

BIOGRAPHICAL SKETCH

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NAME: Liu, Hao

eRA COMMONS USERNAME (credential, e.g., agency login): HAOLIU1

POSITION TITLE: Professor of Biostatistics and Director of Biostatistics Shared Resource

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	END DATE MM/YYYY	FIELD OF STUDY
Peking University, Beijing, China	BS	07/1995	Mathematics
University of California - Berkeley, Berkeley, CA	MA	07/1998	Biostatistics
University of Washington - Seattle, Seattle, WA	PhD	07/2004	Biostatistics

A. Personal Statement

As a well-funded investigator and faculty biostatistician for cancer research, I am committed to providing comprehensive biostatistical support to clinical and basic science research. My statistical research expertise includes novel designs of clinical trials, methodology for survival analysis and biomarker predictive models. I have more than a decade of experience in collaborating with clinical investigators in cancer research. Continuously funded by NIH grants, I am an experienced statistician in providing full biostatistical services including statistical study design, data analysis and manuscript preparation. Before joining Rutgers Cancer Institute of New Jersey to lead its Biostatistics Shared Resource, I directed the Biostatistics and Data Management Core for Indiana University Simon Comprehensive Cancer Center. Before Indiana University, I worked 10 years at Baylor College of Medicine and was the Biostatistics Core director for their lymphoma SPORE program and P01 program project. Nationally, I have served on many NIH and DOD study sections and on the Editorial Boards for JNCI and JCO. Currently, I am the external DSMB Chair for Duncan Cancer Center of Baylor College of Medicine, and the member of the external and regular DSMB boards for the MD Anderson Cancer Center. I am well suited to lead the Biostatistics Shared Resource.

B. Positions, Scientific Appointments and Honors**Positions and Scientific Appointments**

2021 – Present Professor and Director
Biostatistics Shared Resource, Rutgers Cancer Institute of New Jersey
Department of Biostatistics and Epidemiology, Rutgers School of Public Health

2017 – 2021 Professor, Department of Biostatistics
Director of Biostatistics and Data Management Core, Simon Cancer Center
Indiana University School of Medicine, Indianapolis, IN

2014 – Present Editorial board of Journal of the National Cancer Institute

2013 – 2018 Editorial board of Journal of Clinical Oncology

2011 – 2017 Associate Professor, Division of Biostatistics, Dan L. Duncan Cancer Center,
Baylor College of Medicine, Houston, TX

2006 – 2011 Assistant Professor, Division of Biostatistics, Dan L. Duncan Cancer Center,
Baylor College of Medicine, Houston, TX

2004 – 2006 Assistant Professor, Division of Biostatistics, Department of Public Health Sciences, University
of California, Davis, CA

Honors

2005

Innovative Developmental Awards, University of California Davis Academic Federation,
Davis, CA

C. Contribution to Science

1. My major contribution is the development of statistical methodology for the analysis of biomedical data including preclinical data, clinical trials as well as population epidemiology data. For example, we have developed novel statistical methods for the analysis and design of cross-sectional prevalent cohort studies, which is directly relevant to the proposed project for population screening.
 - a. Li Y, **Liu H**, Wang X, Tu W. Semi-parametric time-to-event modelling of lengths of hospital stays. *J R Stat Soc Ser C Appl Stat.* 2022 Nov;71(5):1623-1647. doi: 10.1111/rssc.12593. Epub 2022 Sep 15. PMID: 36632280; PMCID: PMC9826400.
 - b. Han Y, **Liu H**, Cao S, Zhang C, Zang Y. TSNP: A two-stage nonparametric phase I/II clinical trial design for immunotherapy. *Pharm Stat.* 2021 Mar;20(2):282-296. doi: 10.1002/pst.2075. Epub 2020 Oct 6. PMID: 33025762; PMCID: PMC9386730.
 - c. Liu H, Lin X, Huang X. An oncology clinical trial design with randomization adaptive to both short- and long-term responses. *Stat Methods Med Res.* 2019 Jul;28(7):2015-2031. doi: 10.1177/0962280217744816. Epub 2017 Dec 12. PMID: 29233085.
 - d. **Liu H**, Qin J. Semiparametric probit models with univariate and bivariate current-status data. *Biometrics.* 2018 Mar;74(1):68-76. doi: 10.1111/biom.12709. Epub 2017 Apr 24. PMID: 28437561.

2. In the past 18 years, I have been working closely with clinicians and scientists in cancer research. For example, we have made several new modifications to phase I trial designs, which have been used by the investigators conducting early phase clinical trials.
 - a. Sung HH, Scherr DS, Slaton J, **Liu H**, Feeny KL, Lingley-Papadopoulos C, Gearheart J, Zara JM, Lerner SP. Phase II multi-center trial of optical coherence tomography as an adjunct to white light cystoscopy for intravesical real time imaging and staging of bladder cancer. *Urol Oncol.* 2021 Jul;39(7):434.e23-434.e29. PMID: 33934964
 - b. Rowan CM, Pike F, Cooke KR, Krance R, Carpenter PA, Duncan C, Jacobsohn DA, Bollard CM, Cruz CRY, Malatpure A, Farag SS, Renbarger J, **Liu H**, Bakoyannis G, Hanash S, Paczesny S. Assessment of ST2 for risk of death following graft-versus-host disease in pediatric and adult age groups. *Blood.* 2020 Apr 23;135(17):1428-1437. doi: 10.1182/blood.2019002334. PMID: 31972009; PMCID: PMC7180084.
 - c. Lapteva N, Gilbert M, Diaconu I, Rollins LA, Al-Sabbagh M, Naik S, Krance RA, Tripic T, Hiregange M, Raghavan D, Dakhova O, Rouce RH, **Liu H**, Omer B, Savoldo B, Dotti G, Cruz CR, Sharpe K, Gates M, Orozco A, Durett A, Pacheco E, Gee AP, Ramos CA, Heslop HE, Brenner MK, Rooney CM. T-Cell Receptor Stimulation Enhances the Expansion and Function of CD19 Chimeric Antigen Receptor-Expressing T Cells. *Clin Cancer Res.* 2019 Dec 15;25(24):7340-7350. doi: 10.1158/1078-0432.CCR-18-3199. Epub 2019 Sep 26. PMID: 31558475; PMCID: PMC7062259.
 - d. Ahmed N, Brawley V, Hegde M, Bielamowicz K, Kalra M, Landi D, Robertson C, Gray TL, Diouf O, Wakefield A, Ghazi A, Gerken C, Yi Z, Ashoori A, Wu MF, **Liu H**, Rooney C, Dotti G, Gee A, Su J, Kew Y, Baskin D, Zhang YJ, New P, Grilley B, Stojakovic M, Hicks J, Powell SZ, Brenner MK, Heslop HE, Grossman R, Wels WS, Gottschalk S. HER2-Specific Chimeric Antigen Receptor-Modified Virus-Specific T Cells for Progressive Glioblastoma: A Phase 1 Dose-Escalation Trial. *JAMA Oncol.* 2017 Aug 1;3(8):1094-1101. doi: 10.1001/jamaoncol.2017.0184. PMID: 28426845; PMCID: PMC5747970.

3. I also provide support for the statistical analysis of genomic and proteomic data.
 - a. Chang EC, **Liu H**, West JA, Zhou X, Dakhova O, Wheeler DA, Heslop HE, Brenner MK, Dotti G. Clonal Dynamics In Vivo of Virus Integration Sites of T Cells Expressing a Safety Switch. *Mol Ther*. 2016 Apr;24(4):736-45. doi: 10.1038/mt.2015.217. Epub 2015 Dec 7. PMID: 26639404; PMCID: PMC4886929.
 - b. Egler RA, Li Y, Dang TA, Peters TL, Leung E, Huang S, Russell HV, **Liu H**, Man TK. An integrated proteomic approach to identifying circulating biomarkers in high-risk neuroblastoma and their potential in relapse monitoring. *Proteomics Clin Appl*. 2011 Oct;5(9-10):532-41. doi: 10.1002/prca.201000089. Epub 2011 Sep 7. PMID: 21833997; PMCID: PMC3685293.
 - c. Ye J, **Liu H**, Kirmiz C, Lebrilla CB, Rocke DM. On the analysis of glycomics mass spectrometry data via the regularized area under the ROC curve. *BMC Bioinformatics*. 2007 Dec 12;8:477. doi: 10.1186/1471-2105-8-477. PMID: 18076765; PMCID: PMC2211327.

4. Additionally, I have the experience in statistical analysis for predictive and prognostic models using large electronic health record data.
 - a. Kueht M, Bakhtiyar SS, Wu J, **Liu H**, Chan WH, Petrowsky H, Riaz IB, Cotton R, Galvan NT, O'Mahony C, Goss J, Rana A. The Transplant Index: A Novel Method to Predict Adult Liver Transplant Waitlist Outcomes. *Transplantation*. 2019 Jun;103(6):1152-1158. doi: 10.1097/TP.0000000000002479. PMID: 30300288.
 - b. Rana A, Sigireddi RR, Halazun KJ, Kothare A, Wu MF, **Liu H**, Kueht ML, Vierling JM, Sussman NL, Mindikoglu AL, Miloh T, Galvan NTN, Cotton RT, O'Mahony CA, Goss JA. Predicting Liver Allograft Discard: The Discard Risk Index. *Transplantation*. 2018 Sep;102(9):1520-1529. doi: 10.1097/TP.0000000000002151. PMID: 29485514.
 - c. Rana A, Ackah RL, Webb GJ, Halazun KJ, Vierling JM, **Liu H**, Wu MF, Yoeli D, Kueht M, Mindikoglu AL, Sussman NL, Galván NT, Cotton RT, O'Mahony CA, Goss JA. No Gains in Long-term Survival After Liver Transplantation Over the Past Three Decades. *Ann Surg*. 2019 Jan;269(1):20-27. doi: 10.1097/SLA.0000000000002650. PMID: 29303806.
 - d. Lerner SP, **Liu H**, Wu MF, Thomas YK, Witjes JA. Fluorescence and white light cystoscopy for detection of carcinoma in situ of the urinary bladder. *Urol Oncol*. 2012 May-Jun;30(3):285-9. doi: 10.1016/j.urolonc.2010.09.009. Epub 2011 Mar 10. PMID: 21396840.

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