CURRICULUM VITAE

YUNRO CHUNG

Biostatistics | Biomedical Informatics and Data Science
School of Health Systems Transformation | College of Health Solutions | Arizona State University
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EDUCATION

Ph.D., Biostatistics, University of North Carolina at Chapel Hill, NC, 2016
M.S., Statistics, Chung-Ang University, Seoul, South Korea, 2008
B.S., Statistics, Chung-Ang University, Seoul, South Korea, 2006

RESEARCH INTERESTS

Statistical evaluation of biomarkers and diagnostic tests; survival analysis; isotonic regression; tree-based machine learning; statistical applications in clinical, epidemiological, and laboratory studies

PROFESSIONAL EXPERIENCE

Associate Professor, College of Health Solutions, ASU, Phoenix, AZ, 2026-Present
Faculty Member (Joint Appointment), Virginia G. Piper Center for Personalized Diagnostics, Biodesign Institute, ASU, Tempe, AZ, 2018-Present
Assistant Professor, College of Health Solutions, ASU, Phoenix, AZ, 2018-2026
Postdoctoral Researcher, Fred Hutchinson Cancer Research Center, Seattle, WA, 2016-2018
Statistical Fellow, SAS Institute, Cary, NC, Summer 2015
Intern, Novartis Oncology, Florham Park, NJ, Summer 2012
Biostatistician, Korea Food and Drug Administration, Seoul, South Korea, 2008-2009

HONORS AND AWARDS

Faculty Research Award, College of Health Solutions, ASU, 2023
Marci K. Campbell Dissertation Award, Lineberger Comprehensive Cancer Center, UNC, 2015
Young Research Travel Award, International Conference on Advances in Interdisciplinary Statistics and Combinatorics, Greensboro, NC, 2014
ORISE Fellowship for Doctoral Research, U.S. Food and Drug Administration, 2013-2016

PUBLICATIONS

* Student advised by Chung

Peer-Reviewed Methodological Research

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*, *24*(4), pp.689-702
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), 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. **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.
11. Park, S.G., Nam, B., **Chung, Y.**, Lee, J. and Jeong, G., 2010. Statistical considerations of the add-on test on bioequivalence trial, *Communications for Statistical Applications and Methods*, *17*(1), pp.107-115. [In Korean]
12. **Chung, Y.** and Park, S.G., 2008. Comparison of MLE and REMLE of linear mixed models in assessing bioequivalence based on 2 × 2 crossover design with missing data, *Journal of the Korean Data and Information Science Society*, *19*(4), pp.1211-1218. [In Korean]

Peer-Reviewed Biomedical Research

13. 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.
14. 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.

15. 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), e0003893.
16. 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.
17. 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*, 1612761.
18. 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.
19. 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.
20. 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), e02399-23.
21. 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.
22. 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.
23. Ahmadinejad, N., **Chung, Y.** and Li, L., 2023. J-score: a robust measure of clustering accuracy, *PeerJ Computer Science*, 9, e1545.
24. 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.
25. 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.
26. 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.

27. 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), e0469022.
28. 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.
29. 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.
30. 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.
31. 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.
32. 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. and Lake, D.F., 2023. Development of a rapid lateral flow assay for detection of anti-coccidioidal antibodies. *Journal of Clinical Microbiology*, *61*(9), e00631-23.
33. 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.
34. 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.
35. 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.
36. 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.
37. 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), pp.409-419.

38. 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), e27282.
39. 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.
40. 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.
41. 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.
42. 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.
43. 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.
44. 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.
45. 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.
46. 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.
47. 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.
48. 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.
49. 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.
50. 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.

51. 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.
52. 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.
53. 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.
54. 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.
55. 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.
56. 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.
57. 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.
58. 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.
59. 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.
60. 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.

Book Chapters

61. **Chung, Y.**, 2021. Statistical Methods for Analysis of Protein Microarray Data Using R. *Protein Microarrays for Disease Analysis: Methods and Protocols*, pp.269-279.

62. 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 AND CONTRACTS

1. R33 CA309724, NCI (PI: Borges), Advanced development and validation of aliquot-level visual indicators of biospecimen exposure to thawed conditions
   Co-Investigator, 20% effort $1,351,720 05/2026-06/2029
2. 0001202548, Fred Hutchinson Cancer Center (Prime: NCI) (PI: LaBaer), Assessment of the performance of candidate biomarkers in the LTP2 samples
   Co-Investigator, 11% effort $157,000 08/2024-07/2025
3. R01 CA286128, NCI (PI: Qiu), Serum biomarkers to predict immune related adverse events and benefit from single agent pembrolizumab therapy in early stage triple negative breast cancer
   Co-Investigator, 20% effort $3,950,448 12/2023-11/2028
4. U01 CA281660, NCI (PI: Anderson), Southwest EDRN Clinical Validation Center for head and neck cancer
   Co-Investigator, 14% effort $5,810,685 08/2023-07/2028
5. RFGA2022-010-20, Arizona Biomedical Research Commission (PI: LaBaer), Comprehensive genomic and immunological analysis to improve personalized management of Lynch syndrome
   Co-Investigator, 30% effort $750,000 01/2023-01/2027
6. 20887, University of Maryland, Baltimore (Prime: DARPA) (PI: Murugan), Assessing immune memory
   Co-Investigator, 15% effort $2,510,814 12/2022-02/2027
7. U01 IP001180, CDC (PI: Murugan), Platform to assess influenza and COVID-19 vaccine effectiveness in underserved Arizona populations - Components A & D
   Co-Investigator, 10% effort $12,999,999 09/2022-09/2027
8. U2C CA271903, NCI (PI: LaBaer), High-throughput immunoproteomics for cancer biomarker discovery
   Co-Investigator, 11% effort $5,517,516 09/2022-08/2027
9. R34 AA030489-01, NIAAA (PI: Ogbonnaya), 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
   Co-Investigator, 10% effort $662,079 09/2022-08/2025
10. ARI-303156, ASU-Mayo Clinic Seed Grant (PI: LaBaer), Comprehensive genomic and immunological analysis to improve personalized management of Lynch syndrome
    Co-Investigator, 25% effort $60,000 07/2022-06/2023
11. ARI-299909, Mayo Clinic (PI: LaBaer), Tailoring perianal Crohn's disease management through molecular fingerprinting: Developing more personalized and effective therapeutic strategies
    Co-Investigator, 25% effort $174,002 06/2022-06/2023

12. R21 CA269091, NCI (PI: Borges), Plate reader assays to forensically assess exposure of plasma and serum to thawed conditions
    Collaborator, 10% effort $199,584 06/2022-05/2025
13. R21 CA250999, NCI (PI: Borges), Aliquot-level visual indicators of biospecimen exposure to thawed conditions
    Co-Investigator, 25% effort $617,052 02/2022-01/2025
14. 21X089, Leidos (Prime: NCI) (PI: LaBaer), Multiplexed in-solution serological test for SARS-CoV-2, human coronaviruses and other respiratory pathogens
    Co-Investigator, 15% effort $14,922,843 10/2021-09/2025
15. U01 CA214201, NCI (PI: LaBaer), Novel approaches to study immune responses to post-translational modifications for cancer detection
    Co-Investigator, 10% effort $2,622,242 09/2021-08/2022
16. 2950007-01, Northern Arizona University (Prime: Arizona Board of Regents) (PI: LaBaer), Arizona universities collaborate on CoV-2 variant detection, monitoring, and impact
    Co-Investigator, 16% effort $1,000,000 07/2021-12/2022
17. R01 AI155954, NIAID (PI: Magee), Serological biomarkers for coccidioidomycosis
    Co-Investigator, 10% effort $1,518,970 06/2021-05/2025
18. W911NF19C0039, DARPA (PI: LaBaer), Diagnostic epigenetics of infectious agents and chemical toxicity
    Co-Investigator, 5% effort $4,539,173 07/2019-12/2020

SOFTWARE DEVELOPMENT

R packages available on the Comprehensive R Archive Network (CRAN):

1. aisoph: Additive isotonic proportional hazards models
2. btrm: Bayesian treed regression models 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 for survival data
6. persDx: Methods for constructing personalized diagnostic rules
7. surrosurvROC: Surrogate survival receiver operating characteristic curves
8. tgml: Tree-guided machine learning for personalized prediction and precision diagnostics
9. uniah: Unimodal additive hazards models
10. varoc: Value-added receiver operating characteristic curves

PRESENTATIONS

Invited Presentations

1. Statistical analysis for NAPPA protein array, National Taiwan University, Taipei, Taiwan, 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, Durham, NC, 2015

Contributed Presentations

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, MD, 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 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)

Fall 2026	Online	10 students

BST 601: Biostatistical Theory and Inference (Graduate)

Fall 2024	On-ground	8 students

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

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

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

Fall 2025	Hybrid	18 students
Fall 2023	Hybrid	29 students
Fall 2022	Hybrid	23 students
Fall 2021	On-ground	27 students
Fall 2020	ASU Sync	14 students

BMI 211: Modelling Biomedical Decisions (Undergraduate)

Spring 2021	ASU Sync	22 students
Spring 2020	On-ground	25 students
Spring 2019	On-ground	19 students

HCD 300: Biostatistics (Undergraduate)

Fall 2019	On-ground	25 students

Guest Lectures

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

BIOS 600: Principles of Statistical Inference, UNC - Survival Analysis, Spring 2012

Course Development

BST 606: Applied Clinical Trial Design and Analysis, Fall 2026

BST 601: Biostatistical Theory and Inference, Fall 2024

MENTORING

Dissertation/Thesis Committee Chair

Doctoral:

Yaliang Zhang (Co-Advisor: Robert McCulloch), Statistics, 2024

Ryan Fowers (Co-Advisor: Chad Stecher), Biomedical Informatics, 2023

Master's:

Cayden Goeringer (Co-Advisor: Jeniffer Broatch), Biological Data Science, 2024

Nishtha Shah (Co-Advisor: Kookjin Lee), Computer Science, 2023

Undergraduate (Barrett Honors):

Natali Giron Terrazas, Ongoing

Danielle Brister, 2021

Dissertation/Thesis Committee Member

Doctoral:

Harrison Pepper, Biostatistics, Ongoing

Meredith Abrams, Biomedical Informatics, Ongoing

Ruoqian Liu, Statistics, 2025

Shalini Sivanandam, Biomedical Informatics, 2023

Mariah Sullivan, Exercise and Nutritional Sciences, 2022

Robert Yao, Biomedical Informatic, 2018

Master's:

Aashritha Machiraju, Computer Science, 2025

Tianchen Mu, Computer Science, 2023

Undergraduate (Barrett Honors):

Erick Enriquez, 2025

Capstone Project Mentor

Master's:

Gabrielle Rogers, Biostatistics, 2026

Shivani Shah, Biostatistics, 2025

Jocelyn Aleman, Biostatistics, 2025

Shilpa Baskaran, Biomedical Informatics, 2023

Undergraduate:

Mohamad Sadaat, 2022-2023

Rohit Nandakumar, 2020

Research Project Mentor

Master's:

Tanvi Patel, Computer Science, 2025-2026

Akshaya Gunasekaran, Biomedical Informatics, 2024

Sayantani Mukherjee, Biomedical Informatics, 2024

Radiya Imran, Statistics, 2023, 2025

Ryan Hayden, Statistics, 2022-2023

Iphsa Banerjee, Biomedical Informatics, 2021
Surya Tenneti, Computer Science, 2020
Ketan Patil, Computer Science, 2019
Aditya Sharma, Computer Science, 2018-2020

Undergraduate:
Jungeun Lee, 2026
Alvi Habib, 2020
Alisha Thomas, 2019

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

SERVICE

Professional Service
Statistical Working Group, NCI Early Detection Research Network (EDRN), Member, 2022-Present
Research Showcase for High School Students, Sigma Xi, Judge, 2021, 2023

Journal Service
Ad Hoc Journal Reviewer: 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 Service
College of Health Solutions:
Tenure-Track Ad Hoc Review Committee, Member, Spring 2020, 2023, 2025
Faculty Hiring Committee, Member, Spring 2020-2022, 2024
Faculty Service Committee, Member, Spring 2019
Peer Teaching Evaluation, Reviewer, Spring 2022-2023; Reviewee, Fall 2020
Biostatistics Consulting Core, Member, Spring 2024-Present

School of Health Systems Transformation:
Academic Program, Curriculum, and Student Success Committee, Member, Fall 2026-Present

Biomedical Informatics and Data Science Program:
Admissions Committee, Chair, Fall 2022-Spring 2024, Fall 2025-Spring 2026; Member, Spring 2020-2022
Academic Program Committee, Member, Fall 2018-Spring 2019, Spring 2023, Fall 2024-Spring 2025

Comprehensive and Oral Examination Committee, Member, Fall 2020-Summer 2026
Biomedical Informatics and Diagnostics Research Symposium, Poster Judge, Spring 2020

Biostatistics Program:

Admissions Committee, Chair, Fall 2026-Present; Member, Fall 2024-Spring 2025
Academic Program Committee, Member, Fall 2024-Present
Qualifying Examination Committee, Member, Spring 2026-Present