

# Yunpeng Zhao

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## EMPLOYMENT

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2012 – present	George Mason University Assistant Professor in the Department of Statistics	Fairfax, USA
Jan 2016 – May 2016	University of California, Berkeley Research scholar in the Department of Statistics (During study leave)	Berkeley, USA

## EDUCATION

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2007 – 2012	University of Michigan Ph.D. Student in Statistics. Co-advisors: Elizaveta Levina and Ji Zhu	Ann Arbor, USA
2003 – 2007	University of Science and Technology of China B.S. in Statistics	Hefei, China

## RESEARCH INTERESTS

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- Statistical theory and methodology for network analysis.
- Machine learning.
- High-dimensional data analysis.

## GRANT

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NSF DMS-1513004: Inference of Network Structure from Grouped Data. Principle Investigator.  
09/01/2015–08/31/2018. Total amount: \$120,000.

## TRAVEL GRANT

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NSF Travel Support for Nonparametric Workshop 2016. Total amount: \$300.

## PAPERS

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### Publications:

- [1] Y. Zhao and C. Weko. (2017) Network Inference From Grouped Observations Using Hub Models, *Statistica Sinica*, To appear.
- [2] Y. Zhao. (2017) A Survey on Theoretical Advances of Community Detection in Networks, *WIREs Computational Statistics*, Volume 9, September/October 2017, 1-13.
- [3] Y. Zhao, Y. Wu, E. Levina, and J. Zhu. (2017) Link Prediction for Partially Observed Networks, *Journal of Computational and Graphical Statistics*, Published online.
- [4] C. Weko and Y. Zhao. (2017) Penalized Component Hub Models, *Social Networks*, 49, 27-36.
- [5] Q. Pan and Y. Zhao (co-first author). (2016) Integrative Weighted Group Lasso and Generalized Local Quadratic Approximation, *Computational Statistics & Data Analysis*, 104, 66-78.
- [6] T. Yan. and Y. Zhao. (2016) Asymptotics of Score Test in the Generalized  $\beta$ -model for Networks, *Statistics & Probability Letters*, 119, 163-169.
- [7] T. Yan, Y. Zhao, and H. Qin. (2015) Asymptotic Normality in the Maximum Entropy Models on Graphs With an Increasing Number of Parameters, *Journal of Multivariate Analysis*, 133, 61-76.
- [8] Y. Zhao, E. Levina, and J. Zhu. (2012) Consistency of Community Detection in Networks Under Degree-corrected Stochastic Block Models, *Annals of Statistics*, 40, 2266-2292.
- [9] Y. Zhao, E. Levina, and J. Zhu. (2011) Community Extraction for Social Networks, *Proc. Nat. Acad. Sci.*, 108(18):7321–7326. (A winner of ASA Statistical Computing and Graphics Sections 2011 Student Paper Competition).

### Revision:

- [10] Y. Zhao, Q. Pan and C. Du. (2016) Logistic Regression Augmented Community Detection with Application in Identifying Autism-Related Gene Pathways, Submitted to *Biometrics*.
- [11] Y. Zhao. (2016) Network Inference From Time Varying Grouped Observations, Submitted to *Journal of Computational and Graphical Statistics*.

### Under Review:

- [12] Y. Zhao. and S. Chen. (2017) Learning Latent Networks via Matrix Decomposition by Solving Lyapunov Equations With Applications in Gene Regulatory Networks. Submitted to *Bioinformatics*.
- [13] C. Du. and Y. Zhao. (2017) On Consistency of Graph-based Semi-supervised Learning. Submitted to *Journal of Nonparametric Statistics*.

- [14] J. Hu, H. Qin, T. Yan, and Y. Zhao. (2016) On Consistency of Model Selection for Stochastic Block Models. Submitted to *Annals of Statistics*.
- [15] S. Chen, J. Kang, Y. Xing, Y. Zhao and D. Milton. (2015) Network Induced Large Correlation Matrix Estimation. Submitted to *Biometrics*.

Other Publications:

- [16] Y. Zhao. (2017) Book review: Mixture Model-Based Classification *Book Reviews, Journal of the American Statistical Association*, 112:518, 878-882.
- [17] P. Bickel, A. Chen, Y. Zhao, E. Levina, and J. Zhu. (2015) Correction to the Proof of Consistency of Community Detection, *Annals of Statistics*, 43, 462-466.
- [18] F. Wang, Y. Zhao. (2007) A Two-sided Inequality of Gamma Function. *J. Math. Res. Exposition*, 27(4):667-670.

#### PH.D. SUPERVISION

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Former students: Charles Weko Graduated in Spring 2015\*

Current students: Chengan Du  
Jirui Wang

\*Weko received Departmental Distinguished Academic Achievement Award (Dissertation Award).

#### PRESENTATIONS

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Invited talks:

- Invited session on “Advanced Statistical Methods for Complicated High Dimensional Data”, 2017 Applied International Chinese Statistical Association Symposium, Chicago, June, 2017.
- Department of Computer Science, Virginia Tech Northern Virginia Center, Falls Church, October, 2015.
- Invited session on “Recent Advance in Longitudinal Data Analyses”, 2015 International Chinese Statistical Association Symposium, Fort Collins, June, 2015.
- Department of Statistics, George Washington University, October, 2014.
- Biostatistics Center, George Washington University, August, 2014.
- Department of Mathematics, University of Maryland, College Park, April, 2014.
- CFE-ERCIM, London, December, 2013.
- Department of Computer Science, Purdue University, November, 2013.
- Department of Statistics, Purdue University, November, 2013.
- NIST, July, 2013.

- Invited session on “Statistical Inference for Network”, First Conference of the International Society for Nonparametric Statistics (ISNPS), Chalkidiki, Greece, June, 2012.
- Invited Session on “Model Selection and Related Topics”, ICSA 2011 Applied Statistics Symposium, New York City, June, 2011.

Talks in national statistical meetings:

- Presentation in Joint Statistical Meetings, Baltimore, August, 2017.
- Presentation in Joint Statistical Meetings, Chicago, August, 2016.
- Presentation in Joint Statistical Meetings, Seattle, August, 2015.
- Presentation in Joint Statistical Meetings, Boston, August, 2014.
- Topic contributed session on “Prediction and Inference in Large-Scale Social Networks”, 2012 Joint Statistical Meetings, San Diego, August, 2012.
- Department of Statistics Seminar, University of Michigan, Ann Arbor, December, 2011.
- Section on Statistical Computing Student Award Winners, 2011 Joint Statistical Meetings, Miami Beach, August, 2011.
- Poster presentation in Complex Networks Transition Workshop, SAMSI, Research Triangle Park, June, 2011.
- Poster presentation in 5th Michigan Student Symposium for Interdisciplinary Statistical Sciences, Ann Arbor, April, 2011.
- Poster presentation in Complex Networks Opening Workshop, SAMSI, Research Triangle Park, August, 2010.
- Presentation in Joint Statistical Meetings, Vancouver, Canada, August, 2010.

## PROFESSIONAL ACTIVITIES

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- Referee papers for the following journals:  
*Journal of the American Statistical Association, Annals of Statistics, Statistica Sinica, Computational Statistics and Data Analysis, Statistical Analysis and Data Mining, Electronic Journal of Statistics, Journal of the Royal Statistical Society: Series A.*
- Department representative in 2016-2017 Research Council of Volgenau School.
- Program Committee of 2016 International Chinese Statistical Association Symposium.
- Chair of 2012-2013, 2013-2014 Department seminar series in the Department of Statistics, George Mason University.
- Organizer of session “Statistical Methods for Network Analysis” on 2014 ICSA and KISS Joint Applied Statistics Symposium, Portland, June, 2014.

- Session chair on Conference on Statistical Learning and Data Mining, Ann Arbor, June, 2012
- Session chair on Statistical Machine Learning, ICASA, Applied Statistics Symposium, New York City, June, 2011.

#### AWARDS

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- Student Paper Competition Award: ASA Statistical Computing and Graphics Sections, 2011.
- Outstanding New Student Award, University of Science and Technology of China, 2003.

#### MISCELLANEOUS

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Languages: Native in Chinese, fluent in English.  
Computer programs: Matlab, R, and C/C++.