

CURRICULUM VITAE
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Education:

Ph. D., Mathematics, University of California, Los Angeles, 1982
(thesis advisor: Charles J. Stone)

M. S., Mathematics, University of California, Los Angeles, 1980

B. S., Mathematics, University of California, Davis, 1977

A. A., Orange Coast College, 1974

Professional Experience:

Employment:

Core Faculty Member, Curriculum in Bioinformatics and Computational Biology, 2009-.

Professor, Department of Biostatistics, University of North Carolina, Chapel Hill, 2007-.

Research Member, Lineberger Cancer Center, 2004-.

Adjunct Professor, Department of Computer Science, University of North Carolina, Chapel Hill,
2003-.

Amos Hawley Distinguished Professor, University of North Carolina, Chapel Hill, 2002-.

Founding Associate Director, Statistical and Applied Mathematical Sciences Institute, 2002-
2004.

Professor, Department of Statistics, University of North Carolina, Chapel Hill, 1993-.

Associate Professor, Department of Statistics, University of North Carolina, Chapel Hill, 1988-1993.

Assistant Professor, Department of Statistics, University of North Carolina, Chapel Hill, 1982-1988.

Visiting Positions:

Saw Swee Hock Visiting Distinguished Professor, National University of Singapore, January 2015 – May 2015.

Mary Upson Distinguished Professor, Cornell University, August 2001 – May 2002.

Visiting Faculty Member, Los Alamos National Laboratory, 2002-.

Visiting Scientist, CSIRO, Australia, September 1994 - June 1995.

Visiting Fellow, Australian Graduate School of Management, University of New South Wales, September 1994 - June 1995.

Visiting Fellow, Centre for Mathematics and Its Applications, Australian National University, July - August 1994.

Visiting Fellow, Mathematical Sciences Research Institute, Berkeley, California, December 1991.

Visiting Fellow, Belgian National Science Foundation, Limburg University Center, May - June 1991.

Visiting Scientist, Mathematical Sciences Institute, Cornell University, June - July 1989

Visiting Fellow, Department of Statistics, Institute of Advanced Studies, Australian National University, January - February 1989.

Adjunct Faculty Member, Department of Statistics, North Carolina State University, Oct. 1988 - May 1989.

Visiting Lecturer, Department of Statistics, Faculty of Economics, Australian National University, July - October 1986.

Research Fellow, Sonderforschungsbereich 303, Universität Bonn, April - May, 1986, May - October 1988.

Research Fellow, Sonderforschungsbereich 123, Universität Heidelberg, April - June, 1984.

Graduate Student, Department of Statistics, University of California, Berkeley, July 1981 - June 1982.

Honors:

Keynote Lecture: CROnos Workshop on Multivariate Data Analysis, Cyprus, April 2018.

Harpur Dean's Speaker Series in Statistics and Data Science, Binghamton University, March 2018.

Al-Kindi Distinguished Statistics Lecturer, King Abdullah University of Science and Technology, Saudi Arabia, October, 2017.

Stat Editor's Invited Paper, Joint Statistical Meetings, Baltimore, August, 2017.

Keynote Speaker: 6th Nordic-Baltic Biometric Conference, June 19-21, 2017.

Plenary Lecturer: Third Conference of the International Society of NonParametric Statistics, Graz, Austria, 2015.

Journal of Computational Graphical Statistics Editor's Invited Paper, Joint Statistical Meetings, Boston, 2014

Plenary Lecturer: Second Conference of the International Society of NonParametric Statistics, Cadiz, Spain, 2014.

Plenary Lecturer: Third International Workshop on Functional and Operatorial Statistics, Stresa, Italy, 2014.

Information Science and Technology Center, Distinguished Lecture, Colorado State University, 2012.

Ralph Bradley Lecture, University of Georgia, 2010.

S. N. Roy Memorial Lecture, University of Calcutta, 2004.

Institute of Mathematical Statistics Medallion Lecturer, 2003.

Special Invited Article, *Journal of Computational and Graphical Statistics*, 2002.

Number 15 on ISI List of Most Highly Cited Mathematicians (over all mathematical sciences), 1991-2001.

Theory and Methods Invited Paper, *Journal of the American Statistical Association*, 1998.

Elected Fellow, American Statistical Association (1998).

Elected Member, International Statistical Institute (1996).

Elected Fellow, Institute of Mathematical Statistics (1989).

Bibliography:

Books and Chapters:

- “Dental microfracture detection using wavelet features and machine learning” (2012) Vicory, J., Chandradevan, R., Hernandez-Cerdan, P., Huang, W.A., Fox, D., Qdais, L.A., McCormick, M., Mol, A., Walter, R., Marron, J.S. and Geha, H., 2021, in *Medical Imaging 2021: Image Processing* (Vol. 11596, p. 115961R). International Society for Optics and Photonics.
- “Object Shape Representation via Skeletal Models (s-reps) and Statistical Analysis” (2019) *Pizer, SM, *J Hong, *J Vicory, *Z Liu, *J.S Marron (*principal co-authors), and H-Y Choi, J Damon, S Jung, B Paniagua, J Schulz, A Sharma, L Tu, J Wang. in *Riemannian Geometric Statistics in Medical Image Analysis*, (X Pennec, S Sommer, and T Fletcher, eds.): 233-272, Academic Press.
- “Object Statistics on Curved Manifolds”, S. M. Pizer, J.S. Marron (2017), in *Statistical Shape and Deformation Analysis: Methods, Implementation and Applications*, (G. Zheng, S. Li, G. Székely, eds), Academic Press, Oxford, UK.
- “Object Oriented Data Analysis: Open Problems Regarding Manifolds”, J. S. Marron. (2014), in *Contributions in Infinite-Dimensional Statistics and Related Topics*, (E. G. Bongiorno, A. Goia, E Salinelli, P. Vieu, eds.), Società Editrice Esculapio, Bologna, ISBN 978-88-7488-763-7, 185-190,
- “Nested Sphere Statistics of Skeletal Models”, S. M. Pizer, S. Jung, D. Goswami, J. Vicory, X. Zhao, R. Chaudhuri, J. N. Damon, S. Huckemann, and J.S. Marron (2013) in *Innovations for Shape Analysis: Models and Algorithms*, (M. Breuss, A. Bruckstein, and P. Maragos, eds.), pp. 93-115.
- “Speculation on the generality of the backward stepwise view of pca”, J. S. Marron, S. Jung & I. L. Dryden (2010, March). In *Proceedings of the international conference on Multimedia information retrieval* (pp. 227-230). ACM.
- “Visualization of Cross-Platform Microarray Normalization”, X. Liu, J. Parker, C. Fan, C. M. Perou and J. S. Marron (2009), in *Batch Effects and Noise in Micorarray Experiments: Source and Solutions* (A. Scherer, ed.), Wiley, New York, 167-181.

“A SiZer Analysis of IP Flow Start Times”, with F. Hernández-Campos and F. D. Smith. (2004), in *Proceedings of Conference in Honor of Erich Lehmann*, Institute of Mathematical Statistics Lecture Notes – Monograph Series, Volume 44, 87-105.

Refereed papers/articles:

“Characterization of potential progression phenotypes identified through cluster analysis: the Johnston County osteoarthritis project”, Nelson, A. E., Fang, F., Arbeeve, L., Fuller, M., Cleveland, R. J., Schwartz, T. A., L. F. Callahan, J. S. Marron & Loeser, R. F. (2019). *Osteoarthritis and Cartilage*, 27, S389, DOI: 10.1016/j.joca.2019.02.389.

“Advanced statistical analysis to classify high dimensionality textural probability-distribution matrices”, Prothero, J., Vimort, J. B., Ruellas, A., Marron, J. S., McCormick, M., Hernandez-Cerdan, P., Cevidanes, L., Venavides, E., & Paniagua, B. (2019). In *Medical Imaging 2019: Biomedical Applications in Molecular, Structural, and Functional Imaging* (Vol. 10953, p. 1095318). International Society for Optics and Photonics.

“A machine learning approach to knee osteoarthritis phenotyping: Data from the FNIH Biomarkers Consortium.”, Nelson A. E., Fang, F., Arbeeve, L., Cleveland, R. J., Schwartz, T. A., Callahan, L. F., Marron, J. S. & Loeser, R. F. (2018). *Osteoarthritis and cartilage*, 26, S236-S237, DOI: 10.1016/j.joca.2018.12.027.

“Methods for quantitative characterization of bone injury from computed-tomography images”, Hernandez-Cerdan, P., Paniagua, B., Prothero, J., Marron, J. S., Livingston, E., Bateman, T., & McCormick, M. (2019, March). In *Medical Imaging 2019: Biomedical Applications in Molecular, Structural, and Functional Imaging* (Vol. 10953, p. 1095316). International Society for Optics and Photonics, DOI: 10.1117/12.2513007.

“Fast algorithms for large-scale generalized distance weighted discrimination”, Lam, X. Y., Marron, J. S., Sun, D., & Toh, K. C. (2018). *Journal of Computational and Graphical Statistics*, 27(2), 368-379, DOI: 10.1080/10618600.2017.1366915.

“Image analysis with deep learning to predict breast cancer grade, ER status, histologic subtype, and intrinsic subtype,” Couture, H. D., Williams, L. A., Geradts, J., Nyante, S. J., Butler, E. N., Marron, J. S., Perou, C. M., Troester, M. A. & Niethammer, M. (2018). *NPJ breast cancer*, 4(1), 30, DOI: 10.1038/s41523-018-0079-1.

“Multiple Instance Learning for Heterogeneous Images: Training a CNN for Histopathology,” Couture, H. D., Marron, J. S., Perou, C. M., Troester, M. A., & Niethammer, M. (2018). In *International Conference on Medical Image Computing and Computer-Assisted Intervention* (pp. 254-262). Springer, Cham.

“Detection of bone loss via subchondral bone analysis,” Vimort, J. B., Ruellas, A., Prothero, J., Marron, J. S., McCormick, M., Cevidanes, L., Venavides, E., & Paniagua, B. (2018). In *Medical Imaging 2018: Biomedical Applications in Molecular, Structural, and*

Functional Imaging (Vol. 10578, p. 105780Q). International Society for Optics and Photonics.

- “Data science vs. statistics: two cultures?”, Carmichael, I., & Marron, J. S. (2018). *Japanese Journal of Statistics and Data Science*, 1(1), 117-138, DOI: 10.1007/s42081-018-0009-3.
- “Angle-based joint and individual variation explained”, Feng, Q., Jiang, M., Hannig, J., & Marron, J. S. (2018). *Journal of Multivariate Analysis*, 166, 241-265.
- “Relative Optimality Conditions and Algorithms for Treespace Fréchet Means”, S. Skwerer, S. Provan & J. S. Marron (2018). *SIAM Journal on Optimization*, 28(2), 959-988, DOI: 10.1137/15M1050914.
- “A survey of high dimension low sample size asymptotics”, Makoto Aoshima, Dan Shen, Haipeng Shen, Kazuyoshi Yata, Yi-Hui Zhou & J. S. Marron (2018), *Australian & New Zealand Journal of Statistics*, 60, 4-19, DOI:10.1111/anzs.12212.
- “Eigenvalue significance testing for genetic association”, Yi-Hui Zhou, J. S. Marron & Fred A. Wright (2018). *Biometrics*, DOI:10.1111/biom.12767.
- “Computation of ancestry scores with mixed families and unrelated individuals”, Yi-Hui Zhou, J. S. Marron & Fred A. Wright (2018), *Biometrics*, 74, 155-164 DOI:10.1111/biom.12708.
- “Bump hunting by topological data analysis”, Max Sommerfeld, Giseon Heo, Peter Kim, Stephen T. Rush & J. S. Marron (2017). *Stat*, 6, 462-471, DOI:10.1002/sta4.167.
- “Baseline knee shape discriminates cases of incident knee radiographic oa from controls: a case-control study using novel methodology from the Johnston county osteoarthritis project”, A. E. Nelson, Y. Shi, R. Tiller, T. A. Schwartz, J. B. Renner, J. M. Jordan, ... & J. S. Marron (2017). *Osteoarthritis and Cartilage*, 25, S70-S71.
- “Big data in context and robustness against heterogeneity”, J. S. Marron (2017) *Econometrics and Statistics*, 2, 73-80.
- “JIVE integration of imaging and behavioral data”, Q. Yu, B. B. Risk, K. Zhang & J. S. Marron (2017). *NeuroImage*, 152, 38-49.
- “Principal nested spheres for time warped functional data analysis” Q. Yu, X. Lu, J. S. Marron (2017). *Journal of Computational and Graphical Statistics*, 26, 144-151, doi: 10.1080/10618600.2015.1115359.
- “Visualization of robust L1PCA”, Y.-H. Zhou, J. S. Marron (2016) *Stat*, 5, 173–184. DOI: 10.1002/sta4.113.
- “Novel statistical methodology reveals that hip shape is associated with incident radiographic hip osteoarthritis among African American women”, H. An, J. S. Marron, T. A. Schwartz, J.

- B. Renner, F. Liu, J. A. Lynch, ... & A. E. Nelson (2016) *Osteoarthritis and Cartilage*, 24, 640-646.
- “A note on automatic data transformation”, Q. Feng, J. Hannig, J. S. Marron (2016) *Stat*, 5, 82-87. DOI: 10.1002/sta4.104
- “Direction-Projection-Permutation for High-Dimensional Hypothesis Tests”, S. Wei, C. Lee, L. Wichers, J. S. Marron (2016). *Journal of Computational and Graphical Statistics*, 25, 549-569.
- “The statistics and mathematics of high dimension low sample size asymptotics”, D. Shen, H. Shen, H. Zhu, J. S. Marron (2016) *Statistica Sinica*, 26, 1747-1770. doi:10.5705/ss.202015.0088.
- “Activity prediction and identification of mis-annotated chemical compounds using extreme descriptors”, P. Borysov, J. Hannig, J. S. Marron, E. Muratov, D. Fourches, A. Tropsha (2016) *Journal of Chemometrics*, 30, 99-108. DOI:10.1002/cem.2776.
- “Persistent homology analysis of brain artery trees”, P. Bendich, J. S. Marron, E. Miller, A. Pieloch, S. Skwerer (2016) *The Annals of Applied Statistics*, 10, 198-218.
- “Non-Euclidean classification of medically imaged objects via s-reps”, J.P. Hong, J. Vicory, J. Schulz, M. Styner, J.S. Marron, S.M. Pizer (2016) *Medical Image Analysis*, 31, 37-45. doi:10.1016/j.media.2016.01.007.
- “Virus hunting using radial distance weighted discrimination”, J. Xiong, D. P. Dittmer, J. S. Marron (2015). *Annals of Applied Statistics*, 9, 2090-2109.
- “Analysis of rotational deformations from directional data”, J. Schulz, S. Jung, S. Huckemann, M. Pierrynowski, J. S. Marron and S. M. Pizer (2015). *Journal of Computational and Graphical Statistics*, 24, 539–560.
- “Nested nonnegative cone analysis”, L. Zhang, S. Lu, J. S. Marron J. S. (2015). *Computational Statistics & Data Analysis*, 88, 100-110.
- “Functional data analysis of amplitude and phase variation”, J. S. Marron, J. O. Ramsay, L. Sangalli, A. Srivastava (2015). *Statistical Science*, 30(4), 468-484.
- “High dimension low sample size asymptotics of robust PCA”, Y. H. Zhou and J. S. Marron (2015). *Electronic Journal of Statistics*, 9, 204-218.
- “Distance-weighted discrimination”, J. S. Marron (2015). *Wiley Interdisciplinary Reviews: Computational Statistics*.
- “Statistical Significance of Clustering using Soft Thresholding”, H. Huang, Y. Liu, M. Yuan and J. S. Marron (2015) *Journal of Computational and Graphical Statistics*, 24, 975-993. DOI:10.1080/10618600.2014.948179 (Featured article in Dec. 2015 issue of *JCGS*)

- “Statistics of time warpings and phase variations”, J. S. Marron, J. O. Ramsay, L. Sangalli, and A. Srivastava (2014). *Electronic Journal of Statistics*, 8, 1697-1702.
- “Object-Oriented Data Analysis of Cell Images”, X. Lu, J. S. Marron and P. Haaland (2014). *Journal of the American Statistical Association*, 109, 548-559.
- “Functional data analysis of tree data objects”, D. Shen, H. Shen, S. Bhamidi, Y. Muñoz Maldonado, Y. Kim, and J. S. Marron (2014). *Journal of Computational and Graphical Statistics*, 23, 418-438.
- “Topological Descriptors of Histology Images”, N. Singh, H.D. Couture, J. S. Marron, C. Perou and M. Niethammer (2014) *Proceedings of the MICCAI Workshop on Machine Learning in Medical Imaging (MLMI)*.
- “Least squares sieve estimation of mixture distributions with boundary effects” M. Lee, L. Wang, H. Shen, P. Hall, G. Guo, and J. S. Marron (2014) *Journal of the Korean Statistical Society*, DOI: 10.1016/j.jkss.2014.07.003.
- “BlackOPs: increasing confidence in variant detection through mappability filtering”, C. R. Cabanski, M. D. Wilkerson, M. Soloway, J. S. Parker, J. Liu, J. F. Prins, J. S. Marron, C. M. Perou, D. N. Hayes (2013) *Nucleic Acids Research*, 41(19):e178. doi: 10.1093/nar/gkt692. Epub 2013 Aug 8. PubMed PMID: 23935067; PubMed Central PMCID: PMC3799449.
- “Overview of object oriented data analysis”, J. S. Marron, A. M. Alonso (2014) *Biometrical Journal*, 56, 732-753, with discussion. doi: 10.1002/bimj.201300072. PubMed PMID: 24421177.
- “SigFuge: single gene clustering of RNA-seq reveals differential isoform usage among cancer samples”, P.K. Kimes, C. R. Cabanski, M. D. Wilkerson, N. Zhao, A. R. Johnson, C. M. Perou, L. Makowski, C. A. Maher, Y. Liu, J. S. Marron, D. N. Hayes (2014) *Nucleic Acids Research*, Jul 16. pii: gku521. [Epub ahead of print] PubMed PMID: 25030904.
- “Significance analysis for pairwise variable selection in classification”, X. Qiao, Y. Liu and J. S. Marron (2014) *Statistics and Its Interface*, 7, 263–274.
- “MultiResolution Anomaly Detection Method for Fractional Gaussian Noise”, L. Zhang, Z. Zhu and J. S. Marron (2014) *Journal of Applied Statistics*, 41, 769-784, DOI: 10.1080/02664763.2013.850065.
- “Quantifying anatomical shape variations in neurological disorders”, N. Singh, P. T. Fletcher, J. S. Preston, R. D. King, J. S. Marron, M. W. Weiner, S. Joshi (2014) *Medical Image Analysis*, 18, 616-633, DOI: 10.1016/j.media.2014.01.001.
- “Asymptotics of hierarchical clustering for growing dimension”, P. Borysov, J. Hannig, J. S. Marron. *Journal of Multivariate Analysis* 124 (2014): 465-479.

- “Tree-oriented analysis of brain artery structure”, S. Skwerer, E. Bullitt, S. Huckemann, E. Miller, I. Oguz, M. Owen, J. S. Marron (2014). *Journal of Mathematical Imaging and Vision*, 1-18. DOI 10.1007/s10851-013-0473-0.
- “Backwards Principal Component Analysis and Principal Nested Relations”, J. Damon, J. S. Marron (2014), *Journal of Mathematical Imaging and Vision*, . DOI 10.1007/s10851-013-0463-2.
- “Visualizing Genetic Constraints”, T. L. Gaydos, N. E. Heckman, M. Kirkpatrick, J. R. Stinchcombe, J. Schmitt, J. Kingsolver, J. S. Marron. (2013) *Annals of Applied Statistics*, 7, 860-882, DOI: 10.1214/12-AOAS603.
- “Sticky Central Limit Theorems On Open Books”, T. Hotz, S. Huckemann, H. Le, J. S. Marron, J. C. Mattingly, Ezra Miller, J. Nolen, M. Owen, V. Patrangenaru, and S. Skwerer. (2013) *Annals of Applied Probability*, 23, 2238–2258, DOI: 10.1214/12-AAP899.
- “Varying coefficient model for modeling diffusion tensors along white matter tracts”, Yuan Y, Zhu H, Styner M, Gilmore JH, Marron JS (2013) *The Annals of Applied Statistics*, 7, 102-125.
- “Joint and individual variation explained (jive) for integrated analysis of multiple data types”, Lock EF, Hoadley KA, Marron JS, Nobel AB (2013) *The Annals of Applied Statistics*, 7, 523–542.
- “Deconvolution estimation of mixture distributions with boundaries”, Lee, M, Hall, P, Shen, H, Marron, JS, Tolle, J and Burch, C (2013) *Electronic Journal of Statistics*, 7, 323–341, ISSN: 1935-7524 DOI: 10.1214/13-EJS774
- “Weighted Functional Boxplot with Application to Statistical Atlas Construction“, Y. Hong, B. Davis, J. S. Marron, R. Kwitt, M. Niethammer (2013) *Medical Image Computing and Computer-Assisted Intervention–MICCAI 2013* (pp. 584-591). Springer Berlin Heidelberg.
- “Consistency of sparse PCA in High Dimension, Low Sample Size contexts”, Shen, D, Shen, H and Marron, JS (2013) *Journal of Multivariate Analysis*, 115, 317-333.
- “Comparison of Binary Discrimination Methods for High Dimension Low Sample Size Data”, Bolivar-Cime, A and Marron, JS (2013) *Journal of Multivariate Analysis*, 115, 108–121.
- “Image and Statistical Analysis of Melanocytic Histology: A Novel Technique in a Challenging Area”, Miedema J, Marron JS, Niethammer M, Borland D, Woosley J, Cposky J, Wei S, Thomas NE (2012) *Histopathology*, 2012 Jun 11. doi: 10.1111/j.1365-2559.2012.04229.x. 61, 436-444.
- “Bi-Directional Discrimination with Application to Data Visualization”, Huang, H, Liu, Y and Marron, JS, (2012) *Biometrika*, 99, 851–864.

- “A Nonparametric Regression Model with Tree-structured Response”, Wang, Y., Marron, J. S., Aydin, B., Ladha, A., Bullitt, E., and Wang, H. (2012) *Journal of the American Statistical Association*, 107, 1272-1285.
- “Comprehensive genomic characterization of squamous cell lung cancers”, Hammerman et al (Marron about 180th of about 330 co-authors) (2012) *Nature*, 489, issue 7417, 519 – 525.
- “Genetics and evolution of function-valued traits: understanding environmentally responsive phenotypes”, Stinchcombe, JR, Function-Valued Traits Working Group (Beder J, Carter PA, Gilchrist GW, Gervini D, Gomulkiewicz R, Hallgrimsson B, Heckman N, Houle D, Kingsolver JG, Marquez E, Marron J, Meyer K, Mio W, Schmitt J, Yao F), and Kirkpatrick, M (2012) *Trends in Ecology and Evolution* 27, 637-647.
- “ReQON: a Bioconductor package for recalibrating quality scores from next-generation sequencing data”, Cabanski CR, Cavin K, Bizon C, Wilkerson MD, Parker JS, Wilhelmsen KC, Perou CM, Marron JS, Hayes DN (2012) *BMC Bioinformatics*.2012, 13:221, DOI: 10.1186/1471-2105-13-221.
- “Analysis of Principal Nested Spheres”, Jung S, Dryden IL, Marron JS, (2012) *Biometrika*, 99, 551-568, doi: 10.1093/biomet/ass022.
- “R/DWD: distance-weighted discrimination for classification, visualization and batch adjustment”, Huang H, Lu X, Liu Y, Haaland P, Marron JS, (2012) *Bioinformatics*, 28:1182-3, PMID: PMC3324517.
- “Boundary behavior in high dimension, low sample size asymptotics of PCA”, Jung S, Sen A, Marron JS (2012) *Journal of Multivariate Analysis*, 109, 190-203.
- “Evaluating genetic markers and neurobiochemical analytes for fluoxetine response using a panel of mouse inbred strains”, Benton CS, Miller BH, Skwerer S, Suzuki O, Schultz LE, Cameron MD, Marron JS, Pletcher MT, Wiltshire T, (2012) *Psychopharmacology*, 221, 297-315, PMID: PMC3337404.
- “New approaches to principal component analysis for trees”, Aydin B, and Pataki G, Wang H, Ladha A, Bullitt E, Marron JS (2012) *Statistics in Biosciences*, 4, 132-156.
- “Local Polynomial Regression for Symmetric Positive Definite Matrices”, Y. Yuan, H. Zhu, W. Lin, J. S. Marron, (2012) *Journal of the Royal Statistical Society, Series B*, Article first published online : 16 MAR 2012, DOI: 10.1111/j.1467-9868.2011.01022.x
- “Long-Range Dependence Analysis of Internet Traffic”, C Park, F Hernández-Campos, L Le, JS Marron, J Park, V Pipiras, FD Smith, RL Smith, M Trovero & Z Zhu (2011) *Journal of Applied Statistics*, 38, 1407-1433, DOI: 10.1080/02664763.2010.505949

- “Local Kernel Canonical Correlation Analysis with Application to Virtual Screening”, D. V. Samarov, J.S. Marron, Y. Liu, C. Grulke, A. Tropsha (2011) *The Annals of Applied Statistics*, 5, 2169-2196, PMCID: PMC3337404.
- “Visualizing the Structure of Large Trees”, Aydin, B., Pataki, G., Wang, H., Ladha, A., Bullitt, E. Marron, J. S. (2011) *Electronic Journal of Statistics*, 5, 405-420.
- “Principal Arc Analysis on direct product manifolds”, S. Jung, M. Foskey and J. S. Marron (2011) *The Annals of Applied Statistics*, 5, 578-603.
- “Comt1 genotype and expression predicts anxiety and nociceptive sensitivity in inbred strains of mice” Segall SK, Nackley AG, Diatchenko L, Lariviere WR, Lu X, Marron JS, Grabowski-Boase L, Walker JR, Slade G, Gauthier J, Bailey JS, Steffy BM, Maynard TM, Tarantino LM, Wiltshire T (2010) *Genes and Brain Behavior*, 9, 933–946. doi: 10.1111/j.1601-183X.2010.00633.x. PMCID: PMC2975805.
- “Multivariate statistical analysis of deformation momenta relating anatomical shape to neuropsychological measures” Singh N, Fletcher PT, Preston JS, Ha L, King R, Marron JS, Wiener M, Joshi S (2010) *Med Image Comput Comput Assist Interv*,13(Pt 3), 529-37. PMID: 20879441.
- “Biclustering via Sparse Singular Value Decomposition”, M. Lee, H. Shen, J. H. Huang and J. S. Marron, (2010) *Biometrics*, 66, 1087–1095, PMID: 20163403.
- “Appearance Normalization for Histology Slides”, Niethammer M, Borland D, Marron JS, Woosley J, Thomas NE (2010) International Workshop on Machine Learning in Medical Imaging (MICCAI), *Lecture Notes in Computer Science*, 6357, 58-66.
- “Exploratory Analysis of Exercise Adherence Patterns with Sedentary Pregnant Women”, S. Yeo; J. Cisewski; E. F. Lock and J. S. Marron (2010) *Nursing Research*, 59, 280-287, PMCID: PMC2903632.
- “Efficiency clustering for low-density microarrays and its application to QPCR”, Lock EF, Ziemiecke R, Marron JS and Dittmer DP (2010) *BMC Bioinformatics*, 11, 386, PMCID: PMC2912893 .
- “A 6-gene signature predicts survival of patients with resectable pancreatic ductal adenocarcinoma”, Stratford, J., Bentrem, D. J., Anderson, J. M., Volmar, K. A., Marron, J. S., Routh, E. D., Caskey, L., Earp, H. S., Der, C. J., Calvo, B. F., Kim, H. J., Talamonti, M., Iacobuzio-Donahue, C., Perou, C. M., Hollingsworth, M. A., and Yeh, J. J. (2010) *PLOS: Medicine*, 7: e1000307. doi:10.1371/journal.pmed.1000307, PMCID: PMC2903589.
- “Analysis of Dependence Among Size, Rate and Duration in Internet Flows”, C. Park, F. Hernández-Campos, J. S. Marron, K. Jeffay and F. D. Smith (2010) *Annals of Applied Statistics*, 4, 26–52.

- “Weighted Distance-Weighted Discrimination and Its Asymptotic Properties”, Qiao, X., Zhang, H. H., Liu, Y., Todd, M. J. and Marron, J. S. (2010) *Journal of the American Statistical Association*, 105, 401–414, PMID: PMC2996856.
- “SWISS MADE: Standardized Within Class Sum of Squares to Evaluate Methodologies and Dataset Elements”, C. R. Cabanski, Y. Qi, X. Yin, E. Bair, M. C. Hayward, C. Fan, J. Li, M. D. Wilkerson, J. S. Marron, C. M. Perou, D. N. Hayes (2010) *PLoS ONE*, 5(3): e9905. doi:10.1371/journal.pone.0009905, PMID: PMC2845619.
- “Multi-object analysis of volume, pose, and shape using statistical discrimination”, K. Gorczowski, M. Styner, J.-Y. Jeong, J. S. Marron, J. Piven, H. Cody Hazlett, S. M. Pizer, G. Gerig (2010) *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 32, 652-661, PMID: PMC3118303.
- “Direct deconvolution density estimation of a mixture distribution motivated by mutation effects distribution”, M. Lee, H. Shen, C. Burch and J. S. Marron, (2010) *Journal of Nonparametric Statistics*, 22, 1-22.
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- “Quantifying Nonlinear Modes of Variation of Curves”, (2003) with R. Izem, *Proceedings of the 54th Session of the International Statistical Institute*.
- “Analyzing variation in thermal performance curves”, (2003), with R. Izem and J. G. Kingsolver, *Integrative and Comparative Biology*, 43, 929-929.
- “Mice and Elephants Visualization of Internet Traffic”, with Hernández-Campos, F. and Smith, F. D. (2002) in *COMPSTAT 2002 - Proceedings in Computational Statistics - 15th Symposium held in Berlin*, eds. Härdle, W. and Rönz, B., Physika Verlag, Heidelberg.
- “Visual Challenges in Internet Traffic”, (2002) with Bárbara González-Arévalo, F. Hernandez-Campos, and C. Park, in *Proceedings of the Workshop on Data Visualization for large data sets and Data Mining, 2002*, Augsburg, Germany.
- “Intuitive, localized analysis of shape variability”, (2001) Yushkevich, P., Pizer, S. M., Joshi, S., & Marron, J. S. (2001) *Information Processing in Medical Imaging* (pp. 402-408). Springer, Berlin Heidelberg.
- “Smooth Movies”, on *Research at Carolina* web site: at <http://research.unc.edu/>
- “Significance in Scale-Space for Clustering”, with F. Godtlielsen and S. M. Pizer, in *Spatial Cluster Modelling*, Lawson, A. B. and Denison, D. G. T., Eds., Chapman and Hall / CRC Press, 23-37.
- “Bandwidth selection”, (1999) in *Encyclopedia of Statistical Science, Update Volume 3*, eds. S. Kotz, C. B. Read, D. L. Banks, Wiley New York, 18-20.
- “Connected Teaching of Statistics”, with Härdle, W. and Klinke, S. (1999) in *Statistical Computing & Graphics Newsletter*, 10, 12-20.
- “Spectral view of wavelets and nonlinear regression”, (1999) *Bayesian Inference in Wavelet-Based Models*, Müller, P. and Vidakovic, B. Eds., Lecture Notes in Statistics No. 141, Springer, New York, 19-32.
- “Cross-Validation”, article in *Encyclopedia of Biostatistics*, (1998), Armitage, P. and Colton, T. Eds.
- Book Review of *Functional Data Analysis*, by Ramsay, J. O. and Silverman, B. W. (1998) *Journal of the American Statistical Association*, 93, 1232.

“Adapting to a new environment: how a legacy software organization copes with volatility and change”, with N. Staudenmayer, T. Graves, A. Mockus, H. Siy, L. Votta, D. Perry, 5th International Product Development Management Conference, European Institute for Advanced Studies in Management, May 25-26, 1998.

“Significance of Features via SiZer”, with P. Chaudhuri (1998), in *Statistical Modelling, Proceedings of 13th International Workshop on Statistical Modelling*, Brian Marx and Herwig Friedl, Eds., 65-75.

“When is a feature really there? The SiZer approach”, with P. Chaudhuri (1998), *Automatic Target Recognition VII*, Firooz A. Sadjadi, Editor, Proc. of SPIE vol. 3371, 306-312.

“A personal view of smoothing and statistics”, (1996) in *Statistical Theory and Computational Aspects of Smoothing*, eds. W. Härdle and M. Schimek, 1-9 (with discussion, and rejoinder 103-112).

“Bootstrap bandwidth selection”, (1992) in *Exploring the Limits of Bootstrap*, eds. R. LePage and L. Billard, Wiley, New York, 249-262.

“Root n bandwidth selection”, (1991) in *Nonparametric Functional Estimation and Related Topics*, ed. G.G. Roussas, NATO ASI Series C: vol. 335, Kluwer Academic Publisher, Dordrecht, 251-260.

“Window width”, article in *Encyclopedia of Statistical Science*, (1988, Johnson, N. L. and Kotz, S., Eds.)

“What does optimal bandwidth selection mean for nonparametric regression estimation?”, (1987) in *Statistical Data Analysis Based on the L1 norm and related methods*, Dodge, Y. ed. North-Holland Amsterdam, 379-392.

“Will the art of smoothing ever become a science?”, (1986) in *Function Estimates*, volume 59 in AMS Contemporary Mathematics Series, J. S. Marron, ed. 169-178.

Research Papers Submitted for Publication:

“High Dimension Low Sample Size Asymptotics of Canonical Correlation Analysis”, Samarov, D. V., Liu, Y., and Marron, J. S. submitted to *Biometrika*.

“Time Series Functional Data Analysis”, with J. R. Wendelberger and E. M. Kober, submitted to *Journal of Computational and Graphical Statistics*.

“SiZer for Censored Density and Hazard Estimation”, with Jiancheng Jiang (submitted to *Electronic Journal of Statistics*).

Short Courses:

“Object Oriented Data Analysis”, Hailuotu Workshop on Statistics and Computing, Oulu, Finland, (3 one hour lectures), May 2005. Tutorial at Eastern Region of the Biometrics Society Washington DC, March 2012. Swiss Summer School, Ovronnaz, Switzerland, September 2013. Norwegian Winter School, Geilo, Norway, January 2014.

“Simple Inference in Exploratory Data Analysis: SiZer”, Continuing Education Course, American Statistical Association, Atlanta, 2001. Short Course at the Interface Between Statistics and Computational Science, Montreal, 2002.

“Statistical Smoothing and Functional Data Analysis” Finnish Summer School for Stochastics, June 1999 (6 forty five minute lectures).

“Bootstrap bandwidth selection: theory, simulation and visual error” University of Santiago de Compostela, September 1993 (3 one hour lectures).

“Smoothing: a short course (and personal view)” SAS Institute, Jan.-Feb. 1990 (10 one hour lectures), Swedish Summer School, June 1991 (10 one hour lectures).

“Smoothing methods for curve estimation” Australian National University, Jan. 1989 (3 one hour lectures).

“Nonparametric density estimation” Beijing University and Academia Sinica, June 1987 (3 one hour lectures)

Invited addresses:

“Joint and Individual Variation Explained”, Princeton University, May 2016, Newton Institute Cambridge University, July 2016, Bornholm Workshop on Medical Imaging, August 2016, Binghamton University, March 2018, MOX, Polytechnical University of Milan, June 2018, University of Oslo, March 2019, UNC Internel Workshop, March 2019.

“Handling Heterogeneity in Big Data”, Seoul National University, March 2015, 5th Singapore Conference on Statistical Science, April 2015, University of Western Australia, April 2015, East China Normal University, April 2015, Soochow University, April 2015, Shanghai University of Finance and Economics, April 2015, Hong Kong University, April 2015, Chinese University of Hong Kong, April 2015, Cambridge University, July 2015, Banff International Research Station, November 2015.

“High Dimension Low Sample Size Asymptotics”, North Carolina State University, December 2014, Nanyang Technological University Singapore, February 2015, Tsukuba University, February 2015, Indian Statistical Institute – Kolkata, March 2015, University of Western Australia, April 2015, University of California at Davis, September 2016, SMBD Madrid June 2018.

“Fisher Rao Curve Registration in Proteomics”, Joint Statistical Meetings, August 2012, International Conference on Robust Statistics, August 2012, North Carolina State University, March 2013, University of Carlos III Madrid, May 2013, National University of Singapore, January 2015, Soochow University, April 2015, Les Diablerets, May 2016.

“OODA of Tree Structured Data Objects”, Massive Data Meeting Baltimore, University of Melbourne, June 2011, University of Adelaide, June 2011, University of Technology Sydney, July 2011, Invited Talk at Joint Statistical Meetings August 2011, Banff International Research Station, September 2011, Humboldt University Berlin, September 2011, Yale University October 2011, Colorado State University March 2012, Mathematical Biosciences Institute May 2012, Workshop on Geometry Statistics and Bimoiaging, Sandbjerg Denmark October 2012, SAMSI, February 2014, University of Milano Italy, June 2014, IMS APRM Taipei Taiwan, June 2014, Joint Statistical Meetings, August 2014, University of Western Australia, April 2014, European Meeting of Statisticians, Amsterdam, July 2015, ISNPS-2015, Graz, Austria, 2015, University of Nottingham, April 2016, Mathematical Biosciences Institute, September, 2016, Eastern Region of the Biometrics Society, March 2017, TRIPODS Workshop Ohio State University, May 2018.

“FDA for Tree Structured Data Objects”, Joint Statistical Meetings, August 2009, Milan Polytechnic University, June 2010, ISBIS Meeting, Portoroz, July 2010, University of Pennsylvania, December 2010.

“Object Oriented Data Analysis”, Carnegie Mellon University, December 2004, Texas A & M University, January 2005, University of Oslo, January 2005, University of Carlos III Madrid, March 2005, University of Michigan, March 2005, Rand Corp. June 2005, SACD Mikulov, July 2005, SAMSI, July 2005, U. C. Davis, August 2005, Association of the Mexican Statistical Society, September 2005, UNC Dept. of Biostatistics, March 2007, Duke University, September 2007, Concordia University, March 2008, Isaac Newton Institute, Cambridge, May 2008, Bristol University, May 2008, University of Hasselt, September 2008, Joint Statistical Meetings, August 2008, IMS-Asia Pacific Ring Meeting, Seoul, June 2009, IMS-China Meeting, Wei Hai, July 2009, University of Virginia, October 2009, Duke University CTMS, November 2009, IPAM, UCLA, January 2010, Los Alamos National Lab, February 2010, ENAR New Orleans, March 2010, Media Information Retrieval, March 2010, University of South Carolina, April 2010, Ralph Bradley Lecture, University of Georgia, April 2010, ISBIS Meeting, Portoroz, July 2010, Rutgers University, December 2010, Johns Hopkins University, December 2010, ICPSDA Meeting North Carolina State University, April 2011, University of New South Wales, June 2011, University of Adelaide, June 2011, German Statistical Society Leipzig, September 2011, Latin American FDA Workshop Buenos Aires, December 2011, Colorado State University, March 2012, Purdue Symposium on Statistics, June 2012, University of Warwick, June 2012, International Conference on Machine Learning, Edinburgh June 2012, University of Santiago de Compostela October 2012, SEA Inc. January 2013, Tsukuba University, February 2013, Kyoto Workshop on Statistics, March 2013, Wharton School of Business, April 2013, Spanish Biometric Society May 2013, Joint Statistical Meetings Montreal August 2013, Fields Institute Workshop on Multivariate Statistics August 2013. Milan Polytechnic University

September 2013, Swiss Summer School Ovronaz September 2013, .CIMAT Guanajuato Mexico September 2013, Florida State University October 2013, University of Oslo December 2013, Norwegian Winter School Geilo January 2014, Eastern North American Region of the Biometric Society Baltimore, March 2014, ISNPS Cadiz Spain, June 2014, IFWOS Stresa Italy, June 2014, Tai Chung University, Taiwan, July 2014, University of Utah, September, 2014, Oberwolfach, September 2014, AISC UNC Greensboro, October 2014, NCTracs, October 2014, Indian Statistical Institute, March 2015, University of Western Australia, April 2015, Soochow University, April 2015, Humboldt University Berlin, June 2015, Romanian Congress of Mathematicians, June 2015, LASR Meeting Leeds University, July 2015, UNC Department of Psychiatry, July 2015, Mississippi State University, October 2015, Texas Tech University, November 2015, Clemson University, March 2016, Auburn University, March 2016, Cornell University, April 2016, Mathematics Research Institute Oberwolfach, July 2016, University of Wisconsin, October 2016, Thurston Arthritis Center, October 2016, Nordic Baltic Biometrics Conference Copenhagen, June 2017, International Statistical Institute Marrakech July 2017 University of Pittsburgh, September 2017, King Abdullah University of Science and Technology, October 2017, Oberwolfach, January 2018, Institute for Mathematical Sciences Singapore, February 2018, Binghamton University, March 2018, Emory University, March 2018, University of Melbourne, May 2018, Australian National University, May 2018, GADEA Foundation, Madrid, June 2018, University of Seville, September 2018, MATRIX Institute, Creswick, Australia, December 2018, Columbia University, March 2018, New York University, March 2018, CRoNoS Workshop, Cyprus, April 2019, George Mason University, May 2019.

“Overview of High Dimension Low Sample Size Data Analysis”, Invited Talk, UNC Biostatistics 60th Anniversary Celebration, October 2009.

“Statistical Significance of Clusters in High Dimension Low Sample Size Data”, Invited Talk, Joint Statistical Meetings, August 2007.

“Developer / Adopter Best Practices”, joint presentation with Louise Showe, Wistar Cancer Center, caBIG™ Integrative Cancer Research Face to Face Meeting, St. Louis, May 2005.

“Mathematical Statistics in Image Analysis”, Mathematics Research Institute, Oberwolfach, November 2004.

“DWD Normalization of Micro-Array Batch and Cross-Platform Effects”, Cambridge Health Micro-Array Workshop, August 2004, Mohonk Micro-Array Meeting, September 2004, APIII Meeting, Pittsburgh, October 2004.

“Mathematical Statistics for High Dimension Low Sample Size Data”, Workshop on Robust Statistics for High Dimensional Data, Voral, Austria, May 2004, Keystone Workshop on Innovations in Semiparametric Statistics, June 2007, Workshop on Methods and Applications in Modern Statistics in Honor of David Ruppert’s 60th Birthday, June 2008, BIRS Institute, Banff, September 2008.

- “Bias Adjustment”, caBIG (cancer Bio-Informatics Grid) Kickoff meeting, February, 2004.
- “An Overview of the SAMSI program on Network Modeling for the Internet”, National Institute for Standards and Technology, Spring Research Conference, May 2004, SAMSI Undergraduate Workshop, May 2004, Society of Industrial and Applied Mathematics, Portland, July 2004, Joint Statistical Meetings, Toronto, August 2004.
- “An Overview of Support Vector Machines and Kernel Methods”, Midwest Bio-Pharmaceutical Meeting, May 2003, SAMSI Workshop on Data Mining and Machine Learning, September 2003.
- “Distance Weighted Discrimination and Geometric Representation of HDLSS Data”, Workshop on Functional Data Analysis, University of Florida, January 2003, Computer Science, University of North Carolina, February 2003, Iowa State University, March 2003, University of Iowa, March 2003, IMS Medallion Lecture, March 2003, Northern Illinois University, April 2003, Washington University, St. Louis, April 2003, Purdue Symposium, June 2003, AMS Workshop on Machine Learning, Snowbird, Utah, June 2003, Joint Statistical Meetings, August 2003, University of New South Wales, October, 2003, University of British Columbia, January, 2003, National University of Singapore, March, 2004, Indian Statistical Institute, March 2004, University of Calcutta, March 2004.
- “A SiZer Analysis of IP Flow Start Times”, Meeting of the Interface between Statistics and Computing Science, Salt Lake City, March 2003.
- “Visual Challenges in Internet Traffic Research”, Meeting on Statistical Visualization of Large Data Sets”, Augsburg, Germany, October 2002.
- “The Functional Data View of Longitudinal Data”, AMS Workshop, Mt. Holyoke, MA, July 2002.
- “A statistician’s adventures in internetland”, Johns Hopkins University, April 2002, CIMAT, Guanajuato, Mexico, May 2002, Case Western Reserve University, June 2002, Curve Estimation Meeting, Crete, July 2002, Compstat – Berlin, August 2002, UNC, September 2002, Allerton Computer Science Meeting, October 2002, MASCOTS Networks Meeting, October 2002, Duke Statistics, October 2002, University of Pennsylvania, October 2002, Duke Computer Science, November 2002, Northern Illinois University, April 2003, University of Calcutta, March 2004, 9th Annual INFORMS Computing Society Conference, Annapolis, January 2005, University of Carlos III, Madrid, March 2005, University of Michigan, March 2005, Cornell University Workshop on Heavy Tails and Long Range Dependence, April 2005.
- “Statistical Analysis of Micro-Array Data”, University of Heidelberg, Tromsø University, July 2001.

“Zooming Statistics: Analysis of Internet Traffic Data”, University of Heidelberg, Tromsø University, July 2001, Korean Statistical Society, August 2001, Institute for Mathematics and Its Applications, August 2001.

“Statistical Analysis of High Dimension Low Sample Size Data”, Mathematische Forschungsinstitute, Oberwolfach, September, 2000, Stanford University, February, 2001, NCAR, March 2001, MSRI, March 2001, Harvard University, April 2001, University of Heidelberg, Dortmund University, Tromsø University, July 2001, International Statistical Institute Meeting, Seoul, August 2001, Cornell University, October 2001.

“Understanding the Structure of Complex Populations” Florida State University, May 1999, 50th Anniversary Conference, Department of Statistics, Virginia Polytechnical Institute and State University, August 1999, Gertrude M. Cox Statistical Conference, Research Triangle Institute September, 1999, Queens University, January 2000, Hong Kong Baptist University, May 2000, Central South University, Changsha, China, June 2000, Beijing University, June 2000, University of Santiago de Compostela, July 2000.

“Significance in Scale Space” UNC Department of Computer Science, May 1999, Weierstrass Institute for Stochastics, Berlin, May 1999, National Center for Atmospheric Research, Boulder, Co, July 1999. Center for Advanced Computing and Communication, North Carolina State University, October 1999, Michigan State University, October 1999, UNC Radiology Research Review, February, 2000, Spring ENAR Meeting, Chicago, March 2000, Chinese University of Hong Kong, May 2000, Central South University, Changsha, China, June 2000, Chang An University, Xian, China, June 2000, Beijing University, June 2000, University of Santiago de Compostela, July 2000, Joint Statistical Meetings, Indianapolis, August 2000, Colorado State University, March 2001, Cheju University, August 2001.

“Significance of Features via SiZer” 13th International Workshop on Statistical Modelling, New Orleans, July 1998, SAS Institute, March 1999.

“Smoothing Methods for Learning from Data”, Tutorial at SIG-KDD Data Mining Conference, New York, August, 1998.

“SiZer Analysis of Trends in Software Engineering”, IMS Regional Meeting, Santa Fe, June 1998.

“When is a feature really there? The SiZer approach”, Case Western Reserve University, January 1998, University of New Mexico, March 1998, Aerosense, Conference of the Society of Photoelectric and Optical Engineers, Orlando, Fla. April 1998, Humboldt University of Berlin, University of Heidelberg, June 1998, Joint Statistical Meetings, Dallas, August 1998.

“Interactive Local Bandwidth Choice”, IMS Meeting, Park City, Utah, July 1997.

- “Structure exploration in smoothing and scale space theory from computer vision”, Mathematics Institute Oberwolfach, Germany, March 1997, Workshop on Bumps, Jumps and Classification, Houston, June 1997, Young Researchers Meeting, Laramie, Wyoming, July 1996, University of New Brunswick, October 1997.
- “Bayesian Wavelet Shrinkage”, Sydney International Statistical Conference, July 1996, Nonparametric Statistics Workshop, Catholic University of Louvain, Belgium, February, 1997, Workshop on “Recent Developments in Smoothing Methods”, New York University, May 1997, Duke University Workshop on Wavelets, October 1997.
- “Smoothing: Past, Present and Future”, University of North Carolina, Dept. of Statistics, September 1995, Dept. of Biostatistics, January 1997, Virginia Polytechnic Institute, November 1996.
- “Exact Risk Analysis of Wavelet Regression”, University of New South Wales, June 1995, CSIRO, Sydney, Australia, June 1995, UCLA, June 1995, IMS Meeting, Montreal, July 1995, Statistics and Econometrics Meeting, Berlin, September, 1995, University of Toronto, October 1995, Johns Hopkins University, December 1995, Cornell University, March 1995, Heidelberg University, May 1995.
- “Introduction to Adaptive Estimation”, 3rd World Congress of the Bernoulli Society, Chapel Hill, June 1994.
- “Nonparametric Curve Estimation: Bandwidth Selection”, North Carolina Chapter of the ASA, April 1994, York University, Ontario, October 1995.
- “Edge Preserving Smoothers for Image Processing: An M-smoothing Approach”, Oberwolfach, March 1993, Clemson University, April 1994, Australian National University, June 1994, Australian Graduate School of Management, September 1994, Statistical Society of Australia, April 1995, CSIRO, April 1995, JASA Theory and Methods Invited Talk, Joint Statistical Meetings, Anaheim, August 1997.
- “Fast Implementations of Nonparametric Curve Estimators”, C.O.R.E., Belgium, May 1993, Humboldt University, Berlin, May 1993, Interface Between Statistics and Computer Science, June 1994.
- “Assessing Bandwidth Selectors by Visual Distance”, Academia Sinica, Taiwan, March 1993.
- “Visual Error Criteria for Qualitative Smoothing”, Oberwolfach, February 1993, Limburg University Center, Belgium, May 1993. Queens University, Kingston, Ontario, August 1993, Center for Stochastic Processes, December 1993, University of South Carolina, April 1994, Virginia Polytechnic University, May 1994, Australian National University, August 1994, University of Newcastle, April 1995.
- “Exact Risk Calculations”, University of Heidelberg, August 1991, University of Santiago de Compostela, Spain, September 1991, INRA, Montpellier, September 1991, Beijing University, October 1991. Academia Sinica, Taiwan, November 1991, Rice University,

March 1992, Texas A&M University, March 1992, Purdue Symposium, June 1992, Australian National University, July 1994.

“Bias in bandwidth selection”, Conference on Curve Estimation and Image Analysis, Heidelberg, March 1991.

“Root n bandwidth selection”, Mathematical Sciences Institute Workshop on Function Estimation - Cornell University, June 1990, NATO Advanced Studies Institute, Spetses, Greece, August 1990, University of Michigan, September 1990, University of Chicago, October 1990, University of Wisconsin, Madison, October 1990, Pennsylvania State University, January 1991, University of British Columbia, March 1991, Limburg University Center, Belgium, May 1991, University of Toulouse, September 1991, Beijing University, October 1991, Hunan Normal University, China, November 1991, National Tsing Hua University, Taiwan, November 1991.

“Bootstrap bandwidth selection”, IMS Meeting, East Lansing, Michigan, May 1990, Meeting of the Dutch Statistical Society, May 1991, Humboldt University, Berlin, July 1991, University of Santiago de Compostela, Spain, September 1991, Autonomous University of Madrid, September 1991, Institute of Systems Science, Academia Sinica, Beijing, October 1991.

“Transformations in density estimation”, Mathematical Sciences Institute, Cornell University, July 1989, NATO Advanced Studies Institute, Spetses, Greece, August 1990, Contact Day of Belgian Statistical Society, June 1991, University of Heidelberg, September 1991, University of Santiago de Compostela, Spain, September 1991, University of Carlos III, Madrid, September 1991, Beijing University, October 1991, Central South University of Technology, Changsha, China, November 1991, Taiwan National Central University, November 1991.

“Automatic smoothing parameter selection: A survey”, Oberwolfach, March 1989; Universität Heidelberg, March 1989; University of Western Ontario, March 1989; Rutgers University, December 1989.

“Bootstrap simultaneous error bars for nonparametric regression”, Delft University, September 1988; North Carolina State University, October 1988; Pennsylvania State University, November 1988; Australian National University, February 1989; University of Western Ontario, March 1989.

“Lower bounds for bandwidth selection in density estimation”, Statistics Days, Universität Heidelberg, July 1988; Leiden University, September 1988.

“On the selection of a bandwidth selector”, Statistical Computing Conference, Schloss Reisenberg, June 1988.

“Kernel quantile estimation”, Statistical Conference at the University of North Carolina Charlotte, December 1987.

- “Nonparametric curve estimation: who needs it?”, Department of Biostatistics, University of North Carolina, November 1987; Free University of Amsterdam, September 1988, North Carolina Chapter of the ASA, January 1994.
- “What does optimal bandwidth selection mean for nonparametric regression estimation?”, First International Conference on the ∞ norm, Neuchatel, September 1987.
- “Nonparametric density estimation”, Yunnan University, July 1987.
- “Partitioned cross-validation”, Conference on Nonparametric Inference, University of Western Ontario, May 1987.
- “Pooling smoothing information in nonparametric regression”, Stanford University, May 1987, Indian Statistical Institute, Delhi, August 1987, Rice University, Texas A&M University, Southern Methodist University, March 1988; University of Lancaster, July 1988; Universität Heidelberg, August 1988; Meeting of the Dutch Statistical Society, September 1988.
- “What are cross-validated scatterplot smoothers really ‘feeling’?”, SRCOS/ASA SRC University of South Alabama, June 1986; University of Western Australia, October 1986; University of California, Davis, University of California, Berkeley, December 1986.
- “Art and science in density estimation”, Universität Bonn, June 1986.
- “What do nonparametric smoothing parameter selectors really ‘feel’?”, Stanford University, March 1986; Universität Giessen, May 1986; CSIRO Sydney, October 1986.
- “Will the art of smoothing ever become a science?”, Yale University, Harvard University, November 1985; UCLA, December 1985; Melbourne University, La Trobe University, August 1986; Australian Statistical Society, A. C. T. Branch and Western Australia Branch, September 1986; CSIRO Sydney, October 1986.
- “How well can a smoothing parameter be selected?”, University of California, Berkeley, October 1985.
- “Automatic bandwidth selection in nonparametric kernel regression”, Joint Statistical Meetings, Las Vegas, August 1985.
- “The amount of noise inherent in bandwidth selection for a kernel density estimate”, AMS workshop on Function Estimates, Arcata, Calif., July 1985.
- “A survey of cross-validators smoothing parameter selectors in nonparametric function estimation”, North Carolina State University, September 1984.
- “A comparison of cross-validation techniques in density estimation”, Universität Heidelberg, June 1984; University of South Carolina, University of Georgia, Georgia Technical University, May 1985.

“Cross-validation in density estimation from a likelihood point of view”, Royal Agricultural and Veterinary University, Copenhagen, May 1984.

“An asymptotically efficient solution to the bandwidth problem of kernel density estimation”, University of North Carolina, Chapel Hill, January 1983.

“Optimal rates of convergence in nonparametric discrimination”, ASA meeting, San Diego, Calif. June 1982.

Discussions and Panels:

Discussion in person of Session on “Object Oriented Data Analysis”, International Chinese Statistical Association, Raleigh, NC, June 2019.

Panelist on Closing Discussion of “Big Data”, GADEA Foundation, Madrid, June 2018.

Panelist on Discussion “Statistical Methods for Heterogeneous Data”, ISNPS-2015, Graz, Austria, July 2015.

Discussion in person of Joint Statistical Meetings, Montreal, Session 105, “Machine Learning and Nonparametric Statistics: Covariance Matrices as Data Objects”, August 2013.

Discussion in person of Joint Statistical Meetings, San Diego, Session 61, “Innovative Statistical Applications to Business”, August 2012.

Discussion in person of Joint Statistical Meetings, Vancouver, Session 443, “Recent Developments in Functional Data Analysis”, August 2010.

Panelist on “Understanding Complexity in Natural, Built, and Social Systems”, SAMSI Workshop on Cyber-enabled Discovery and Innovation, November 2007.

Discussion of “Divining Complexity Patterns in Open Source Software Projects using Functional Data Analysis”, by Sherae Daniel, in Statistical Challenges In Ecommerce, First Interdisciplinary Symposium Between Information Systems, Statistics And Related Fields, Smith School of Business, University of Maryland, May 2005.

Panelist on “The Internet as a Data Source: Challenges in Collecting, Evaluating, Using Web Data in Statistical Analysis”, Statistical Challenges In Ecommerce, First Interdisciplinary Symposium Between Information Systems, Statistics And Related Fields, Smith School of Business, University of Maryland, May 2005.

Panelist on “Developer / Adopter Best Practices”, caBIG™ Annual Meeting, Washington DC, April 2005.

- Panelist on “caBIG”, American Association of Cancer Institutes Annual Meeting, Chicago, October, 2004.
- Panelist on “The Future of Robust Statistics”, at the Workshop on Robustness for High Dimensional Data, Vorau, Austria, May 2004.
- Panelist on: Statistical Modeling - A Panel Discussion, 50th Anniversary Conference, Department of Statistics, Virginia Polytechnical Institute and State University, August 1999.
- Panelist discussing: Analysis of Software Evolution Data, Joint Statistical Meetings, Baltimore, August 1999.
- Discussion in person of ASA Invited Paper Session on “Software Decay”, Joint Statistical Meetings, Anaheim, August 1997.
- Written discussion, with Härdle and Yang, of “Polynomial splines and their tensor products in extended linear modeling”, by Stone, Hansen, Kooperberg and Truong, (1997) Annals of Statistics, 25, 1443-1451.
- Second to the vote of thanks for the JRSS-B Read Paper: “Wavelet shrinkage: Asymptopia?” by Donoho, Johnstone, Kerkyacherian, and Picard, on June 1994.
- Written discussion of “Locally weighted regression: kernel carpentry”, by Hastie and Loader, (1993) *Statistical Science*, 8, 129-134.
- Written discussion of “Practical performance of several data driven bandwidth selectors”, by Park and Turlach, (1993) *Computational Statistics*, 8, 17-19.
- Written discussion of “The performance of six popular bandwidth selection methods on some real data sets”, (1992) *Computational Statistics*, 7, 271-273.
- Written discussion (with E. Mammen) of “Empirical functionals and efficient smoothing parameter selection”, by P. Hall and I. Johnstone, (1991) *Journal of the Royal Statistical Society*, Series B, 54, 475-530.
- Discussion in person of “Nonparametric regression estimation by orthogonal series under generalized conditions” by I. A. Ahmad and A. M. Barry and of “Bayes prediction density and regression estimation” by R. C. Tiwari, S. Chib, S. R. Jammalamadaka, Conference on Semiparametric and Nonparametric Inference, University of Western Ontario, May 1987.
- Discussion in person of “Nonparametric regression estimation by orthogonal series under generalized conditions” by I. A. Ahmad and A. M. Barry and of “Bayes prediction density and regression estimation” by R. C. Tiwari, S. Chib, S. R. Jammalamadaka, Conference on Semiparametric and Nonparametric Inference, University of Western Ontario, May 1987.

Discussion in person of “Nonparametric estimation of density and hazard rate functions when samples are censored”, by W. J. Padgett, SREB/ASA conference, Boone, N.C. June 1985.

Written discussion of “Some aspects of the spline smoothing approach to nonparametric regression curve fitting”, by B. W. Silverman, (1985) *Journal of the Royal Statistical Society, Series B*, 47, 1-52.

Teaching record:

Spring 2021:

- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Fall 2020:

- STOR 155, Intro Statistics.
- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Spring 2020:

- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Fall 2019:

- STOR 765, Statistical Consulting.
- STOR 881, Object Oriented Data Analysis.
- STOR 910, Directed Reading.

Spring 2019:

- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Fall 2018:

- STOR 155, Intro Statistics.
- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Spring 2018:

- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Fall 2017:

- STOR 765, Statistical Consulting.
- STOR 891, Object Oriented Data Analysis.
- STOR 910, Directed Reading.

Spring 2017:

- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Fall 2016:

- STOR 155, Intro Statistics.
- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Spring 2016:

- STOR 893, Object Oriented Data Analysis.
- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Fall 2015:

- STOR 155, Intro Statistics.
- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Spring 2015:

- National University of Singapore, ST5243, Object Oriented Data Analysis.

Fall 2014:

- STOR 892, Object Oriented Data Analysis.
- STOR 910, Directed Reading.

Spring 2014:

- STOR 155, Intro Statistics.
- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Fall 2013:

- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Spring 2013:

- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Fall 2012:

- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Spring 2012:

- STOR 155, Intro Statistics.
- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Fall 2011:

- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Spring 2011:

- STOR 891, Analysis of Object Data II, also listed as STA 294 at Duke, and as MA/ST 810 at NCSU.
- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Fall 2010:

- STOR 891, Analysis of Object Data I, also listed as MATH 892, as STA 294 at Duke, and as MA/ST 810 at NCSU.
- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Spring 2010:

- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Fall 2009:

- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Spring 2009:

- STOR 155, Intro Statistics.
- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Fall 2008:

- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Spring 2008:

- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Fall 2007:

- STOR 891, Special Problems, "Object Oriented Data Analysis".
- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Spring 2007:

- STOR 155, Intro Statistics.
- STOR 765, Statistical Consulting.

- STOR 910, Directed Reading.

Fall 2006:

- STOR 765, Statistical Consulting.
- STOR 910, Directed Reading.

Spring 2006:

- STAT190, Statistical Consulting.
- STAT 394, Doctoral Dissertation.

Fall 2005:

- STAT 322, Special Problems, “Object Oriented Data Analysis”.
- STAT190, Statistical Consulting.
- STAT 394, Doctoral Dissertation.

Spring 2005:

- STAT190, Statistical Consulting.
- STAT 31, Intro Statistics.
- STAT 394, Doctoral Dissertation.

Fall 2004:

- STAT190, Statistical Consulting.
- STAT 394, Doctoral Dissertation.

Fall 2003:

- Stat 322, SAMSI Course on Statistical Analysis and Modelling of Internet Traffic Data.
- STAT 394, Doctoral Dissertation.

Fall 2002:

- Stat 6D, Freshman Seminar, Visualizing Data.
- STAT 394, Doctoral Dissertation.

Spring 2002:

- Cornell University, OR 779, Function Data Analysis.

Fall 2001:

- Cornell University, OR 778, Statistical Analysis and Modelling of Internet Traffic Data.

Spring 2001:

- STAT 321, Special Problems, Functional Data Analysis.
- STAT 394, Doctoral Dissertation.

Fall 2000:

- STAT 31, Intro Statistics.
- STAT 394, Doctoral Dissertation.

And many earlier courses at all levels. An important high point:

Fall 1999: STAT 23, Taught first Excel based Section of Intro Statistics.

Grants:

National Science Foundation, Grant IIS-1633074, BIG DATA 2016-2019 (PI).

National Science Foundation, Grant DMS-0854908, 2009-2012 (PI).

National Science Foundation, Grant DMS-0606577, 2006-2009 (PI).

National Science Foundation, Grant DMS-0308331, 2003-2006 (PI).

National Science Foundation, Statistical and Applied Mathematical Sciences Institute, 2003-2005 (Co-PI, PI: J. O. Berger).

National Science Foundation, Grant DMS-9971649, 1999-2001 (PI).

National Science Foundation, Grant DMS-9504414, 1995-1997 (PI).

W. N. Reynolds Leave, University of North Carolina, 1994-1995 (PI).

National Science Foundation, Grant DMS-9203135, 1992-1994 (PI).

National Science Foundation, International Travel Grant INT-9107498, 1991-1993 (PI).

National Science Foundation, Grant DMS-8902973, 1989-1991 (PI).

National Science Foundation, Grant DMS-8701201, 1987-1988 (Co-PI, PI: G. D. Simons).

National Science Foundation, Grant DMS-8400602, 1985-1986 (Research Fellow, PI: G. D. Simons).

Faculty Development Grant, University of North Carolina, 1986 (PI).

Office of Naval Research, Contract N00014-81-K-0373, July 1983, 1984 (Research Fellow, PI: C. R. Baker).

Office of Naval Research, Contract N00014-75-C-0809, June 1983 (Research Fellow, PI: M. R. Leadbetter).

Professional Service:

To discipline:

Scientific Program Committee, International Workshop on Functional and Operatorial Statistics, Brno, Czech Republic, June 2020.

Organizer of Session “Object Oriented Data Analysis”, International Chinese Statistical Association, Raleigh, June 2019.

Organizer of Session “Graphs and Trees in Object Oriented Data Analysis”, International Society for Nonparametric Statistics, Salerno, Italy, June 2018.

Organizer of Session “Phase Variation (Curve Registration) in Functional Data Analysis”, Joint Statistical Meetings, Baltimore, MD, August 2017.

Scientific Program Committee, International Workshop on Functional and Operatorial Statistics, A Coruña, Spain, June 2017.

Organizer of Session “Object Oriented Data Analysis”, CMStatistics, University of London, United Kingdom, December 2016.

Organizer of Session “Object Oriented Data Analysis: Persistent Homology Representations”, 9th World Congress of Probability and Statistics, Fields Institute, Toronto, Canada, July 2016

Organizer of Session “Object Oriented Data Analysis – Tree Structured Data Objects”, at 7th International Conference of the ERCIM WG on Computational and Methodological Statistics (ERCIM 2014), Pisa, Italy, December 2014.

Co-Organizer of Mini-Workshop: Asymptotic Statistics on Stratified Spaces, Mathematics Research Institute Oberwolfach, September 2014.

Organizer of Session 105, “Machine Learning and Nonparametric Statistics: Covariance Matrices as Data Objects”, Joint Statistical Meetings, Montreal, August 2013.

Organizing Committee (with review responsibilities), Medical Image Computing and Computer Assisted Intervention , Workshop on Mathematical Fundamentals of Computational Anatomy, September 22, 2013.

Organizing Committee, Mathematical Bioscience Institute Workshop "CTW: Statistics of Time Warpings and Phase Variations", November 2012.

Organizing Committee Member, International Workshop on Functional and Operatorial Statistics, Santander, Spain, June 2011.

Organizing Committee, SAMSI Program on Analysis of Object Data, July 2010 – June 2011.

External Review, Department of Statistics, Colorado State University, March 2010.

Program Committee, 40th Symposium on the Interface: Computing Science and Statistics, May 2008.

Chair, American Statistical Association, Nonparametric Statistics Section, 2005-2006.

External Reviewer of Statistics Program, University of California, Davis, May 2005.

Organizer of Session *Internet Tomography*, International Statistical Association Meeting, Sydney, April 2005.

CAMDA2004 (Critical Assessment of Microarray Data Analysis), Scientific Committee Member

Sigmetrics 2003, Program Committee Member.

Co-Chair of Program *Network Modeling for the Internet*, Statistical and Applied Mathematical Sciences Institute, Fall 2003.

Program Committee, 54th Meeting of the International Statistical Institute – Bernoulli Society, Berlin, 2003.

Program Chair, American Statistical Association, Nonparametric Statistics Section, Joint Statistical Meetings, San Francisco, August 2003

Program Committee, International Conference on Current Advances and Trends in Nonparametric Statistics, July 15-19, 2002, Crete, Greece

Council Member, Institute of Mathematical Statistics, 2002-2005.

Advisory Committee, Workshop on Developments and Challenges in Mixture Models, Bump Hunting and Measurement Error Models, June 2 to 4, 2002, Case Western Reserve University

Program Review of Department of Mathematics and Statistics, Queens University for the Ontario Graduate Council, April 2002.

Reviewer of the National Science Foundation IGERT grant at Brown University, March, 2002.

Organizer of Session: Internet: Network Management and Engineering Performance, 53rd Meeting of the International Statistical Institute, Seoul, Korea, August 2001.

Organizer of NISS Affiliates Workshop on Internet Traffic Modeling and Analysis, March 9-10, 2001

Program Chair, Statistical Computing Section, American Statistical Association, 2000.

Member, IMS Publications Committee, 1997-2000, Chair 1999-2000.

SIGKDD Data Mining, Awards Committee, 1999.

External reviewer: Department of Statistics, University of South Carolina, Columbia, 1999.

Organizing Committee Member: NSF workshop: Bumps, Jumps, Clustering, and Discrimination, Rice University, May 1997.

Publications Liaison Officer, Statistical Computing Section, American Statistical Association, 1997-1999.

Senior Fellow, National Institute of Statistical Science, 1996-1999.

Panelist: NSF CAREER Award Panel, 1996.

Member, IMS Nominations Committee, 1995-1996.

Organizer of Session “Fast Implementations of Smoothers”, Symposium on the Interface Between Statistics and Computer Science, Research Triangle Park, North Carolina, June 1994.

Executive Board Member, North Carolina Chapter of the American Statistical Association, 1992-1993.

Program Committee, IMS Annual Meeting, Atlanta, August 1991.

Organizer (with David Ruppert) of Cornell University, Mathematical Sciences Institute, Workshop: Function Estimation and Statistical Applications, June 13-16, 1990.

Organizer and Chair of Session “Bootstrapping in Curve Estimation”, Symposium on the Interface Between Statistics and Computer Science, East Lansing, Michigan, May 1990.

Organizer and Chair of Session “Smoothing Parameter Selection”, IMS Meeting, Baltimore, Maryland, April 1990.

Official CBMS observer to NSF/CBMS Regional Conference, “Mathematical Statistics - Spline and Partial Spline Models”, Columbus, Ohio, March 1987.

Organizing Committee member, AMS Workshop on “Function Estimates”, Arcata, California, July 1985.

Editorial Activities:

Associate Editor of *Electronic Journal of Statistics*, 2007-2015

Associate Editor of *Computational Statistics*, 1992-2004.

Associate Editor of *Journal of Nonparametric Statistics*, 1991-2003.

Associate Editor of *Test*, 1996-2002.

Associate Editor of the Theory and Methods section of *The Journal of the American Statistical Association*, 1988-1999.

Associate Editor of *The Annals of Statistics*, 1987-1991.

Editor of *Proceedings of Workshop on "Function Estimates"*, Volume 59 in AMS Series "Contemporary Mathematics" 1986.

Referee for: *Advances in Statistical Analysis*, *Annals of Biomedical Engineering*, *Annals of Statistics*, *Annals of the Institute of Statistical Mathematics*, *Australian Journal of Statistics*, *Bioinformatics*, *Biometrics*, *Biometrika*, *Brazilian Journal of Probability and Statistics*, *Canadian Journal of Statistics*, *Communications in Nonlinear Science and Numerical Simulation*, *Communications in Statistics*, *Computational Statistics and Data Analysis*, *Computer Aided Design*, *Computerized Medical Imaging and Graphics*, *Econometric Reviews*, *Econometric Theory*, *Econometrica*, *Econometrics*, *Electronic Communications in Probability*, *Electronics and Telecommunications Research Institute Journal*, *Empirical Economics*, *Environmental and Ecological Statistics*, *European Journal of Operational Research*, *Evolutionary Biology*, *Genome Biology*, *Genome Research*, *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, *IEEE Transactions on Information Theory*, *IEEE Transactions on Medical Imaging*, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, *IEEE Transactions on Signal Processing*, *International Statistical Review*, *Journal of the American Statistical Association*, *Journal of Applied Mathematics and Stochastic Analysis*, *Journal of Applied Statistics*, *Journal of Chemical Information and Modeling*, *Journal of Computational and Graphical Statistics*, *Journal of Econometrics*, *Journal of Machine Learning Research*, *Journal of Mathematical Imaging and Vision*, *Journal of Multivariate of Analysis*, *Journal of Statistical Computation and Simulation*, *Journal of Statistical Planning and Inference*, *Journal of Statistical theory and Practice*, *Journal of the Royal Statistical Society, Series B*, *The Lancet*, *Machine Learning*, *Mathematical Problems in Engineering*, *Metrika*, *Monthly Weather Review*, *Nature Computational Science*, *Network Neuroscience*, *Pakistan Journal of Statistics*, *PLOSone*, *Psychometrika*, *Royal Society Open Science*, *Sankhya*, *Scanning Microscopy*, *Scandinavian Journal of Statistics*, *Science*, *SIAM Journal on Applied Mathematics*, *South African Statistical Journal*, *Statistica Neerlandica*, *Statistica Sinica*, *Statistical Papers*, *The Statistician*, *Statistics*, *Statistics and Computing*, *Statistics and Probability Letters*, *Statistics in Medicine*, *Stochastic Processes and Their Applications*, *Technometrics*, and *The American Statistician*.

Grant Proposals Reviewed for:

National Science Foundation (U. S. A.)

National Security Agency (U. S. A.)
National Research Council (U. S. A.)
Army Research Office (U. S. A.)
NSERC (Canada)
Canadian Statistical Sciences Institute (Canada)
Banff International Research Station (Canada)
Australian Research Council
University Grants Committee (Hong Kong)
International Science Foundation
EPSRC (United Kingdom)
Netherlands Organisation for Scientific Research
Dutch Research Council (NWO)
European Research Council
European Commission on Research and Innovation (ERCEA)
FRD SNO (South Africa)
Czech Science Foundation

Consulting Activities

Wagner and Associates
Los Alamos National Laboratory
Becton Dickinson and Company (BD)
Hewlett Packard (HP) Laboratories

Within UNC-Chapel Hill:

School of Data and Information Science Committee, 2020

Research Subcommittee of School of Data Science Feasibility Study, 2019

Creativity Hubs Review Team, 2019.

Lineberger Cancer Center, UCRF Review Team, 2018-2019.

Director: Consulting Center, Department of Statistics and Operations Research, University of North Carolina, 1995-1996, 1999-2000, 2004-2019.

P.K. Sen Visiting Distinguished Professorship Search Committee, 2011-2021

Equal Employment Opportunity Officer, Department of Statistics and Operations Research, 2004-2015

Departmental Review, Department of Mathematics, November 2007.

UNC Internal PIRE NSF Grant Review Team, 2005.

Administrative Board of the Library, Member, 2001-2004.

Organizer of “Network Data Analysis Study Group” of researchers in Statistics, Computer Science and Operations Research, 2000-.

Departmental Review, Environmental Science and Engineering, April 2000.

Faculty Advisor for the SPGRE Program to recruit minority graduate students, 1999.

Member, Bioinformatics Search Committee, 1999-2001.

Panelist on College of Arts and Sciences Bioinformatics Task Force, 1998-1999.

Faculty Advisor, Badminton Club (1992-2013).

Ph. D. Students:

Current: Jack Prothero (joint with Jan Hannig), Xi Yang (joint with Katie Hoadley and Jan Hannig), Jonghwan Yoo (joint with Jan Hannig), Siyao Liu (BCB, joint with Charles Perou), Yue Pan (Biostatistics, joint with Di Wu), Thomas Keefe, Siqi Xiang (joint with Kai Zhang), Elyse Borgert, Taebin Kim (joint with Yao Li), Dongneuck Lee (Biostatistics, joint with Yao Li).

Jasmine Liuqing Yang (joint with Hongtu Zhu) 2019, “Statistical Methods for Deconvolution in Cancer Genomics”, AbbVie Pharmaceuticals.

Iain Carmichael (joint with Shankar Bhamidi) 2019, “Probabilistic And Geometric Approaches To The Analysis Of Non-Standard Data”, Postdoc, University of Washington.

Hyo Young Choi (joint with Neil Hayes) 2018, “Scissor for Finding Outliers in RNA-seq”, Postdoc, University of Tennessee Health Science Center.

Meilei Jiang (joint with Perry Haaland, Jan Hannig) 2018, “Statistical Learning of Integrative Analysis”, Goldman Sachs.

Yang Yu (joint with Hongtu Zhu and Haipeng Shen) 2017, “Advanced Statistical Models for Imaging and Genetic Data”, Goldman Sachs.

Qunqun Yu (joint with Kai Zhang) 2017, “Curve Registration and Human Connectome Data”, JP Morgan.

Hyo Won An (joint with Dirk Dittmer, Kai Zhang) 2017, “Gaussian Centered L-Moments”, JP Morgan.

Qing Feng (joint with Jan Hannig) 2016, “Statistical Integration Of Information”, Facebook.

Haojin Zhai (joint with Scott Provan) 2016, “Principal Component Analysis In Phylogenetic Tree Space”, ComScore.

Patrick Kimes (joint with Yufeng Liu and Neil Hayes) 2015, “New Statistical Learning Approaches with Applications to RNA-seq Data”, Postdoctoral Research Fellow, Dana Farber Cancer Institute.

Di Miao (joint with Jason Fine) 2015 “Class Sensitive Principal Components Analysis”, Bank of America.

Jie Xiong (joint with Dirk Dittmer) 2015 “Radial Distance Weighted Discrimination”, Quantitative Associate, Wells Fargo Bank, Charlotte.

Sean Skwerer (joint with Scott Provan) 2014 “Tree Oriented Data Analysis”, Operations Research Scientist, Cruise Animation.

Susan Wei (joint with Michael Kosorok) 2014 “Latent Supervised Learning and DiProPerm”, Assistant Professor, University of Melbourne.

Jörn Schulz (University of Tromsø, joint with F. Godtliebsen and S. M. Pizer) 2013, “Statistical Analysis of Medical Shapes and Directional Data”, Postdoc, University of Stavanger.

Xiaosun Lu (joint with Perry Haaland) 2013 “Object Oriented Data Analysis of Cell Images and Analysis of Elastic Functions”, Biostatistician, Quintiles.

Petro Borysov (joint with Jan Hannig) 2013 “Statistical methods in chemoinformatics” SAS Institute.

Dan Shen (joint with Haipeng Shen) 2012 “Sparse PCA Asymptotics and Analysis of Tree Data”, Assistant Professor, University of South Florida.

Tony Tongying Wu (Biomedical Engineering, joint with Alex Tropsha) 2012, Linguamatics.

Christopher R. Cabanski (joint with D. Neil Hayes) 2012 “Statistical Methods for Analysis Genetic Data”, Senior Biostatistician, Parker Institute for Cancer Immunotherapy.

Eric F. Lock (joint with Andrew Nobel) 2012 “Vertical Integration of Multiple High-Dimensional Datasets”, Assistant Professor, University of Minnesota.

Hanwen Huang (joint with Yufeng Liu) 2011 “Some Contributions To High Dimensional Statistical Learning”, Associate Professor, University of Georgia.

Ying Yuan (joint with Hongtu Zhu) 2011 “Statistical Analysis of Symmetric Positive-definite Matrices”, Biostatistician, St. Jude’s Children’s Hospital.

Sungkyu Jung 2011 “Asymptotics for High Dimension, Low Sample Size data and Analysis of Data on Manifolds”, Associate Professor, Seoul National University.

Xingye Qiao 2010 (joint with Yufeng Liu) “Weighted Distance Weighted Discrimination And Pairwise Variable Selection For Classification”, Assistant Professor, Binghamton University.

Burcu Aydin 2009 (joint with Gabor Pataki) “Principal Component Analyses for Tree Structured Objects”, Facebook.

Mihee Lee 2009 (joint with Haipeng Shen) “Deconvolution Estimation of a Mixture Distribution with Boundary Effects Motivated by Mutation Distribution”, Melbourne University.

Daniel V. Samarov 2009 (joint with Yufeng Liu) “The Analysis and Advanced Extensions of CCA”, National Institute for Standards and Technology.

Travis Gaydos 2008 (joint with Joel Kingsolver) “Data representation and basis selection to understand variation of function valued traits”, Simulation and Modeling Engineer, The Mitre Corporation.

Suman K. Sen 2008 “Classification on manifolds”, Statistician, Novartis.

Myung Hee Lee 2007 “Continuum Direction Vectors in High Dimensional Low Sample Size Data”, Assistant Professor, Weill Cornell Medicine.

Xuxin Liu 2007 “New Statistical Tools for Microarray Data and Comparison with Existing Tools”, First Job: Postdoctoral Fellow, Harvard University.

Lingsong Zhang 2007 (joint with Zhengyuan Zhu), “Functional Singular Value Decomposition and Multi-Resolution Anomaly Detection” Associate Professor, Purdue University.

Jeongyoun Ahn 2006, “High Dimension, Low Sample Size Data Analysis”, Associate Professor, University of Georgia

Juhyun Park 2004, “Statistical modeling for network traffic and inference of an M/G/infinity queue model”, Lecturer, Lancaster University.

Xiaohui Wang 2004, “A Scale-Based Approach to Finding Effective Dimensionality”, Assistant Professor, University of Virginia Health System.

Rima Izem 2004 (joint with Joel Kingsolver), “Analysis of Nonlinear Variation in Functional Data”, Associate Professor, Children's National Medical Center.

Haonan Wang 2003, “Functional Data Analysis of Populations of Tree-structured Objects”, Assistant Professor, Colorado State University.

Nicholas Locantore 2001, “Elliptical Principal Component Analysis”, Statistician, Glaxo Smith Klein.

Run-ze Li 2000 (joint with Jianqing Fan), "High-dimensional modeling via nonconcave penalized likelihood and local likelihood", Professor, Pennsylvania State University.

Jinting Zhang 1999 (joint with Jianqing Fan), "Smoothed Functional Data Analysis" Mimeo Series #2366. Professor, National University of Singapore.

Vitaliana Rondonotti 1999, University of Sapienza, Rome, "Il metodo SiZer nello studio delle serie storiche: un nuovo approccio per la stima non parametrica del trend", Economist-Statistician, Seasonal Adjustment Expert, European Central Bank.

Mark Farmen 1996, "The smoothed bootstrap for variable bandwidth selection and some results in nonparametric logistic regression". Mimeo Series #2342. Research Statistician, Eli Lilly and Co.

Lijian Yang 1995, "Transformation Density Estimation", Institute of Statistics, Mimeo Series #2336. Professor, Michigan State University

Ming-yen Cheng 1994 (joint with Jianqing Fan), "On boundary effects of smooth curve estimators", Institute of Statistics, Mimeo Series #2319. Professor, Hong Kong Baptist University.

Maria Brooks 1991, "Bandwidth selection methods for kernel estimators of the intensity of a nonhomogeneous Poisson process", Institute of Statistics, Mimeo Series #2054. Assistant Professor, Department of Epidemiology, University of Pittsburgh.

Brian Aldershof 1991, "Estimation of integrated squared density derivatives", Institute of Statistics, Mimeo Series #2053, Vice President, Graham Capital.

Prakash Patil 1990, "Automatic smoothing parameter selection in hazard rate estimation", Institute of Statistics, Mimeo Series #2033, Professor, Mississippi State University.

Chi-Kang Chu 1989, "Some results in nonparametric regression", Institute of Statistics, Mimeo Series #2008, Professor, National Dong Hua University, Taiwan.

Masters Students (Full Dissertation Advising):

Zane Blanton 2014 "Hypothesis Testing for Dissimilarity Matrices".

Bryan Taekyung Jung 2013 "Classification of High Dimensional Data: An Application to Three-Dimensional Temporomandibular Joint Data".

Zarina Gafoor 1999 "Analysis of Corneal curvature data".

Floyd Bullard 1998, "Estimating the home range of an animal: a Brownian bridge approach".

Mandy Bergquist 1996, "Noise reduction by reverse thresholding discrete wavelet transforms".

Suzanne Whitney 1994, “Confidence bands in nonparametric regression”.

Gregg Lovelace 1994, “Joint distribution of optimal bandwidths in density estimation”.

Pat Slettehaugh 1991, “Analysis of curves as data”, Institute of Statistics, Mimeo Series #2059.

Masters Students (Mentored through Consulting Course):

2020-2021: Ruiping Ke, Qinghua Li, Zhaoqi Liu, Xinjie Qian, Cheng Qiu, Haofan Zheng,

2019-2020: Keliang Gao, Victor Jia, Na Lin, Mingyi Wang, Yifei Wu, Tong Zhu

2018-2019: Tao Bian, Casey Quintanilla, Sunhwa Park, Carol Sadek

2017-2018: Siyu An, Michael Bostwick, Fuhui Fang, Matt Fuller, Eric Goding, Brittani Haag, Morgan Hu, Heejoon Jo, Matthew Jones, Di Qin, Scott Smith, Annish Sridhar, Shuming Sun, Yumeng Wang, Liz Yang

2016-2017: Dillon Ashburn, Mengting Dai, Eric Friedlander, Teague Henry, Jie Huang, Matthew Jansen, Lori Kim, Zhao Lan, Gang Li, Wenyue Liu, Hulin Lu, Ruige Luo, Yiyang Shi, Hongxia Yan, Wei You, Lu Zhang, Chang Xu.

2015-2016: Mengqi Chen, Xue Du, Siliang Du, Min Kim, Yue Liu, Megan Quin, Yehong Wan, Hanyan Wang, Lu Wang, Bowe Xu, Routong Yang, Zhenhua Yuan

2013-2014: Hyowon An, Brandon Burroughs, Lan Ding, Qing Feng, Yutuan Gao, Jin Li, Hao Luo, Jessica Pearlman, Rosemarie Scott, Pingjie Xiao, Nan Zhang, Ying Zhao

2012-2013: Yurui Chang, Lu Huang, Jianping Liu, Yan Liu, Han Lu, Zhen Qi, Lin Wu, Sha Yuan, Yanwu Zhang, Huifang Zhao

2010-2012: Qi An, Siliang Ji, Erdinc Karakullkcü, Di Miao, Dongqiuye Pu, Yueming Xing, Kie Xiong, Tan Xu, Dongqing Yu, Lingxiao Zhai

PhD Committees (in addition to many in the UNC Statistics Dept.):

UNC Biostatistics: Scott Hamilton, Shibing Deng, Meghan Clement, Erika Helgeson, Jingwen Zhang, Benjamin Langworthy

UNC Computer Science: Terry Yoo, Stephen Aylward, Gregory Clary, Chad Petty, Martin Styner, Paul Yushkevich, Sean Ho, Tom Fletcher, Félix Hernández-Campos, Marcel Prastawa, Peter Lorenzen, Guodong Lin, Joshua Stough, Bradley Davis, Ja Yeon Jeong, Jingdan Zhang, Joshua Levy, Christine Xu, Ipek Oguz, Xiaoxiao Liu, Matthew O’Meara, Chen-Rui Chou, Jared Vicory, Yi Hong, Junpyo Hong, Qingyu Zhao, Xiao Yang, Heather Couture, Zhiyuan Liu, Meg Stuart.

UNC Genetics: Joel Parker, Wei Zhao, Grace Silva, Shengjie Chai, Shelsa Marcel, Brandon Price

UNC Mathematics: Wesley Hamilton

UNC Pharmacy: Mariya Popova

UNC Journalism: Paul McCreath

“External Examiner” for Foreign PhD Dissertations:

Ian McKay, Queens University, Canada

Ann Cowling, Australian National University, Australia

Michael Smith, University of New South Wales, Australia

Vera Friederichs, University of Kaiserslautern, Germany

Timothy Ramsay, Queens University, Canada

David Bashtannyk, Monash University, Australia

J r mie Bigot, Universit  Joseph Fourier, University of Grenoble, France

Tor-Arne  ig rd, University of Troms , Norway

Siana Halim, University of Kaiserslautern, Germany

Kristien Wruters, Hasselt University, Belgium

Leena Pasanen, Oulu University, Finland

Davide Pigoli, Milano Polytechnical University, Italy

Kristoffer Herland Hellton, University of Oslo, Norway

Alexander Dokumentov, Monash University, Australia

Munmun Biswas, Indian Statistical Institute, India

Soham Sarkar, Indian Statistical Institute, India

Tesi Lovatoe, Milan Polytechnic University, Italy

Ilenia Lovato, University of Pavia, Italy

Habilitation Referee:

Yuanhua Feng, University of Konstanz, Germany

Papers for NSF Grant IIS-1633074, BIG DATA 2016-2019

Authors: Name, I.; NextName

Pub. Date:

Journal

Doi: (just use number)

Paper (PDF/A, done in Adobe)

NSF-PAR ID: 10037773

Publication Title: Angle-Based Joint and Individual Variation Explained

Journal Name: Journal of multivariate analysis, ISSN: 1095-7243

Publication / Issue Date: 2017 (01/01/2017)

Author(s): Feng, Q.; Jiang, M.; Hannig, J.; Marron, J. S.

Publication Title: Bump hunting by topological data analysis

Journal Name: STAT

Publication Date: (2017). 6, 462-471

Authors: Sommerfeld, M.; Heo, G.; Kim, P.; Rush, S.; Marron, J. S.

DOI: 10.1002/sta4.167

Publication Title: A survey of high dimension low sample size asymptotics

Journal name: Australia and New Zealand Journal of Statistics

Publication Date: (2018) 60, no. 1 4-19

Authors: Aoshima, M.; Shen, D.; Shen, D.; Yata, K.; Zhou, Y-H.; Marron, J. S.

DOI: 10.1111/anzs.12212