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Education

2003 Ph.D., University of California, Davis
2002 M.S., University of California, Davis
2000 B.S., University of Science and Technology of China

Employment

2019- Chair Professor, School of Mathematical Sciences, Peking University
2014-2018 Professor, Department of Statistics, University of Toronto
2008-2014 Associate Professor, Department of Statistics, University of Toronto
2006-2008 Assistant Professor, Department of Statistics, University of Toronto
2003-2006 Assistant Professor, Department of Statistics, Colorado State University

Research Interest

- Complex-structured data analysis, including functional, high-dimensional, manifold and non-Euclidean data objects;
- Incorporating machine learning methods and theory, ordinary/partial differential equations with statistical modeling and inference;
- Applications involving functional, high-dimensional and differential dynamics in biomedical studies, human genetics, neuroimaging, finance and economics, engineering etc.

Editorial Boards

- Editor for Canadian Journal of Statistics, 2019-2021.
- Associate Editor for Journal of the American Statistical Association, 2014-present.
- Associate Editor for Journal of Computational and Graphical Statistics, 2012-present.
- Associate Editor for Statistica Sinica, 2011-2014, 2017-present.
- Completed Associate Editor terms: Annals of Statistics (2008--2009, 2013--2015), Bernoulli Journal (2013--2015), Electronic Journal of Statistics (2010--2012), Journal of Multivariate Analysis (2016-2018), Journal of Statistical Planning and Inference (2012--2014).

Honors and Awards

- Fellow, American Statistical Association (ASA)
- Fellow, Institute of Mathematical Statistics (IMS)
- CRM-SSC Prize in Statistics: Awarded in 2014 by the Centre de recherches mathématiques (Montréal)

and the Statistical Society of Canada to recognize a statistical scientist's professional accomplishments in research during the first 15 years after earning a doctorate.

- Discovery Accelerator Supplements (DAS) Award: Substantial and timely additional resources provided by NSERC for 2012-2014 to accelerate progress and maximize the impact of superior research programs.

Selected Publications

(students/trainees underlined, co-first authors #, corresponding authors *, or alphabetical order)

- Shao, L.#, Lin Z.#, and Yao, F*. (2022) [Intrinsic Riemannian functional data analysis for sparse longitudinal observations \(supplementary material\)](#). *The Annals of Statistics*, accepted .
- Ying, Y., and Yao, F*. (2021) [Online estimation for functional data. \(supplementary material\)](#). *Journal of the American Statistical Association*, published online, <https://doi.org/10.1080/01621459.2021.2002158>.
- Liang, D., Huang, H., Guan, Y., and Yao, F*. (2021) [Test of weak separability for spatially stationary functional field. \(supplementary material\)](#). *Journal of the American Statistical Association*, published online, <https://doi.org/10.1080/01621459.2021.2002156>.
- Chen, H., Ren, H., Yao, F.* , and Zou, C. (2021) [Data-driven selection of the number of change-points via error rate control. \(supplementary material\)](#). *Journal of the American Statistical Association*, published online, <https://doi.org/10.1080/01621459.2021.1999820>.
- Lin, Z., and Yao, F*. (2021). [Functional regression on manifold with contamination \(supplementary material\)](#). *Biometrika*, 108 (2), 167-181.
- Xue, K., and Yao, F.* (2020). [Distribution and correlation free two-sample test of high-dimensional means](#). *The Annals of Statistics*, 48, 1304-1328.
- Lin, Z., and Yao, F.* (2019). [Intrinsic Riemannian functional data analysis](#). *The Annals of Statistics*, 47, 3533-3577.
- Koudstaal, M., and Yao, F.* (2018). [From mutiple Gaussian Sequences to functional data and beyond: a Stein estimation approach \(supplementary material\)](#). *Journal of the Royal Statistical Society, Series B*, 80, 319-342.
- Lin, Z., Müller, H. G., and Yao, F.* (2018). [Mixture inner product spaces and their application to functional data analysis](#). *The Annals of Statistics*, 45, 370-400.
- Dai, X., Müller, H. G., and Yao, F.* (2017). [Optimal Bayes classifiers for functional data and density ratios \(supplementary material\)](#). *Biometrika*, 104, 545-560 .
- Kong D.#, Xue, K.#, Yao, F.* , and Zhang, H. H. (2016). [Partially functional linear regression in high dimensions \(supplementary material\)](#). *Biometrika*, 103, 147-159.
- Yao, F.* , Wu, Y., and Zou, J. (2016). [Probability enhanced effective dimension reduction for classifying sparse functional data \(Rejoinder to comments\)](#). *Test*, 25, 1-22, 52-58.
- Yao, F.* , Lei, E., and Wu, Y. (2015). [Effective dimension reduction for sparse functional data](#). *Biometrika*, 102, 421-437.
- Zhu, H., Yao, F.* , and Zhang, H. H. (2014). [Structured functional additive regression in reproducing kernel Hilbert spaces](#). *Journal of the Royal Statistical Society, Series B*, 76, 581-603.
- Müller, H. G., Wu, Y., and Yao, F.* (2013). [Continuously additive models for nonlinear functional regression](#). *Biometrika*, 100, 607-622.
- Acar, E., Craiu, R. V., and Yao, F.* (2011). [Dependence calibration in conditional copulas: a nonparametric approach \(web appendix\)](#). *Biometrics*, 67, 445-453.

- Yao, F.*, Fu, Y., and Lee, T. C. M. (2011). [Functional mixture regression \(web appendix\)](#). *Biostatistics*, 12, 341-353.
- Müller, H. G., and Yao, F. (2010). [Additive modeling of functional gradients](#). *Biometrika*, 97, 791-805.
- Müller, H. G., and Yao, F. (2010). [Empirical dynamics for longitudinal data](#). *The Annals of Statistics*, 38, 3458-3486.
- Yao, F., and Müller, H. G. (2010). [Functional quadratic regression](#). *Biometrika*, 97, 49-64.
- Lai, R. C. S., Lee, T. C. M., Wong, R. K. W., and Yao, F. (2010). [Nonparametric cepstrum estimation via optimal risk smoothing](#). *IEEE Transactions on Signal Processing*, 58, 1507-1514.
- Hall, P., Müller, H. G., and Yao, F. (2009). [Estimation of functional derivatives](#). *The Annals of Statistics*, 37, 3307-3329.
- Müller, H. G., and Yao, F. (2008). [Functional additive models](#). *Journal of American Statistical Association*, 103, 1534-1544.
- Hall, P., Müller, H. G., and Yao, F. (2008). [Modeling sparse generalized longitudinal observations with latent Gaussian processes](#). *Journal of the Royal Statistical Society, Series B*, 70, 703-723.
- Yao, F., and Lee, T. C. M. (2007). [Spectral density estimation using sharpened periodograms](#). *IEEE Transactions on Signal Processing*, 55, 4711-4716.
- Yao, F. (2007). [Functional principal component analysis for longitudinal and survival data](#). *Statistica Sinica*, 17, 965-983.
- Yao, F. (2007). [Asymptotic distributions of nonparametric regression estimators for longitudinal or functional data](#). *Journal of Multivariate Analysis*, 98, 40-56.
- Müller, H. G., Stadtmüller, U., and Yao, F. (2006). [Functional variance processes](#). *Journal of American Statistical Association*, 101, 1007-1018.
- Yao, F.*, and Lee, T. C. M. (2006). [Penalized spline models for functional principal component analysis](#). *Journal of the Royal Statistical Society, Series B*, 68, 3-25.
- Yao, F., Müller, H. G., and Wang, J. L. (2005). [Functional linear regression analysis for longitudinal data](#). *The Annals of Statistics*, 33, 2873-2903.
- Yao, F., Müller, H. G. and Wang, J. L. (2005). [Functional data analysis f](#)