

YUNRO (ROY) CHUNG

Address: 1001 South McAllister Ave
Tempe, AZ 85287

Phone: (480) 965-0761
Email: yunro.chung@asu.edu

MAJOR RESEARCH INTERESTS

Biostatistics; isotonic regression; machine learning; statistical evaluation of biomarkers and diagnostic tests; survival analysis

EDUCATION

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

PROFESSIONAL EXPERIENCE

2018-present	Assistant Professor, Biomedical Informatics Program (BMI), College of Health Solutions, Arizona State University (ASU), Phoenix, AZ
2018-present	Faculty Member, Center for Personalized Diagnostics (CPD), Biodesign Institute, ASU, Tempe, AZ
2016-2018	Postdoctoral Fellow, 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, Chapel Hill, NC
2008-2009	Biostatistician, Korea Food and Drug Administration, Seoul, South Korea

AWARDS & HONORS

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, Chapel Hill, NC
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 for PhD Dissertation Research, US Food and Drug Administration

SELECTED PROFESSIONAL MEMBERSHIPS

2020-present	American Statistical Association
2021-present	Western North American Region of the International Biometric Society
2020-present	Korean-American Scientists and Engineers Association
2022-present	Korean International Statistics Society
2020-2023	Sigma Xi

GRANT FUNDING

Dollar amount is total obligated for award period listed. If funding is for a subcontract, dollar amount is for the subcontract only, not the entire project.

Activate:

10. 21X089 (PI: LaBaer)
Source: Leidos (Prime: National Cancer Institute)
Title: Multiplexed in-solution serological test for SARS-CoV-2, human coronaviruses and other respiratory pathogens
Dates: 10/2021-09/2025
Amount: \$14,922,843
Role: Co-Investigator, 15% effort
9. U01 IP001180 (PI: Murugan)
Source: Centers for Disease Control and Prevention
Title: COVID-19 platform to assess influenza and COVID-19 vaccine effectiveness in underserved Arizona population
Dates: 09/2022-09/2027
Amount: \$7,999,999
Role: Co-Investigator, 10% effort
8. U2C CA271903 (PI: LaBaer)
Source: National Cancer Institute
Title: High-throughput immunoproteomics for cancer biomarker discovery
Dates: 09/2022-08/2027
Amount: \$5,517,516
Role: Co-Investigator, 11% effort
7. U01CA281660 (PI: Anderson)
Source: National Cancer Institute
Title: Southwest EDRN clinical validation center for head and neck cancer
Dates: 8/2023-7/2028
Amount: \$5,810,685
Role: Co-investigator, 14% effort
6. 20887 (PI: Murugan)
Source: University of Maryland, Baltimore
(Prime: Defense Advanced Research Projects Agency)
Title: Assessing immune memory
Dates: 12/2022-05/2027
Amount: \$2,510,814
Role: Co-Investigator, 15% effort
5. R01 AI55954 (PI: Magee)
Source: National Institute of Allergy and Infectious Diseases
Title: Serological biomarkers for coccidioidomycosis
Dates: 06/2021-05/2025
Amount: \$1,518,970
Role: Co-Investigator, 10% effort

4. 1R34 AA030489-01 (PI: Ogonnaya)
Source: National Institute on Alcohol Abuse and Alcoholism
Title: 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
Dates: 09/2022-08/2025
Amount: \$662,079
Role: Co-Investigator, 10% effort
3. R21 CA250999 (PI: Borges)
Source: National Cancer Institute
Title: Aliquot-level visual indicators of biospecimen exposure to thawed conditions
Dates: 02/2022-01/2025
Amount: \$617,052
Role: Co-investigator, 25% effort
2. R21 CA26909 (PI: Borges)
Source: National Cancer Institute
Title: Plate reader assays to forensically assess exposure of plasma and serum to thawed conditions
Dates: 06/2022-05/2025
Amount: \$199,584
Role: Collaborator, 10% effort
1. RFGA2022-010-20 (PI: LaBaer)
Source: Arizona Biomedical Research Commission
Title: Comprehensive genomic and immunological analysis to improve personalized management of Lynch syndrome
Dates: 01/2023-01/2026
Amount: \$750,000
Role: Co-Investigator, 30% effort

Past:

5. W911NF19C0039 (PI: LaBaer)
Source: Defense Advanced Research Projects Agency
Title: Diagnostic epigenetics of infectious agents and chemical toxicity
Dates: 07/2019-12/2020
Amount: \$4,539,173
Role: Co-Investigator, 5% effort
4. U01 CA214201 (PI: LaBaer)
Source: National Cancer Institute
Title: Novel approaches to study immune responses to post translational modifications for cancer detection
Dates: 09/2021-08/2022
Amount: \$2,622,242
Role: Co-Investigator, 10% effort

3. 2950007-01 (PI: LaBaer)
 Source: Northern Arizona University (Prime: Arizona Board of Regents)
 Title: Arizona universities collaborate on CoV-2 variant detection, monitoring, and impact
 Dates: 07/2021-12/2022
 Amount: \$1,000,000
 Role: Co-Investigator, 16% effort
2. ARI-299909 (PI: LaBaer)
 Source: Mayo Clinic
 Title: Tailoring perianal Crohn's Disease management through molecular fingerprinting: developing more personalized and effective therapeutic strategies
 Dates: 06/2022-06/2023
 Amount: \$174,002
 Role: Co-Investigator, 25% effort
1. ARI-303156 (PI: LaBaer)
 Source: ASU-Mayo Clinic Seed Grant
 Title: Comprehensive genomic and immunological analysis to improve personalized management of Lynch syndrome
 Dates: 07/2022-06/2023
 Amount: \$60,000
 Role: Co-Investigator, 25% effort

Pending:

1. Google Research Scholar Program, Personalized Machine Learning Strategies for Classification and Regression Tasks with Applications to Precision Diagnostics, Role: PI, 100% effort. Submitted, November, 2023.

BIBLIOGRAPHY

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

‡ denotes students under Chung's supervision

Peer-Reviewed Publications:

2023

41. ‡Zhang, Y. and **Chung, Y.** Nonparametric estimation of linear personalized diagnostics rules via efficient grid algorithm, *Statistics in medicine* Accepted.
40. Ahmadinejad, N., §**Chung, Y.**, §Li, L., J-score: a robust measure of clustering accuracy, *PeerJ Computer Science*, 9, e1545, 2023. (§ denotes co-corresponding authors)
39. 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., 2023. Quantitative assessment of multiple pathogen exposure and immune dynamics at scale. *Microbiology Spectrum*, pp.e02399-23.
38. 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. Development of a rapid lateral flow assay for detection of anti-coccidioid antibodies. *Journal of Clinical Microbiology*, 61(9), pp.e00631-23.
37. 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.

36. 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.
35. 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. In *International Forum of Allergy & Rhinology*, 13(8), pp. 1503-1510.
34. 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.
33. 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.
32. 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.
31. 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.
30. 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.

2022

29. 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.
28. 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.
27. 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.
26. 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.

2021

25. 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.

24. 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.
23. 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.
22. 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

2020

21. 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.
IF: 6.234; SJR: 1.239; Q1 in Nephrology.

2019

20. 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.
19. 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.
18. 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.

2018

17. **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.
16. 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.
15. 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.
14. 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.

Before 2017

13. 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.

12. 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.
11. 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.
10. 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.
9. 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.
8. 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.
IF: 3.040; SJR: 0.996; Q1 in Dentistry.
7. 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.
6. 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.
5. 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.
4. §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 & Community Dentistry*, 7(3), pp.140-147.
3. 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.
2. 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.
1. 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), p.20-29.

Published Book Chapters:

2. **Chung, Y.**, 2021. Statistical Methods for Analysis of Protein Microarray Data Using R. *Protein Microarrays for Disease Analysis: Methods and Protocols*, pp.269-279.
1. 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.

PRESENTATIONS

I/C denotes Invited, including job talk / Contributed

O/P denotes Oral / Poster

denotes virtual

20. [CO&P] Precision diagnostics for cancer biomarker research, Stat4Onc Annual Symposium, Knight Cancer Center, Oregon Health Science & University, Portland, OR, 05/2023
19. [IO] Precision diagnostics for biomarker studies, University of Arizona, Tucson, AZ, 04/2023
18. [CP#] Order-restricted survival analysis with applications to optimal dose-finding in phase 1 oncology trials, Duke-Industry Statistics Symposium, Durham, NC, 03/2023
17. [IO#] Novel statistical methods for right-censored data, Seattle Children's Research Institute, Seattle, WA, 11/2022
16. [IO#] Statistical challenge and opportunity in serosurvey study, Oregon Health & Science University, Portland, OR, 07/2022
15. [CO#] Evaluation of biomarkers for heterogeneous case-control studies, Joint Statistical Meetings, Seattle, WA, 08/2021
14. [CP] Personalized diagnostic rule for NAPPA proteinaArray, Arizona Wellbeing Commons Conference, Phoenix, AZ, 09/2019
13. [CP] A deep learning approach to gene interaction prediction, The Statistical and Applied Mathematical Sciences Institute, Durham, NC, 08/2019
12. [IO] Efficient estimation of biomarker accuracy with failure-time surrogate endpoints, Biodesign Institute, ASU, Tempe, AZ, 05/2018
11. [IO] Efficient estimation of biomarker accuracy with failure-time surrogate endpoints, Penn State College of Medicine, Hershey, PA, 05/2018
10. [IO] Efficient estimation of biomarker accuracy with failure-time surrogate endpoints, St. Jude Children's Research Hospital, Memphis, TN, 03/2018
9. [IO] Efficient estimation of biomarker accuracy with failure-time surrogate endpoints, Medical University of South Carolina, Charleston, SC, 03/2018
8. [IO] Efficient estimation of biomarker accuracy with failure-time surrogate endpoints, Center for Drug Evaluation Research, Food and Drug Administration, Silver Spring, DC, 01/2018
7. [IO] Estimation of disease progression rate using longitudinal surrogate outcomes in non-randomized validation subsample, Conference on Lifetime Data Science, Storrs, CT, 06/2017
6. [CP] Shape restricted additive hazards models, Eastern North American Region of the International Biometric Society, Washington, DC, 03/2017
5. [IO] Isotonic proportional hazards models with its application to clinical trial data, Center for Drug Evaluation Research, Food and Drug Administration, Silver Spring, DC, 01/2016
4. [IO] 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, 10/2015
3. [CO] Partial likelihood estimation of isotonic proportional hazards model, Eastern North American Region of the International Biometric Society, Miami, FL, 03/2015
2. [IO] Isotonic proportional hazards models with application to cancer clinical trials, Lineberger Comprehensive Cancer Center, University of North Carolina at Chapel Hill, Chapel Hill, NC, 02/2015
1. [CO] 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, 10/2014

SOFTWARE DEVELOPED

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

6. **Chung, Y.**, varoc: value added receiver operating characteristics (ROC) curve, 2023
<https://CRAN.R-project.org/package=varoc>
5. **Chung, Y.**, persDx: personalized diagnostics rules for subgroup identification and precision diagnostics, 2022
<https://CRAN.R-project.org/package=persDx>
4. **Chung, Y.**, aisoph: additive isotonic proportional hazards model, 2022
<https://CRAN.R-project.org/package=aisoph>
3. **Chung, Y.**, isoSurv: isotonic regression with survival data, 2020
<https://CRAN.R-project.org/package=isoSurv>
2. **Chung, Y.**, surrosurvROC: surrogate survival ROC, 2018
<https://CRAN.R-project.org/package=surrosurvROC>
1. **Chung, Y.**, uniah: unimodal additive hazards model, 2015
<https://CRAN.R-project.org/package=uniah>

PATENTS

7. **Chung, Y.** with Shome, M., Chavan, R., Park, J., Qiu, J. and LaBaer, J. Autoantibodies, kits, and methods of verifying diagnostic results, Filed through ASU SkySong Innovation Center on 5/31/2023
6. **Chung, Y.**, J., Qiu, J., Shome, M. and Song, L. Anti-microbial antibody signatures related to lung tumors and uses thereof, Filed through ASU SkySong Innovation Center on 8/26/2022
5. **Chung, Y.** with LaBaer, J., Leighton, J., Qiu, J., Shome, M., and Song, L. Anti-microbial Antibody Signatures of Inflammatory Bowel Disease and Uses Thereof, Filed through ASU SkySong Innovation Center on 8/12/2022
4. **Chung, Y.** with Chavan, R., LaBaer, J., Park, J., Qiu, J. and Shome, M. Autoantibodies for Identification of False Positives of Disease and uses Thereof, Filed through ASU SkySong Innovation Center on 5/31/2023
3. **Chung, Y.** with LaBaer, J., Qiu, J. and Shome, M. Methods for diagnosing gastric intestinal metaplasia, Filed through ASU SkySong Innovation Center on 5/24/2022
2. **Chung, Y.** with LaBaer, J., Qiu, J. and Song, L. Novel biomarkers for Epstein-Barr Virus-associated gastric cancer detection, Filed through ASU SkySong Innovation Center on 10/24/2019
1. **Chung, Y.** with LaBaer, J., Qiu, J. and Song, L. Novel antibodies for detecting gastric cancer, Filed through ASU SkySong Innovation Center on 9/24/2019

TEACHING

ASU Courses Taught

2022-2023	BMI 517: Advanced Biostatistics for Biomedical Research and Health Care (Graduate)
	2023 Spring, Hybrid, 12 students
	2022 Spring, Hybrid, 10 students
2020-2022	BMI 515: Applied Biostatistics in Medicine and Informatics (Graduate)
	2023 Fall, Hybrid, 29 students
	2022 Fall, Hybrid, 23 students
	2021 Fall, On-ground, 27 students
	2020 Fall, ASU Sync, 14 students
2019-2021	BMI 211: Modelling Biomedical Decisions (Undergraduate)
	2021 Spring, ASU Sync, 22 students
	2020 Spring, On-ground, 25 students
	2019 Spring, On-ground, 19 students
2019	HCD 300: Biostatistics (Undergraduate)
	2019 Fall, On-ground, 25 students

Biostatistics Seminars

- 2022 Analysis of ASU's COVID-19 serological survey data, Biostatistics Seminar, College of Health Solutions, ASU
- 2021 Practical statistics for graduate studies, Biodesign Student Ambassadors Program, Biodesign Institute, ASU
- 2020 Biomarker evaluation using receiver operating characteristics curve, Center for Personalized Diagnostic, Biodesign Institute, ASU
- 2019 Fundamental of biostatistics, Bioinformatics Core Lab Workshops, Knowledge Enterprise, ASU

Guest Lectures

- 2018 Survival Analysis for BMI 461: Advanced Topics in Biomedical Informatics I
- 2012 Survival Analysis for Bios 600: Principles of Statistical Inference, University of North Carolina at Chapel Hill, NC

Teaching Assistant

- 2012 Bios 600: Principles of Statistical Inference, University of North Carolina at Chapel Hill, NC

MENTORING**Chair, Dissertation or Thesis Committee****PhD:**

- 2020-present Yaliang Zhang, Statistics (co-advisor: Robert McCulloch), Bayesian personalized classification and regression tree models with applications to precision diagnostics
- 2023 Ryan Fowers, Biomedical Informatics (co-advisor: Chad Stecher), Quantitatively detecting behavioral patterns from objective mHealth data for better understanding long-term health behavior maintenance
First Job: Data Scientist, SelectHealth, Murray, Utah

Master's:

- 2023-present Cayden Goeringer, Biological Data Science (co-advisor: Jennifer Broatch), Meta-analysis of multi-cancer biomarker discovery
- 2023 Nishtha Shah, Computer Science (co-advisor: Kookjin Lee), Tree-guided personalized classification and regression tree models with applications to precision diagnostics
First job: Machine Learning Engineer, Adobe, San Jose, CA

Undergraduate:

- 2021 Danielle Brister, Barrett, the Honors College, Evaluating biomarkers for heterogeneous diseases
First Job: Master's student, College of Public Health, National Taiwan University
Finalist for 2022 Fulbright Study Grant to National Taiwan University

Member, Dissertation or Thesis Committee**PhD:**

2020-present	Meredith Abrams, Biomedical Informatics
2023	Shalini Sivanandam, Biomedical Informatics
2022	Mariah Sullivan, Exercise & Nutritional Science
2018	Robert Yao, Biomedical Informatics
Master's:	
2023	Tianchen Mu, Computer Science

Director, Credit Based Applied Projects

Master's:	
2023	Shilpa Baskaran, BMI 593
Undergraduate:	
2022-2023	Mohamad Sadaat, BMI 482/483
2020	Rohit Nandakumar, Honors Enrichment Contract

Director, Non-Credit Based Applied Projects

Master's	
2022-2023	Ryan Hayden, Statistics
2021	Iphsa Banerjee, Biomedical Informatics
2020	Surya Tenneti, Computer Science
2019	Ketan Patil, Computer Science
2018-2020	Aditya Sharma, Computer Science
Undergraduate:	
2020	Alvi Habib, Computer Science
2019	Alisha Thomas, Biomedical Informatics

Supervisor, Staff Statistician

2019-present	Stacy Williams, MS
2018	Paul Maranian, MS

SERVICE

College of Health Solutions, ASU

Tenure-Track Ad Hoc Review Committee

2023 Spring	Member
2020 Spring	Member

Faculty Hiring Committee

2021 Fall-2022 Spring	Member, 3 Biostatistics Faculty Search
2020 Fall-2021 Spring	Member, 4 Biostatistics Faculty Search
2019 Fall-2020 Spring	Member, 2 Biomedical Informatics Faculty Search

Faculty Service Committee

2019 Spring	Member
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Peer Teaching Evaluation

2023 Spring	Reviewer
2022 Spring	Reviewer
2020 Fall	Reviewee

Biomedical Informatics Program, College of Health Solutions, ASU

Admission Committee

2022 Fall-present	Chair
2020 Spring-2022 Spr	Member

Academic Program Committee

2023 Spring-present	Member
2018 Fall-2019 Spring	Member

PhD Comprehensive and Oral Exam Committee

2020 Fall-present	Member
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Biomedical Informatics & Diagnostics Research Symposium

2020 Spring	Poster Judge
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Professional Service

Sigma Xi

2023 Spring	Judge, Research Showcase for High School Students
2021 Spring	Judge, Research Showcase for High School Students

Early Detection Research Network (EDRN)

2022 Fall-present	Member, EDRN Statistical Working Group, Data Management and Coordinating Center, National Cancer Institute
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Ad hoc Journal Reviewer

Biometrics
 Computer Methods and Programs in Biomedicine
 Journal of the American Medical Informatics Association
 Journal of Biomedical Informatics
 Journal of Computational and Graphical Statistics
 Journal of the American Statistical Association
 Journal of the Royal Statistical Society: Series B
 Stat
 Statistics in Biosciences; Statistical Computation and Simulation
 The Annals of Applied Statistics
 The R Journal