

Ruosha Li

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RESEARCH INTERESTS

- Survival analysis; Quantile regression; Longitudinal data; Estimating equations.
- Prediction; Validation; Association; Agreement.
- Clinical trials; Liver disease; Parkinson's disease; Traumatic brain injury; Lung disease.

EXPERIENCE

- **Associate Professor** 2018–present
Department of Biostatistics and Data Science, University of Texas Health Science Center at Houston
- **Assistant Professor** 2014–2018
Department of Biostatistics and Data Science, University of Texas Health Science Center at Houston
- **Assistant Professor** 2011–2014
Department of Biostatistics, Graduate School of Public Health, University of Pittsburgh.
- **Research Assistant** 2008–2011
Department of Biostatistics & Bioinformatics, Emory University.
- **Summer Intern** 2008
Merck & Co., Upper Gwynedd.

EDUCATION

- **Ph.D. in Biostatistics** 2011
Department of Biostatistics & Bioinformatics, Emory University. *Advisor: Limin Peng, Ph.D.*
- **B.S. in Statistics** 2006
Department of Probability & Statistics, School of Mathematical Sciences, Peking University, China.

PUBLICATIONS

Methodological Papers

1. Xie, J. and **Li, R.** (2018+) False discovery rate control for high-dimensional networks of quantile associations conditioning on covariates. Journal of the Royal Statistical Society-B. Accepted.
2. Lin, X., Lu, T., Yan, F., **Li, R.** and Huang, X. (2018) Mean residual life regression with functional principal component analysis on longitudinal data for dynamic prediction. Biometrics. In press.
3. Lin, X., **Li, R.**, Yan, F., Lu, T. and Huang, X. (2018) Quantile residual lifetime regression with functional principal component analysis of longitudinal data for dynamic prediction. Statistical Methods in Medical Research. In press.
4. Yan, F., Lin, X., **Li, R.** and Huang, X. (2018) Functional principal components analysis on moving time windows of longitudinal data: dynamic prediction of times to event. Journal of the Royal Statistical Society-C. In press.
5. Li, X.⁺, Chen, Y. and **Li, R*** (2017) A frailty model for recurrent events during alternating restraint and non-restraint time periods. Statistics in Medicine. 36(4): 643–654 (+ Li's PhD student).
6. **Li, R***, Cheng, Y., Chen, Q. and Fine, J. (2017) Quantile association for bivariate survival data. Biometrics. 73(2): 506–516.

7. **Li, R.** and Peng, L. (2017) Assessing quantile prediction with censored quantile regression models. Biometrics. 73(2): 517–528.
8. **Li, R.*** and Cheng, Y. (2016) Flexible association modelling and prediction with semi-competing risks data. The Canadian Journal of Statistics, 44 (3): 361–374.
9. **Li, R.***, Huang, X., and Cortes, J. (2016) Quantile residual life regression with longitudinal biomarker measurements for dynamic prediction. Journal of the Royal Statistical Society-C. 65 (5): 755–773.
10. **Li, R.** and Peng, L. (2015) Quantile regression adjusting for dependent censoring from semi-competing risks. Journal of the Royal Statistical Society - B. (77) 107-130.
11. **Li, R.***, Cheng, Y., and Fine, J.P. (2014) Quantile association regression models. Journal of the American Statistical Association. 109:505, 230-242.
12. **Li, R.** and Peng, L. Varying coefficient subdistribution regression for left-truncated semi-competing risks data. (2014). Journal of Multivariate Analysis. 131: 65-78.
13. Pan, Y., Caudill, S., **Li, R.** and Caldwell, K. (2014) Median and quantile tests under complex survey design using SAS and R. Computer Methods and Programs in Biomedicine 117(2):292-7
14. Ji, S., Peng, L., **Li, R.** and Lynn, M. (2014) Analysis of dependently censored data based on quantile regression. Statistica Sinica. 24(3):1411-1432.
15. Guo, Y., **Li, R.**, Peng, L, and Manatunga, A.K. (2013) New agreement measures based on survival processes. Biometrics 69: 874-882.
16. Peng, L., **Li, R.**, Guo, Y. and Manatunga, A.K. (2011). A framework for assessing broad sense agreement between ordinal and continuous measurements. Journal of the American Statistical Association (featured article), 106:496, 1592-1601.
17. Hanfelt, J.J., **Li, R.**, Pan, Y., and Payment, P. (2011). Robust inference for sparse cluster-correlated count data. Journal of Multivariate Analysis 102: 182-192.
18. **Li, R.** and Peng, L. (2011). Quantile regression for left-truncated semi-competing risks data. Biometrics 67: 701-710.

Collaborative Papers in Biomedical Research

19. Rosenblatt, A., **Li, R.**, Fortier, C., Liu, X., Fonda, J.R., Villalon, A., McGlinchey, R., Jorge, R. (2018+) Latent Factor Structure of PTSD Symptoms in Veterans with a History of Mild Traumatic Brain Injury and Close-Range Blast Exposure. Psychological Trauma: Theory, Research, Practice, and Policy. Accepted.
20. Narkewicz, M.R., Horslen, S., Hardison, R., Shneider, B.L., Rodriguez-Baez, N., Alonso, E., Ng, V., Leonis, M.A., Loomes, K., Rudnick, D., Rosenthal, P., Romero, R., Subbarao, G., **Li, R.**, Belle, S., Squires, R. (2018+) A Learning Collaborative Approach Increases Specificity of Diagnosis of Acute Liver Failure in Pediatric Patients. Clinical Gastroenterology and Hepatology. Accepted.
21. Mahale P., Engels, E.A., **Li, R.** , Torres, H.A., Hwang, L.Y., Brown, L., Kramer, J.R., (2018) The effect of sustained virological response on the risk of extrahepatic manifestations of hepatitis C virus infection. Gut. 67(3):553-561..
22. Fu, S., Wang, M., Lairson, D.R., **Li, R.**, Zhao, B., Du, X.L. (2017), Trends and variations in mantle cell lymphoma incidence from 1995 to 2013: A comparative study between Texas and National SEER areas. Oncotarget. 8(68):112516-112529
23. Wills, A.M., **Li, R.**, Perez, A., Ren, X., Boyd, J. on behalf of the NINDS NET-PD Investigators (2017) Predictors of Weight Loss in early treated Parkinsons Disease from the NET-PD LS-1 cohort. Journal of Neurology. 264(8):1746-1753.
24. Mahale P, Torres HA, Kramer JR, Hwang LY, **Li, R.**, Brown EL, Engels EA. (2017) Hepatitis C virus infection and the risk of cancer among elderly US adults: A registry-based case-control study. Cancer. 1;123(7):1202-1211
25. Hauser, R., **Li, R.**, Perez, A., Ren, X., ..., Kiebertz, K., Tilley, B. for the NINDS NET-PD Investigators. (2017) Longer duration of MAO-B inhibitor exposure is associated with less clinical

- decline in PD: an analysis of NET-PD LS1. Journal of Parkinson's Disease (featured article), 7(1): 117-127.
26. Hassan, M., Kim, R., **Li, R**, Smith, C., Fried, M. Sterling, R., Ghany, M., Wahed, A., Ganova-Raeva, L., Roberts, L., Lok, A. for the Hepatitis B Research Network (2017), Characteristics of US-born versus foreign-born Americans of African descent with chronic Hepatitis B. American Journal of Epidemiology. 19:1-11
 27. Ng, V., **Li, R**, Loomes, K., Leonis, M., Rudnick, D., Belle, S.H., and Squires, R. (2016) Outcomes of children with and without hepatic encephalopathy from the Pediatric Acute Liver Failure (PALF) study group. Journal of Pediatric Gastroenterology & Nutrition. 63(3): 357-64
 28. Dabbs, A.D., Song, M.K., Myers, B.A., **Li, R.**, Dew, M.A., Hawkins, R.P., Pilewski, J.M., Bermudez, C.A., Aubrecht, J., Begey, A., Connolly, M., Alrawashdeh, M. (2016) A Randomized Controlled Trial of a Mobile Health Intervention to Promote Self-Management after Lung Transplantation. American Journal of Transplantation, 16(7):2172-80.
 29. **Li, R**, Belle, S.H., Horslen, S., Chen, L.W., Zhang, S., Squires, R. (2016) Clinical Course among Cases of Acute Liver Failure of Indeterminate Diagnosis. Journal of Pediatrics, 171: 163–170.
 30. Taylor, S., **Li, R**, Petschauer, J., Donovan, H., O'Neal, S., Keeler, A., Zamboni, W., Edwards, R., Zorn, K. (2015) Phase I Study of Intravenous (IV) Docetaxel and Intraperitoneal (IP) Oxaliplatin in Recurrent Ovarian and Fallopian Tube Cancer. Gynecologic Oncology, 138(3): 548-553.
 31. Gu, S., **Li, R**, Leader, J.K., Zheng, B., Bon, J., Gur, D., Scirba, F., Jin, C., Pu, J. (2015) Obesity and extent of emphysema depicted at CT. Clinical Radiology. 70(5): e14-9.
 32. Ju, J. #, **Li, R**#, Gu, S., Leader, J.K., Wang, X., Chen, Y., Zheng, B., Wu, S., Gur, D., Scirba, F., Pu, J. (2015) Impact of Emphysema Heterogeneity on Pulmonary Function. PLOS One. (# contributed equally).
 33. Ghany, M, Perrillo, R, **Li, R**, Belle, SH, Janssen, HLA, Terrault, NA, Shuhart, MC, Lau, DT-Y, Kim, WR, Fried, MW, Sterling, RK, Di Bisceglie AM, Han S-HB, Ganova-Raeva LM, Chang K-M, Suk-Fong Lok A. (2015) Characteristics of Adults in the Hepatitis B Research Network in North America Reflect Their Country of Origin and HBV Genotype, Clinical Gastroenterology and Hepatology. 13(1):183-192.
 34. Squires, R., Balint, J., Horslen, S., Wales, P., Soden, J. Duggan, C., **Li, R.**, Belle, S. Race affects outcome among infants with intestinal failure. (2014). Journal of Pediatric Gastroenterology & Nutrition. 59(4):537-543.
 35. DeVito Dabbs, A.J., Song, MK, Myers, BM, Hawkins, RP, Aubrecht, J, Begey A, Connolly, **Li, R.**, Pilewski, JM, Bermudez, CA & Dew, MA. (2013). Clinical trials of health IT interventions intended for patient use: unique issues and considerations. Clinical Trials: Journal of the Society for Clinical Trials. 10(6):896-906.
 36. Hertzberg, R.C., Pan, Y., **Li, R.**, Haber, L., Lyles, R.H., Herr, D.W., Moser, V.C., Simmons, J.E.. (2013) A four step approach to evaluate mixtures for consistency with dose addition. Toxicology. 313: 134-144.
 37. Mwanza, J.C., Lyke, D.F., Hertzberg, R.C., Haber, L., Kohrman, V.M., **Li, R.**, Pan, Y., Lyles, R.H., Simmons, J.E., Macmillan, D.K., Zehr, R.D., Swank, A.E., Herr, D.W. (2012) Cholinesterase inhibition and depression of the photic after discharge of flash evoked potentials following acute or repeated exposures to a mixture of carbaryl and propoxur. Neurotoxicology. 33(3):332-46.
 38. Froehlich, C.D., Rigby, M.R., Rosenberg, E.S., **Li, R.**, Roerig, P.L.J., Easley, K.A. and Stockwell, J.A. (2009). Ultrasound-guided central venous catheter placement decreases complications and decreases placement attempts compared with the landmark technique in patients in a pediatric intensive care unit, Critical care medicine, 37(3): 1090-2009.
 39. Muller, S., Pan, Y., **Li, R.**, Chi, A.C. (2008). Changing trends in the incidence of oral squamous cell carcinoma with particular reference to young patients, 1971-2006. The Emory University Experience. Head and Neck Pathology, 2(2): 60-66.
 40. Chi, A.C., Lambert III, P.R., Pan, Y., **Li, R.**, Vo, D.T., Edwards, E., Gangarosa, P. and Neville, B.W.

(2007). Is alveolar ridge keratosis a true leukoplakia?: A clinicopathologic comparison of 2,153 lesions, The Journal of the American Dental Association, 138(5): 641-651.

BOOK CHAPTER

- **Li, R.** and Peng, L. (2017+), Survival Analysis with Competing Risks and Semi-competing Risks Data. Invited book chapter for Handbook of Quantile Regression, edited by Koenker, R., Chernozhukov, V., He, X. and Peng, L.

GRANT SUPPORTS

- Modeling and Validation for Tackling Risk Prediction with Competing Risks by Integrating Multiple Longitudinal Biomarkers. NIH. PI: **Li**
Role: PI. 2018–2022
- Persistent Hormonal Changes in Veterans with Gulf War Illness. DOD. PI: Jorge
Role: Co-investigator/subcontract PI 2017–2020
- Dynamic Prediction of Time to Next Failure Event, NSF DMS. PIs: Huang, **Li**.
Role: Co-PI. 2016-2019
- Collaborative agreement with Baylor College of Medicine. PI: Jorge.
Role: Statistician. 2016–present
- A Randomized Recruitment Intervention, NIH. PI: Tilley
Role: Co-investigator. 2017–2018
- Prehospital Resuscitation On Helicopter Study, University of Washington / NIH
Role: Co-investigator. 2017
- “Parkinson’s Disease Clinical Trial: Statistical Center”, NIH. PI: Tilley.
Role: Co-investigator. 2014–2016
- “Latent Class Trajectory Analysis of PALF Registry Data”, University of Pittsburgh CTSI. PI: **Li**
Role: PI. 2012–2013
- “Hepatitis B Clinical Research Network-Data Coordinating Center”, NIH. PI: Belle.
Role: Statistician. 2011–2014
- “Phase III Trial of Pocket PATH: A computerized intervention to promote self-care”, NIH. PI: Dabbs.
Role: Co-investigator. 2012–2014
- “A Multi-center group to study acute liver failure in children”, NIH. PI: Squires.
Role: Statistician. 2013–2014

TEACHING & ADVISING

• TEACHING

UTHealth

– Intermediate Biostatistic, PH1700

40 Enrolled

Spring 2018

52 Enrolled

Spring 2017

– Survival Analysis, PH1831

31 Enrolled

Fall 2017

21 Enrolled

Fall 2016

32 Enrolled

Spring 2016

10 Enrolled

Fall 2015

20 Enrolled

Spring 2015

UPITT

- Linear Models.
- Biostatistics Seminar.

Fall, 2012-2013
Spring 2012-Fall 2013

• ADVISING

UTHealth

- Dissertation Supervisor:
 - Xiaoqi Li, PhD (main advisor, co-advised with Dr. Chen)
“Statistical models for recurrent events during alternating restraint and non-restraint periods”, graduated 2015.
 - Xiangyu Liu, PhD student, in progress.
 - Wen Li, PhD student, in progress (co-advisor, main advisor is Dr. Ning)
- MS Thesis advisor:
 - Fen Peng, MS student, graduated Fall 2017
Topic: “Use of fractional polynomials in dynamic prediction and assessment of prediction accuracy: a simulation study.”
 - Fangfang Yan, MS student, graduated 2017.
Topic: “Integrate IMPACT with advanced brain imaging to evaluate the effect of sports-related concussion on high school athletes: analysis of a longitudinal study”.
- Other student advising:

Student	Dept.	Program	My Role
Qing Yun	BIOS	PhD	Academic advisor
Jacky Kuo	BIOS	MS	Academic advisor
Yiyao Li	BIOS	MS	Academic advisor
Sharmila Giri	BIOS	MS	Academic advisor
Mengxi Wang	BIOS	MS	Academic advisor
Xiaoxiao Wang	BIOS	MPH	Academic advisor
Ping Zhu	EHGES	PhD	Committee member
Dian Gu	MPACH	PhD	Committee member
Iman Moussa	EHGES	PhD	Committee member
Peter J. Elyanu	EHGES	PhD	Committee member
Xiaotao Zhang	EHGES	PhD	Committee member
Shuangshuang Fu	EHGES	PhD	Committee member
Brandi Markert	EHGES	MS	committee member
Cai Wu	BIOS	PhD	Committee member
Huzhang Mao	BIOS	PhD	Committee member
Sarah May	BIOS	MS	Academic advisor
Olubiyi Aworunse	MPACH	PhD	Committee member
Yiyi Chu	BIOS	PhD	Academic advisor & committee chair
Jin Piao	BIOS	PhD	Academic advisor & committee chair
Peter J. Elyanu	EHGES	MPH	Committee member
Huan Cong	BIOS	PhD	Academic advisor & committee chair
Yi Cai	BIOS	PhD	Academic advisor& committee chair
Parag S. Mahale	EHGES	PhD	Committee member

UPITT

Student	Dept.	Program	My Role
Yi Ren	BIOS	PhD	Co dissertation supervisor
Bo Fu	BIOS	PhD	Committee member
Seunghyun Won	BIOS	PhD	Committee member
Wen-Chi Wu	BIOS	PhD	Committee member
Yuzhou Liu	BIOS	MS	Committee member
Lu Wang	BIOS	MS	Committee member
Song Zhang	BIOS	MS	Committee member

PROFESSIONAL ACTIVITIES

- **Journal reviewer** for (the parenthesized number represents the number of papers reviewed): American Journal of Epidemiology (2); Annals of Statistics (2); Annals of Applied Statistics (1); Australian & New Zealand Journal of Statistics (1); Biostatistics (3); Biometrics (7); Biometrical Journal (1); BMC Medical Research Methodology (2); The Canadian Journal of Statistics (1); Computational Statistics and Data Analysis (2); International Journal of Biostatistics (1); Journal of the American Statistical Association (4); Journal of the Korean Statistical Society (1); Journal of Statistical Planning and Inference (1); Journal of Statistical Computation and Simulation (1); Journal of Computational and Graphical Statistics (1); Lifetime Data Analysis (3); Pharmacoepidemiology and Drug Safety (1); Scandinavian Journal of Statistics (2); Statistica Sinica (1); Statistics and Probability Letters (2); Statistics in Biosciences (2); Statistics in Medicine (4); Statistical Methods in Medical Research (10) .
- **Editorial board:** Statistical Methods in Medical Research 2017–present
- **Shortcourse Instructor:** at JSM 2017. A full-day shortcourse “A Tutorial on Quantile Regression and Its Applications”. co-taught with Dr. Wang.
- **Organizer/chair of invited sessions:**
 - Chair of invited session: “Dynamic Prediction in Clinical Survival Analysis”. JSM 2016.
 - Organizer: “Advanced methodologies in analyzing censoring data”. ICSA 2016.
 - Chair of invited session: “Recent advance in longitudinal data analyses”. ICSA 2015.
- **Member** of *American Statistical Association* and *International Biometric Society*.

HONORS AND AWARDS

- *Travel Award*, Women in Statistics Conference, Cary, NC. 2014
- *ENAR Distinguished Student Paper Award*, Eastern North American Region. 2011
- *Travel Award*, 2nd Summer Institute in Statistics and Modeling in Infectious Diseases, University of Washington, Seattle, WA. 2010
- *Honored Graduate*, Peking University, P.R.China. 2006
- *Scholarships and Outstanding Student Award*, Peking University, P.R.China. 2004-2006

PRESENTATIONS

- **Li, R.**, Huang, X., and Cortes, J. (2017) Quantile residual life regression with longitudinal biomarker measurements for dynamic prediction [Invited topic contributed], at *JSM*, Baltimore, Maryland.
- **Li, R.** (2017) Assessment of agreement for clinical and lab data: history and recent advances [Invited discussant], at *2017 ICSA*, Chicago.

- **Li, R.** and Cheng, Y. (2017) Flexible association modelling and prediction with semi-competing risks data [Invited], at *2017 Conference on Lifetime Data Science*, Connecticut
- **Li, R.**, Huang, X., and Cortes, J. (2017) Quantile residual life regression with longitudinal biomarker measurements for dynamic prediction [Invited], at *CCTS-BERD seminar*, UTHealth, Houston, Tx.
- **Li, R.**, Huang, X., and Cortes, J. (2016) Quantile residual life regression with longitudinal biomarker measurements for dynamic prediction [Invited], at *ICSA*, Atlanta, GA.
- **Li, R.**, Huang, X., and Cortes, J. (2016) Quantile residual life regression with longitudinal biomarker measurements for dynamic prediction [Invited], at *Department of Mathematics*, University of Houston.
- **Li, R.**, Huang, X., and Cortes, J. (2016) Quantile residual life regression with longitudinal biomarker measurements for dynamic prediction [Invited poster], at *ENAR*, Austin, TX.
- **Li, R.** and Peng, L. (2015) Assessing quantile prediction with censored quantile regression models [Invited], at *Houston Area Chapter of the American Statistical Association (HACASA)*, Houston, TX.
- **Li, R.** and Peng, L. (2015) Assessing quantile prediction with censored quantile regression models [Invited], at *Joint Statistical Meetings*, Seattle.
- **Li, R.**, Cheng, Y., Chen, Q., Fine, J. (2015) Quantile association with bivariate survival data [Invited], at *ICSA Applied Statistics Symposium, Fort Collins, Colorado*.
- **Li, R.** and Peng, L. (2015) Assessing quantile prediction with censored quantile regression models [Invited], at *Division of Quantitative Sciences, MD Anderson Cancer Center*.
- **Li, R.** and Peng, L. (2014) Quantile Regression Adjusting for Dependent Censoring from Semi-Competing Risks [Invited], at *ICSA-KISS Applied Statistics Symposium, Portland, OR*.
- **Li, R.**, Belle, S., Chen, L., Zhang, S., Squires, S. (2013) Heterogeneous clinical courses among PALF patients with an indeterminate diagnosis: a growth mixture model approach. [Invited] at *PALF steering committee meeting*.
- **Li, R.**, Cheng, Y. and Fine, J.P. (2013) Quantile association regression models [Invited], at *Division of Biostatistics, The University of Texas School of Public Health*.
- **Li, R.**, Cheng, Y. and Fine, J.P. (2013) Quantile association regression models [Invited], at *Statistical Modeling, Theory & Application Conference*, Shanghai, China.
- **Li, R.** and Peng, L. (2013) Assessing quantile prediction with censored quantile regression models [Contributed], at *Joint Statistical Meetings*, Montreal, Canada.
- **Li, R.** and Peng, L. (2013) Assessing quantile prediction with censored quantile regression models [Invited], at *IMS-China International Conference on Statistics and Probability*, Chengdu, China.
- **Li, R.** and Peng, L. (2013) Assessing quantile prediction with censored quantile regression models [Invited], at *Frontiers in Applied and Computational Mathematics*, New Jersey Institute of Technology.
- **Li, R.** and Peng, L. (2012) Subdistribution regression with left-truncated semi-competing risks data [Topic Contributed], at *ENAR*, Washington, DC.
- **Li, R.** and Peng, L. (2011) [Invited] Quantile regression for semi-competing risks data, at *Department of Statistics*, University of Pittsburgh.
- **Li, R.** and Peng, L. (2010). Quantile regression adjusting for dependent censoring [Contributed], at *Joint Statistical Meetings*, Vancouver, BC, Canada.
- Peng, L., **Li, R.**, Guo, Y. and Manatunga, A.K. (2010). Assessing the “Broad Sense Agreement” between ordinal and continuous measurements [Contributed], at *ENAR*, New Orleans, LA.
- **Li, R.** and Peng, L. (2009). Quantile regression with left-truncated semi-competing risks data [Contributed], at *Joint Statistical Meetings*, Washington, DC.
- Hanfelt, J.J., **Li, R.**, Pan, Y., and Payment, P. (2009). Robust inference for sparse clustered count data [Contributed], at *ENAR*, San Antonio, TX.
- **Li, R.**, Tsai, K. and Fang, L. (2008). Sensitivity analysis on an IVIVC PK/PD model, at *Merck*

Research Laboratories, Upper Gwynedd, PA.

SKILLS

- Statistical softwares: proficient in R and SAS; experienced with Matlab, STATA, WinBUGS, and Mplus.
- Programming languages: R, S and Fortran.
- Applications: proficient in MS Office Suite Applications and LaTeX.