

Harrison H. Zhou

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Position

2004 -present **Yale University** **New Haven, CT**
Assistant Professor

Education

1998-2004 **Cornell University** **Ithaca, NY**
Ph.D. in Mathematics, Aug 2004.

Research Interests

- Decision theory
- Le Cam theory
- Shrinkage estimation and Model selection
- Function (wavelet) estimation
- Multiple comparisons
- Functional data analysis
- Covariance matrix estimation
- Bioinformatics

Honors and Awards

- **National Science Foundation CAREER Award**, 2007/5 -- 2012/4.
- **Liu Memorial Award**, May 2001. Awarded to the best student researcher of Chinese descent at Cornell. Established in the late 1960s. First mathematics graduate student to receive this honor.
- **Robert J. Battig Graduate Prize**, Department of Mathematics, Cornell University, 2003.
- **Hutchinson Fellowship**, Department of Mathematics, Cornell University, Spring 2001.

Publications and Manuscripts

- Minimax Estimation with Thresholding and its Application to Wavelet Analysis (with J.T. Gene Hwang). **The Annals of Statistics**, **33**, 2005.
- A Complement to Le Cam's Theorem (with Mark G. Low). **The Annals of Statistics**, **35**, 2007.
- A Data-Driven Block Thresholding Approach to Wavelet Estimation (with Tony T. Cai). To appear. **The Annals of Statistics**. Available from http://imstat.org/aos/future_papers.html.
- Robust Nonparametric Estimation via Wavelet Median Regression (with Lawrence .D. Brown and Tony T. Cai). To appear. **The Annals of Statistics**. Available from http://imstat.org/aos/future_papers.html.

- Asymptotic Equivalence of Spectral Density Estimation and Gaussian White Noise (with G.K. Golubev and Michael Nussbaum), tentatively accepted, **The Annals of Statistics**.
- A Note on Quantile Coupling Inequalities and Their Applications (2006). Technical report.
- The Root-unroot Algorithm for Density Estimation as Implemented via Wavelet Block Thresholding (with Lawrence D. Brown and Tony T. Cai, R. Zhang, Linda H. Zhao), submitted to *The Probability Theory and Related Fields*.
- Nonparametric Regression in Exponential Families (with Lawrence D. Brown and Tony T. Cai), submitted to *The Annals of Statistics*.
- Adaptive Functional Linear Regression (with Tony T. Cai), submitted to *The Annals of Statistics*.
- Asymptotic Equivalence and Adaptive Estimation for Robust Nonparametric Regression (with Tony T. Cai), submitted *The Annals of Statistics*.

Synergistic Activities

- Organizer of an invited session on "Shrinkage Theory and its Applications to Bioinformatics and Machine Learning", *ICSA 2006 Applied Statistics Symposium*, USA
- Organizer of an invited session on "Asymptotic Decision Theory on Nonparametric Estimation", IMS Annual Meeting, 2007, Salk City, Utah, USA.
- Organizer of an invited session on "High dimensional data analysis", *the first IMS-China International Conference, 2008*, Hangzhou, China.
- Organizer of a workshop, *Innovation and Inventiveness in Statistical Methodologies*, May 2009 (<http://www.stat.yale.edu/Stats2009/>).
- Invited speaker, Chair of plenary sessions, *International Conference on the Frontier of Statistics: High Dimensional Data Analysis, 2007*, Kunming, China.
- Invited speaker, *International Workshop on Applied Probability (IWAP), 2006*
- Invited participant, *Statistical Theory and Methods for Complex, High-Dimensional Data, 7 January - 1 March 2008*, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK.
- Invited speaker, *the first IMS-China International Conference, June 2008*, Hangzhou, China.
- Invited speaker, *Beijing International Conference on Machine Learning and Data Mining, June 2008*, Beijing, China.
- Invited speaker, session on "Methodological Advances in Testing and Estimation of Gene Expression Differences", *JSM 2008*.
- Invited speaker, *High-Dimensional Data Analysis: Perspectives from the Interface of Statistics, Biosciences, and Information Sciences*, Oct 24-25, 2008, Harvard.
- Invited talks in other departments: Cornell stat., Wayne State math., Columbia Stat, Penn State stat., UC Davis stat., Ohio State stat., Iowa State stat, UConn stat, IBM Watson, Boston U. Math, Rutgers stat., UC Berkeley Stat., Harvard Stat., Harvard Biostat., Beijing University math, Renming University Stat., Newton Institute at Cambridge.
- Referee for *Annals of Statistics*, *JASA*, *Bernoulli*, *Econometric Theory*, *Probability Theory and Related Fields*, *J. of Multivariate Analysis*, *J. of Statistical Planning and Inference*, *SPA*, *Statistics and Probability Letter*, *Statistica Sinica*.
- Associate Editor, a special issue of *Journal of Nonparametric Statistics*, for the first IMS-China International Conference on Statistics

Teaching

- Fall 2005 and Fall 2006, [Stat 610](#), *Statistical Inference*
- Spring 2005 and Spring 2006 and Spring 2007, [Stat 242/542](#), *Theory of Statistics*
- Spring 2006, [Stat 680](#), *Nonparametric Estimation*
- Fall 2006 and Fall 2007, [Stat 241/541](#), *Probability Theory with Applications*
- Spring 2007, [Stat 619](#), *Statistical Decision Theory*
- Fall 2007, [Stat 673](#), *Functional Data Analysis*

Current Ph. D. Students

James Xing Hu, Wei Dou, Peisi Yan, Zheyang Wu (Committee member)

Professional Affiliations

- American Statistical Association
- IMS
- ICASA