

JIE PENG

CURRICULUM VITAE

Contact Information

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Education

2000-2004 Stanford University, Stanford, CA Ph.D. Statistics
1996-2000 Peking University, Beijing, China BS Mathematics

Employment

07/2015 - Professor Department of Statistics
University of California, Davis
07/2010 - 06/2015 Associate Professor Department of Statistics
University of California, Davis
09/2004 - 06/2010 Assistant Professor Department of Statistics
University of California, Davis

Peer Reviewed Publications

Journals Published

1. **Peng, J.** and D. Siegmund (2004). Mapping quantitative traits with random and with ascertained sibships, *Proceedings of the National Academy of Sciences*, 101 (21): 7845-7850 [\[pdf\]](#)
2. **Peng, J.** and D. Siegmund(2005). The admixture model in linkage analysis, *Journal of Statistical Planning and Inference*, 130 (1-2): 317-324 [\[pdf\]](#)
3. **Peng, J.**, H.-K. Tang, and D. Siegmund (2005). Genome scans with gene-covariate interaction, *Genetic Epidemiology*, 29 (3): 173-184 [\[pdf\]](#)
4. Tang, H., **J. Peng**, P. Wang, and N. Risch (2005). Estimation of individual admixture: analytical and study design considerations, *Genetic Epidemiology*, 28 (4): 289-301 [\[pdf\]](#)
5. **Peng, J.** and D. Siegmund (2006). QTL mapping under ascertainment, *Annals of Human Genetics*, 70 (6): 867-881 [\[pdf\]](#)
6. **Peng, J.**, P. Wang, and H. Tang (2007). Controlling for false positive findings of trans-hubs in e-QTL mapping, *BMC Proceedings*, 1 (Suppl 1): S157 [\[pdf\]](#)

7. Tang, H., **J. Peng**, P. Wang, M. Coram, and L. Hsu (2007). Combining multiple family-based association studies, *BMC Proceedings*, 1 (Suppl 1): S162 [\[pdf\]](#)
8. **Peng, J.** and H.G. Müller (2008). Distance-based clustering of sparsely observed stochastic processes, with applications to on-line auctions, *Annals of Applied Statistics*, 2(3): 1056-1077 [\[pdf\]](#)
9. Paul, D. and **J. Peng** (2009). Consistency of restricted maximum likelihood estimators of principal components, *Annals of Statistics*, 37(3): 1229-1271 [\[pdf\]](#)
10. **Peng, J.**, P. Wang, N.F. Zhou, and J. Zhu (2009). Partial correlation estimation by joint sparse regression models, *Journal of the American Statistical Association*, 104 (486): 735-746 [\[pdf\]](#), [\[supplementary\]](#)
11. **Peng, J.** and D. Paul (2009). A geometric approach to maximum likelihood estimation of the functional principal components from sparse longitudinal data, *Journal of Computational and Graphical Statistics*, 18(4): 995-1015 [\[pdf\]](#)
12. **Peng, J.**, J. Zhu, A. Bergamaschi, W. Han, D.Y. Noh, J.R. Pollack, and P. Wang (2010). Regularized multivariate regression for identifying master predictors with application to integrative genomics study of breast cancer, *Annals of Applied Statistics*, 4(1): 53-77 [\[pdf\]](#), [\[supplementary\]](#)
13. Jin, J., **J. Peng**, and P. Wang. A generalized fourier approach to estimating the null parameters and proportion of nonnull effects in large-scale multiple testing (2010). *Journal of Statistical Research*, 44(1): 103-127. [\[pdf\]](#)
14. Paul, D., **J. Peng**, and P. Burman. Semiparametric modeling of autonomous nonlinear dynamical systems with application to plant growth (2011). *Annals of Applied Statistics*, 5(3): 2078-2108. [\[pdf\]](#), [\[supplementary\]](#)
15. Wang, R., **J. Peng**, and P. Wang. SNP set analysis for detecting disease association using exon sequence data (2011). *BMC Proceedings*, 5(Suppl 9). [\[pdf\]](#)
16. Paul, D. and **J. Peng**. Principal components analysis for sparsely observed correlated functional data using a kernel smoothing approach (2011). *Electronic Journal of Statistics*, 5: 1960-2003. [\[pdf\]](#)
17. Chitwood, D.H., L.R. Headland, D.L. Filiault, R. Kumar, J.M. Jiménez-Gómez, A.V. Schrager, D.S. Park, **J. Peng**, N.R. Sinha and J.N. Maloof. Native environment modulates leaf size and response to simulated foliar shade across wild tomato species (2012). *PLoS ONE*, 7(1): e29570. [\[pdf\]](#)
18. Chitwood, D.H., L.R. Headland, R. Kumar, **J. Peng**, J.N. Maloof, and N.R. Sinha. The developmental trajectory of leaflet morphology in wild tomato species (2012). *Plant Physiology*, 158(3): 1230-1240. [\[pdf+html\]](#)
19. Viswanath, V., E. Fletcher, B. Singh, N. Smith, D. Paul, **J. Peng**, J. Chen, and O. Carmichael. Impact of DTI smoothing on the study of brain aging (2012). 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 34: 94-97. [\[pdf\]](#)

20. Nguyen, T., **J. Peng**, and J. Jiang. Fence methods for backcross experiments (2012). *Journal of Statistical Computation and Simulation*, 84(3): 644-662. [[pdf](#)]
21. Kumar, R., Y. Ichihashi, S. Kimura, D.H. Chitwood, L.R. Headland, **J. Peng**, J.N. Maloof, and N.R. Sinha. A high-throughput method for Illumina RNA-Seq library preparation (2012). *Frontiers in Plant Science*, 3(202): 1-10. [[html](#)]
22. Carmichael, O., J. Chen, D. Paul, and **J. Peng**. Diffusion tensor smoothing through weighted Karcher means (2013). *Electronic Journal of Statistics*, 7(0): 1913-1956. [[pdf](#)], [[supplementary](#)]
23. Li, S., L. Hsu, **J. Peng**, and P. Wang. Bootstrap inference for network construction with an application to a breast cancer microarray study (2013). *Annals of Applied Statistics*, 7(1): 391-417. [[pdf](#)], [[supplementary](#)]
24. Koenig, D., J.M. Jiménez-Gómez, S. Kimura, D. Fulop, D.H. Chitwood, L.R. Headland, R. Kumar, M. F. Covington, U.K. Devisetty, A.V. Tat, T. Tohge, A. Bolger, K. Schneeberger, S. Ossowski, C. Lanz, G. Xiong, M. Taylor-Teeples, S. M. Brady, M. Pauly, D. Weigel, B. Usadel, A. R. Fernie, **J. Peng**, N.R. Sinha, and J.N. Maloof. Comparative transcriptomics reveals patterns of selection in domesticated and wild tomato (2013). *Proceedings of the National Academy of Sciences*, 110(28): 2655-2662. [[pdf+html](#)]
25. Chitwood, D., R. Kumar, L.R. Headland, A. Ranjan, M.F. Covington, Y. Ichihashi, D. Fulop, J. M. Jiménez-Gómez, **J. Peng**, J.N. Maloof, and N.R. Sinha. A quantitative genetic basis for leaf morphology in a set of precisely defined tomato introgression lines (2013). *Plant Cell*, 25(7): 2465-2481. [[pdf+html](#)]
26. **Peng, J.**, D. Paul, and H.G. Müller. Time-warped growth processes, with applications to the modeling of boom-bust cycles in house prices (2014). *Annals of Applied Statistics*. Volume 8, Number 3, 1561-1582. [[pdf](#)], [[supplementary](#)]
27. Ichihashi, Y., J.A. Aguilar-Martínez, M. Farhi, D.H. Chitwood, R. Kumar, L.V. Millon, **J. Peng**, J.N. Maloof, and N.R. Sinha. Evolutionary developmental transcriptomics reveals a gene network module regulating inter-specific diversity in plant leaf shape. (2014). *Proceedings of the National Academy of Sciences*, 111(25): E2616-21, 2014. [[pdf](#)]
28. Wong, R.K.W., T.C.M. Lee, D. Paul, and **J. Peng**. Fiber direction estimation in diffusion MRI (2015). *To appear on Annals of Applied Statistics*. [[pdf](#)] [arXiv:1406.0581](#)
29. Paul D., **J. Peng**, and P. Burman. Nonparametric estimation of dynamics of monotone trajectories (2015). *To appear on Annals of Statistics*

Book Chapters

1. Hsu, L., **J. Peng**, and P. Wang (2010) Learning network from high dimensional array data, Fu, W.J., (ed), *Frontiers in Computational and Systems Biology*, Vol. 15(Ch 7), Springer, pp. 133-156.

Software Development

1. R package `fpca`, <http://cran.r-project.org/>, co-developer: Debashis Paul
2. R package `space`, <http://cran.r-project.org/>, co-developer: Pei Wang
3. R package `remmap`, <http://cran.r-project.org/>, co-developer: Pei Wang
4. R package `binco`, <http://cran.r-project.org/>, co-developers: Shuang Li and Pei Wang
5. R package `dynamics`, http://anson.ucdavis.edu/~jie/dynamics_0.2-1.tar.gz, co-developer: Debashis Paul
6. R package `dagbag`, http://anson.ucdavis.edu/~jie/dagbag_1.1.tar.gz, co-developer: Ru Wang

Memberships

Institute of Mathematical Statistics
International Chinese Statistical Association

Professional Services

Editorial and Advisory Boards

2014 - Associate Editor of Journal of Computational and Graphical Statistics
 2013 - Action Editor of Journal of Machine Learning Research
 2013 - 2015 Guest Editor of a special issue of Statistics and Its Interface
 2010 - 2013 Advisory Board of Bioinformatics Core, Genome Center, UC Davis
 2005 - 2007 Regional Advisory Board of WNAR

Advisor/Advisee Relationships

Ph.D. Advisor

2002 - 2004 David O. Siegmund

Ph.D. Students

2005 - 2008 Thuan Nguyen (co-advise with J. Jiang)
Thesis: New Procedures of Fence Methods and their Applications
 2009 - 2012 Jun Chen (co-advise with D. Paul)
Thesis: Statistical Methods for Diffusion Magnetic Resonance Imaging
 2009 - 2013 Ru Wang
Thesis: High-Dimensional Graphical Models Learning
 2009 - 2014 Siyuan Zhou (co-advise with D. Paul)
Thesis: Semiparametric Modeling of Non-Autonomous Dynamical Systems
 Present: Hao Yan, Jilei Yang, Chris Conley