Yunro Chung

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Education

2016	PhD, Biostatistics, University of North Carolina at Chapel Hill
2008	MS, Statistics, Chung-Ang University, Seoul, South Korea
2006	BS, Statistics, Chung-Ang University, Seoul, South Korea

Professional Experience

2026-Present	Associate Professor, College of Health Solutions, Phoenix, ASU
2018-Present	Faculty Member, Center for Personalized Diagnostics, Biodesign Institute, Tempe, ASU
2018-2026	Assistant Professor, College of Health Solutions, Phoenix, ASU
2016-2018	Postdoctoral Researcher, Biostatistics and Biomathematics Program, Public Health Sciences Division, Fred Hutchinson Cancer Research Center, Seattle, WA
2015 Summer	Statistical Fellow, Statistical Software Development Division, SAS Institute, Cary, NC
2012 Summer	Intern, Department of Biometrics, Oncology Business Unit, Novartis Pharmaceuticals Corporation, Florham Park, NJ
2009-2016	Graduate Research Assistant, University of North Carolina at Chapel Hill
2008-2009	Biostatistician, Korea Food and Drug Administration, Seoul, South Korea

Honors and Awards

2023	Faculty Research Award, College of Health Solutions, ASU
2015	Marci K. Campbell Dissertation Award, Lineberger Comprehensive Cancer Center, University of North Carolina at Chapel Hill
2014	Young Research Travel Award, International Conference on Advances in Interdisciplinary Statistics and Combinatorics, Greensboro, NC
2013-2016	Oak Ridge Institute for Science and Education (ORISE) Fellowship, U.S. Food and Drug Administration

Publications

Biostatistics research encompasses both methodological and collaborative research.

• **Methodological research**: the first author is usually the primary contributor who leads the research and drafts the manuscript, while the last author typically serves as the senior investigator who provides scientific direction and oversees the project.

• **Collaborative research:** biostatisticians are typically listed as middle authors and contribute to study design, statistical analysis, interpretation of results, and manuscript preparation.

* denotes Chung's students.

† denotes corresponding, used only when the last author is not the corresponding author.

Peer-Reviewed Publications (Methodological Part)

1. *Brister, D. and **Chung, Y.**, 2026+, VAROC: value added receiver operating characteristics curve, *Journal of Data Science*, Published online ahead of print.
2. **Chung, Y.**, Murugan, V., Beyene, K., and Chen, D., 2026+, Pseudo partial likelihood method for proportional hazards models when time origin is missing for control group with applications to SARS-CoV-2 seroprevalence study, *Journal of Data Science*, Published online ahead of print.
3. †**Chung, Y.**, Ivanova, A. and Fine, J.P., 2025, Isotonic estimation of additive covariate effects under proportional hazards models*, Statistics in Biosciences*, *17*(3), pp.630-656.
4. **Chung, Y.**, Cai, T., Newcomb, L., Lin, D. and Zheng, Y., 2025, Improving efficiency and robustness of the prognostic accuracy of biomarkers with partial incomplete failure-time data and auxiliary outcome: application to prostate cancer active surveillance study*, Statistics in Medicine*, *44*(8-9), e70072.
5. Bavikadi, D., Agarwal, A., Ganta, S., **Chung, Y.**, Song, L., Qiu, J. and Shakarian, P., 2025. Machine learning driven biomarker selection for medical diagnosis. *PLOS One*, *20*(6), p.e0322620.
6. *Zhang, Y. and **Chung, Y.**, 2024. Nonparametric estimation of linear personalized diagnostics rules via efficient grid algorithm*, Statistics in Medicine, 43*(7), pp.1354-1371.
7. †**Chung, Y.**, Ivanova, A. and Fine, J.P., 2024. Shape restricted additive hazards models: monotone, unimodal and U-shape hazard functions*, Statistics in Medicine, 43*(9), pp.1671-1687.
8. †**Chung, Y.**, 2024. Nonparametric estimation of proportional hazards with monotone baseline hazard and covariate effect, *Statistics in Biosciences*, *16*(3), pp. 787-800.
9. Chen, D., **Chung, Y.**, and Beyene, K., 2024. Estimate time-to-infection (TTI) vaccination effect when TTI for unvaccinated group is unknown, *Statistics in Biosciences*, *16*(3), pp. 723-741.
10. Ahmadinejad, N., †**Chung, Y.**, †Li, L., 2023. J-score: a robust measure of clustering accuracy, *PeerJ Computer Science*, 9, e1545. († denotes co-corresponding authors)
11. **Chung, Y.**, Ivanova, A., Hudgens, M.G. and Fine, J.P., 2018. Partial likelihood estimation of isotonic proportional hazards models. *Biometrika*, *105*(1), pp.133-148.

Peer-Reviewed Publications (Collaborative Part)

12. *Fowers, R., Coza, A., **Chung, Y.**, Ghasemzadeh, H., Cloonan, S., Huberty, J., Berardi, V. and Stecher, C., 2025. Identifying common patterns in the time of day of mindfulness meditation associated with long-term maintenance. *Behavioral Sciences*, *15*(3), 381.
13. Ogbonnaya, I.N., Nakigudde, J., Naigino, R., Stockman, J.K., **Chung, Y.**, Nantongo, M., Marsiglia, F.F., Hahn, J.A., Wechsberg, W.M., Mwebembezi, A. and Wanyenze, R.K., 2025. Protocol for the Kisoboka Mukwano pilot randomized controlled trial in Uganda: A couples-based intervention to reduce intimate partner violence and alcohol use among adolescent girls and young women living with HIV and their male partners. *Contemporary Clinical Trials*, 108136.

14. Hou, C.W., Williams, S., Trivino-Soto, G., Boyle, V., Rainford, D., Vicino, S., Magee, M., **Chung, Y.**, LaBaer, J. and Murugan, V., 2025. The omicron variant of SARS-CoV-2 drove broadly increased seroprevalence in a public university setting. *PLOS Global Public Health*, *5*(1), p.e0003893.
15. Choi, H., Moon, T.J., Kwon, J.Y., Lee, S.Y., Jung, K.Y., Kim, H.J., **Chung, Y**. and Kim, J.T., 2025. Higher urine specific gravity associated with higher fasting blood glucose levels and insulin resistance: a 10-year Korean cohort study. *Endocrinology Research and Practice*, *29*(2), pp.94-100.
16. Ewaisha, R., Ruffin, M.T., Williams, S., **Chung, Y.**, DeGraffinreid, C.R., Paskett, E.D., Reiter, P., Qiu, J., Brenner, D.E. and Anderson, K., 2025. Serum profiling of the antibody response to HPV in women with or without abnormal cervical cytology undergoing cervical cancer screening. *Frontiers in Immunology*, *16*, p.1612761.
17. Hou, C.W., Williams, S., Boyle, V., Roeder, A., Bobbett, B., Garcia, I., Caruth, G., Magee, M., **Chung, Y.**, Lake, D.F. and LaBaer, J., 2025. Tracking immunity: an increased number of COVID-19 boosters increases the longevity of anti-RBD and anti-RBD-neutralizing antibodies. *Vaccines*, *13*(1), 61.
18. Hou, C.W., Kumar, P., Williams, S., Zhu, M., Obahiagbon, U., Eger, J., D'Souza, G., **Chung, Y.**, Dar, L., Bhatla, N. and Blain Christen, J., 2025. Development of a multiplexed lateral flow assay for the serologic detection of HPV-associated head and neck cancer. *Cancer Biomarkers*, *42*(2), pp.1-12.
19. Song, L., Rauf, F., Hou, C.W., Qiu, J., Murugan, V., **Chung, Y.**, Lai, H., Adam, D., Magee, D.M., Trivino Soto, G. and Peterson, M., 2024. Quantitative assessment of multiple pathogen exposure and immune dynamics at scale. *Microbiology Spectrum*, *12*(1), pp.e02399-23.
20. Ridha, I., Xu, C., Zhang, Y., **Chung, Y.**, Park, J.G., LaBaer, J. and Murugan, V., 2024. Multiplexed methylated DNA immunoprecipitation sequencing (Mx-MeDIP-Seq) to study DNA methylation using low amounts of DNA. *DNA*, *4*(4), pp.397-416.
21. Koehler, M.A., Song, L., Grill, F.J., Shubitz, L.F., Powell, D.A., Galgiani, J.N., Orbach, M.J., Robb, E.J., **Chung, Y.**, Williams, S.A. and Murugan, V., 2024. Discovery of a unique set of dog-seroreactive Coccidioides proteins using nucleic acid programmable protein array. *Journal of Fungi*, *10*(5), 307.
22. Shome, M., Gao, W., Engelbrektson, A., Song, L., Williams, S., Murugan, V., Park, J.G., **Chung, Y.**, LaBaer, J. and Qiu, J., 2023. Comparative microbiomics analysis of antimicrobial antibody response between patients with lung cancer and control subjects with benign pulmonary nodules. *Cancer Epidemiology, Biomarkers & Prevention*, *32*(4), pp.496-504.
23. Song, L., Song, M., Rabkin, C.S., **Chung, Y.**, Williams, S., Torres, J., Corvalan, A.H., Gonzalez, R., Bellolio, E., Shome, M. and LaBaer, J., 2023. Identification of anti-helicobacter pylori antibody signatures in gastric intestinal metaplasia. *Journal of Gastroenterology*, *58*(2), pp.112-124.
24. Sullivan, M., Huberty, J., **Chung, Y.** and Stecher, C., 2023. Mindfulness meditation app abandonment during the COVID-19 pandemic: an observational study. *Mindfulness*, *14*(6), pp.1506-1521.
25. Qiu, J., Engelbrektson, A., Song, L., Park, J.G., Murugan, V., Williams, S., **Chung, Y.**, Pompa-Mera, E.N., Sandoval-Ramirez, J.L., Mata-Marin, J.A. and Gaytan-Martinez, J., 2023. Comparative analysis of antimicrobial antibodies between mild and severe COVID-19. *Microbiology Spectrum*, *11*(4), pp.e0469022.
26. Ruschel, V.C., Stolf, S.C., da Luz Baratieri, C., **Chung, Y.**, Boushell, L.W., Baratieri, L.N. and Walter, R., 2023. Five-year clinical evaluation of universal adhesives in noncarious cervical Lesions. *Operative Dentistry, 48*(4), pp.364-372.

27. Lal, D., Song, L., Brar, T., Cope, E.K., Keim, P., Williams, S., **Chung, Y.**, Murugan, V., LaBaer, J. and Magee, D.M., 2023, Antibody responses to the host microbiome in chronic rhinosinusitis. *International Forum of Allergy & Rhinology*, *13*(8), pp. 1503-1510.
28. Hou, C.W., Williams, S., Taylor, K., Boyle, V., Bobbett, B., Kouvetakis, J., Nguyen, K., McDonald, A., Harris, V., Nussle, B., Scharf, P., Jehn, M.L., Lant, T., Magee, M., **Chung, Y.**, LaBaer, J. and Murugan, V. 2023. Serological survey to estimate SARS-CoV-2 infection and antibody seroprevalence at a large public university: a cross-sectional study. *BMJ Open*, *13*(8), 072627.
29. Jehanathan, N., Kapuruge, E.P., Rogers, S.P., Williams, S., **Chung, Y.** and Borges, C.R., 2023. Oxidized LDL is stable in human serum under extended thawed-state conditions ranging from -20° C to room temperature. *Journal of Mass Spectrometry and Advances in the Clinical Lab*, *27*, pp.18-23.
30. Grill, F.J., Svarovsky, S., Gonzalez-Moa, M., Kaleta, E., Blair, J.E., Lovato, L., Grant, R., Ross, K., Linnehan, B.K., Meegan, J., Reilly, K.S., Brown A., Williams S., **Chung Y.**, Magee D.M., Grys T.E., Lake D.F., 2023, Development of a rapid lateral flow assay for detection of anti-coccidioidal antibodies. *Journal of Clinical Microbiology*, *61*(9), pp.e00631-23
31. Shome, M., **Chung, Y.**, Chavan, R., Park, J.G., Qiu, J. and LaBaer, J., 2022. Serum autoantibodyome reveals that healthy individuals share common autoantibodies. *Cell Reports*, *39*(9), 110873.
32. O'Kell, A.L., Shome, M., Qiu, J., Williams, S., **Chung, Y.**, LaBaer, J., Atkinson, M.A. and Wasserfall, C., 2022. Exploration of autoantibody responses in canine diabetes using protein arrays. *Scientific Reports*, *12*, 2490.
33. Shome, M., Song, L., Williams, S., **Chung, Y.**, Murugan, V., Park, J.G., Faubion, W., Pasha, S.F., Leighton, J.A., LaBaer, J. and Qiu, J., 2022. Serological profiling of Crohn's disease and ulcerative colitis patients reveals anti-microbial antibody signatures. *World Journal of Gastroenterology*, *28*(30), pp.4089-4101.
34. Kapuruge, E.P., Jehanathan, N., Rogers, S.P., Williams, S., **Chung, Y.** and Borges, C.R., 2022. Tracking the Stability of Clinically Relevant Blood Plasma Proteins with delta-s-cys-albumin - a dilute-and-shoot LC/MS-based marker of specimen exposure to thawed conditions. *Molecular & Cellular Proteomics*, *21*(11), 100420.
35. Song, L., Song, M., Rabkin, C.S., Williams, S., **Chung, Y.**, Van Duine, J., Liao, L.M., Karthikeyan, K., Gao, W., Park, J.G. and Tang, Y., 2021. Helicobacter pylori immunoproteomic profiles in gastric cancer. Journal of Proteome Research. *20*(1), 409-419
36. Stecher, C., Berardi, V., Fowers, R., Christ, J., **Chung, Y.** and Huberty, J., 2021. Identifying app-based meditation habits and the associated mental health benefits: longitudinal observational study. *Journal of Medical Internet Research*, *23*(11), p.e27282.
37. Park, D., Ro, M., Lee, A.J., Kwak, D.W., **Chung, Y.** and Kim, J.H., 2021. Contributory role of BLT2 in the production of proinflammatory cytokines in cecal ligation and puncture-induced sepsis. *Molecules and Cells*, *44*(12), pp.893-899.
38. Song, L., Song, M., Camargo, M.C., Van Duine, J., Williams, S., **Chung, Y**., Kim, K.M., Lissowska, J., Sivins, A., Gao, W. and Karthikeyan, K., 2021. Identification of anti-Epstein-Barr virus (EBV) antibody signature in EBV-associated gastric carcinoma. *Gastric Cancer*, *24*(4), pp.858-867.
39. Lee, T., **Chung, Y.**, Poulton, C.J., Derebail, V.K., Hogan, S.L., Reich, H.N., Falk, R.J. and Nachman, P.H., 2020. Serum albumin at partial remission predicts outcomes in membranous nephropathy. *Kidney International Reports*, *5*(5), pp.706-717.

40. Farias, D.C.S., Gonçalves, L.M., Walter, R., **Chung, Y.** and Blatz, M.B., 2019. Bond strengths of various resin cements to different ceramics. *Brazilian oral research*, *33*, e095.
41. Ruschel, V.C., Stolf, S.C., Shibata, S., **Chung, Y.**, Boushell, L.W., Baratieri, L.N. and Walter, R., 2019. Three-year clinical evaluation of universal adhesives in non-carious cervical lesions. *American Journal of Dentistry*, *32*(5), pp.223-228.
42. Davis, J.M., Ivanova, A., **Chung, Y.**, Shaw, J.R., Rao, K.V., Ptachcinski, J.R., Sharf, A.A., Serody, J.S., Armistead, P.M., Wood, W.A. and Coghill, J.M., 2019. Evaluation of a test dose strategy for pharmacokinetically-guided busulfan dosing for hematopoietic stem cell transplantation. *Biology of Blood and Marrow Transplantation*, *25*(2), pp.391-397.
43. Park, J., Jang, J.H., Park, G.S., **Chung, Y.**, You, H.J. and Kim, J.H., 2018. BLT2, a leukotriene B4 receptor 2, as a novel prognostic biomarker of triple-negative breast cancer. *BMB reports*, *51*(8), pp.373-377.
44. Ruschel, V.C., Shibata, S., Stolf, S.C., **Chung, Y.**, Baratieri, L.N., Heymann, H.O. and Walter, R., 2018. Eighteen-month clinical study of universal adhesives in noncarious cervical lesions. *Operative Dentistry*, *43*(3), pp.241-249.
45. Wang, C., Preisser, J., **Chung, Y.** and Li, K., 2018. Complementary and alternative medicine use among children with mental health issues: results from the National Health Interview Survey. *BMC Complementary and Alternative Medicine*, *18*(1), pp.1-17.
46. Boushell, L.W., Heymann, H.O., Ritter, A.V., Sturdevant, J.R., Swift Jr, E.J., Wilder Jr, A.D., **Chung, Y.**, Lambert, C.A. and Walter, R., 2016. Six-year clinical performance of etch-and-rinse and self-etch adhesives. *Dental Materials*, *32*(9), pp.1065-1072.
47. Ritter, A.V., Preisser, J.S., Puranik, C.P., **Chung, Y.**, Bader, J.D., Shugars, D.A., Makhija, S. and Vollmer, W.M., 2016. A predictive model for root caries incidence. *Caries research*, *50*(3), pp.271-278.
48. Lee, T., Derebail, V.K., Kshirsagar, A.V., **Chung, Y.**, Fine, J.P., Mahoney, S., Poulton, C.J., Lionaki, S., Hogan, S.L., Falk, R.J. and Cattran, D.C., 2016. Patients with primary membranous nephropathy are at high risk of cardiovascular events. *Kidney International*, *89*(5), pp.1111-1118.
49. Bak, S.Y., Qi, X.S., Kelly, J.A., Alexander, S., **Chung, Y.**, Gyurdzhyan, S., Patton, L.L. and Lee, S.P., 2016. Dosimetric distribution to tooth-bearing areas in intensity-modulated radiation therapy for head and neck cancer: a pilot study. *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*, *121*(1), pp.43-48.
50. Shea, T.C., Walko, C., **Chung, Y.**, Ivanova, A., Sheets, J., Rao, K., Gabriel, D., Comeau, T., Wood, W., Coghill, J. and Armistead, P., 2015. Phase I/II trial of dose-escalated busulfan delivered by prolonged continuous infusion in allogeneic transplant patients. *Biology of Blood and Marrow Transplantation*, *21*(12), pp.2129-2135.
51. Lee, T., Gasim, A., Derebail, V.K., **Chung, Y.**, McGregor, J.G., Lionaki, S., Poulton, C.J., Hogan, S.L., Jennette, J.C., Falk, R.J. and Nachman, P.H., 2014. Predictors of treatment outcomes in ANCA-associated vasculitis with severe kidney failure. *Clinical journal of the American Society of Nephrology*, *9*(5), pp.905-913.
52. Walter, R., Boushell, L.W., Heymann, H.O., Ritter, A.V., Sturdevant, J.R., Wilder Jr, A.D., **Chung, Y.** and Swift Jr, E.J., 2014. Three-year clinical evaluation of a silorane composite resin. *Journal of Esthetic and Restorative Dentistry*, *26*(3), pp.179-190.

53. †McFarland, T.B.H., Quinonez, R.B., Phillips, C., Lee, J. and **Chung, Y.**, 2013. Provision of preventive oral health services to infants and toddlers: North Carolina general dentists' readiness. *Journal of Oral Health and Community Dentistry, 7*(3), pp.140-147.
54. Walter, R., Feiring, A.E., Boushell, L.W., Braswell, K., Bartholomew, W., **Chung, Y.**, Phillips, C., Pereira, P.N. and Swift, E.J., 2013. One-year water sorption and solubility of "all-in-one" adhesives. *Brazilian Dental Journal*, *24*(4), pp.344-348.
55. Essick, G., Phillips, C., **Chung, Y.** and Trotman, C.A., 2013. Effects of lip revision surgery on long-term orosensory function in patients with cleft lip/palate. *The Cleft Palate-Craniofacial Journal*, *50*(5), pp.507-512.
56. Phillips, C., Essick, G.K., **Chung, Y.** and Blakey, G., 2012. Non-invasive therapy for altered facial sensation following orthognathic surgery: an exploratory randomized clinical trial of intranasal vitamin B12 spray. *Journal of Maxillofacial Trauma*, *1*(1), pp.20-29.
57. Walter, R., Swift Jr, E.J., Nagaoka, H., **Chung, Y.**, Bartholomew, W., Braswell, K.M. and Pereira, P.N., 2012. Two-year bond strengths of "all-in-one" adhesives to dentine. *Journal of Dentistry*, *40*(7), pp.549-555.
58. Ritter, A.V., Preisser, J.S., **Chung, Y.**, Bader, J.D., Shugars, D.A., Amaechi, B.T., Makhija, S.K., Funkhouser, K.A., Vollmer, W.M. and X-ACT Collaborative Research Group, 2012. Risk indicators for the presence and extent of root caries among caries-active adults enrolled in the Xylitol for Adult Caries Trial (X-ACT). *Clinical Oral Investigations*, *16*(6), pp.1647-1657.

Articles in Korean

59. Park, S.G., Nam, B, **Chung, Y.**, Lee, J., Jeong, G., 2010. Statistical considerations of the add-on test on bioequivalence trial, *Communications for Statistical Applications and Methods*, *17*(1), pp.107-115.
60. **Chung, Y.**, Park, S.G., 2008. Comparison of MLE and REMLE of linear mixed models in assessing bioequivalence based on 2x2 crossover design with missing data, *Journal of the Korean Data and Information Science Society*, *19*(4), pp.1211-1218.

Published Book Chapters

1. **Chung, Y.**, 2021. Statistical Methods for Analysis of Protein Microarray Data Using R. *Protein Microarrays for Disease Analysis: Methods and Protocols*, pp.269-279.
2. Zink, R.C., Koch, G.G., **Chung, Y.** and Wiener, L.E., 2017. Advanced Randomization-Based Methods. *Analysis of Clinical Trials Using SAS: A Practical Guide*, pp.67-86.

Grants

1. R33 CA309724 (PI: Borges), National Cancer Institute, Advanced Development and Validation of Aliquot-Level Visual Indicators of Biospecimen Exposure to Thawed Conditions, 05/2026-06/2029, Co-Investigator, 20% effort, $1,351,720
2. R01 CA286128 (PI: Qiu), National Cancer Institute, Serum Biomarkers to Predict Immune Related Adverse Events and Benefit from Single Agent Pembrolizumab Therapy in Early Stage Triple Negative Breast Cancer, 12/2023-11/2028, Co-Investigator, 20% effort, $3,950,448
3. U01 CA281660 (PI: Anderson), National Cancer Institute, Southwest EDRN Clinical Validation Center for Head and Neck Cancer, 08/2023-07/2028, Co-Investigator, 14% effort, $5,810,685

4. U01 IP001180 (PI: Murugan), Centers for Disease Control and Prevention, Platform to Assess Influenza and COVID-19 Vaccine Effectiveness in Underserved Arizona Populations - Components A & D, 09/2022-09/2027, Co-Investigator, 10% effort, $12,999,999
5. U2C CA271903 (PI: LaBaer), National Cancer Institute, High-Throughput Immunoproteomics for Cancer Biomarker Discovery, 09/2022-08/2027, Co-Investigator, 11% effort, $5,517,516
6. 20887 (PI: Murugan), University of Maryland, Baltimore (Prime: Defense Advanced Research Projects Agency), Assessing Immune Memory, 12/2022-02/2027, Co-Investigator, 15% effort, $2,510,814
7. RFGA2022-010-20 (PI: LaBaer), Arizona Biomedical Research Commission, Comprehensive Genomic and Immunological Analysis to Improve Personalized Management of Lynch Syndrome, 01/2023-01/2027, Co-Investigator, 30% effort, $750,000
8. 21X089 (PI: LaBaer), Leidos (Prime: National Cancer Institute), Multiplexed In-Solution Serological Test for SARS-CoV-2, Human Coronaviruses and Other Respiratory Pathogens, 10/2021-09/2025, Co-Investigator, 15% effort, $14,922,843
9. R34 AA030489-01 (PI: Ogbonnaya), National Institute on Alcohol Abuse and Alcoholism, Improving HIV Care Engagement Among Ugandan Adolescent Girls and Young Women Through Reductions in Male Partner Alcohol Use and Intimate Partner Violence Risk: The Kisoboka Mukwano Intervention, 09/2022-08/2025, Co-Investigator, 10% effort, $662,079
10. 0001202548 (PI: LaBaer), Fred Hutchinson Cancer Center (Prime: National Cancer Institute), Assessment of the Performance of Candidate Biomarkers in the LTP2 Samples, 08/2024-07/2025, Co-Investigator, 11% effort, $157,000
11. R01 AI155954 (PI: Magee), National Institute of Allergy and Infectious Diseases, Serological Biomarkers for Coccidioidomycosis, 06/2021-05/2025, Co-Investigator, 10% effort, $1,518,970
12. R21 CA269091 (PI: Borges), National Cancer Institute, Plate Reader Assays to Forensically Assess Exposure of Plasma and Serum to Thawed Conditions, 06/2022-05/2025, Collaborator, 10% effort, $199,584
13. R21 CA250999 (PI: Borges), National Cancer Institute, Aliquot-Level Visual Indicators of Biospecimen Exposure to Thawed Conditions, 02/2022-01/2025, Co-Investigator, 25% effort, $617,052
14. ARI-303156 (PI: LaBaer), ASU-Mayo Clinic Seed Grant, Comprehensive Genomic and Immunological Analysis to Improve Personalized Management of Lynch Syndrome, 07/2022-06/2023, Co-Investigator, 25% effort, $60,000
15. ARI-299909 (PI: LaBaer), Mayo Clinic, Tailoring Perianal Crohn's Disease Management Through Molecular Fingerprinting: Developing More Personalized and Effective Therapeutic Strategies, 06/2022-06/2023, Co-Investigator, 25% effort, $174,002
16. 2950007-01 (PI: LaBaer), Northern Arizona University (Prime: Arizona Board of Regents), Arizona Universities Collaborate on CoV-2 Variant Detection, Monitoring, and Impact, 07/2021-12/2022, Co-Investigator, 16% effort, $1,000,000
17. U01 CA214201 (PI: LaBaer), National Cancer Institute, Novel Approaches to Study Immune Responses to Post-Translational Modifications for Cancer Detection, 09/2021-08/2022, Co-Investigator, 10% effort, $2,622,242
18. W911NF19C0039 (PI: LaBaer), Defense Advanced Research Projects Agency, Diagnostic Epigenetics of Infectious Agents and Chemical Toxicity, 07/2019-12/2020, Co-Investigator, 5% effort, $4,539,173

Software Development

Developed R packages available on the comprehensive R archive network (CRAN)

1. aisoph: additive isotonic proportional hazards models
2. btrm: Bayesian treed regression model for personalized prediction and precision diagnostics
3. btrml: Bayesian treed machine Learning for personalized prediction

4. coxphm: pseudo-Cox proportional hazards models with missing survival times
5. isoSurv: isotonic regression models with survival data
6. persDx: methods for constructing personalized diagnostics rules
7. surrosurvROC: surrogate survival receiver operating characteristics curve
8. tgml: tree-guided machine learning for personalized predictions and precision diagnostics
9. uniah: unimodal additive hazards model
10. varoc: value added receiver operating characteristics curve

Patents

Filed through ASU SkySong (inventors are listed alphabetically)

1. Chavan, R, **Chung, Y.**, LaBaer, J., Park, J., Qiu, J., and Shome, M. Autoantibodies, kits, and methods of verifying diagnostic results
2. Chavan, R, **Chung, Y.**, LaBaer, J., Park, J., Qiu, J., and Shome, M. Autoantibodies for identification of false positives of disease and uses thereof.
3. **Chung, Y.**, Qiu, J., Shome, M., and Song, L. Anti-microbial antibody signatures related to lung tumors and uses thereof.
4. **Chung, Y.**, LaBaer, J., Leighton, J., Qiu, J., Shome, M., and Song, L. Anti-microbial antibody signatures of inflammatory bowel disease and uses thereof.
5. **Chung, Y.**, LaBaer, J., Qiu, J., and Shome, M. Methods for diagnosing gastric intestinal metaplasia.
6. **Chung, Y.**, LaBaer, J., Qiu, J., and Song, L. Novel biomarkers for Epstein-Barr virus-associated gastric cancer detection.
7. **Chung, Y.**, LaBaer, J., Qiu, J., and Song, L. Novel antibodies for detecting gastric cancer.

Presentations

Invited

1. Statistical analysis for NAPPA protein array, National Taiwan University, Taipei City, Taiwan (R.O.C.), 2025
2. Tree-guided personalized prediction with applications to precision diagnostics, Korean International Statistical Society, 2025
3. Precision diagnostics for biomarker studies, Department of Epidemiology and Biostatistics, Mel and Enid Zuckerman College of Public Health, University of Arizona, Tucson, AZ, 2023
4. Estimation of disease progression rate using longitudinal surrogate outcomes in non-randomized validation subsample, Conference on Lifetime Data Science, Storrs, CT, 2017
5. Isotonic proportional hazards models with its application to clinical trial data, Center for Drug Evaluation Research, Food and Drug Administration, Silver Spring, DC, 2016
6. Order restricted inference in hazards regression models with application to clinical trial data, National Institute of Environmental Health Sciences, National Institutes of Health, Durham, NC, 2015

Contributed

7. Estimation of linear personalized diagnostics rules, Eastern North American Region of the International Biometric Society, Baltimore, MD, 2024
8. Precision diagnostics for cancer biomarker research, Stat4Onc Annual Symposium, Knight Cancer Center, Oregon Health Science & University, Portland, OR, 2023

9. Order-restricted survival analysis with applications to optimal dose-finding in phase 1 oncology trials, Duke-Industry Statistics Symposium, Durham, NC, 2023
10. Evaluation of biomarkers for heterogeneous case-control studies, Joint Statistical Meetings, Seattle, WA, 2021
11. Personalized diagnostic rule for NAPPA, Arizona Wellbeing Commons Conference, Phoenix, AZ, 2019
12. A deep learning approach to gene interaction prediction, The Statistical and Applied Mathematical Sciences Institute, Durham, NC, 2019
13. Shape restricted additive hazards models, Eastern North American Region of the International Biometric Society, Washington, DC, 2017
14. Partial likelihood estimation of isotonic proportional hazards model, Eastern North American Region of the International Biometric Society, Miami, FL, 2015
15. Statistical challenges in investigating the effect of Busulfan delivered by targeted pharmacokinetics in Phase I oncology trial, International Conference on Advances in Interdisciplinary Statistics and Combinatorics, Greensboro, NC, 2014

Internal Presentations/Workshops at ASU

1. SARS-CoV-2 antibody dynamics in immunocompromised and healthy individuals, Faculty and Staff Research Day, College of Health Solutions, 2026
2. Selection bias, propensity score matching, and sensitivity analysis, Patient-Centered Outcomes Research (PCORI) Workshop, Southwest Safety Net Embedded Scientist Training and Research Center, 2025
3. Analysis of ASU's COVID-19 serological survey data, College of Health Solutions, 2022
4. Practical statistics for graduate studies, Biodesign Institute, 2021
5. Biomarker evaluation using receiver operating characteristics curve, Biodesign Institute, 2020
6. Fundamentals of Biostatistics, Bioinformatics Core Lab Workshops, Knowledge Enterprise, 2019

Teaching

Courses Taught

BST 606: Applied Clinical Trial Design and Analysis (Graduate)

2026 Fall	Online	Anticipated

BST 601: Biostatistical Theory and Inference (Graduate)

2024 Fall	On-ground	8 students

BMI 517: Advanced Biostatistics for Biomedical Research and Health Care (Graduate)

2026 Spring	Hybrid	14 students
2025 Spring	Hybrid	12 students
2024 Spring	Hybrid	11 students
2023 Spring	Hybrid	12 students
2022 Spring	Hybrid	10 students

BMI 515: Applied Biostatistics in Medicine and Informatics (Graduate)

2025 Fall	Hybrid	18 students
2023 Fall	Hybrid	29 students
2022 Fall	Hybrid	23 students
2021 Fall	In-person	27 students

2020 Fall	ASU Sync	14 students

BMI 211: Modeling Biomedical Decisions (Undergraduate)

2021 Spring	ASU Sync	22 students
2020 Spring	In-person	25 students
2019 Spring	In-person	19 students

HCD 300: Biostatistics (Undergraduate)

2019 Fall	In-person	25 students

Guest Lectures

2018 Survival Analysis, BMI 461: Advanced Topics in Biomedical Informatics I, 2018

2012 Survival Analysis, BIOS 600: Principles of Statistical Inference, University of North Carolina at Chapel Hill

Curriculum Development

2026 BST 606: Applied Clinical Trial Design and Analysis

2024 BST 601: Biostatistical Theory and Inference

Mentoring

Chair, Dissertation/Thesis Committee

2026-Present	Natali Giron Terrazas, Undergraduate, Barrett Honors Thesis
2024	Yaliang Zhang (co-advisor: Robert McCulloch), PhD, Statistics
2023	Ryan Fowers (co-advisor: Chad Stecher), PhD, Biomedical Informatics
2024	Cayden Goeringer (co-advisor: Jeniffer Broatch), MS, Biological Data Science,
2023	Nishtha Shah (co-advisor: Kookjin Lee), MS, Computer Science
2021	Danielle Brister, Undergraduate, Barrett Honors Thesis

Member, Dissertation/Thesis Committee

2026-Presnet	Harrison Pepper, PhD, Biostatistics
2025-Present	Nooshin Chatrudi, PhD, Biomedical Informatics
2020-Present	Meredith Abrams, PhD, Biomedical Informatics
2025	Ruoqian Liu, PhD, Statistics
2025	Aashritha Machiraju, MS, Computer Science
2025	Erick Enriquez, Undergraduate, Barrett Honors Thesis
2023	Shalini Sivanandam, PhD, Biomedical Informatics
2023	Tianchen Mu, MS, Computer Science
2022	Mariah Sullivan, PhD, Exercise and Nutritional Sciences
2018	Robert Yao, PhD, Biomedical Informatics

Director, Applied/Capstone Projects

2026	Gabrielle Rogers, MS, Biostatistics - BST 693
2025-2026	Tanvi Patel, MS, Data Science, Analytics and Engineering
2025	Shivani Shah, MS, Biostatistics - BST 593

2025 Jocelyn Aleman, MS, Biostatistics - BST 593
2024 Akshaya Gunasekaran, MS, Biomedical Informatics
2024 Sayantani Mukherjee, MS, Biomedical Informatics
2023, 2025 Radiya Imran, MS, Statistics,
2023 Shilpa Baskaran, MS, Biomedical Informatics - BMI 593,
2022-2023 Ryan Hayden, MS, Statistics
2021 Iphsa Banerjee, MS, Biomedical Informatics
2020 Surya Tenneti, MS, Computer Science
2022-2023 Mohamad Sadaat, Undergraduate, Biomedical Informatics - BMI 482 and BMI 483
2020 Alvi Habib, Undergraduate, Computer Science
2020 Rohit Nandakumar, Barrett Honors Enrichment Contract
2019 Ketan Patil, MS, Computer Science
2019 Alisha Thomas, Undergraduate, Biomedical Informatics
2018-2020 Aditya Sharma, MS, Computer Science

Supervisor, Staff Statisticians
2019-2024 Stacy Williams
2018 Paul Maranian

Service

Professional

Statistical Working Group, Early Detection Research Network (EDRN), National Cancer Institute,
2022 Fall-Present Member

Research Showcase for High School Students, Sigma Xi, The Scientific Research Honor Society,
2021 Spring, 2023 Spring Judge

Ad Hoc Reviewer for journals including:
Journal of Biomedical Informatics; Journal of Computational and Graphical Statistics; Journal of the American Statistical Association; Journal of the American Medical Informatics Association; Journal of the Royal Statistical Society; Stat; Statistics in Biosciences; Statistical Computation and Simulation; The Annals of Applied Statistics

ASU College Level: College of Health Solutions

Tenure-Track Ad Hoc Review Committee
2025 Spring Member
2023 Spring Member
2020 Spring Member

Faculty Hiring Committee
2024 Spring Member
2022 Spring Member
2021 Spring Member
2020 Spring Member

Faculty Service Committee
2019 Spring Member

Peer Teaching Evaluation

2022 Spring Reviewer
2023 Spring Reviewer
2020 Fall Reviewee

Biostatistics Consulting Core
2024 Spring-Present Member

ASU Unit Level: Biomedical Informatics and Data Science Program

Admission Committee
2025 Fall-2026 Spring Chair
2022 Fall-2024 Spring Chair
2020 Spring-2022 Spring Member

Academic Program Committee
2024 Fall-2025 Spring Member
2023 Spring Member
2018 Fall-2019 Spring Member

Comprehensive and Oral Examination Committee
2020 Fall-Present Member

Biomedical Informatics and Diagnostics Research Symposium
2020 Spring Poster Judge

ASU Unit Level: Biostatistics Program

Admission Committee
2024 Fall-Present Member

Academic Program Committee
2024 Fall-Present Member

Qualifying Examination Committee
2026 Fall-Present Member