

Quefeng Li

CONTACT INFORMATION	Department of Biostatistics 3105D McGavran-Greenberg Hall, Chapel Hill, NC 27599	Phone: (919)962-6450 Email: quefeng@email.unc.edu Website: http://www.bios.unc.edu/~quefeng
RESEARCH INTERESTS	High dimensional data analysis with application in biomedical research, neuroimaging analysis, data integration, robust statistics.	
EMPLOYMENT	Associate Professor, Department of Biostatistics, UNC. Assistant Professor, Department of Biostatistics, UNC. Faculty Fellow, SAMSI. Postdoctoral Research Associate, Department of ORFE, Princeton University.	2021–present 2015–2021 2016–2017 2013–2015
EDUCATION	Ph.D., <i>Statistics</i> , University of Wisconsin at Madison, USA. B.S., <i>Mathematics</i> , Nanjing University, China.	2008–2013 2002–2006
PUBLICATION (STATISTICAL METHODOLOGY)	† denotes supervised student. [1] Wang, P. [†] , Li, Q. , Shen, D., Liu, Y. (2021+). High-Dimensional Factor Regression for Heterogeneous Subpopulations. <i>Statistica Sinica</i> , in press. [2] Li, Q. and Li, L. (2021+). Integrative Factor Regression and Its Inference for Multimodal Data Analysis. <i>Journal of the American Statistical Association</i> , in press. [3] Lin, F., Li, Q. , and Lin, J. (2020). Relapse or Reinfection: Classification of Malaria Infection Using Transition Likelihoods. <i>Biometrics</i> , 76:1351–1363. [4] Rashid, N., Li, Q. , Yeh, J., and Ibrahim, J. (2020). Modeling Between-Study Heterogeneity for Reproducible Gene Signature Selection and Clinical Prediction. <i>Journal of the American Statistical Association</i> , 115:1125–1138. [5] Yu, G., Li, Q. , Shen, D., and Liu, Y. (2020). Optimal Sparse Linear Prediction for Block-missing Multi-modality Data without Imputation. <i>Journal of the American Statistical Association</i> , 115:1406–1419. [6] Li, X., Li, Q. , Zeng, D., Marder, K., Paulsen, J., and Wang, Y. (2020). Time-varying Hazards Model Incorporating Irregularly Measured High-dimensional Biomarkers. <i>Statistica Sinica</i> , 30:1605–1632. [7] Ta, T., Shao, J., Li, Q. , and Wang, L. (2020). Generalized Regression Estimators with High-Dimensional Covariates. <i>Statistica Sinica</i> , 30:1135–1154. [8] Li, Q. and Li, L. (2018). Integrative Linear Discriminant Analysis with Guaranteed Error Rate Improvement. <i>Biometrika</i> , 105:917–930. [9] Avella-Medina, M., Battey, H., Fan, J., and Li, Q. (2018). Robust Estimation of High Dimensional Covariance and Precision Matrices. <i>Biometrika</i> , 105:271–284. [10] Li, Q. , Cheng, G., Fan, J., and Wang, Y. (2018). Embracing the Blessing of Dimensionality in Factor Models. <i>Journal of the American Statistical Association</i> , 113:380–389. [11] Li, Q. , Yu, M., and Wang, S. (2017). A Statistical Framework for Pathway and Gene Identification from Integrative Analysis. <i>Journal of Multivariate Analysis</i> , 156:1–17.	

- [12] Fan, J., **Li, Q.**, and Wang, Y. (2017). Estimation of High-Dimensional Mean Regression in Absence of Symmetry and Light-tail Assumptions. *Journal of the Royal Statistical Society: Series B*, 1:247–265.
- [13] **Li, Q.** and Shao, J. (2015). Regularized LASSO: A Consistent Variable Selection Method. *Statistica Sinica*, 25:975–992.
- [14] **Li, Q.** and Shao, J. (2015). Sparse Quadratic Discriminant Analysis for High Dimensional Data. *Statistica Sinica*, 25:457–473.
- [15] Xu, Y., Yu, M., Zhao, Y. Q., **Li, Q.**, Wang, S., and Shao, J. (2015). Regularized Outcome Weighted Subgroup Identification for Differential Treatment Effects. *Biometrics*, 7:645–653. PMID: 25962845.
- [16] **Li, Q.**, Wang, S., Huang, C., Yu, M., and Shao, J. (2014). Meta-analysis Based Variable Selection for Gene Expression Data. *Biometrics*, 70:872–880. PMID: 25196635.

PUBLICATION † denotes supervised student.

- (COLLABORATIVE WORK) [17] Davis, E., Coakley, R., Labamba, B., Rowell, T., Dang, H., Pawlak, E., **Li, Q.**, Alexis, N., Ribeiro, C., Tarran, R. (2021+). Chronic E-Cigarette Exposure Alters Human Alveolar Macrophage Morphology and Gene Expression. *Nicotine & Tobacco Research*, in press.
- [18] Specht, B., Buse, C., Phelps, J., Chiavacci, S., Harrell, L. Nelson, J., Poulos, K., **Li, Q.**, Liu, Y.†, Lupa, C. (2021+). Virtual Reality After Surgery (VRAS) – A Method to Decrease Pain After Surgery in Pediatric Patients. *The American Surgeon*, in press.
- [19] Rosman, L., Salmoirago-Blotcher, E., Mahmood, R., Yang, H.†, **Li, Q.**, Mazzella, A., Klein, J., Hanks, J., Bumgarner, J., Gehi, A. (2021). Arrhythmia Risk During the 2016 United States Presidential Election: The Cost of Stressful Politics. *Journal of the American Heart Association*, in press.
- [20] Zhou, J., **Li, Q.**, Cao, Y. (2021). Spatiotemporal Response Heterogeneity across Metastatic Lesions in Colorectal Cancer. *Cancer Research*, in press.
- [21] Hallman, M., Dorinsky, N., Wang, Y.†, **Li, Q.**, Isaak, R., Kolarczyk, L., Kim, H., Lobonc, A. (2021). Objective Pain Assessment using Incentive Spirometry Values. *Pain Management*, in press.
- [22] Mazzella, A., Hendrickson, M., Aurora, S., Sanders, M., **Li, Q.**, Vavalle, J., Gehi, A. (2021). Shifting Trends in Timing of Pacemaker Implantation After Transcatheter Aortic Valve Replacement. *JACC: Cardiovascular Interventions*, 14:232–234.
- [23] Flythe, J., Tugman, M., Narendra, J., Assimon, M., **Li, Q.**, Wang, Y.†, Brunelli, S., Hinderliter, A. (2021). Effect of ultrafiltration profiling on outcomes among maintenance hemodialysis patients: a randomized crossover trial. *Journal of Nephrology*, 34:113–123.
- [24] Straube, L., Fardelmann, K., Penwarden, A., Harker, E., Redmon, B., **Li, Q.**, Strauss, R., Smith, K. (2020). Nitrous Oxide Analgesia for External Cephalic Version: A Randomized Control Trial. *Journal of Clinical Anesthesia*, 68:110073.
- [25] Mazzella, A., Sanders, M., Yang, H.†, **Li, Q.**, Vavalle, J., Gehi, A. (2020). Predicting Need for Pacemaker Implantation Early and Late After Transcatheter Aortic Valve Implantation. *Catheterization and Cardiovascular Interventions*, 2020:19.
- [26] Beckman J., **Li, Q.**, Smith, T., Hester, S., Leitner, O., Karen, S., Kasthuri, R. (2020). Integration of Clinical Parameters, Genotype and Epistaxis Severity Score to Guide Treatment for Hereditary Hemorrhagic Telangiectasia Associated Bleeding. *Orphaned Journal of Rare Diseases*,

15:185.

- [27] Rohner, E., McGuire F. H., Liu, Y.[†], **Li, Q.**, Miele, K., Desai, S. A., Schmitt, J., Knittel, A., Nelson, J., Edelman, C., Sivaraman, V., Baker, A., Romocki, L., Rahangdale, L., Smith, J. (2020). Racial and Ethnic Differences in Acceptability of Urine and Cervico-Vaginal Sample Self-Collection for HPV-Based Cervical Cancer Screening. *Journal of Women's Health*, 29:7.
- [28] Wang, Y.[†], Yang, D., **Li, Q.**, Kaufer, D., Styner, M., Wu, G. (2020). Characterize the Propagation Pattern of Neurodegeneration in Alzheimer's Disease by Longitudinal Network Analysis. *Proceedings of the 20th IEEE International Symposium on Biomedical Imaging (ISBI)*, 292–295.
- [29] Zhou, J., Liu, Y.[†], Zhang, Y., **Li, Q.**, Cao, Y. (2020). Modeling Tumor Evolutionary Dynamics to Predict Clinical Outcomes for Patients with Metastatic Colorectal Cancer: A Retrospective Analysis. *Cancer Research*, 80:591–601.
- [30] Zhong, W.[†], Dong, L.[†], Poston, T., Darville, T., **Li, Q.**, Zheng, X. (2020). Inferring Regulatory Network from Mixed Observational Data Using the Directed Acyclic Graph. *Frontiers in Genetics*, 11:8.
- [31] Kim, E., Yang, L., Ye, P., Guo, R., **Li, Q.**, Kulis, M., Burks, W. (2019). Long-term Sublingual Immunotherapy for Peanut Allergy in Children: Clinical and Immunologic Evidence of Desensitization. *Journal of Allergy and Clinical Immunology*, 144: 1320–1326.
- [32] Tugman, M., Narendra J., **Li, Q.**, Wang, Y.[†], Hinderliter, A., Brunelli, S., Flythe, J. (2019). Ultrafiltration Profiled Hemodialysis to Reduce Dialysis-related Cardiovascular Stress: Study Protocol for a Randomized Controlled Trial. *ContemporaryClinicalTrialsCommunications*, 15:100415.
- [33] Dineen, H., Eskildsen, S., Gan, Z., **Li, Q.**, Patterson, B., Patterson, J., Draeger, R. (2019). Gender Preferences of Patients when Selecting Orthopaedic Providers. *Iowa Orthopaedic Journal*, 39:203–210.
- [34] Cummings, D., Adams, A., Halladay, J., Hinderliter, A., Donahue, K., Cene, C., **Li, Q.**, Miller, C., Garcia, B., Tillman, J., Little, E., DeWalt, D. (2019). Race-Specific Patterns of Treatment Intensification among Hypertensive Patients using Home Blood Pressure Monitoring: Analysis Using Defined Daily Doses in the Heart Healthy Lenoir Study. *The Annals of Pharmacotherapy*, 53:333–340.
- [35] Hill, J., Mills, C., **Li, Q.**, Smith, J. (2019). The Prevalence of Traditional, Complementary, and Alternative Medicine Use by Cancer Patients in Low Income and Lower-Middle Income Countries; a Systematic Review. *Global Public Health*, 14: 418–430.
- [36] Kulis, M., Yue, X., Guo, R., Zhang, H., Orgel, K., Ye, P., **Li, Q.**, Liu, Y.[†], Kim, E., Burks, A., Vickery, B. (2019). High and Low Dose Oral Immunotherapy Similarly Suppress Pro-Allergic Cytokines and Basophil Activation in Young Children. *Clinical and Experimental Allergy*, 49:180–189.
- [37] Jones, S.[†], **Li, Q.**, Aiello, A., O'Rand, A., Roux, A., and Evenson, K. (2018). Correlates of Changes in Walking During the Retirement Transition: The Multi-Ethnic Study of Atherosclerosis. *Preventive Medicine Reports*, 11:221–230.
- [38] Sun, X., Shan, Y.[†], **Li, Q.**, Chollet-Hinton, L., Kirk, E., Gierach, G., Troester, M. (2018). Intra-individual Gene Expression Variability of Normal Breast Tissue. *Scientific Reports*, 8:9137.
- [39] Wu, J., Cummings, D., **Li, Q.**, Halladay, J., Donahue, K., Cene, C., M.D., Hinderliter, A., Bosworth, H., Miller, C., Garcia, B., Tillman, J., DeWalt, D. (2018). The Effect of a Practice-

based Multi-component Intervention that Includes Health Coaching on Medication Adherence and Blood Pressure Control in Rural Primary Care. *Journal of Clinical Hypertension*, 20:757–764.

- [40] Jones, S.[†], **Li, Q.**, Aiello, A., O’Rand, A., Turkbey E., Roux, A., and Evenson, K. (2018). Physical Activity, Sedentary Behavior, and Retirement: the Multi-Ethnic Study of Atherosclerosis (MESA). *American Journal of Preventive Medicine*, 54:786–794.
- [41] Halladay, J., Donahue K., Cene C.W., **Li, Q.**, Cummings, D., Hinderliter, A., Miller, C., Garcia B., Little, E. Tillman, J., Ammerman, A., DeWalt, D. (2016). The Association of Health Literacy and Blood Pressure Reduction in a Cohort of Patients with Hypertension: The Heart Healthy Lenoir Trial. *Patient Education and Counseling*, 100:542–549.
- [42] Scerpella, T.A., Bernardoni, B., Wang, S., Rathouz P.J., **Li, Q.**, and Dowthwaite, J.N. (2016). Site-Specific, Adult Bone Benefits Attributed to Loading During Youth: A Preliminary Longitudinal Analysis. *Bone*. 85:148–159. PMID: 26826335.
- [43] Bernardoni, B., Scerpella, T.A., Rosenbaum, P.F., Kanaley, J.A., **Li, Q.**, Wang, S. and Dowthwaite, J.N. (2015). The Influence of Organized Physical Activity (Including Gymnastics) on Young Adult Skeletal Traits: Is Maturity Phase Important? *Pediatric Exercise Science*. 27:285–296. PMID: 25386845.
- [44] Bernardoni, B., Thein-Nissenbaum, J., Fast, J., Day, M., Wang, S., **Li, Q.**, and Scerpella, T.A. (2014). A School-Based Resistance Intervention Improves Skeletal Growth in Adolescent Females. *Osteoporosis International*. 25:1025–1032. PMID: 24114402. PMCID: PMC4118457.
- [45] Coursin, D., Head, D., Chen, G., **Li, Q.**, Wang, S. and Hogan, K. (2014). Vitamin D Deficiency in Anesthesia Caregivers at the End of Winter. *Acta Anaesthesiologica Scandinavica*. 58:802–806. PMID: 25040952.

PUBLICATION
(OTHERS)

- [46] Yu, M. and **Li, Q.** (2014). Discussion of “Combining Biomarkers to Optimize Patient Treatment Recommendations” by Kang C., Janes, H., and Huang, Y. *Biometrics*. 70:716-719. PMID: 24889402.

HONORS

- Junior Faculty Development Award, UNC. 2018
- University Research Council Award, UNC. 2016

INVITED TALKS

- The 34th New England Statistics Symposium. 2021
- JSM, Seattle. 2021
- AISC, Greensboro. 2021
- JSM, Denver. 2019
- Big Data and Modern Statistics Conference, Shanghai. 2019
- IMS China Conference, Dalian. 2019
- The ICSA International Conference, Tianjin. 2019
- ICSA Applied Statistics Symposium, Raleigh. 2019
- Department of Statistics, North Carolina State University. 2019
- Department of Statistics and Operations Research, UNC - Chapel Hill. 2018
- ICSA Applied Statistics Symposium, New Brunswick. 2018

- Workshop on “Discovery of causal structure in high dimensions”, McGill University. 2018
- Department of Mathematics and Statistics, University of North Carolina - Greensboro. 2017
- ICSA Applied Statistics Symposium, Chicago. 2017
- ENAR, Washington DC. 2017
- The 10th ICSA International Conference, Shanghai. 2016
- International Conference on Advances in Interdisciplinary Statistics and Combinatorics, Greensboro. 2016
- ICSA Applied Statistics Symposium, Atlanta. 2016
- The 4th Institute of Mathematical Statistics Asia Pacific Rim Meeting, Hong Kong. 2016
- Department of Biostatistics, University of Michigan - Ann Arbor. 2015
- Department of Statistical Sciences, University of Toronto. 2015
- Department of Statistics, University of California - Riverside. 2015
- Public Health Sciences Division, Fred Hutchinson Cancer Research Center. 2015
- Department of Biostatistics, University of North Carolina - Chapel Hill. 2015
- Department of Epidemiology, Biostatistics and Occupational Health, McGill University. 2015
- Department of Mathematics and Statistics, McGill University. 2015
- Department of Biostatistics, Columbia University. 2015
- Department of Mathematical Sciences, State University of New York, Binghamton. 2014
- Wilks Statistics Seminar, Princeton University. 2013

CONTRIBUTED
TALKS

- ENAR, Philadelphia. 2019
- ENAR, Atlanta. 2018
- JSM, Baltimore. 2017
- ENAR, Austin. 2016
- JSM, Boston. 2014

TEACHING

- BIOS 761: Advanced Probability and Statistical Inference II. 2017 – now

STUDENTS

- PhD students: Wanting Jin, Hannan Yang, Yutong Liu, Haodong Wang, Tianyi Liu.
- MS students: Liyuan Zhou (graduated in 2020).
- Doctoral dissertation committee of students: Jenny Yang (Biostatistics), Kin Yau Wong (Biostatistics), Yu Deng (Biostatistics), Sydney Jones (Epidemiology), Ran Tao (Biostatistics), Doug Wilson (Biostatistics), David Pritchard (Biostatistics), Li Dong (Biostatistics), Peiyao Wang (Statistics), Jin Wang (Biostatistics), Jiawei Zhou (Pharmacy), Ziliang Zhu (Biostatistics), Beilin Jia (Biostatistics).

PROFESSIONAL
SERVICE

- Associate Editor of Journal of Nonparametric Statistics.
- Reviewer for Annals of Applied Statistics / Annals of Statistics / Biometrics / Biometrika / Biostatistics / IEEE Transactions on Information Theory / Journal of Business & Economic Statistics / Journal of Computational and Graphical Statistics / Journal of Econometrics / Journal of Machine Learning Research / Journal of Multivariate Analysis / Journal of the American Statistical Association / Journal of the Royal Statistical Society: Series B / Management Science / Operations Research / Scandinavian Journal of Statistics / Statistica Sinica / Statistics in Medicine.
- Organization committee of Conference on Statistical Learning and Data Science (2016).

COMMITTEE
SERVICE

- Graduate admission committee. 2018 – now
- PhD qualify exam committee. 2016 – now
- Graduate study committee. 2015 – now
- Faculty search committee. 2015, 2018
- Seminar committee. 2015 – 2017