Data Analysis", currently Northshore Hospital, Chicago, IL.

Carlos Pagani Zanini, Ph.D. student, UT Austin, current.

Lorenzo Trippa, Ph.D. student, "Nonparametric Bayesian inference", mentor for thesis research, U. Bocconi, Milano, 2009, currently Dana Faber Cancer Center, Boston, MA.

Luis Gonzalo Leon Novelo, Ph.D., 2009. "Random probability measures under order constraints.", currently UT SPH, Houston, TX.

Rossell, D., Ph.D. student, "Optimal sequential design," 2006, currently U. Warwick, U.K.

Zhang, Q., Ph.D., "Bayesian joint modeling of longitudinal and survival data," 2005.

Yang, Y., Ph.D., "Repeated fractional data models," 2004, currently, FDA.

Zhou, X., Ph.D. student, "Longitudinal ordinal data," 2005.

M. Liechty, Ph.D., "Modeling variance-covariance matrices," 2003, currenltly Drexel University, PA.

M. Liu, M.Sc., "Option Pricing with Neural Networks," 1995.

S. Liu, M.Sc., "Variable selection in a logistic regression model", May 1998.

H. Wang, M.Sc., "Bayesian Neural Networks in Sociology", August 1999.

H. Lopes, Ph.D., "Bayesian Analysis in Latent Factor and Longitudinal Models," joint advisor with M. West, June 2000, currently Insper, Sao Paulo, Brazil.

*External reader/committee member* for Ph.D. students:

Sharmita Kar, Benares Hindu University, 2003.

Roberto Casarin, University of Venice, 2004.

Stefanos Giakoumatos, Athens University of Economics and Business, 2004.

Billy Amzal, Université Paris-Dauphine, 2005.

Manuela Buzoianu, Carnegie Mellon University, 2005.

Esther Salazar, UFRJ, 2008.

*Postdoctoral fellows* mentored:

Yanxun Xu, 2013 – 2015, currently JHU, MD.

Juhee Lee, 2010 – 2013, currently, UCSC, CA.

Riten Mitra, 2010 – 2013, currently U. Louisville, KY.

Lorenzo Trippa, 2009, currently Dana Faber Cancer Center, MA.

Donatello Telesca, 2007-2009, currently UCLA, CA.

Michele Guindani, 2005-2007, currently UT MD Anderson, Houston, TX.

Song Zhang, 2005-2007, now at UT Southwest Medical Center.

Roberto Carta, 2002-2004, now at University of Central Florida, Orlando, FL.

Feng Tang, 2002-2004, now at Medtronic, Minneapolis, MN.

Raquel Montes, visiting postdoc summer 2002, now at URJC, Madrid.

## COURSES TAUGHT

Introductory courses in probability and statistics at undergraduate level: for social science majors; for mathematics majors; for engineering majors.

Advanced mathematical statistics for graduate students (Textbook – Gelman, Carlin, Stern and Rubin).

Applied probability models and uses in statistical analysis.

Nonparametric Bayesian Inference

Experimental design for non-statistics graduate students (Textbook – Montgomery).

Scientific computing (Textbooks – Thisted, Tanner).

Monte Carlo simulation in statistics

Linear models

Special topics courses: Model mixtures and mixture models; Model comparisons and default methods (independent study); Bayesian optimal design (independent study); Bayesian econometrics (independent study); Time series (independent study, undergraduate); Simulation in statistics (in German), at the University of Basel; Markov chain Monte Carlo simulation, at CNR-IAMI, Milano.

**Short courses:**

Non-parametric Bayesian data analysis (in Spanish, Universidad Simon Bolivar, Caracas, Venezuela, 2001)

Bayesian clinical trial design (Joint Statistical Meeting, Minneapolis, MN, 2005)

Markov chain Monte Carlo simulation (in Spanish, Foro Nacional, Guanajuato, Mexico, 2005)

Bayesian Decision Problems in Biostatistics and Clinical Trials (Applied Bayesian Summer School, Trento, Italy, June 2008).

Nonparametric Bayesian inference, Universidade de Lisboa (2010)

Bayesian Adaptive Methods for Clinical Trials, International Conference on Health Policy Statistics, Washington, DC, 2010.

Bayesian clinical trial design (Frontiers of Statistical Decision Making and Bayesian Analysis, San Antonio, TX, 2010).

Nonparametric Bayesian inference, CBMS regional conferene, UCSC, Santa Cruz, CA, August 2010.

Nonparametric Bayesian Inference, ASA/SBSS Webinar, March 2013.

Bayesian Biostatistics, University of Zürich, Zürich, Switzerland, June 2013.

Nonparametric Bayesian Inference, Uncertainty Quantification Summer School USC, Los Angeles, CA, August 2013.

Nonparametric Bayesian Inference, 3rd Workshop on Bayesian Inference for Latent Gaussian Models, Reykjavik, Iceland, September 2013.

Nonparametric Bayesian data analysis, ENAR, Baltimore, MD, March 2014.

Bayesian Biostatistics (in Spanish), Latinamerican School of Bayesian Statistics, Chetumal, Mexico, July 2014

Nonparametric Bayesian data analysis, UFMG, Belo Horizonte, Brasil, August 2014.

Nonparametric Bayesian data analysis, JSM, Boston, MA, August 2014.

Nonparametric Bayesian models, Machine Learning Summer School, UT Austin, TX, January 2015.

Bayesian biostatistics – subgroup analysis and design of clinical trials, New England Statistics Symposium, Storrs, CT, April 2015.

Adaptive Methods in Modern Clinical Trials, JSM, Chicago, IL, August 2016.

Frequentist and Bayesian adaptive Methods in Modern Clinical Trials, JSM, Baltimore, MD, August 2017.