

CURRICULUM VITAE

J. Sunil Rao, Ph.D.

1. *Date:* 3/16/2021

I. Personal

2. *Name:* J. Sunil Rao, Ph.D.,

3. *Office Phone:* 305-243-4252

4. *Address:* 1120 NW 14 Street, # 1056, Miami, FL 33136

5. *Current Academic Rank:*

2016-2019 **Interim Chair**, Department of Public Health Sciences University of Miami

2016-2018 **Program Co-Leader**, Department of Public Health Sciences University of Miami

2010+ **Professor and Director**, Division of Biostatistics, Department of Public Health Sciences University of Miami

2010+ **Adjunct Professor**, Division of Biostatistics, Department of Epidemiology and Biostatistics Case Western Reserve University

5A. *Current Track of Appointment:* Tenured Full Professor

6. *Primary Department:* Department of Public Health Sciences

7. *Secondary or Joint Appointment:* None

II. Higher Education

8. *Institutional:*

1991–1994 **Ph.D., Biostatistics** [Advisor: Rob Tibshirani]
University of Toronto

1989–1991 **M.S., Biostatistics** [Advisor: James Neaton]
University of Minnesota

1985-1989 **B.Sc, Biology**
University of Ottawa

9. *Non-Institutional:*

10. *Certification and Licensure:*

III. Experience

11. *Academic:*

- | | |
|-----------|---|
| 2010 | Professor , Division of Biostatistics Department of Epidemiology and Biostatistics Case Western Reserve University |
| 2008–2010 | Director , Division of Biostatistics, Department of Epidemiology and Biostatistics Case Western Reserve University |
| 2006–2009 | Associate Professor , (with tenure, School of Medicine), Department of Epidemiology and Biostatistics, Divisions of Biostatistics and Genetic and Molecular Epidemiology Case Western Reserve University |
| 2004–2005 | Associate Professor , Department of Epidemiology and Biostatistics Division of Genetic and Molecular Epidemiology Case Western Reserve University |
| 2003–2010 | Adjunct Associate Professor , Department of Statistics (Secondary appt.) Case Western Reserve University |
| 2003–2010 | Program Faculty , Cancer Genetics Research Program Ireland Cancer Center Case Western Reserve University |
| 2003–2005 | Associate Professor , Department of Epidemiology and Biostatistics Division of Biostatistics Case Western Reserve University, |
| 1998–2002 | Assistant Professor (School of Medicine 9 year tenure clock began 1998), Department of Epidemiology and Biostatistics Division of Biostatistics Case Western Reserve University, |
| 1994–1998 | Assistant Professor , Department of Biostatistics Cleveland Clinic Foundation, |

12. *Hospital Appointments:* N/A

13. *Non- Academic:* N/A

14. *Military:* N/A

IV. Publications

***indicates alphabetical order**

#indicates with a doctoral student or trainee

92. Jiang, J., Nguyen, T. and **Rao, J.S.** (2021). Quantifying the uncertainty in classified mixed model predictions. Submitted.
- #91. **Rao, J.S.**, Kobetz, E., Yu, H. , Baeker-Bispo, J. and Bailey, Z. (2021). Partially recursively induced structured moderation (PRISM) for better understanding racial differences in endometrial cancer survival. *PLOS ONE* (conditionally accepted).
- #90. Alnajar, A., **Rao, J.S.**, Messinger, S.M. and Lamelas, J. (2021). Commentary: Battle of the bioprosthetic valve blood thinners. *Journal of Thoracic and Cardiovascular Surgery* (to appear).
- #89. Liu, T., Diaz, D., **Rao, J.S.** and Dazard, J.E. (2021). Mode hunting using pettiest components analysis. Submitted.
88. Diaz, D. and **Rao, J.S.** (2021). A simple correction for COVID-19 sampling bias. *Journal of Theoretical Biology*, 512: 110556.
87. **Rao, J.S.**, Zhang, H., Aldrich, M. and Conway, D. (2021). Predicting the genetically controlled portion of DNA methylation from racially diverse yet sparse genotyping data. *Genomics*, 113: 1018-1028.
86. Chakravarthy, R., Stallings, S., Velez-Edwards, R.D., Zhao, K.S., Conway, D., **Rao, J.S.**, Aldrich, M., Kobetz, E. and Wilkins, C.H. (2020). Determinants of stage at diagnosis of HPV-related cancer including area deprivation and clinical factors. *Journal of Public Health* (to appear).
- #85. **Rao, J.S.**, Li, M. and Jiang, J. (2020). In search of more accurate mied model projections. Submitted.
84. Van Booven, D., Li, M., **Rao, J.S.**, Blokhin, I.O., Mayfield, D., Barbier, E., Hellig, M. and Wahlestedt, D. (2020). Alcohol use disorder causes global changes in splicing in human brain. *Translational Psychiatry* (to appear).
- #83. **Rao, J.S.**, Zhang, H. and Mantero, A. (2020). Contextualizing COVID-19 spread: a county-level analysis, urban versus rural and implications for preparing for the next wave. *F1000Research* (to appear).
82. Diaz, D., Saenz, J. and **Rao, J.S.** (2020). Hypothesis testing using active information. *Statistics and Probability Letters*, 161 108742.
- #81. Van Booven, D., Blokhin, I.O., Li, M., Argemi, J., Bataller, R., Mayfield, D., Barbier, E., Heilig, M., **Rao, J.S.** and Wahlestedt, C. (2019). Alcohol use disorder causes global changes in gene expression and splicing in the liver. Submitted.
- #80. Li, M. and **Rao, J.S.** (2019). High dimensional classified mixed model prediction. Submitted.

79. Janczura, K.J., Volmar, G.C., **Rao, J.S.**, Ricciardi, N.R., Lambert, G., Brothers, S.P. and Wahlestedt, C. (2018). Inhibition of HDAC3 reverses Alzheimer's disease-related pathologies in vitro and in the 3xTg-AD mouse model. *PNAS* 115 E11148-E11157.
- #78. **Rao, J.S.**, Yu, H. and Dazard, J.E. (2019). Disparity subtyping: bringing precision medicine closer to disparity science. Submitted.
- #77. **Rao, J.S.** and Yu, H. (2019). Social penetrance: an analog to genetic penetrance for contextual social determinants of health. Submitted.
- *76. Jiang, J. and **Rao, J.S.**, (2020). Robust methods for small area estimation (invited). *Annual Review of Statistics and Its Application*, 7: 337-360.
- #75. Liu, H. and **Rao, J.S.** (2020). Precision therapeutic biomarker modeling for cancer. *Statistics in Medicine*, 39: 4301-4324
- #74. Hu, S. and **Rao, J.S.**, (2018). Improved prediction using censoring constraints for sparse high dimensional AFT models. Submitted.
73. **Rao, J.S.** (2018). Observed best prediction in small area estimation: a review. *Statistics and Applications* 16: 305-314.
72. Diaz, D., Saenz, J., **Rao, J.S.** and Dazard, J.E. (2019). Mode hunting through active information. *Applied Stochastic Models in Business and Industry*, 35: 376-393.
71. **Rao, J. S.**, Kobetz, E. and Coppede, F. (2017). Methylation modeling of the one-carbon metabolism pathway using prism regression. Submitted.
- *70. Jiang, J., **Rao, J.S.**, Fan, J. and Nguyen, T. (2018). Classified mixed model prediction. *Journal of the American Statistical Association* 113 269-279.
- #69. **Rao, J.S.** and Liu, H. (2017). Discordancy partitioning for validating potentially inconsistent pharmacogenomic studies. *Scientific Reports*, 7: 15169
- #68. Liu, H. and **Rao, J.S.** (2017). Prediction weighted maximum frequency selection. *Electronic Journal of Statistics* 11 640-681.
- #67. **Rao, J.S.** and Fan, J. (2017). Imputation of area-level covariates by registry linking.. *Handbook of Statistics Vol 36, Disease Modeling and Public Health*, Eds A.S.R. Rao, S. Pyne and C.R. Rao, Elsevier, North-Holland, Amsterdam 3-21.
- #66. **Rao, J.S.**, Fan, J., Kobetz, E., and Sussman, D. (2017). Something borrowed, something new: precise predictions of outcome using diverse genomic profiles.. *Springer Special Volume on Mathematical and Statistical Applications in Biology, Engineering, Environment and Information Science*. 193-208.
65. Diaz, D., **Rao, J.S.** and Dazard, J.E. (2017). Unsupervised bump hunting using principal components. *Springer Special Volume on Big and Complex Data Analysis: Statistical Methodologies and Applications* 325-345.
64. Dazard, J.E., Choe, M., Leblanc, M., and **Rao, J.S.** (2016). Cross-validation and Peeling Strategies for Survival Bump Hunting using Recursive Peeling Methods. *Statistical Analysis and Data Mining* 9 12-42.

- *63. Jiang, J., Nguyen, T. and **Rao, J.S.** (2015). The E-MS algorithm: model selection with incomplete data. *Journal of the American Statistical Association* 110 1136-1147.
- *62. Ishwaran, H. and **Rao, J.S.** (2014). Geometry and properties of generalized ridge regression in high dimensions. *Contemporary Mathematics* 62 82-93.
- *61. Diaz, D., **Rao, J.S.** and Dazard, J.E. (2014). On the explanatory power of principal components. arXiv:1404.4917v1.
- *60. Jiang, J., Nguyen, T. and **Rao, J.S.** (2014). Observed best prediction via nested-error regression and estimation of design-based MSPE for small area estimation. *Survey Methodology* 41 37-55.
- *59. Dazard, J.E., **Rao, J.S.** and Markowitz, S. (2012). Local sparse bump hunting reveals molecular heterogeneity of colon tumors. *Statistics In Medicine* 31 1203-1220.
- *58. Dazard, J.E. and **Rao, J.S.** (2012). Joint mean-variance regularization and variance stabilization of high dimensional data. *Computational Statistics and Data Analysis* 56 2317-2333.
- 57. Dazard, J.E., **Rao, J.S.**, Xu, H. and Santana, A.H. (2011). MVR: An R package for non-parametric joint adaptive mean-variance regularization and variance stabilization of high dimensional data. cran.r-project.org/web/packages/MVR/index.html.
- *56. Ishwaran, H. and **Rao, J.S.** (2011). Consistency of spike and slab regression. *Statistics and Probability Letters* 81 1920-1928.
- *55. Jiang, J., Nguyen, T. and **Rao, J.S.** (2011). Invisible fence methods and the detection of differentially expressed gene sets. *Statistics and Its Interface* 4 403-415.
- *54. Jiang, J., Nguyen, T. and **Rao, J.S.** (2011). Best predictive small area estimation. *Journal of the American Statistical Association* 106 732-745.
- #53. Younkin, S. and **Rao, J.S.** (2011). The LDLASSO: An R package for case-control genetic association studies. cran.r-project.org/web/packages/ldlasso.
- 52. Gray, J., Nakouzi, G., Slowinska, B., Dazard, J.E., **Rao, J.S.**, Nadeau, J.H., and Ross, M.E. (2010). Functional interactions between LRP6 WNT co-receptor and folate supplementation. *Human Molecular Genetics* 19 4560-4572.
- *51. Ishwaran, H., Kogalur, U. and **Rao, J.S.** (2010). spikeslab: prediction and variable selection using spike and slab regression. *R Journal* 2 68-73 (cran.r-project.org/web/packages/spikeslab/index.html).
- #50. Xing, G. and **Rao, J.S.** (2010). Lassoing mixtures with applications to proteomic mass spectroscopy analysis. *Journal of the Indian Society of Agricultural Statistics* 64 61-76.
- #49. Xing, G. and **Rao, J.S.** (2010). A simple method for Bayesian robust estimation. *Journal of the Indian Society of Agricultural Statistics* 64 243-253.
- *47. Jiang, J., Nguyen, T. and **Rao, J.S.** (2010). Fence methods for nonparametric small area estimation. *Survey Methodology* 36 3-11.

46. Northcutt, P., Nakahara, Y., Peacock, J., Ellison, D., Croul, S., Feuk, L., Ra, Y-S., Kongkham, P., Zilberberg, K., Mack, S., McLeod, J., Scherer S., **Rao, J.S.**, Grajkowska, W., Gillespie, Y., Lach, B., Grundy, R., Pollack, I., Hamilton, R., Van Meter, T., Carlotti, C., Boop, R., Bigner, D., Gilbertson, R., Rutka, J., and Taylor, M.D. (2009). Multiple recurrent genetic events converge on control of histone lysine methylation in medulloblastoma. *Nature Genetics* 41 465-472.
- *45. Jiang, J., Nguyen, T, and **Rao, J.S.** (2008). A simple adaptive fence procedure for mixed model selection. *Statistics and Probability Letters* 79 1669-1692.
- *44. Ishwaran, H. and **Rao, J.S.** (2008). Clustering gene expression profiles using selective shrinkage. *Statistics and Probability Letters* 28 2273-2283.
43. **Rao, J.S.**, Kanaram, S., McCabe, C. and Moreno, C.S. (2008). Global promoter analysis of the human genome identifies functional gene clusters. *Advances in Bioinformatics* Article ID: 369830.
- *42. Jiang, J.*, **Rao, J.S.***, Zhonghua, G. and Nguyen, T. (2008). Fence methods for mixed model selection. *Annals of Statistics* 36 1669-1692.
- *41. Dey, T., Ishwaran, H. and **Rao, J.S.** (2008). An in-depth look at highest posterior model selection. *Econometric Theory* 24 377-403.
- *40. Cartier, K.C.*, Miscimarra, L., Dazard, J.E., Iyengar, S.K. and **Rao, J.S.*** (2007). Studying the genetic determinants of natural variation of human gene expression using Bayesian ANOVA. *BMC Proceedings* 1 S115.
- *39. Ishwaran, H. and **Rao, J.S.** (2007). Java software for Bayesian ANOVA of microarray data. BAMarray 3.0 User's Manual.
- #38. Diaz, M. and **Rao, J.S.** (2007). Computer-aided detection of tumors using bootstrap ensembles. *Pattern Recognition Letters* 28 2273-2283.
- #37. Hu, S. and **Rao, J.S.** (2007). Statistical redundancy testing for improved gene selection for cancer classification. *Cancer Informatics* 2 29-41.
- *36. Ishwaran, H., **Rao, J.S.** and Kogalur, U. (2006). BAMarray: Java software for Bayesian analysis of variance for microarray data. *BMC-Bioinformatics* 7:59
35. Chen, W.D., Han, Z.J., Skoletsky, J., Olson, J., Sah, J., Myeroff, L., Platzer, P., Lu, S., Dawson, D., Willis, J., **Rao, J.S.**, Pretlow, T.P., Lutterbaugh, J., Kasturi, L., Willson, J.K.W., Shuber, A., Markowitz, S.D. (2005). Detection in fecal DNA of colon cancer specific methylation of the non-expressed vimentin gene. *Journal of the National Cancer Institute* 97 1124-1132.
- *34. Ishwaran, H. and **Rao, J.S.** (2005). Spike and slab gene selection for multigroup microarray data. *Journal of the American Statistical Association* 100 764-780.
- *33. Ishwaran, H. and **Rao, J.S.** (2005). Spike and slab variable selection: frequentist and Bayesian strategies. *Annals of Statistics* 33 730-773.
- #32. Fu, P. and **Rao, J.S.** (2004). On a simple method for analyzing multivariate survival data using sample survey methods. *Journal of Modern Applied Statistical Methods* 3 345-356.
- *31. Ishwaran, H. and **Rao, J.S.** (2003). Discussion to "Frequentist model average estimators" and "The focussed information criteria" by Hjort, N. and Claeskens, G. *Journal of the American Statistical Association* 98 922-924.

- *30. Jiang, J. and **Rao, J.S.** (2003). Consistent procedures for mixed linear model selection. *Sankhya A* 65 23-42.
- *29. Ishwaran, H. and **Rao, J.S.** (2003). Detecting differentially expressed genes in microarrays using Bayesian model selection. *Journal of the American Statistical Association* 98 438-455.
- #28. **Rao, J.S.** and Li, J. (2003). Statistical Methods for chip calibration and saturation effects in antibody-spiked gene expression data. *Respiration Biology and Neurophysiology - Special Issue on Functional Genomics* 135 109-120.
- #27. Fu, P., **Rao, J.S.** and Jiang, J. (2002). Time modulated frailty models for multivariate survival data. *Journal of Modern Applied Statistical Methods* 1 367-378.
26. Porter, J.D., Khanna, S., Kaminski, H.J., **Rao, J.S.**, Merriam, A.P., Richmonds, C.R., Leahy, P. and Andrade, F. (2002). A chronic inflammatory response dominates the skeletal muscle molecular signature in dystrophin-deficient mice. *Human Molecular Genetics* 11 263-280.
- *25. **Rao, J.S.** and Bond, M. (2001). Microarrays: managing the data deluge. *Circulation Research* 88, 1266-1267.
24. Hao, X.P., Pretlow, T.G., **Rao, J.S.**, Pretlow, T.P. (2001). Inducible nitric oxide synthase (iNOS) is expressed similarly in multiple aberrant crypt foci and colorectal tumors from the same patient. *Cancer Research* 61 419-422.
23. Porter, J.D., Khanna, S., Kaminski, H.J., **Rao, J.S.**, Merriam, A.P., Richmonds, C.R., Leahy, P. and Andrade, F. (2001). Extraocular muscle is defined by a fundamentally distinct gene expression profile. *PNAS* 21 12062-12067.
22. Peacock, W.F., Emmerman, C.L., McErlean, E.S., DeLuca, S.A., Van Lente, F., Lowrie, M., **Rao, J.S.**, and Nissen, S.E. (2001). Normal CK with elevated MB predicts increased complication rate in patients with suspected acute coronary syndromes. *Journ. of Emerg. Med.* 20 385-390.
21. Colin, A., **Rao, J.S.**, Chen, X.C., Hunter, J., Hanrahan, J., Hiatt, P., Kattan, M., Koumbourlis, A., Mellins, R.B., Platzker A.C.G., Ting, A., Steinbach, S., and Wohl, M.E. (2001). Forced expiratory flow in uninfected infants and young children born to HIV infected mothers. *Am. Journ. of Crit. Care and Resp. Med.* 63 865-873.
20. Norton, K.I, Kattan, M., **Rao, J.S.**, Cleveland, R., Trautwein, L, Mellins, R.B., Berdon, W., Boechat, M.I., Wood, B., Meziame, M., and Platzker, A. (2001). Chronic radiographic lung changes in children with vertically transmitted HIV-1 infection. *American Journal of Radiology* 176 1553-1558.
- *19. Shao, J. and **Rao, J.S.** (2000). The GIC for model selection: A hypothesis testing approach. *Journal of Statistical Planning and Inference* 88 215-231.
18. **Rao, J.S.** (2000). Bootstrapping to assess and improve atmospheric prediction models. *Journal of Data Mining and Knowledge Discovery* 4 29-41.
17. Peacock, W.F., Emmerman, C.L., McErlean, E.S., DeLuca, S.A., Van Lente F., **Rao, J.S.**, and Nissen, S.E. (2000). Prediction of short and long term outcomes by troponin-t levels in low-risk patients evaluated for acute coronary syndromes. *Annals of Emergency Medicine* 35 213-220.

16. Hao, X.P., Willis, J.E., Pretlow, T.G., **Rao, J.S.**, MacLennan, G.T., Talbot, I.C., and Pretlow, T.P. (2000). Loss of fragile histidine triad expression in colorectal carcinomas and premalignant lesions. *Cancer Research* 60 18-21.
15. McErlean, E.S., DeLuca, S.A., Van Lente, F., Peacock, F., Fares, M., **Rao, J.S.**, Balog, C.A., and Nissen, S.E. (2000). Comparison of troponin-t versus CK-MB in suspected acute coronary syndromes. *Journal of the American College of Cardiology* 85 421-426.
14. **Rao, J.S.** (1999). Bootstrap choice of cost complexity for better subset selection. *Statistica Sinica* 9, 273-288.
13. Tan, M., Qu, Y. and **Rao, J.S.** (1999). Sensitivity of the latent variable model for correlated binary data. *Biometrics* 55 25-31.
12. Abbud, R.A., Ameduri, R.K., **Rao, J.S.**, Nett, T.M., and Nilson, J.H. (1999). Chronic hypersecretion of lutenizing hormone in transgenic mice selectively alters responsiveness of the α subunit gene to gonadotropin-releasing hormone and estrogens. *Molecular Endocrinology* 13 1149-1159.
11. Van Lente, F., McErlean, E.S., DeLuca, S.A., Peacock, F., **Rao, J.S.**, and Nissen, S.E. (1999). Ability of troponins to predict adverse outcomes in patients with renal insufficiency and suspected acute coronary syndromes: a case-matched study. *Journal of the American College of Cardiology* 13 471-478.
- *10. **Rao, J.S.** and Potts, W.J.E. (1998). Stabilized classification trees. *Proceedings of the Sixth Conference of the International Federation of Classification Societies, Rome, Italy* pp 254-258
- *9. Berhane, K. and **Rao, J.S.** (1997). Automatic smoothing parameter selection in nonparametric models for longitudinal data. *Applied Stochastic Models and Data Analysis* 13 289-296.
- *8. Shen, S.Y. and **Rao, J.S.** (1997). Weight decay: a new regression shrinkage method. *Computing Science and Statistics* 29 488-491.
- *7. **Rao, J.S.** and Potts, W.J.E. (1997). Visualizing bagged decision trees. *Proceedings of the Third International Conference on Knowledge Discovery and Data Mining, Newport Beach, CA*, pp 243-246
- *6. **Rao, J.S.** and Tibshirani, R. (1997). Discussion to “ An asymptotic theory for linear model selection” by J. Shao. *Statistica Sinica* 2 249-252.
- *5. Wang, J., **Rao, J.S.** and Shao, J. (1997). The weighted-jackknife-after-bootstrap: a heuristic approach. *Proceedings of the 1997 Winter Simulation Conference, San Diego, CA*, pp 240-245
4. Pearce, K.A., Evans, G.W., Summerson, J. and **Rao, J.S.** (1996). Optimal blood pressure in the primary care office. *Journal of Family Practice* 45 426-433.
3. Pilote, L, Miller, D.P., Califf, R.M., **Rao, J.S.**, Weaver, W.D., and Topol, E.J. (1996). Determinants of the use of coronary angiography and revascularization after thrombolysis for acute myocardial infarction in the United States (special article). *New England Journal of Medicine* 335 1198-1205.
2. Lefkowitz, J., Malycky, J.L, **Rao, J.S.**, Hart, C.E., Plow, E.F., Topol, E.J. and Nicolini, F.A. (1995). Selective inhibition of factor Xa is more efficient than

factor VIIa-tissue factor complex blockade at facilitating coronary thrombolysis in the canine model. *Journal of the American College of Cardiology* 28 1858-1865.

1. Pearce, K.A., Grimm, R., **Rao, J.S.**, Svendsen, K., Liebson, P.R., Neaton, J.D. and Ensrud, K. (1992). Population-derived comparisons of ambulatory and office blood pressures: implications for the determination of usual blood pressure and the concept of white coat hypertension (with discussion). *Archives of Internal Medicine* 15 750-756.

15. *Books and Monographs Published:*

6. **Rao, J.S.** (2022). *Health Disparity Estimation*. CRC Press, London, UK.
- *5. Ishwaran, H. and **Rao, J.S.** (2009). Decision trees, advanced techniques in construction. *Encyclopedia of Medical Decision Making, Michael Kattan (Ed), Sage Publications* 327-332.
- *4. Ishwaran, H. and **Rao, J.S.** (2009). Decision trees, construction. *Encyclopedia of Medical Decision Making, Michael Kattan (Ed), Sage Publications* 323-327.
3. **Rao, J.S.** (2008). Book review of *Bayesian Inference for Gene Expression and Proteomics* by Do, Muller, and Vannucci. *Biometrics* 64 654-655.
2. **Rao, J.S.** (2003). Book review of *Regression Modeling Strategies* by Frank Harrell. *Journal of the American Statistical Association* 98 257-258.
- *1. **Rao, J.S.** and Potts, W.J.E. (2002). Multidimensional regression analysis. *Handbook of Data Mining and Knowledge Discovery, Willi Klogsen and Jan Zytko (Eds), Oxford University Press, pp* 380-386.

16. *Juried or Refereed Journal Articles or Exhibitions:*

17. *Other Works, Publications and Abstracts:*

18. *Other Works Accepted for Publication:*

TECHNICAL REPORTS

* alphabetically ordered authors with equal contributions

- *5. Ishwaran, H. and Rao, J.S. (2013). Mixing generalized ridge regressions. Technical report.
- *4. Hu, S.[†] and Rao, J.S. (2008). Sparse penalization with censoring constraints for Estimating high dimensional AFT models with applications to microarray data analysis. Technical report.
3. Younkin, S.[†], Nadeau, J., Elston, R., and Rao, J.S. (2011). The linkage disequilibrium LASSO for SNP selection in a genetic association study of late onset Alzheimer's disease. Technical report.
- *2. Ishwaran, H. and Rao, J.S. (2000). Bayesian nonparametric MCMC for large variable selection problems.
- *1. Rao, J.S. and Tibshirani, R. (1997). The out-of-bootstrap method for model averaging and selection.

V. Professional

19. *Funded Research Performed:*

[\$350,000] **Principal Investigator of UM Subcontract**; Overall PI is Melinda Aldrich, Vanderbilt University *Genomic determinants of lung cancer disparities in African Americans*, National Institutes of Health, 04/01/2020 - 03/31/2024, R01 CA253560.

[\$120,000] **Principal Investigator (MPI)** *Subject level prediction and application*, National Science Foundation, 09/01/2019 - 08/31/2022, DMS-1915976

[\$1,200,000] **Principal Investigator**, *Precision disparity modeling of biological and social determinants for cervical cancer survival* - R01 grant as part of larger U54 Center of Excellence grant (\$11.4 million) for Precision Medicine and Disparities (overall PI is Consulo Wilkins, Vanderbilt University), 05/19/2016-05/31/2021, U54 MD010722

[\$112,000] **Principal Investigator** - *Collaborative Research: Prediction and Model Selection for New Challenging Problems with Complex Data*, National Science Foundation, 06/2015-05/2018, DMS 1513266.

[\$1,000,000] **Principal Investigator** (Multiple PI with Jean-Eudes Dazard, CWRU), *Survival Bump Hunting for Finding Informative Subgroups in High Dimensional Data*, National Institutes of Health, 03/01/2013-02/28/2018, R01-CA160593A1.

[\$18,000,000 - for full CTSI] **Principal Investigator** (Co-Director of BERD) - *Miami Clinical and Translational Science Institute*, National Institutes of Health, 08/2012 - 07/2023, UL1-TR000460.

[\$100,000] **Principal Investigator** - *Collaborative Research: Best Predictive Small Area Estimation*, National Science Foundation, 10/2011-09/2014, SES 1122399.

[\$1,300,000] **Principal Investigator** (Multiple PI Grant with Jiming Jiang, UC-Davis) - *Fence Methods for Mixed Model Selection: Theory and Applications*, National Institutes of Health (General Medical Sciences), 04/2010-03/2015, RO1-GM085205.

[\$45,000] **Principal Investigator**, *Collaborative Research: Fence Methods for Complex Model Selection Problems*, National Science Foundation, 09/2008-08/2012, DMS 0806076.

[\$64,000,000] Co-Investigator (Director of the Biostatistics/Translational Methodology Research Group), *Case Western Reserve University/Cleveland Clinic Foundation Center for Clinical and Translational Research*, National Institutes of Health, 9/2007-6/2010, URR024989.

[\$600,000] Co-Investigator, *Mutation of Neuronal Differentiation Genes in Medulloblastoma*, (Principal Investigator is Michael Taylor), National Cancer Institute of Canada (NCIC) CCS Research Grant, 2007-2012.

[\$225,000] Co-Investigator, *Novel Molecular Markers of Human Colon Neoplasia*, (Principal Investigator is Sanford Markowitz), National Institutes of Health (NCI), 4/2006–3/2010, R01-CA120237.

[\$387,000] Co-Investigator, *Novel Mechanism of Action of a New Colon Cancer Tumor Suppressor Gene, HMTF*, (Principal Investigator is Sanford Markowitz), National Institutes of Health (NCI), 04/2006–03/2010, R01-CA0677409.

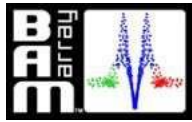
[\$10,000,000] Co-Investigator, *Case Center for Transdisciplinary Research on Energetics and Cancer (TREC)*, (Principal Investigator is Nathan Berger), National Institutes of Health (NCI), 6/2005–5/2010, U54-CA116867.

[] Primary Mentor, *Training in Computational Genomic Epidemiology of Cancer*, National Institutes of Health (NCI), 9/2002–07/2007, R25-CA094186.

[\$54,000] **Principal Investigator**, *Collaborative Research: Bayesian ANOVA for Microarrays*, National Science Foundation, 8/2004–07/2008, DMS-0405072.

[\$50,000] **Principal Investigator**, *Mixed Model Selection: Theory and Applications*, National Science Foundation, 6/2002–5/2006, DMS-0203724

[\$675,000] **Principal Investigator** (Career Award), *Models for the Molecular Classification of Tumors*, National Institutes of Health (NCI), 6/2001–5/2007, K25-CA89868.



[\$100,000] **Principal Investigator** (Technology Transfer Development Fund) *Software Development of BAMarray: Java Software for Multigroup Microarray Analysis*, CWRU Technology Transfer Office, 1/2004–2/2005. BAMarray™ Java software that implements the general methodology as applied to multigroup microarray studies is available for licensing from <http://ora.ra.cwru.edu/bamarray>. As of January 2007, we have over 350 laboratories using software from all over the world coming from academia, industry, and government.

[\$6,700,000] Co-Investigator, *Gene Expression for Colon Cancers that Metastasize*, (Principal Investigator was Sanford Markowitz), National Institutes of Health - NCI Director's Challenge Grant, 2000–2005, U01-CA88130.

[\$300,000] Co-Investigator, *Visual Sciences Research Center*, (Principal Investigator was John Porter), National Institutes of Health (supplement) (NEI), P30-EY011373, 2000–2003.

[\$138,000] Co-Investigator, *Human Aberrant Crypt Foci: Biomarkers for Colon Cancer*, (Principal Investigator was Theresa Pretlow), National Institutes of Health (NCI), R01-CA66725, 1996–2001.

[\$3,000,000] Co-Investigator (60% through 1998, 30% during 1999, 15% during 2000–2001), *Pediatric Pulmonary and Cardiovascular Complications of Vertically Transmitted Human Immunodeficiency Virus Infection*, (Principal Investigators were Mark Schluchter, Michael Kutner and Kirk Easley at various points in time), National Institutes of Health, N01-HR96037. 1997–2001.

RESEARCH FUNDING - Pending

Principal Investigator (MPI) R01: Disparity subtyping mixed models: a formalization of how to bridge disparity science with precision medicine, NBIB (NIH) – Revision submitted.

Principal Investigator (MPI) R21: A simple correction for COVID-19 testing bias, NIGMS (NIH)

20. *Editorial Responsibilities:*

Associate Editor for International Statistical Review, 2016+
Associate Editor for Statistics and Its Interface, 2016+
Associate Editor for Sankhya, Series B, 2012–2015
Associate Editor for Canadian Journal of Statistics, 2007–2012
Associate Editor for BMC - Genomics, 2005–2015
Associate Editor for BMC - Bioinformatics, 2005–2015
Associate Editor for Journal of Modern Applied Statistical Methods, 2003–2008
Associate Editor for book series Advances in Data Mining and Data Management, WIT Press, Southampton, 2000–2002

21. *Professional and Honorary Organizations:*

22. *Honors and Awards:*

Distinguished Visiting Professor, Department of Statistics and Economics, University of Cagliari, Italy, 2019.

Elected Member (Fellow) of the International Statistical Institute, 2016.

Elected Fellow of the American Statistical Association, 2011.

Distinguished Visiting Professor, Department of Biostatistics, Section on Statistical Genetics, University of Alabama-Birmingham, 2010 (one of only 10 selected to date)

Distinguished Visiting Professor, Department of Economics and Business, 2019 (Italian National Science Foundation)

23. *Post-Doctoral Fellowships:*

24. *Other Professional Activities:*

Invited Talks

2021 Small Area Estimation 2021 (plenary speaker), Naples, Italy
Statistics Canada 2021 (keynote speaker), Montreal, Canada
Department of Mathematics and Department of Statistics and Economics, University of Cagliari, Italy.

2020 Biometric Society ENAR Spring Meeting, Nashville, TN.
Small Area Estimation 2020 (plenary speaker), Naples, Italy– postponed.
Department of Human Genetics, University of Miami, Miller School of Medicine

- 2019 FlatIron Health, NY, NY
International Workshop on Recent Advances in Survey Methods Singapore.
Department of Statistics and Economics, University of Cagliari, Italy (two talks)
Clinical Trials Network (NIH) Workshop on Addiction and Big Data: Machine Learning Methodology and Applications, DC
- 2018 Biometric Society ENAR Meeting, Atlanta.
International Indian Statistical Association, Gainesville, FL
Cancer 2018 World Congress, Bologna, Italy
George Washington University, School of Public Health (Dean's Lecture)
Boston University, Department of Biostatistics
- 2017 Johns Hopkins University, Department of Biostatistics.
Karolinska Institute, Department of Medical Epidemiology and Biostatistics, Stockholm, Sweden.
CLADAG 2017 – Classification and Data Analysis Group of the Italian Statistical Society, Milan, Italy (keynote address)
Quest Diagnostics - Scientific Leadership Group, California, USA
- 2016 International Workshop on Applied Probability (IWAP2016), Toronto, Canada.
Small Area Estimation 2016 (SAE2016 International Conference), Maaschrit, Netherlands. University of Florida, Department of Biostatistics.
- 2015 St. Thomas University, Bogota, Colombia, Department of Statistics.
University of Akron, Department of Statistics.
University of Manitoba, Department of Statistics.
Joint Statistical Meetings, Seattle, WA.
Statistical Society of Canada, Halifax, NS, Canada.
- 2014 Conference in Honor of Malay Ghosh's 70th Birthday.
Dana Farber Cancer Institute, Boston, MA.
ERCIM 2014, University of Pisa, Pisa, Italy.
University of Miami, Medical Students Convention - keynote speaker.
University of Miami, Sylvester Cancer Center, Program in Epigenetics – distinguished speaker.
University of Athens, Department of Statistics, Athens, Greece.
Karolinska Institute, Department of Medical Epidemiology and Biostatistics, Stockholm, Sweden.
- 2013 Karolinska Institute, Department of Medical Epidemiology and Biostatistics, Stockholm, Sweden.
- 2012 University of South Carolina, Department of Statistics.
Florida State University, Department of Statistics.
University of Washington, Department of Biostatistics.
McGill University, Department of Statistics.
University of Buenos Aires, Department of Mathematics and Statistics.
University of Florida, Department of Statistics.
Fields Institute of Mathematics Special Conference in Honor of J.N.K. Rao's 75th

- Birthday on Small Area Estimation.
WNAR, Colorado State University.
- 2011 Fifth CDSA International Conference on Computational and Financial Econometrics, University College, London, UK - Session on Perspectives on High Dimensional Data Analysis.
Fields Institute of Mathematics, University of Toronto - Workshop on Perspectives in High Dimensional Data Analysis.
Department of Epidemiology and Public Health, University of Miami (Prevention Research Group).
International Genetic Epidemiology Conference, Heidelberg, Germany.
Statistics 2011 Canada, Montreal, Canada (plenary talk).
Joint Statistical Meetings, Miami.
Shandong University, China – Department of Statistics.
Sichuan University, China - Department of Mathematics, Department of Management Science.
Seoul National University, Korea - Department of Statistics.
- 2010 Department of Biostatistics (Section on Statistical Genetics), University of Alabama, Birmingham
- 2009 Italian Classification Society, Catania, Sicily, Italy.
University of Naples, Naples, Italy.
Statistical Society of Canada Annual Meeting, Vancouver.
Biometric Society - ENAR, San Antonio.
International Meeting of Chinese Statistical Association, San Francisco.
- 2007 Banff International Research Station Workshop on Statistical Genomics, Banff, Alberta.
Department of Mathematics and Statistics, Queen’s University, Kingston, Canada.
Department of Biostatistics, University of Michigan (two talks)
- 2006 Institute of Population Health, University of Ottawa, Canada.
- 2005 Center for Genome Information, University of Cincinnati.
Classification Society of North America Annual Meeting, St. Louis.
Department of Mathematics and Statistics, University of Ottawa.
- 2004 International Conference on the Future of Statistical Theory, Practice and Education, December 29 - January 1, Hyderabad, Andhra Pradesh, India. Invited speaker for workshop on Bioinformatics.
University of Mississippi, Department of Mathematics.
International Indian Statistical Association Annual Meeting, Athens, Georgia.
Joint Statistical Meetings, Toronto, Canada
NSF International Workshop on Bioinformatics, University of Florida.
- 2003 Joint Statistical Meetings, San Francisco. Invited talk:
International Meeting of the Psychometric Society, Sardinia, Italy.
- 2002 Department of Biostatistics, Emory University.
Joint Statistical Meetings, New York City.

- International Conference on Recent Advances in Nonparametrics, Crete, Greece.
 New Frontiers of Statistical Data Mining, Knowledge Discovery, and E-Business,
 Knoxville, TN.
 Conference in honor of the retirement of Professor J.N.K. Rao, Ottawa, Canada.
 NSF Workshop on Developments and Challenges in Mixture Models, Bump Hunting
 And Measurement Error Models, Cleveland, OH. (speaker and session organizer on
 Recent Developments in Bioinformatics)
- 2001 Intelligent Data Analysis 2001, Lisbon, Portugal (plenary speaker).
 Krishniahah Memorial Lectures - one of two invited speakers (other was Leo Breiman),
 Department of Statistics, Penn State University.
 Statistics 2001, Montreal, Canada.
 Memorial Sloan Kettering Cancer Institute/Cornell Medical Center/Rockefeller University,
 New York City.
- 2000 Department of Preventive Medicine and Biostatistics, University of Toronto.
 One day workshop (only speaker) on modern applications of the bootstrap, Department
 of Statistics, University of Napoli, Napoli, Italy.
 American Mathematical Society Summer Research Conference, Mount Holyoke
 College, South Hadley, MA.
- 1999 Department of Mathematics and Statistics and Statistics Canada.
 Joint Statistical Meetings, Baltimore, M.D.
 NSF Workshop on Bayes/Empirical Bayes Methods and
 Model Selection, University of Nebraska, Lincoln, NB.
 Department of Epidemiology and Biostatistics, CWRU.
 Department of Statistics, CWRU.
- 1998 Joint Statistical Meetings, Dallas, TX.
 ENAR - Biometric Society Meetings, Pittsburgh, PA.
 International Meeting of the Indian Statistical Association, Hamilton, Canada.
 Department of Statistics, University of Western Ontario, London, Canada.
- 1997 Department of Biostatistics, University of Washington, Seattle, WA.
 Joint Symposium on Biostatistics Between OSU, CCF, and CWRU.
 Interface Meeting Between Computing Science and Statistics, Minneapolis, MN.
 Department of Statistics, University of Wisconsin, Madison, WI.
 Department of Statistics, CWRU.
- 1996 Department of Biostatistics, University of Pittsburgh.
 Department of Statistics and Biostatistics, Ohio State University.
 Department of Epidemiology and Biostatistics, CWRU.
- 1995 Joint Symposium on Biostatistics Between OSU, CCF, and CWRU.
 Department of Statistics, CWRU.
 Department of Statistics, University of Western Ontario, London, Canada.
 Cleveland Chapter of the American Statistical Association.

VI. Teaching

25. *Teaching Awards Received:*

Professor of the Year - 2004-2005 - Department of Epidemiology and Biostatistics, CWRU.
Nominated for Professor of the year - 2006-2007 - Department of Epidemiology and Biostatistics, CWRU

26. *Teaching Specialization:*

University of Miami: Case Studies in Biostatistics 2018, Mixed Models 2018, Generalized Linear Models 2011+ (Winter), High Dimensional Data Analysis 2014
CWRU: Newly Developed Courses from 1998-2010 (many taught multiple times): STAT473 - Statistical Analysis of Microarray Data; EPBI 471 - Introduction to the Bootstrap; EPBI 443- Design and Analysis of Clinical Experiments; EPBI 471 - Statistical Aspects of Data Mining; EPBI 443 – Applied Multivariate Analysis; EPBI 471 - Statistical Learning Theory.
CWRU: Existing Courses (prior to 1998): STAT207 and STAT208 - Business Statistics I and II (each taught once)

27. *Thesis and Dissertation Advising/Post-doctoral Student Supervision:*

- a. Dissertation advisor 2019+: Mengyu Liu, Research focus is a statistical treatment of contextual vulnerability.
- b. Dissertation advisor 2017+: Hang Zhang, Research focus Multivariate prediction in precision medicine.
- c. Dissertation advisor 2017-2020: Mengying Li, Research focus High dimensional subject level prediction (currently at Moderna).
- d. Dissertation advisor 2012–2017: Hongmei Liu, Ph.D. Title: Some new theories and applications on L1 shrinkage estimation (now Data Scientist with Bank of Hope in Los Angeles).
- e. Dissertation advisor 2012–2017: Jie Fan, Ph.D. Title: Classified mixed model prediction (now Data Scientist with Pharmaceutical Product Development in New Jersey).
- f. Dissertation advisor 2013–2019: Huilin Yu, Ph.D. Title: New methods in health disparity estimation (hired as a Data Scientist with Pharmaceutical Product Development in New Jersey)
- g. Postdoctoral Mentor 2011-2014: Daniel Diaz, Ph.D. Title: Computationally intensive approaches to subgroup discovery in high dimensional genomic data (now on faculty at the University of Miami)
- h. Junior Faculty Mentor: Jennifer Clarke, Ph.D., Assistant Professor, University of Miami, 2010-2014 (was successful landing an NSF methodology grant in 2011) (now on faculty at the University of Nebraska)

- i. Junior Faculty Mentor: Tulay Koru Sengul, Ph.D., Assistant Professor, University of Miami, 2010+ (was successful in landing a State of Florida statistical methodology grant in 2011).
- j. Junior Faculty Mentor: Tom Radivoyevitch, Ph.D., Assistant Professor of Biostatistics, CWRU, 2004-2008. (now on faculty at the Cleveland Clinic).
- k. Junior Faculty Mentor: Pingfu Fu, Ph.D., Associate Professor of Biostatistics, CWRU, 2004 - 2006. (successful ACS seed money grant from Ireland Cancer Center in 2004).
- l. Secondary Career Award Mentor: Helen Moinova, Ph.D., Postdoctoral fellow, Department of Molecular Biology, CWRU Title: HLTF expression and colon cancer (K01 grant submitted)
- m. Primary Postdoctoral Mentor 2004-2007: Jean-Eudes Dazard, Ph.D., R25 Postdoctoral Training Grant in Computational Genetic Epidemiology. Currently an Assistant Professor in Department of Genetics and Epidemiology and Biostatistics and the Center for Proteomics and Bioinformatics, CWRU.
- n. Secondary Postdoctoral Mentor 2004-2006: Petra Platzer, Ph.D., R25 Postdoctoral Training Grant in Computational Genetic Epidemiology. Currently Staff in Genomics Medicine Institute, Cleveland Clinic (recently moved to Richmond, VA).
- o. Secondary Postdoctoral Mentor 2009+: Nathan Morris, Ph.D., R25 Postdoctoral Training Grant in Computational Genetic Epidemiology (now Assistant Professor at CWRU).
- p. Dissertation Advisor: Sam Youkin, Ph.D., Division of Genetic Epidemiology, 2010 Title: The Linkage Disequilibrium Lasso for SNP Selection in a Genetic Association Study. *2009 Jane Olson Memorial Award winner for best thesis combining statistical theory and genetic application* (now on research staff at UW-Madison).
- q. Co-dissertation Advisor (along with Joe Nadeau, Dept of Genetics): Paola Raska, Division of Biostatistics, 2010. Title: QTL analysis for multivariate phenotypes (now Assistant Professor at Cleveland Clinic, Quantitative Health Sciences).
- r. Dissertation Advisor: Guan Xing, Ph.D., Division of Biostatistics, 2006, Title: Lassoing mixtures and robust Bayesian estimation. Currently at Bristol Meyers Squibb. *Biostatistics Student of the Year, 2006*
- s. Dissertation Advisor: Simin Hu, Ph.D., Division of Biostatistics, 2006. Title: New methods for variable selection with applications to survival analysis and statistical redundancy analysis using gene expression data. *Biostatistics Student of the Year, 2003* (currently at pharmaceutical company in Boston).
- t. Dissertation Advisor: Mireya Diaz, Ph.D. Division of Biostatistics, 2002. Title: Combining classifiers for the computer-aided diagnosis of tumors. Started as faculty at CWRU. Current tenured Associate Professor at Western Michigan University. *Biostatistics Student of the Year, 2001. Second place in Biometric Society (ENAR) student research competition, 2001*

- u. Dissertation Advisor: Pingfu Fu, Ph.D., Division of Biostatistics, 2001.
Title: Generalized linear models for multivariate failure time data.
Currently tenured Associate Professor at CWRU.
- v. Dissertation Committee Member: Biao Cai, Ph.D. Management Sciences (UM), Xiao Xiao,

Ph.D., Biostatistics (UM), Robert O'Brien, Ph.D., Biostatistics (UM), Min Lu, Ph.D. Biostatistics (UM), Amol Pande, Ph.D. Biostatistics (UM), Fei Tang, Ph.D. Biostatistics (UM), Alejandro Mantero, Ph.D. Biostatistics (UM), David Conti, Ph.D., Genetic Epidemiology (CWRU), Mat Karafa, Ph.D., Epidemiology (CWRU), David Kitska, Ph.D., Statistics (CWRU), Edward Mascha, Ph.D., Biostatistics (CWRU), Nora Nock, Ph.D., Genetic Epidemiology (CWRU), Michelle Poe, Ph.D., Epidemiology (CWRU), Lynn Sivinski, Ph.D., Health Services Research (CWRU), Luis Santiago, Biostatistics (CWRU), Xiaofeng Wang, Statistics (CWRU), Tanujit Dey, Statistics (CWRU), Ariadni Papan, Statistics (CWRU), Ritwik Sinha, Genetic Epidemiology (CWRU), Yang Wang, Genetic Epidemiology (CWRU), Yaomin Xu, Ph.D., Statistics (CWRU).

- w. Research Fellow Mentoring: Jingjin Li, Ph.D., Division of Biostatistics, 2001–2002, Started as faculty at University of Indiana. Currently at Schering Plough.

VII. Service

28. *Academic:*

SERVICE TO THE UNIVERSITY OF MIAMI

Admissions Committee, Ph.D. program in Biostatistics, 2011+

Admissions Committee, M.S. program in Biostatistics, 2011+

Chair, External Advisory Board, Biostatistics Core, University of Miami CTSA, 2012+

Scientific Steering Committee Member, Sylvester Comprehensive Cancer Center, 2016–2018

Member, Population Sciences Protocol Review Committee, Sylvester Comprehensive Cancer Center, 2018+

SERVICE TO CWRU

Faculty Council Steering Committee, School of Medicine, CWRU, 2005-2007

(elected) Faculty Council, School of Medicine, CWRU, 2005-2007 (elected).

Founding member of the Center for Computational Genomics, 2003.

Member of CWRU School of Medicine Committee on Dry Lab Research, 2003

Member of the task force on the future of bioinformatics at CWRU. Members were asked to develop a strategic plan for the President and Provost on how bioinformatics should be grown at CWRU, 2002.

Division of Biostatistics research seminar organizer, CWRU, 2004–2005.

Faculty Search Committees - Dept. of Epidemiology and Biostatistics, CWRU, 2001–2002.

Dept. of Epidemiology and Biostatistics, CAPT member (multiple years)

29. *Professional:*

Invited member, Conseguimento Dell'Abilitazione Scientifica Nazionale All Funzioni Di Professore (Concoursuale) - Statistica (Italy), 2019
Invited member American Statistical Association Deming Lectureship Committee, 2009-2015.
Invited member of the Indian International Statistical Association Publication Committee, 2009-2014
Invited member of the Indian Agricultural Statistics Research Institute's International Scientific Advisory Committee on Statistical Genomics, 2009-2014

Grant reviewer for the Indiana 21st Century Research and Technology Fund 2009
Panel Member for best student paper International Biometric Society (ENAR), 2006-2008
Panel Member (Study Section regular member), National Cancer Institute of Canada (NCIC), Tumor Pathology and Biomarkers focus, 2005-2008
Study Section (ad hoc member), NAME, 2020, NIH
Study Section (ad hoc member), Community and Health Services Research, 2019, NIH
Study Section (ad hoc member), Healthcare Deliveries and Methodologies, 2018, NIH
Study Section (ad hoc member), Biostatistics Methodology and Research Design (BMRD), 2018, NIH
Study Section (ad hoc member), Biostatistics Methodology and Research Design (BMRD), 2017, NIH
Study Section (ad hoc member), Biostatistics Methodology and Research Design. (BMRD), 2016, NIH
Study Section (ad hoc member), (Viral Oncology), 2014, NIH
Study Section (ad hoc member), ZCA1 RPRB-M (Lung, Skin, Ovarian, Pancreatic and GI Cancers SPORE Grants), 2012, NIH
Study Section (regular member), NCI-CBSS (Cancer Biomarkers), 2008-2012, NIH
Study Section (regular member), NCI - F (Career and Training Awards), 2004-2008, NIH
CVIR Experts Panel (regular member), Italian Ministry of Education and Scientific Research (MIUR), 2005-2007
Study Section (ad hoc member), NCI-F (Career and Training Awards), 2004, NIH
Study Section (ad hoc member), NIAMS (special RFA on microarray applications), 2003
Study Section (ad hoc member), Ireland Cancer Center, ACS seed money institutional grants, 2003
Reviewer for the National Science Foundation (Division of Mathematical Sciences) - multiple grants
Reviewer for National Sciences and Engineering Research Council of Canada (NSERC) (Division of Statistics and Probability) - multiple grants
Reviewer for the Netherlands Science Foundation (one grant)
Reviewer for University of Washington Center for AIDS Research pilot grant program (one grant)
Reviewer for the State of Indiana 21st Center Research and Technology Fund (one grant)

Referee for American Statistician, Annals of Statistics, Bioinformatics, Biometrics, BMC-Bioinformatics, BMC-Genomics, Canadian Journal of Statistics, Communications in Statistics, Computational Statistics and Data Analysis, Controlled Clinical Trials, Genome Biology, Journal of the American Medical Association, Journal of the American Statistical Association, Journal of Computational and Graphical Statistics, Journal of Statistical Planning and Inference, Model Assisted Statistics and Applications, Nature, PNAS, Psychometrika, Scandinavian Journal of Statistics, Statistica Sinica, Statistical Applications in Genetics and Molecular Biology, Statistics and Computing, Statistics in Medicine.

Scientific Program Committee, CLADAG 2021, Firenze, Italy.
Scientific Program Committee, NSF Workshop on Developments and Challenges in Mixture

Models, Bump Hunting and Measurement Error Models, Cleveland, OH, 2002. Approx. attendance: 80 individuals

Scientific Program Committee, Data Mining 2002, Bologna Italy

Scientific Program Committee for Retirement Conference in Honor of J.N.K. Rao, Ottawa, Canada, 2002

Short course organizer for Generalized Methods in Regression and Classification by Trevor Hastie and Rob Tibshirani, Cleveland, OH, 1996. Approx. attendance: 65 individuals.

30. Community Activities:

Gave and organized (with four other Biostatistics faculty members) informational lecture with question and answer period to senior high school students at Ransom Everglades HS in 2017. This led to supervision of one student (Jorge Zreik) on a project related to epiphany learning in cancer. Jorge is now a second year student in Computer Science at Princeton University.

This led to two more students coming from Ransom Everglades to work with Dr. Ray Balise in 2018.