

# YEHUA LI

Department of Statistics & Statistical Laboratory, Iowa State University, Ames, IA 50011.

Phone: (515) 294-0212; Email: [yehuali@iastate.edu](mailto:yehuali@iastate.edu).

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**Position:** (2012—now) Associate Professor in Statistics, Iowa State University.

## **Education:**

Ph.D., Statistics. Aug. 2006. Texas A&M University, College Station, TX.

M.S., Statistics. Aug. 2003. Texas A&M University, College Station, TX.

B.S., Applied Math. Jun, 2000. Tsinghua University, Beijing, China.

## **Experiences:**

2006-2012 Assistant Professor, University of Georgia, Athens, GA.

2001-2006 Teaching/Research Assistant, Department of Statistics, Texas A&M University.

2000-2001 Teaching Assistant, Department of Mathematics, University of Rochester.

## **Honors and Awards:**

- ISU Award for Early Achievement in Research, 2015.
- Elected member of the International Statistical Institute, 2013.
- NSF CAREER Award, 2012.
- William S. Connor Award, Texas A&M University, 2006.
- Emanuel Parzen Graduate Research Fellowship, Texas A&M University, 2005.
- Eva L. & Lee H. Smith Graduate Fellowship, Texas A&M University, 2004.
- AUF Fellowship, Texas A&M University, 2003-2004.
- AUF Fellowship, Texas A&M University, 2001-2002.
- Regents' Fellowship, Texas A&M University, 2001-2002.

## **Professional Membership:**

- International Statistical Institute (ISI).
- American Statistical Association (ASA).
- Institute of Mathematical Statistics (IMS).
- International Chinese Statistical Association (ICSA)

## **Research Interests:**

Nonparametric/Semi-parametric statistical methods; Functional data analysis; Longitudinal data analysis; Spatial statistics; Time series; Bootstrap/sub-sampling; Large sample theory; Measurement error models; Hierarchical models; Big data; Mixture models; Monte Carlo EM; Bayesian methods; MCMC algorithms.

## **Editorial Board:**

- Journal of Multivariate Analysis, 2016 – now.
- Stat, Associate Editor, 2015 – now.

## **Grants:**

- “Comparison of the Cardiovascular Benefits of Resistance, Aerobic, and Combined Exercise (Cardio-RACE)”, **National Health Institute** (1R01HL133069-01), CO-PI (PI: Duck-Chul Lee), \$3,355,624, Jul 01st, 2016 – Apr 30th, 2021.
- “**CAREER**: New topics in functional data analysis”, **National Science Foundation**, (DMS 1317118), principal investigator, \$400,000, Jun 1<sup>st</sup>, 2012 –May 31<sup>st</sup>, 2017.
- “Dimension reduction, model selection and classification in functional data analysis”, **National Science Foundation** (DMS 1105634), Principal Investigator, \$119,999, Jun 1<sup>st</sup>, 2011- May 31<sup>st</sup>, 2014.
- “Collaborative research: regression problems in functional data”, **National Science Foundation** (DMS-0806131), Principal Investigator, \$100,000, Jun 1<sup>st</sup>, 2008-May 31<sup>st</sup>, 2011.

### **Published and Accepted Papers:**

- Ye, J., **Li, Y.**, Lazar, N., Schaeffer, D. J. and McDowell, J. (2016). Finding common task-related regions in fMRI Data from multiple subjects by periodogram clustering and clustering ensemble, *Statistics in Medicine*, 35, 2635-2651.
- Xu, Y. \*, **Li, Y.** and Song, X. (2016). Locally efficient semiparametric estimation for proportional hazards models with measurement error, *Scandinavian Journal of Statistics*, 43, 558-572.
- Tang, J. \*, **Li, Y.** and Guan, Y. (2016). Generalized quasi-likelihood ratio tests for semiparametric analysis of covariance models in longitudinal data, *Journal of the American Statistical Association*, 111, 514, 736-747.
- Cao, G., Wang, L., **Li, Y.**<sup>†</sup> and Yang, L. (2016). Oracle-efficient confidence envelopes for covariance functions in dense functional data, *Statistica Sinica*, 26, 359-383. (†Correspondence author)
- Sattar, A., Sinha, S., Wang, X. and **Li, Y.** (2015). Frailty models for pneumonia to death with a left-censored covariate, *Statistics in Medicine*, 34, 2266-2280.
- Ye, J., **Li, Y.** and Guan, Y. (2015). Joint modeling of longitudinal drug using pattern and time to first relapse in cocaine dependence treatment data, *Annals of Applied Statistics*, 9, 3, 1621-1642.
- Ye, J., Lazar, N. and **Li, Y.** (2015). Nonparametric variogram modeling with hole effect structure in analyzing the spatial characteristics of fMRI data, *Journal of Neuroscience Methods*, 240, 101-115.
- Huang, H., **Li, Y.** and Guan, Y. (2014). Joint modeling and clustering paired generalized longitudinal trajectories with application to cocaine abuse treatment data, *Journal of the American Statistical Association*, 109, 508, 1412-1424.
- **Li, Y.** and Guan, Y. (2014). Functional principal component analysis of spatial-temporal point processes, with applications to disease surveillance, *Journal of the American Statistical Association*, 109, 507, 1205-1215.
- **Li, Y.**, Wang, N. and Carroll, R. J. (2013). Selecting the number of principal components in functional data, *Journal of the American Statistical Association*, 108, 504, 1284-1294.
- Guan Y., **Li, Y.**\* and Sinha, R.(2011). Cocaine dependence treatment data: methods for measurement error problems with predictors derived from stationary stochastic processes, *Journal of the American Statistical Association*, 106, 480–493. (\* The first two authors are joint first authors.)
- **Li, Y.** (2011). Efficient semiparametric regression in longitudinal data with nonparametric covariance estimation, *Biometrika*, 98, 2, 355-370.
- Ye, J., Lazar, N. and **Li, Y.** (2011). Sparse geostatistical analysis in clustering fMRI time series, *Journal of Neuroscience Methods*, 199, 336-345.
- **Li, Y.**, Wang, N. and Carroll, R. J. (2010). Generalized functional linear models with semiparametric single-index interactions, *Journal of the American Statistical Association*, 105, 621-633.
- **Li, Y.** and Hsing, T. (2010b). Uniform convergence rates for nonparametric regression and principal component analysis in functional/ longitudinal data, *Annals of Statistics*, 38, 3321-3351.

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\* The paper is based on the first author’s Ph.D. dissertation under my supervision.

- **Li, Y.** and Hsing, T.(2010a). Deciding the dimension of effective dimension reduction space for functional and high-dimensional data. *Annals of Statistics*, 38, 3028-3062.
- Ye, J., Lazar, N. and **Li, Y.** (2009). Geostatistical analysis in clustering fMRI time series, *Statistics in Medicine*, 28, 2490-2508.
- **Li, Y.** and Genton, M. (2009). Single-index additive vector time series models. *Scandinavian Journal of Statistics*, 36, 369-388.
- **Li, Y.**, Wang, N, Hong, M, Turner, N., Lupton, J. and Carroll. R. J. (2007). Nonparametric estimation of correlation functions in spatial and longitudinal data, with application to colon carcinogenesis experiments. *Annals of Statistics*, 35, 1608-1643.
- **Li, Y.**, Guolo, A., Hoffman, F. O. and Carroll, R. J. (2007). Shared uncertainty in measurement error models, with application to Nevada test site fallout data. *Biometrics*, 63, 1226-1236.
- **Li, Y.** and Hsing, T. (2007). On the rates of convergence in functional linear regression. *Journal of Multivariate Analysis*, 98, 1782-1804.

### **Book Chapters:**

- **Li, Y.** and Wang, N. (2014). Ray Carroll's contributions in non- and semi-parametric regression for dependent data, commentary in *Selected Works of Raymond J. Carroll*, Springer.
- **Li, Y.** (2014). Semi-parametric regression methods in longitudinal data: applications to AIDS clinical trial data, book chapter in *Biological Knowledge Discovery Handbook: Preprocessing, Mining and Postprocessing of Biological Data* (Edited by Mourad Elloumi and Albert Zomaya), Wiley.

### **Technical Reports**

- Li, E., **Li, Y.**, Wang, N.-Y. and Wang, N. (2008), Functional latent feature models for data with longitudinal covariate processes.
- **Li, Y.** (2007). A note on Hilbertian elliptically contoured distribution. Unpublished manuscript.

### **Teaching**

- STAT 542, Theory of Probability and Statistics I. (Fall 2015)
- STAT 547X, Functional Data Analysis, ISU. (Spring, 2014, Spring 2016)
- STAT 322, Probabilistic Methods for Electrical Engineers, ISU. (Fall 2013)
- STAT 402, Session C, Experimental Design in Social Sciences, ISU. (Spring 2013, Spring 2015, Spring 2016)
- STAT 105, Introduction to Statistics for Engineers, ISU. (Fall 2012, Spring 2015)
- STAT 8270, Spatial Statistics, UGA.
- STAT 6510, Mathematical Statistics, UGA.
- STAT 6220, Statistical Method II, UGA.
- STAT 6310 Statistics Method I, UGA.
- STAT 6210 Statistics Method I, UGA.
- STAT 4220 Applied Experimental Design, UGA.
- STAT 211, Principle of Statistics, TAMU.
- Multivariate Calculus, University of Rochester.

### **Services to the Department**

- Graduate Committee (2012-2013, 2013-2014, 2014-2015).
- Exam Committee (2012-2013, 2013-2014, 2014-2015).
- Faculty Search Committee for the Applied Probability position (2014-2015).

## **Invited Colloquium Talks:**

- School of Finance and Statistics, East China Normal University, Jul 2016.
- Department of Statistics and Actuarial Science, University of Iowa, Nov 2015.
- Department of Statistics, University of California at Davis, Jan, 2015.
- Department of Statistics, University of Michigan, Oct 3<sup>rd</sup>, 2014.
- Kidney Epidemiology and Cost Center, University of Michigan, Oct 1<sup>st</sup>, 2014.
- Department of Statistics, University of Toronto, Oct 3<sup>rd</sup>, 2013.
- Department of Mathematics and Statistics, University of Illinois at Chicago, April 3<sup>rd</sup>, 2013.
- Department of Mathematical Sciences, Tsinghua University, Jun 6<sup>th</sup>, 2012.
- Center for Statistical Science, Peking University, Jun 5<sup>th</sup>, 2012.
- School of Education, University of Georgia, March 2<sup>nd</sup>, 2012.
- Department of Statistics, Iowa State University, Jan 23<sup>rd</sup>, 2012.
- Emory University, Sep 2011.
- School of Industrial and Systems Engineering, Georgia Institute of Technology, Sep 2009.
- College of Computer Science, Jilin University, China, Jun 2009.
- Computational System Biology Laboratory, University of Georgia, Apr 2009.
- Clemson University, Nov 2008.
- University of South Carolina, Oct 2008.
- Emory University, Sep 2007.
- University of Pittsburgh, Jan 2006.
- University of Illinois at Chicago, Jan 2006.
- Carnegie Mellon University, Feb 2006.
- Virginia Tech, Feb 2006.
- University of Georgia, Feb 2006.
- University of Chicago, Feb 2006.
- Stanford University, Feb 2006.
- North Carolina State University, Feb 2006.
- University of Pennsylvania, Feb 2006.
- National Institute of Allergy and Infectious Disease, Feb 2006.

## **Invited Conference Talks:**

- 2016 University of South Carolina Latent Variable Conference, Columbia, SC, October 2016.
- 2016 University of Michigan Nonparametric Statistics Workshop, Ann Arbor, October 2016.
- 4<sup>th</sup> Joint Biostatistics Symposium, Shanghai, July, 2016.
- 2016 IMS Asia Pacific Rim Meeting, Hongkong, Jun, 2016.
- 2016 ICSA Applied Statistics Symposium, Atlanta, Jun 2016.
- 2015 Joint Statistical Meetings, Seattle, WA, August, 2015 (Topic contributed).
- Joint 24<sup>th</sup> ICSA Applied Statistics Symposium and 13<sup>th</sup> Graybill Conference, Fort Collins, CO.
- 2014 Joint Statistical Meetings, Boston, MA, August, 2014.
- The 3<sup>rd</sup> IMS Asia Pacific Rim Meeting, June, 2014.
- 2014 ENAR spring meeting, Baltimore, MD, March, 2014.
- 2012 Joint Statistical Meetings, San Diego, CA, Aug, 2012.
- International Chinese Statistical Association (ICSA) 2012 Applied Statistics Symposium, Boston, MA, July 2012.
- International Chinese Statistical Association (ICSA) 2011 Applied Statistics Symposium, New York City, June 2011.

- Southern Regional Consul of Statistics (SRCOS) 2011 Summer Research Conference, McCormick, SC, June, 2011.
- 2011 ENAR spring meetings, Miami, FL, March 2011.
- IMS Symposium on New Directions in Asymptotic Theory, UGA, May 2009.
- Southern Regional Consul of Statistics (SRCOS) 2008 Summer Research Conference, Charleston, SC.
- International Chinese Statistical Association (ICSA) 2008 Applied Statistics Symposium, Piscataway, NJ.

### **Contributed Conference Talks:**

- 2012 ENAR spring meeting, Washington, D.C., Apr 2012. (Topic contributed)
- 2010 ENAR spring meeting, New Orleans, LA, Mar 2010.
- 2009 Joint Statistical Meetings, Washington, DC, Aug 2009.
- 2008 Joint Statistical Meetings, Denver, CO. (Topic contributed)
- 2008 ENAR spring meetings, Crystal City, Virginia.
- 2007 Joint Statistical Meetings, Salt Lake City, UT.
- The Tenth Meeting of New Researcher in Statistics and Probability, Salt Lake City, UT (2007).
- 2006 ENAR spring meetings, Tampa, FL.
- 2005 Focused Research Group Conference on Nonparametric Models for Complex Biological Data, University of California, Davis.
- 2005 Joint Statistical Meetings, Minneapolis, MN.
- 2004 Joint Statistical Meetings, Toronto, Canada.

### **Conference Posters:**

- Workshop on Future Directions in High-Dimensional Data Analysis, Isaac Newton Institute of Mathematical Sciences, University of Cambridge, UK. (June 2008)

### **Professional Activities**

- Referee for
  - *American Statistician* (1 paper),
  - *Annals of Applied Statistics* (3 paper),
  - *Annals of Statistics* (10 papers),
  - *Annals of the Institute of Statistical Mathematics* (1 paper),
  - *Bernoulli* (1 paper),
  - *Biometrics* (3 paper),
  - *Biometrika* (1 paper),
  - *Biostatistics* (1 paper),
  - *Canadian Journal of Statistics* (2 papers),
  - *Communications in Statistics* (1 paper),
  - *Electronic Journal of Statistics* (1 paper),
  - *Journal of Agricultural, Biological and Environmental Statistics* (1 paper),
  - *Journal of the American Statistical Association* (16 papers),
  - *Journal of Multivariate Analysis* (1 paper),
  - *Journal of Machine Learning Research* (1 paper),
  - *Journal of Nonparametric Statistics* (1 paper),
  - *Journal of the Royal Statistical Society, Series B* (5 papers),

- *Journal of Statistical Planning and Inference* (3 paper),
- *Scandinavian Journal of Statistics* (2 paper),
- *Statistics and Probability Letters* (1 paper),
- *Statistics in Medicine* (1 paper),
- *Statistica Sinica* (11 papers),
- *Test* (1 paper).

Total number of reviewed paper to date is 68.

- Proposal review
  - *NIH/NIAID Review Panel, 2015.*
  - *NSF Statistics Review Panel, 2013.*
  - *Mail review for NSF, 2011.*
  - *Jeffress Research Grant, Thomas F. and Kate Miller Jeffress Memorial Trust, 2010.*
  - *Pilot Funding for New Research Program, Board of Regents, State of Louisiana, 2008.*
- Other professional services:
  - Program Committee, 2017 ICSA Applied Statistics Symposium.
  - Organizer of the invited sessions “New Frontiers in Functional Data Analysis” and “New Methodology for Spatial and Spatio-Tempral Data Analysis”, 2015 ICSA Applied Statistics Symposium, Collins Fort, Colorado.
  - Organizer of the IMS invited session on “New Developments In Functional Data Analysis”, ENAR Spring Meeting, 2013.
  - ASA Nonparametric Student Paper Competition Committee, JSM 2012.
  - Organizer of the topic contributed session on *New Method and Theory in Functional/Longitudinal Data Analysis*, ENAR Spring Meetings, Washington, D.C., 2012.
  - ASA Nonparametric Student Paper Competition Committee, JSM 2011.
  - Organizer of the invited session on “New Developments in Functional Data Analysis”, 2010 ICSA Applied Statistics Symposium, Indianapolis, IN, Jul, 2010.
  - Local organizing committee member for the IMS Symposium on New Directions in Asymptotic Theory, UGA, May 2009.

## **Graduate Committee Served**

- **Ph.D. students supervised:**
  - Jin Tang (University of Georgia, 2014).
  - Yuhang Xu (Iowa State Univeristy, 2016).
  - Wenting Fan, (University of Georgia, expected in 2017).
  - Lanfeng Pan (Iowa State University, expected in 2017).
  - Rodrigo Plazolo-Ortiz (Iowa State University, 2019).
- **Ph.D. dissertation committee member:**
  - **University of Geogia:** Yunzhou Wu (Computer Science, 2007), Jien Chen (2008), Jun Ye (2008), Junshan Qiu (2008), Shanbin Liu (2008), Qin Wang (2009).
  - **Iowa State University:** Yumou Qu(Statistics, 2014), Jongho Im (Statistics, 2015), Bo Wang (Civil, Contruction and Environmental Engineering, 2015).
- **MS thesis committee:** Muliang Peng (2011), Jong Min Ra (2011).