Philip S. Boonstra

Associate Professor

University of Michigan
Department of Biostatistics
1415 Washington Heights
Ann Arbor, MI 48109-2029

Phone: (734) 615-1580
Email: philb{at}umich{dot}edu

Education

PhD, Biostatistics, University of Michigan (Ann Arbor) 2009 – 2012
MS, Biostatistics, University of Michigan (Ann Arbor) 2007 – 2009
BA, Mathematics and Political Science, Calvin University* (Grand Rapids, MI) 2002 – 2006
*Formerly Calvin College

Professional Affiliations

Associate Professor, with tenure 2020 – present
(Dept. of Biostatistics, University of Michigan)
Research Associate Professor 2019 – 2020
(Dept. of Biostatistics, University of Michigan)
Research Assistant Professor 2013 – 2019
(Dept. of Biostatistics, University of Michigan)
Affiliated Faculty 2013 – present
(Center for Cancer Biostatistics, University of Michigan)
Affiliate Member, Cancer Epidemiology and Prevention Program 2016 – present
(University of Michigan Rogel Cancer Center)
Graduate Student Research Assistant Intermittent, 2009 - 2012
(Dept. of Biostatistics, UM)
Graduate Student Research Assistant Summers 2008, 2009
(Kidney and Epidemiology Cost Center, UM)
(Chronic Kidney Disease Surveillance Team, UM Group)
Summer Research Assistant Summers 2004, 2006
(Dept. of Mathematics and Statistics, Calvin College)

Teaching

Public Health 345 (University of Michigan; 2 credit hours) Winter 2025
Undergraduate course teaching the principles and application of data visualization with applications to public health datasets
Biostatistics 699 (University of Michigan; 4 credit hours) Winters (2019-2025)
Practicum for 2nd-year MS students/1st year PhD students
Biostatistics 591 (University of Michigan; 2 credit hours) Springs (2020-2023)
Introduction to R programming course for online MPH students (hosted on Coursera)
Biostatistics 619 (UM; 3 credit hours) Winter 2018
Biostatistics 619 (2 credit hours) Fall 2014; Fall 2015; Fall 2016
Graduate course on the design, conduct, and analysis of clinical trials

Big Data Summer Institute (UM) — Summer 2017
Faculty mentor for 6 week undergraduate research program

Biostatistics 644 (UM; 2 credit hours) — Fall 2015
Graduate course on statistical methods for cancer research

Teaching Assistant / Grader (Calvin College) — 2004 - 2005
for undergraduate courses in calculus, discrete mathematics, and linear algebra

Honors & Fellowships

Rackham Predoctoral Fellowship (University of Michigan)	2011 - 2012
Rackham Conference Travel Grant (UM)	2010, 2011, 2012
Rackham Regents' Fellowship (UM)	2009 - 2011
NIH Predoctoral Research in the Biosciences Training Grant (UM)	2007 - 2009
1st Place, Michigan Autumn Take Home (MATH) Challenge (Calvin College)	2005
Dean's List (GPA $>$ 3.5/4.0) (Calvin)	2002 - 2006
Presidential Scholarship (Calvin)	2002 - 2006

Publications

1. Saran R, Hedgeman E, Plantinga L, Burrows NR, Gillespie BW , Young EW , Coresh J , Pavkov M , Williams D and Powe NR, for **the CKD Surveillance Team** (2010). "Establishing a National Chronic Kidney Disease Surveillance System for the United States" *Clinical Journal of the American Society of Nephrology* 5, 152–161.
2. **Boonstra PS**, Gruber SB, Raymond VM, Huang SC, Timshel S, Nilbert M and Mukherjee B (2010). "A review of statistical methods for testing genetic anticipation: Looking for an answer in Lynch syndrome" *Genetic Epidemiology* 34, 756–768.
PMC 3894615
3. **Boonstra PS**, Mukherjee B, Taylor JMG, Nilbert M, Moreno V and Gruber SB (2011). "Bayesian modeling for genetic anticipation in presence of mutational heterogeneity: A case-study in hereditary non-polyposis colorectal cancer (Lynch syndrome)" *Biometrics* 67, 1627–1637.
PMC 3176998
4. **Boonstra PS**, Taylor JMG and Mukherjee B (2013). "Incorporating auxiliary information for improved prediction in high dimensional datasets: An ensemble of shrinkage approaches" *Biostatistics* 14, 259–272.
PMC 3590922
5. **Boonstra PS**, Mukherjee B and Taylor JMG (2013). "Bayesian shrinkage methods for partially observed data with many predictors" *The Annals of Applied Statistics*, 7, 2272–2292.
PMC 3891514
6. **Boonstra PS***, Bondarenko I*, Park SK, Vokonas PS and Mukherjee B (2014). "Propensity score-based diagnostics for categorical response regression models" *Statistics in Medicine* 33, 455–469.
PMC 3911784
*Equal contribution authors
7. Stenzel SL, Ahn J, **Boonstra PS**, Gruber SB, and Mukherjee B (2015). "The impact of exposure-biased sampling designs on detection of gene-environment interactions in case-control studies with potential exposure misclassification" *European Journal of Epidemiology* 30, 413–423.
PMC 4256150
8. **Boonstra PS**, Shen JC, Taylor JMG, Braun TM, Griffith KA, Daignault S, Kalemkerian GP, Lawrence TS, and Schipper MJ (2015). "A statistical evaluation of dose expansion cohorts in phase I clinical trials" *Journal of the National Cancer Institute* 107, dju429.
PMC 4565529

9. **Boonstra PS**, Mukherjee B and Taylor JMG (2015). "A small-sample choice of the tuning parameter in ridge regression" *Statistica Sinica* 25, 1185–1206.
PMC 4790465

10. **Boonstra PS**, Taylor JMG and Mukherjee B (2015). "Adaptive shrinkage via the hyperpenalized EM algorithm" *Statistics in Biosciences* 7, 417–431.
PMC 4728141

11. **Boonstra PS**, Mukherjee B, Gruber SB, Ahn J, Schmit SL, and Chatterjee N (2016). "Tests for gene-environment interactions and joint effects with exposure misclassification" *American Journal of Epidemiology* 183, 237–247.
PMC 4724093

12. **Boonstra PS**, Taylor JMG, Smolska-Ciszewska B, Behrendt K, Dworzecki T, Gawkowska-Suwinska M, Bialas B, and Suwinski R (2016). "α/β ratio for prostate cancer derived from external beam radiotherapy and brachytherapy boost" *The British Journal of Radiology* 89, 20150957.
PMC 4985475

13. Krauss JC, **Boonstra PS**, Vantsevich A, Friedman CP (2016) "Is the problem list in the eye of the beholder?: An exploration of consistency across physicians" *Journal of the American Medical Informatics Association* 23, 859–865.
PMC 4997039

14. Barbaro RP, **Boonstra PS**, Paden ML, Folafoluwa OO, Roberts LA, Annich GM, Bartlett RH, Moler FW, Davis MM (2016). "Development and validation of pediatric risk estimate score for children using extracorporeal respiratory support (Ped-RESCUERS)" *Intensive Care Medicine* 42, 879–888.

15. **Boonstra PS**, Taylor JMG and Mukherjee B (2016). "Increasing efficiency for estimating treatment-biomarker interactions with historical data" *Statistical Methods in Medical Research* 25, 2959–2971.
PMC 5450810

16. Polk A, Lu Y, Wang T, Seymour E, Bailey NG, Singer JW, **Boonstra PS**, Lim MS, Malek S, and Wilcox RA (2016). "Colony-stimulating Factor-1 Receptor is required for nurse-like cell survival in chronic lymphocytic leukemia" *Clinical Cancer Research* 22, 6118–6128.
PMC 5161678

17. **Boonstra PS**, Braun TM, Taylor JMG, Kidwell KM, Bellile EL, Daignault S, Zhao L, Griffith KA, Lawrence TS, Kalemkerian GP, and Schipper MJ (2017). "Statistical controversies in cancer research: Building the bridge to phase II: Efficacy estimation in dose-expansion cohorts" *Annals of Oncology* 28, 1427–1435.
PMC 5834117

18. Soni PD*, **Boonstra PS***, Schipper MJ, Bazzi L, Dess RT, Matuszak MM, Kong FM, Hayman JA, Ten Haken RK, Lawrence TS, Kalemkerian GP, and Jolly S (2017) "Lower incidence of esophagitis in the elderly undergoing definitive radiation therapy for lung cancer" *Journal of Thoracic Oncology* 12, 539–546.
PMC 5318286
*Equal contribution authors

19. Moyer JS, Flynn S, **Boonstra PS**, Kraft C, Chinn S, Baker SR, Schwartz JL, Bichakjian, CK, Fullen D, Durham AB, Lowe L, Johnson TM (2017). "Efficacy of staged excision with permanent section margin control for cutaneous head and neck melanoma" *JAMA Dermatology* 153, 282–288.

20. DaSilva AF, Nascimento TD, Jassar H, Heffernan J, Toback RL, Lucas S, DosSantos MF, Bellile EL, **Boonstra PS**, Taylor JMG, Casey KL, Koeppe RA, Smith YR, and Zubieta JK (2017) "Dopamine D2/D3 imbalance during migraine attack and allodynia in vivo" *Neurology* 88, 1634–1641.
PMC 5405765

21. Barbaro RP, **Boonstra PS**, Moler FW, Paden ML, Davis MM, Prosser LA (2017). "Hospital-level variation in inpatient costs among children receiving extracorporeal membrane oxygenation" *Perfusion* 153, 282–288.

22. Hawkins PG*, **Boonstra PS***, Ten Haken RK, Matuszak MM, Kong FM, Hearn JM, Lawrence TS, Schipper MJ, and Jolly S (2017). "Radiation-induced lung toxicity in non-small-cell lung cancer: Understanding the interactions of clinical factors and cytokines with the dose-toxicity relationship" *Radiotherapy and Oncology* 125, 66–72.
PMC 5645039
*Equal contribution authors

23. von Salomé J, **Boonstra PS**, Karimi M, Aravidis C, Silander G, Stenmark-Askmalm M, Nilbert M, Lindblom A, and Lagerstedt-Robinson K (2017). "Genetic anticipation in Swedish Lynch syndrome families" *PLOS Genetics* 13, e1007012.
PMC 5681299

24. Grivas PD, Devata S, Khoriaty R, **Boonstra PS**, Ruch J, McDonnell K, Hernandez LA, Wilfong J, Smerage J, Ison MG, Eisenberg JNS, Silveira M, Cooney KA, and Worden FP (2017). "Low-cost intervention to increase influenza vaccination rates at a comprehensive cancer center" *Journal of Cancer Education* 32, 871–877.

25. **Boonstra PS***, Polk A*, Brown B, Hristov AC, Bailey NG, Lu Y, Kaminski MS, Phillips T, Devata S, Mayer T, and Wilcox RA (2017). "A single center phase II study of ixazomib in patients with relapsed or refractory cutaneous or peripheral T-cell lymphomas" *American Journal of Hematology* 92, 1287–1294.
*Equal contribution authors
PMC 6116510

26. Hawkins PG*, **Boonstra PS***, Hobson ST, Hayman JA, Ten Haken RK, Matuszak MM, Stanton P, Kalemkerian GP, Lawrence TS, Schipper MJ, and Jolly S (2018). "Prediction of radiation esophagitis in non-small cell lung cancer using clinical factors, dosimetric parameters, and pretreatment cytokine levels." *Translational Oncology* 11, 102–108.
*Equal contribution authors
PMC 6002355

27. Ma VT, **Boonstra PS**, Menghrajani K, Perkins C, Gowin KL, Mesa RA, Gotlib JR, and Talpaz, M (2018). "Treatment with JAK inhibitors in myelofibrosis patients nullifies the prognostic impact of unfavorable cytogenetics" *Clinical Lymphoma, Myeloma, and Leukemia* 18, e201–e210.
PMC 5927833

28. Owen DR, **Boonstra PS** , Viglianti BL, Balter JM, Schipper MJ, Jackson W, El Naqa I, Jolly S, Ten Haken RK, and Matuszak MM (2018). "Modeling patient-specific dose-function response using SPECT/CT to personalize prediction of radiation-induced lung toxicity" *International Journal of Radiation Oncology · Biology · Physics* 102, 1265–1275 `https://doi.org/10.1016/j.ijrobp.2018.05.049`
PMC 6202237

29. Barbaro RP, **Boonstra PS**, Kuo KW, Selewski DT, Bailly DK, Stone CL, Chow J, Annich GM, Moler FW, and Paden ML (2019). "Evaluating mortality risk adjustment among children receiving extracorporeal support for respiratory failure" *ASAIO Journal* 65, 277–284 `https://doi.org/10.1097/mat.0000000000000813`

30. **Boonstra PS**, Barbaro RP, and Sen A (2019). "Default priors for the intercept in logistic regressions" *Computational Statistics & Data Analysis* 133, 245-256 `https://doi.org/10.1016/j.csda.2018.10.014`
PMC 6748335

31. Menghrajani K*, **Boonstra PS***, Perkins C, Gowin KL, Mesa RA, Gotlib JR, Wang L, Singer JW, and Talpaz, M (2019). "Predictive models for splenic response to JAK2 inhibitor therapy in patients with myelofibrosis" *Leukemia & Lymphoma* 60, 1036–1042 `https://doi.org/10.1080/10428194.2018.1509315`
*Equal contribution authors
PMC 6426689

32. Geer M*, Roberts E*#, Shango M, Till B, Smith S, Abbas H, Hill B, Kaplan J, Barr PM, Caimi PF, Stephens DM, Lin E, Herrera AF, Rosenbaum E, Amengual K, **Boonstra PS**, Devata S, Wilcox RA, Kaminski M, and Phillips T (2019). "Multicenter retrospective study of intravascular DLBCL treated at academic institutions within the United States" *British Journal of Haematology* 186, 255–262 `https://doi.org/10.1111/bjh.15923`
*Equal contribution authors
#Biostatistics graduate student mentee

33. Chase EC# and **Boonstra PS** (2019) "Accounting for established predictors with the multi-step elastic net" *Statistics in Medicine* 38, 4534–4544
#Biostatistics graduate student mentee
PMC 6736688

34. Andridge R, West BT, Little RJA, **Boonstra PS**, and Alvarado-Leiton F (2019) "Indices of non-ignorable selection bias for proportions estimated from non-probability samples" *Journal of the Royal Statistical Society: Series*

C 68, 1465–1483 https://doi.org/10.1111/rssc.12371
PMC 7724611

35. Ahmed A, Merrill SA, Alsawah F, Bockenstedt P, Campagnaro E, Devata S, Gitlin SD, Kaminski M, Cusick A, Phillips T, Sood S, Talpaz M, Quiery A, **Boonstra PS**, and Wilcox RA (2019) "Ruxolitinib as a targeted therapy in adult patients with secondary HLH" *Lancet Haematology* 6, e630–e637 https://doi.org/10.1016/S2352-3026(19)30156-5
PMC 8054981

36. **Boonstra PS** and Barbaro RP (2020) "Incorporating historical models with adaptive Bayesian updates" *Biostatistics* 21, e47–e64 https://doi.org/10.1093/biostatistics/kxy053
PMC 7868052

37. Hanks JE, Kovatch KJ, Ali SA, Roberts E#, Durham AB, Smith JD, Bradford CR, Malloy KM, **Boonstra PS**, and McLean SA (2020) "Long-term outcomes, prognostic value, and accuracy of sentinel lymph node biopsy in head and neck melanoma" *Otolaryngology-Head and Neck Surgery* 162, 520–529 https://doi.org/10.1177/0194599819899934
#Biostatistics graduate student mentee
PMC 8012010

38. Bankhead A, McMaster T, **Boonstra PS**, and Palmbos PL (2020) "Isoform-specific TP63 expression is linked with distinct clinical outcomes in bladder cancer" *EBioMedicine* 51, 102561 https://dx.doi.org/10.1016%2Fj.ebiom.2019.11.022
PMC 6953644

39. Baker LH, **Boonstra PS**, Reinke D, Peregrine Antalis E, Zebrack B, and Weinberg RL "Burden of chronic diseases among sarcoma survivors treated with anthracycline chemotherapy: Results from an observational study" (2020) *Journal of Cancer Metastasis and Treatment* 6, 24 https://doi.org/10.20517/2394-4722.2020.36
PMC 8513741

40. **Boonstra PS** and Krauss JC (2020) "Inferring a consensus problem list using penalized multistage models for ordered data" *Annals of Applied Statistics* 14, 1557–1580 https://doi.org/10.1214/20-AOAS1361
PMC 8345315

41. Barbaro RP*, MacLaren G*, **Boonstra PS**, Iwashyna TJ, Slutsky AS, Fan E, Paden ML, Ogino MT, Bartlett RH, Tonna J, Hyslop R, Fanning JJ, Rycus PT, Hyer S, Anders M, Agerstrand C, Hryniewicz K, Diaz R, Lorusso R, Combes A, Brodie D, for the Extracorporeal Life Support Organization (2020) "Extracorporeal membrane oxygenation support in COVID-19: The registry report from the Extracorporeal Life Support Organization" *The Lancet* 396, 1071–1078 https://doi.org/10.1016/S0140-6736(20)32008-0
*Equal contribution authors
PMC 7518880

42. Little RJA, West BT, **Boonstra PS**, and Hu J (2020) "Measures of the degree of departure from ignorable sample selection" *Journal of Survey Statistics and Methodology* 8, 932–964 https://doi.org/10.1093/jssam/smz023
PMC 7750890

43. **Boonstra PS**, Ahmed A, Merrill SA, and Wilcox RA (2021) "Ruxolitinib in adult patients with secondary hemophagocytic lymphohistiocytosis" *American Journal of Hematology* 96: E103-E105 https://doi.org/10.1002/ajh.26091
NIHMS 1784639

44. Owen DR, Sun Y, **Boonstra PS**, McFarlane M, Viglianti BL, Balter JM, El Naqa I, Schipper MJ, Schonewolf CA, Ten Haken RK, Kong FM, Jolly S, and Matuszak MM (2021) "Investigating the SPECT dose-function metrics associated with radiation-induced lung toxicity risk in non-small cell lung cancer patients undergoing radiation therapy" *Advances in Radiation Oncology* 6, 100666 https://doi.org/10.1016/j.adro.2021.100666
PMC8010578

45. Salami SS*, Tosoian JJ*, Srinivas N, Jones, Jr TA, Brockman S, Elkhoury FF, Bazzi S, Plouffe KR, Sumida L, Siddiqui J, Liu CJ, Kunju LP, Morgan TM, Natarajan S, **Boonstra PS**, Sumida L, Tomlins SA, Udager AM, Sisk, Jr AE, Marks LS, and and Palapattu GS (2021) "Serial molecular profiling of low-grade prostate cancer to assess tumor upgrading: A longitudinal cohort study" *European Urology* 79, 456–465 https://doi.org/10.1016/j.eururo.2020.06.041

*Equal contribution authors
PMC 7779657

46. **Boonstra PS**, Braun TM, and Chase EC (2021) "A modular framework for seamless oncology trials" *Clinical Trials* 18, 303–313 https://doi.org/10.1177/1740774520981939
PMC 8382494

47. Delaney PG, Eisner ZJ, Thullah AH, Muller B, Gan J, Timbo A, Kamara S, Sandy K, **Boonstra PS**, Scott JW, Raghavendran K (2021) "Evaluating a novel Prehospital Emergency Trauma Care Assessment Tool (PETCAT) for low- and middle-income countries: Lay first responders expand prehospital care in Sierra Leone" *World Journal of Surgery* 45, 2370–2377 https://doi.org/10.1007/s00268-021-06140-1

48. **Boonstra PS**, Little RJA, West BT, Andridge RR, and Alvarado-Leiton F (2021) "A simulation study of diagnostics for bias in non-probability samples" *Journal of Official Statistics* 37, 751–769 https://doi.org/10.2478/jos-2021-0033
PMC 8460089

49. West BT, Little RJA, Andridge RR, **Boonstra PS**, Ware EB, Pandit A, and Alvarado-Leiton F (2021) "Assessing selection bias in regression coefficients estimated from nonprobability samples with applications to genetics and demographic surveys" *Annals of Applied Statistics* 15, 1556–1581 https://doi.org/10.1214/21-AOAS1453
PMC 8887878

50. Barbaro RP*, MacLaren G*, **Boonstra PS**, Combes A, Agerstrand C, Annich G, Diaz R, Fan E, Hryniewicz K, Lorusso R, Paden ML, Stead CM, Swol J, Iwashyna TJ, Slutsky AS, Brodie D, for the Extracorporeal Life Support Organization (2021) "Extracorporeal Membrane Oxygenation for COVID-19: Evolving outcomes from an international registry" *The Lancet* 398, 1230–1238 https://doi.org/10.1016/S0140-6736(21)01960-7
PMC 8480964

51. Li P, Taylor JMGT, **Boonstra PS**, Lawrence TS, and Schipper MJ (2022) "Utility based approach in individualized optimal dose selection using machine learning methods" *Statistics in Medicine* 41, 2957–2977 https://doi.org/10.1002/sim.9396
PMC 9233043

52. Kohne JG, MacLaren G, Cagino L, **Boonstra PS**, Brodie D, and Barbaro RP (2022) "Tracheostomy practices and outcomes in patients with COVID-19 supported by ECMO: An analysis of the ELSO registry" *Critical Care Medicine* 50, 1360–1370 https://doi.org/10.1097/ccm.0000000000005579
PMC 9380152

53. Hinton T, Karnak D, Tang M, Jiang R, Luo Y, **Boonstra PS**, Sun Y, Nancarrow DJ, Sandford E, Ray P, Maurino C, Matuszak M, Green MD, Schipper MJ,Yanik GA, Tewari M, El Naqa I, Schonewolf CA, Ten Haken R, Jolly S, Lawrence TS, and Ray D (2022) "Improved prediction of radiation pneumonitis by combining biological and radiobiological parameters using a data-driven Bayesian network analysis" *Translational Oncology* 21, 101428 https://doi.org/10.1016/j.tranon.2022.101428
PMC 9046881

54. Flynn AJ, Beck A, Boisvert P, **Boonstra PS**, Caverly T, Gittlen N, Meng G, Raths B, Taksler G, and Friedman CP (2023) "CBK model composition using paired web services and executable functions: A demonstration for individualizing preventive services" *Learning Health Systems* 7, e10325 https://doi.org/10.1002/lrh2.10325
PMC 10091204

55. Delaney PG, Eisner ZJ, Thullah AH, Turay P, Kpawuru S, **Boonstra PS**, and Raghavendran K (2023) "Evaluating feasibility of a novel mobile emergency medical dispatch tool for lay first responder prehospital response coordination in Sierra Leone: A simulation-based study" *Injury* 54, 5–14 https://doi.org/10.1016/j.injury.2022.10.010

56. Phillips T, Bond D, Takiar R, Kump K, Kandarpa M, **Boonstra PS**, Mayer T, Nachar V, Wilcox R, Carty S, Karimi Y, Nikolovska-Coleska Z, Kaminski R, Herrera A, Maddocks K, Popplewell K, and Danilov A (2023) "Adding venetoclax to lenalidomide and rituximab is safe and effective in patients with untreated mantle cell lymphoma" *Blood Advances* 7, 4518–4527 https://doi.org/10.1182/bloodadvances.2023009992
PMC 10425679

57. **Boonstra PS**, Tabarrok A, and Strohbehn GW (2023) "Targeted randomization dose optimization trials enable fractional dosing of scarce drugs" *PLOS One* 18: e0287511 https://doi.org/10.1371/journal.pone.0287511
PMC 10615276

58. Foucar CE, Foley DH, Aldous J, Burke PW, Pettit KR, Benitez LL, Perissinotti AJ, Marini BL, **Boonstra PS**, and Bixby D (2024) "Real-World Outcomes with Immunosuppressive Therapy for Aplastic Anemia in Patients Treated at the University of Michigan" *European Journal of Haematology* https://doi.org/10.1111/ejh.14131 112: 424–432 https://doi.org/10.1111/ejh.14131

59. Chase EC, Taylor JMG, and **Boonstra PS** (2024) "Modeling data using horseshoe process regression" *Statistics in Medicine* 43: 817–832 https://doi.org/10.1002/sim.9991

60. Tonna JE, **Boonstra PS**, MacLaren G, Paden M, Brodie D, Anders M, Hoskote A, Ramanathan K, Hyslop R, Fanning JJ, Rycus P, Stead C, Barrett NA, Mueller T, Gómez RD, Kapoor PM, Fraser JF, Bartlett RH, Alexander PMA, and Barbaro RP, on behalf of the Extracorporeal Life Support Organization Member Centers (2024) "Extracorporeal Life Support Organization Registry International Report 2022: 100,000 survivors" *ASAIO* 70:131–143 https://doi.org/10.1097/mat.0000000000002128
PMC 10962646

61. Strohbehn GW, Stadler WM, **Boonstra PS**, and Ratain MJ (2024) "Optimizing the doses of cancer drugs after usual dose-finding" *Clinical Trials* 21:340–349 https://doi.org/10.1177/17407745231213882

62. **Boonstra PS**, Owen DR, and Kang J (2024) "Shrinkage priors for isotonic probability vectors and binary data modeling" *Pharmaceutical Statistics* 23:540–556 https://doi.org/10.1002/pst.2372
PMC 11737611

63. Alexander PM, ..., Barbaro RP for the endorsing societies of **Extracorporeal Life Support Organization (ELSO)** ... (2024) "Definitions of adverse events associated with extracorporeal membrane oxygenation in children: results of an international Delphi process from the ECMO-CENTRAL ARC" *The Lancet Child & Adolescent Health* 8:773–780 https://doi.org/10.1016/S2352-4642(24)00132-9

64. **Boonstra PS** and Orozco del Pino P (2025) "Review of methods for data integration" *Journal of the Royal Statistical Society: Series A* 188:46–67 https://doi.org/10.1093/jrsssa/qnae093

65. Chase EC, **Boonstra PS**, and Taylor JMG (2025) "A multiple imputation approach for cumulative incidence estimation" *The American Statistician* https://doi.org/10.1080/00031305.2025.2453674

Software

`isotonicBayes`**:** `R` package implementing the isotonic probability vectors in Boonstra, Owen, and Kang (2023). Available at https://github.com/psboonstra/isotonicBayes

`DoseDeescalation`**:** `R` package implementing and simulating the dose-deescalation designs as proposed in Boonstra, Tabarrok, and Strohbehn (2023). Available at https://github.com/psboonstra/DoseDeescalation

`healthds`**:** `R` package to accompany the 'Data Science for Health Research' Coursera Specialization. Available at https://github.com/umich-biostatistics/healthds

`seamlesssim`**:** `R` package implementing a simulator for modular seamless oncology trials as proposed in Boonstra, Braun, and Chase (2021). Available at https://github.com/elizabethchase/seamlesssim. Co-authored with Elizabeth C. Chase

`adaptBayes`**:** `R` package implementing the adaptive Bayesian priors proposed in Boonstra and Barbaro (2020). Available at https://github.com/umich-biostatistics/adaptBayes. Co-authored with Mike Kleinsasser

Clinical Trials

Completed

1. "Open-label, single-center phase II study of MLN9708 (Ixazomib) in patients with relapsed/refractory cutaneous and peripheral T-cell lymphomas" PI: R Wilcox; clinicaltrials.gov: NCT02158975
2. "Phase Ib, open label, single center study of pacritinib in relapsed/refractory lymphoproliferative disorders" PI: R Wilcox; clinicaltrials.gov: NCT03601819
3. "A pilot study of ruxolitinib in secondary hemophagocytic syndrome" PI: R Wilcox; clinicaltrials.gov: NCT02400463
4. "Phase I dose escalation study to determine the maximum tolerated dose of the combination of ruxolitinib and bortezomib in patients with relapsed or refractory lymphoma" PI: T Phillips; clinicaltrials.gov: NCT02613598
5. "A phase I/II study of ruxolitinib in combination with nilotinib in patients with chronic phase CML who have achieved a major molecular remission but not a complete molecular remission on a tyrosine kinase inhibitor alone" PI: P Burke; clinicaltrials.gov: NCT02973711
6. "Phase II study of nivolumab and the antagonistic CSF-1R monoclonal antibody cabiralizumab (BMS-986227) in patients with relapsed/refractory peripheral T cell lymphoma" PI: R Wilcox; clinicaltrials.gov: NCT03927105
7. "Phase I/II study of ixazomib and romidepsin in relapsed/refractory peripheral T-cell lymphoma (PTCL)" PI: S Devata; clinicaltrials.gov: NCT03547700
8. "Phase II multi-center single arm study evaluating the effect of adding bortezomib to ibrutinib in ibrutinib relapsed mantle cell lymphoma" PI: T Phillips; clinicaltrials.gov: NCT03617484
9. "Phase IB dose de-escalation study of the PI3k alpha/delta inhibitor, copanlisib given in combination with the immunotherapeutic agents, nivolumab and rituximab in patients with relapsed/refractory indolent lymphoma LYM17-145" PI: T Phillips; clinicaltrials.gov: NCT04431635
10. "A phase II study using a BFM regimen plus tyrosine kinase inhibitor in adult Philadelphia chromosome-positive acute lymphoblastic leukemia" PI: P Burke; clinicaltrials.gov: NCT04845035

Active / Approved

11. "A phase II pilot study of metformin therapy in patients with relapsed chronic lymphocytic leukemia and untreated CLL patients with genomic deletion 11q" PI: S Malek; clinicaltrials.gov: NCT01750567
12. "Phase I multi-site study evaluating the MTD, safety and efficacy of the combination venetoclax, lenalidomide and rituximab in patients with previously untreated mantle cell lymphoma" PI: Sano; clinicaltrials.gov: NCT03523975
13. "Phase 2 study with minimal residual disease (MRD) driven adaptive strategy in treatment for newly diagnosed multiple myeloma with upfront daratumumab-based therapy" PI: C Ye; clinicaltrials.gov: NCT04140162
14. "Phase II, open label, multicenter study of pacritinib in relapsed/refractory T-cell lymphoproliferative neoplasms" PI: R Wilcox; clinicaltrials.gov: NCT04858256
15. "A phase II study of pembrolizumab and mogamulizumab in advanced-stage, relapsed/refractory cutaneous T-cell lymphomas" PI: R Wilcox; clinicaltrials.gov: NCT05956041

Under Review

16. "A pilot phase 2 study of selinexor in relapsed/refractory cutaneous T-cell lymphomas" PI: R Wilcox; clinicaltrials.gov: In Progress

Funding

Effort is annualized calendar months

Submitted

Subcontract (Direct: Pittsburgh; Prime: NIH/NHLBI) (PI Boonstra); $562,258 12/01/25 – 11/30/32
U24: ECMO Circuits Optimized to Reduce adverse Events (ECMO CORE) Data Coordinating Center
https://grants.nih.gov/grants/guide/pa-files/PAR-22-193.html
Role: PI (3.3 calendar months)

NIH/NCI (PI Wilcox); $2,512,985 12/01/25 – 11/30/30
R01: Novel Multi-targeted Strategies Targeting T-cell Lymphomas and their Microenvironment
https://grants.nih.gov/grants/guide/pa-files/PA-25-301.html
Role: Co-I (0.60 calendar months)

NIH/NCI (PI Wilcox); $275,000 12/01/25 – 11/30/27
R21: The tumor macroenvironment and treatment failure in T-cell lymphomas
https://grants.nih.gov/grants/guide/pa-files/PAR-25-139.html
Role: Co-I (0.60 calendar months)

NIH/NCI (PI Wilcox); $2,499,975 07/01/25 – 06/30/30
Clinical Trial R01: Targeting the GATA-3 Dependent Transcriptome in T-cell Lymphomas
https://grants.nih.gov/grants/guide/pa-files/PAR-24-085.html
Role: Co-I (0.60 calendar months)

NIH/NCI (PI Wilcox); $2,649,646 07/01/25 – 06/30/30
R01: Targeting the GATA-3 Regulon in T-cell lymphomas
https://grants.nih.gov/grants/guide/pa-files/pa-20-185.html
Role: Co-I (0.60 calendar months)

NIH/NCI (PI Wilcox); $2,700,770 07/01/25 – 06/30/30
The lymphoma-associated macrophage (LAM) niche in T-cell lymphomas
https://grants.nih.gov/grants/guide/pa-files/pa-20-185.html
Role: Co-I (0.60 calendar months)

NIH/NCI (PI Wilcox); $2,700,750 07/01/25 – 06/30/30
R01 Resub: Non-hematopoietic Stromal Cells as a Novel Dependency in T-cell Lymphomas
https://grants.nih.gov/grants/guide/pa-files/pa-20-185.html
Role: Co-I (0.60 calendar months)

Current

Extracorporeal Life Support Organization (PI Boonstra); $691,880 07/01/22 – 06/30/26
ELSO Registry Contract
Role: PI (4.2 calendar months)

2-P30CA046592, NIH/NCI (PI Fearon); $25,866,261 06/01/12 – 05/31/28
Comprehensive Cancer Center Core Grant II Biostatistics Core
Role: Co-I; Member, Biostatistics Core (1.2 calendar months)

5-R01CA265929 , NIH/NCI (PI Wilcox); $2,512,985 9/01/21 – 8/31/27
Pacritinib in rel/refr T-cell lymphomas
Role: Co-I (0.60 calendar months)

4-R37CA233476, NIH/NCI (PI Wilcox); $1,305,455 2/01/19 – 1/31/26
The T-cell receptor's role in T-cell lymphoma pathogenesis
Role: Co-I (0.34 calendar months)

1R01CA278976, NIH/NCI (PI Wilcox); $3,119,617 1/01/24 – 12/31/28
Notch ligands as oncogenic drivers and therapeutic targets in T-cell lymphomas
Role: Co-I (0.30 calendar months)

CTSU-2022.116 Wilcox UM MS IIT with HCRN (Merck); $375,645 10/16/23 – 10/11-29
A phase II study of pembrolizumab and mogamulizumab in advanced-stage, relapsed/refractory cutaneous T-cell lymphomas
Role: Co-I (0.06 calendar months)

Completed

1-R01CA236722, NIH/NCI (PI Wilcox); $1,250,000 12/01/19 – 11/30/24
Notch and GATA-3 as novel therapeutic targets in T-cell lymphomas
Role: Co-I

Clinical Trial (PI Phillips); $307,438 03/03/20 – 3/28/24
Hoosier Cancer Research Network/Bristol-Myers Squibb Company
Phase IB dose de-escalation study of the PI3k alpha/delta inhibitor, Copanlisib given in combination with the immunotherapeutic agents, Nivolumab and Rituximab in patients with relapsed/refractory indolent lymphoma LYM17-145
Role: Biostatistician

Clinical Trial (PI Ye); $782,241 10/22/19 – 8/11/23
Janssen Scientific
Phase 2 study with Minimal Residual Disease (MRD) driven adaptive strategy in treatment for newly diagnosed multiple myeloma (MM) with upfront daratumumab-based therapy
Role: Biostatistician

5-R01CA129102, NIH/NCI (PIs Taylor/Ghosh); $1,568,291 01/01/09 – 06/30/22
Statistical Methods for Cancer Biomarkers
Role: Co-I

2-T32CA083654, NIH/NCI (PI Taylor); $192,805 (FY19) 06/01/12 – 03/31/23
Biostatistics Training In Cancer Research
Role: Program Associate Director

Clinical Trial (PI Wilcox); $567,436 04/16/19 – 03/31/22
Hoosier Cancer Research Network/Bristol-Myers Squibb Foundation
Phase II study of nivolumab and the antagonistic CSF-1R monoclonal antibody cabiralizumab (BMS-986227) in patients with relapsed/refractory peripheral T cell lymphoma
Role: Biostatistician

Clinical Trial (PI Devata); $294,967 09/24/18 – 08/26/23
Hoosier Cancer Research Network/Millennium Pharmaceuticals, Inc.
Phase I/II study of ixazomib and romidepsin in relapsed/refractory peripheral T-cell lymphoma (PTCL)
Role: Biostatistician

Extracorporeal Life Support Organization (PI Boonstra); $40,000 10/01/19 – 12/31/21
ELSO Registry Contract
Role: PI

Clinical Trial (PI Phillips); $281,854 12/14/18 – 08/01/21
AbbVie, Inc.
Phase I multi-site study evaluating the MTD, safety and efficacy of the combination venetoclax, lenalidomide and rituximab in patients with previously untreated mantle cell lymphoma
Role: Biostatistician

1-R21HD090366, NIH/NICHD (PI West); $275,000 09/23/17 – 08/31/20
Indices of Selection Bias for Non-Probability Samples
Role: Co-I

MICHR Pathway Award (PI Zelner); $50,000 09/01/19 – 08/31/20
Integrated Studies of Vaccine Effectiveness and Failure,
CTSA support from grant 5-UL1TR002240, NIH/NCATS,
Role: Co-I

2-P01CA059827, NIH/NCI (PI TenHaken); $1,784,750 05/15/14 – 04/30/19
Optimization of High Dose Conformal Therapy
Role: Co-I

MICHR Pilot Grant Program (PI Boonstra); $15,000 03/01/18 – 02/28/19
Measuring consensus in the problem list using penalized regression models for rank data,
CTSA support from grant 5-UL1TR002240, NIH/NCATS,
Role: PI

5-U01DE025633, NIH/NIDCR (PI DaSilva); $282,634 08/01/16 – 07/31/21
Investigation and Modulation of the Mu-Opioid Mechanism in Chronic TMD (in vivo)
Role: Biostatistician

5-R01NS094413, NIH/NINDS (PI DaSilva); $361,417 09/30/15 – 08/31/20
Investigation and Modulation of the Central Mu-Opioid
Role: Biostatistician

Research Agreement, CTI BioPharma Corp. (PI Talpaz); $75,032 12/11/15 – 12/10/17
A New Prognostic Model for Response in Myelofibrosis Patients Treated with JAK2 Inhibitors
Role: Co-I

R6503-16, Leukemia and Lymphoma Society (PI Wilcox); $270,027 10/01/15 – 09/30/17
Peripheral T-cell Lymphoma, not otherwise specified: The cell of origin as a predictive biomarker and therapeutic target,
Role: Biostatistician

Award letter dated 10/22/15, MCubed2.0 Executive Committee 10/22/15 – 04/29/17
(PIs Schipper/Boonstra/Matuszak); $60,000
*Identifying treatment*biomarker interactions by combining a large dose-toxicity dataset without biomarkers and a similar but smaller dataset with biomarkers*
Role: Co-PI

Award letter dated 08/21/15, Prostate Cancer Foundation (PI Palapattu); $600,000 09/01/15 – 09/01/17
Testing Targeted NK (TaNK) cell Therapy in Prostate Cancer
Role: Co-I

Award letter dated 05/02/14, Cancer Research Committee, 05/01/14 – 04/30/15
UMCCC (PI Boonstra); $25,000
Increasing efficiency for estimating treatment-biomarker interactions with historical data
Role: PI

Seminars and Panels

***Invited Seminar*, Oct 2024** *Some novel clinical trial designs for dose-finding in oncology* Hope College, Department of Mathematics & Statistics Colloquium Series, Holland, MI.

***Invited Seminar*, Sept 2024** *Some Challenges in Statistical Modeling in ECLS* 35th Annual ELSO Conference, Detroit, MI.

***Invited Seminar*, Sept 2023** *Why you should consider a graduate education in biostatistics* Calvin University, Department of Mathematics & Statistics Colloquium, Grand Rapids, MI.

***Invited Presentation*, June 2023** *Targeted randomization dose optimization trials enable fractional dosing of scarce drugs* The 36th New England Statistics Symposium, Boston, MA (virtual presenter).

***Invited Presentation*, Sept 2022** *Industry use of the ELSO Registry to Support Device Approval and Surveillance* 33rd Annual ELSO Conference, Boston, MA.

***Contributed Talk*, Aug 2022** *A comparison of methods for incorporating information from historical prediction models* 43rd Annual Conference of the International Society for Clinical Biostatistics, Newcastle, UK

***Invited Panel*, Sept 2021** *ECMO for COVID-19: Evolving Outcomes from the ELSO Registry* 32nd Annual ELSO Conference (Virtual)

***Invited Panel*, Sept 2020** *The ELSO Registry on ECMO for COVID-19* 31st Annual ELSO Conference (Virtual)

***Invited Seminar*, Mar 2020** *Statistics is not an easy-bake oven* Hope College, Department of Mathematics & Statistics Colloquium Series, Holland, MI.
Link to slides

***Invited Seminar*, Jan 2020** *Some novel extensions of the horseshoe prior* University of Michigan, Dept. of Biostatistics, Ann Arbor, MI
Link to slides

***Invited Seminar*, Nov 2019** *Incorporating historical information with adaptive Bayesian updates* Workshop on Bayes, Fiducial, and Frequentist Paradigm in Data Integration, Machine Learning, and Applications, University of Michigan, Dept. of Biostatistics, Ann Arbor, MI
Link to slides

***Invited Talk*, July 2019** *Measures of the degree of departure from ignorable sample selection* Joint Statistical Meetings, Denver, CO

***Invited Seminar*, Mar 2019** *A modular framework for seamless oncology trials* Columbia University, Dept. of Biostatistics, New York, NY

***Invited Seminar*, Dec 2018** *A modular framework for seamless oncology trials* University of Michigan, Dept. of Radiation Oncology Biostatistics Division Seminar, Ann Arbor, MI

***Invited Speed Talk*, Sep 2018** *Modeling consensus among ordered lists using variable selection penalties* Rod Little Lectureship Dinner, Ann Arbor, MI
Link to slides

***Topic Contributed Talk*, Aug 2018** *A default prior for the intercept parameter in logistic regression* Joint Statistical Meetings, Vancouver, BC

***Contributed Talk*, June 2018** *Incorporating historical models with adaptive Bayesian updates* 2018 WNAR Meeting, Edmonton, AB

***Invited Panelist*, May 2018** *Fifth Bayesian, Fiducial, and Frequentist (BFF5) Conference* University of Michigan, Ann Arbor, MI

***Contributed Talk*, July 2017** *Combining nested risk-prediction models* 38th Annual Conference of the International Society for Clinical Biostatistics, Vigo, Spain

***Invited Talk*, June 2017** *Combining Bayesian generalized linear models with map-weighting* Biomedical Statistical Modeling Conference, Ann Arbor, MI

***Contributed Talk*, Mar 2017** *A default prior for the intercept in binary-data regression models* 2017 ENAR Spring Meeting, Washington, DC

***Invited Talk*, Oct 2016** *Building the bridge to phase II: Efficacy estimation in dose-expansion cohorts* 5th Early Phase Adaptive Trials Workshop, Politecnico di Torino, Turin, Italy

***Invited Seminar*, Oct 2015** *Efficient designs for dose-expansion in phase I oncology trials* Fred Hutchinson Cancer Research Center, Seattle, WA

***Contributed Talk*, Aug 2015** *Leveraging historical data for improved estimates of treatment-biomarker interactions* 36th Annual Conference of the International Society for Clinical Biostatistics, Utrecht, The Netherlands

***Invited Seminar*, Jan 2015** *Strategies for tuning parameter selection in regression problems with many covariates* Fred Hutchinson Cancer Research Center, Seattle, WA

***Invited Talk*, Oct 2014** *A statistical evaluation of expansion cohorts in phase I clinical trials* 4th Early Phase Adaptive Trials Workshop, Medical University of South Carolina, Charleston, SC

***Contributed Talk*, May 2014** *Increasing efficiency for estimating treatment-biomarker interactions with historical data.* 2014 Midwest Biopharmaceutical Statistics Workshop, Ball State University, Muncie, IN.

***Invited Seminar*, Oct 2013** *Prediction with high-dimensional data: A brief foray into biostatistics.* Hope College, Department of Mathematics Colloquium Series, Holland, MI.

***Contributed Talk*, Aug 2013** *Adaptive shrinkage via the hyperpenalized EM algorithm* 34th Annual Conference of the International Society for Clinical Biostatistics, Munich, Germany

***Invited Talk*, Aug 2013** *Adaptive shrinkage via the hyperpenalized EM algorithm* Joint Statistical Meetings, Montreal, QC

***Invited Seminar*, Nov 2012** *Incorporating auxiliary information for improved prediction in high dimensional datasets: An ensemble of shrinkage approaches.* Department of Biostatistics Seminar, University of Michigan, Ann Arbor, MI

***Invited Seminar*, Oct 2012** *Incorporating auxiliary information for improved prediction in high dimensional datasets: An ensemble of shrinkage approaches.* Department of Statistics Student Seminar, University of Michigan, Ann Arbor, MI.

***Contributed Talk*, Aug 2012** *Incorporating auxiliary information for improved prediction in high dimensional datasets: An ensemble of shrinkage approaches.* Joint Statistical Meetings, San Diego, CA.

***Contributed Talk*, Apr 2012** *Incorporating auxiliary information for improved prediction in high dimensional datasets: An ensemble of shrinkage approaches.* Highlighted Student Talk, Michigan Student Symposium in Statistical Science, Ann Arbor, MI.

***Invited Seminar*, Dec 2011** *Prediction with high-dimensional data: A brief foray into biostatistics.* Calvin College, Department of Mathematics & Statistics Colloquium, Grand Rapids, MI.

***Contributed Talk*, Oct 2011** *Incorporating auxiliary information for improved prediction in high dimensional datasets: An ensemble of shrinkage approaches.* Conference on Risk Assessment and Evaluation of Predictions, Silver Spring, MD.

***Contributed Talk*, Aug 2011** *Incorporating auxiliary information for improved prediction in high dimensional datasets: An ensemble of shrinkage approaches.* Joint Statistical Meetings, Miami Beach, FL.

***Contributed Talk*, Aug 2010** *Bayesian modeling for genetic anticipation in presence of mutational heterogeneity: A case-study in Lynch Syndrome.* Joint Statistical Meetings, Vancouver, BC.

Oct 2009, June 2010 *A review of statistical methods for testing genetic anticipation: looking for an answer in Lynch Syndrome.* Molecular Epidemiology of Colorectal Cancer Investigators' Meeting, Ann Arbor, MI.

Workshops and Guest Lectures

***Guest Lecture / Tutorial*, July 2025** *Assessment of predictive models* University of Michigan Big Data Summer Institute, Ann Arbor, MI.

***Guest Lecture*, July 2024** *Introduction to R markdown* University of Michigan Big Data Summer Institute, Ann Arbor, MI.

***Guest Lecture*, July 2024** *Assessment of predictive models* University of Michigan Big Data Summer Institute, Ann Arbor, MI.

***Guest Lecture*, July 2023** *Introduction to R markdown* University of Michigan Big Data Summer Institute, Ann Arbor, MI.

***Guest Lecture*, July 2023** *Assessment of predictive models* University of Michigan Big Data Summer Institute, Ann Arbor, MI.

***Guest Lecture*, June 2022** *Introduction to R markdown* University of Michigan Big Data Summer Institute, Ann Arbor, MI.

***Guest Lecture*, June 2022** *Assessment of predictive models* University of Michigan Big Data Summer Institute, Ann Arbor, MI.

***Guest Lecture*, Feb 2022** *Teaching R with rstudio.cloud* University of Michigan, Dept. of Biostatistics, BIOS 803: Pedagogical Methods For Biostatistics Courses, Ann Arbor, MI.

***Guest Lecture*, Sept 2021** *De-escalation designs for finding the minimum effective dose of a drug* University of Michigan, Dept. of Biostatistics, BIOS 803: Biostatistics in Cancer Seminar, Ann Arbor, MI.
Link to slides

***Workshop*, Aug 2019** *Introduction to R* University of Michigan, MICHR Bayesian Workshop Series, Ann Arbor, MI.
GitHub repo

***Guest Lecture*, July 2019** *Introduction to R markdown* University of Michigan Big Data Summer Institute, Ann Arbor, MI.
GitHub repo

***Guest Lecture*, June 2019** *Assessment of predictive models* University of Michigan Big Data Summer Institute, Ann Arbor, MI.
Link to slides

***Workshop*, May 2019** *Expanding your biostatistics toolkit for biomedical research* University of Michigan, Global Stat-Core Workshop, Ann Arbor, MI.
GitHub repo

***Guest Lecture*, Nov 2018** *A modular framework for seamless oncology trials* University of Michigan, Dept. of Biostatistics, BIOS 803: Biostatistics in Cancer Seminar, Ann Arbor, MI.
Link to slides

***Guest Lecture*, July 2018** *Introductory clinical trials* Hematology-Oncology Fellows, Rogel Cancer Center

***Workshop*, May 2018** *Expanding your biostatistics toolkit for biomedical research* University of Michigan, Global Stat-Core Workshop, Ann Arbor, MI.

***Workshop*, Aug 2017** *Building your biostatistics toolbox for cancer research* Dharmais Cancer Hospital, West Jakarta, Indonesia.

***Guest Lecture*, Sep 2016** *Building the bridge to phase II: Efficacy estimation in dose-expansion cohorts* University of Michigan, Dept. of Biostatistics, BIOS 803: Biostatistics in Cancer Seminar, Ann Arbor, MI.

***Workshop*, Mar 2016** *Building your biostatistics toolbox: Clinical Trials* St. Pauls Hospital Medical Millennium College, Addis Ababa, Ethiopia.

***Workshop*, Mar 2016** *Building your biostatistics toolbox: Clinical Trials* Kenya Medical Research Institute, Nairobi, Kenya.

***Guest Lecture*, Oct 2013** *Adaptive shrinkage via the hyperpenalized EM algorithm* University of Michigan, Dept. of Biostatistics, BIOS 803: Biostatistics in Cancer Seminar, Ann Arbor, MI.

***Guest Lecture*, Apr 2011** *Bayesian modeling for genetic anticipation in presence of mutational heterogeneity: A case-study in Lynch Syndrome.* University of Michigan, Dept. of Biostatistics, BIOS 682: Applied Bayesian Inference, Ann Arbor, MI.

Graduate Student Advising

PhD Committee Co-chair: Rachel Tucker Gonzalez — 2027 (anticipated)
Department of Biostatistics, UM

PhD Committee Co-chair: Elizabeth Chase — 2023
Department of Biostatistics, UM

PhD Committee Member (Cognate): Ramya Naraharisetti — 2023
Department of Epidemiology, UM

PhD Committee Member: Pedro Orozco del Pino — 2022
Department of Biostatistics, UM

PhD Committee Member: Ali Rafei — 2021
Survey Methodology Program, UM

PhD Committee Member (Cognate): Daniel Rocky Owen — 2021
Department of Nuclear Engineering & Radiological Sciences, UM

PhD Committee Member: Pin Li — 2020
Department of Biostatistics, UM

PhD Committee Member: Zhichao Sun — 2016
Department of Biostatistics, UM

Service Activities

Internal

Member, Student Recruitment Committee — Fall 2024 – ongoing
Department of Biostatistics, UM

Member, Advisory Committee on Academic Programs — Fall 2021 – Summer 2023; Fall 2024 – ongoing
School of Public Health, UM

Chair, Curriculum Committee — Fall 2021 – Summer 2023; Fall 2024 – ongoing
Department of Biostatistics, UM

Member, Protocol Review Committee — Winter 2016 – ongoing
Rogel Cancer Center, UM

Member, Qualifying Exam Committee — 2022–2023, 2020–2021, 2015–2016
Department of Biostatistics, UM

Member, Cancer Data Science Faculty Search Committee — Fall 2021
Department of Biostatistics, UM

Reviewer, MICHR Pilot Grant Program – Promoting Progress in Statistics Award — Fall 2021, Fall 2018
Michigan Institute for Clinical and Health Research, UM

Statistician, Hem-Onc Fellows' journal club — Feb 2018, Jan 2017, Aug 2015,
Rogel Cancer Center, UM — Feb 2015, Apr 2014, Aug 2013, Mar 2013

Organizing Committee, Biomedical Statistical Modeling Conference — June 2017
Department of Biostatistics, UM

Chair, Seminar Committee — Fall 2014 – Winter 2015
Department of Biostatistics, UM

Faculty Advisor, Student Brownbag Committee — Fall 2014 – Winter 2015
Department of Biostatistics, UM

Member, Bioinformatics/Statistical Genetics Faculty Search Committee — Fall 2010 – Winter 2011
Department of Biostatistics, UM

External

Ad-hoc peer review service

American Journal of Clinical Nutrition (2015)
Annals of Applied Statistics (2020)
Bayesian Analysis (2017,2015,2014)
Bioinformatics (2016)
Biometrics (2019,2018,2017,2016,2015,2012)
Blood (2023)
BMC Bioinformatics (2016)
BMC Research Notes (2020,2017)
BMJ Open (2018,2017)
British Journal of Radiology (2017)
Cancer (2025,2020)
Cancer Cytopathology (2018,2017,2016)
Circulation: Cardiovascular Quality and Outcomes (2024,2019,2018)
Clinical Trials (2019,2017,2016)
Computational Statistics & Data Analysis (2012)
Communications in Statistics (2024)
Contemporary Clinical Trials Communications (2018)
Electronic Journal of Statistics (2014)
eLife (2024,2023,2022,2021)
Genetic Epidemiology (2011)
Harvard Data Science Review (2021)
Heliyon (2023)

IEEE Transactions on Cybernetics (2022,2014)
Iranian Journal of Science and Technology, Transactions A: Science (2020,2019)
International Journal of Medical Informatics (2020)
International Journal of Radiation Oncology · Biology · Physics (2020,2019,2018,2017,2016,2015,2014)
International Statistical Review (2024,2023,2020,2013)
JAMA Dermatology (2017)
JAMA Oncology (2023,2022,2012)
JCI Insight (2020)
Journal of Agricultural, Biological, and Environmental Statistics (2015,2014,2013)
Journal of the American Medical Association (JAMA) (2014)
Journal of the American Statistical Association (JASA) (2019,2018)
Journal of Multivariate Analysis (2018)
Journal of Official Statistics (2025)
Journal of the National Cancer Institute (2020)
Journal of the Royal Statistical Society: Series A (JRSSA) (2024,2023)
Journal of the Royal Statistical Society: Series C (JRSSC) (2025)
Journal of Statistical Computation and Simulation (2025,2024)
Journal of Statistical Planning & Inference (2017,2013)
Journal of Survey Statistics and Methodology (2023)
Nature Medicine (2023)
Pharmaceutical Statistics (2019)
PLOS One (2024,2019,2018,2014)
Psychological Methods (2023)
Scientific Reports (2021,2020)
Scientific World Journal (2014)
Statistica Sinica (2013)
Statistical Methods in Medical Research (2022,2021,2020,2019)
Statistics in Medicine (2021,2020,2018,2017,2014,2013)
The American Statistician (2018,2017)
The Annals of Applied Statistics (2020)
The Lancet (2024,2022,2018)
The Lancet Digital Health (2025)
The Lancet Haematology (2025,2023,2021,2020)
The Lancet Psychiatry (2024,2023,2022,2021,2020,2019)

Other service activities

AP Statistics Presenter, Pioneer High School — May 2025, Ann Arbor, MI
AP Statistics Presenter, Saline High School — May 2022; May 2023; May 2024; May 2025, Saline, MI
Member, Data Safety Monitoring Board — 2024 – ongoing
ED-LEAD: Emergency Departments Leading the Transformation of Alzheimer's and Dementia Care (clinicaltrials.gov NCT06079203)
Reviewing Editor, eLife journal — 2021 – ongoing
Executive Committee Member, International Society for Clinical Biostatistics (ISCB) — Jan 2023 – Dec 2024
Session Chair — 2024 International Society for Clinical Biostatistics, Thessaloniki, Greece
Biostatistical Reviewer, American Society of Clinical Oncology — Feb 2024, Arlington, VA
2024 Grants Selection Committee – Young Investigator Awards, Panel B

Reviewer, ASA Biometrics Section — Winter 2024
2024 David P. Byar Young Investigator Award

Co-Developer / Co-Instructor of "Data Science for Health Research Specialization" — Launched Sep 2023
`https://www.coursera.org/specializations/data-science-for-health-research`

Oral Session Chair, 44th Annual Conference of the International Society for Clinical Biostatistics, Milan, Italy, August 2023

External Reviewer, Graduate School of Social Sciences, Vrije Universiteit Amsterdam — Dec 2022
Reviewer for go/no-go assessment of Santiago Gómez-Echeverry's PhD project

Specialist Reviewer, Department of Defense — Nov 2022, Virtual
2022 Prostate Cancer Research Program, DoD Congressionally Directed Medical Research Programs

Member, Data Safety Monitoring Board — 2017– 2022
mHealth to Improve Blood Pressure Control in Hypertensive African Americans (MI-BP)
(clinicaltrials.gov NCT02955537)

Specialist Reviewer, Department of Defense — Sep 2021, Virtual
2021 Prostate Cancer Research Program, DoD Congressionally Directed Medical Research Programs

Member, Data Safety Monitoring Board — 2019– 2020
Fibromyalgia and Morning Light Treatment study (Fibrolight)
(clinicaltrials.gov NCT03794908)

Reviewer, National Institutes of Health — Feb 2020, San Diego, CA
Cancer Biomarkers Study Section, National Cancer Institute

Reviewer, AVIESAN and the French National Cancer Institute — Aug 2019
Interdisciplinary approaches in oncogenic processes and therapeutic perspectives: Contributions of mathematics and informatics to oncology

Reviewer, National Institutes of Health — Apr 2019, Bethesda, MD
HEAL Initiative: Justice Community Opioid Innovation Network (JCOIN) Clinical Research Centers

Reviewer, ASA Biometrics Section — Winter 2019
2019 David P. Byar Young Investigator Award

Invited Academic Guest Editor, PLOS One — Winter 2019, Fall 2018

Discussant, National Institutes of Health — Mar 2018, Washington, DC
Senator Paul D. Wellstone Muscular Dystrophy Specialized Research Centers (MDSRCs)

JSM Contributed Session Chair — 2014 Joint Statistical Meetings, Boston, MA

JSM Docent — 2014 Joint Statistical Meetings, Boston, MA

JSM Invited Session Chair — 2012 Joint Statistical Meetings, San Diego, CA

JSM Contributed Session Chair — 2011 Joint Statistical Meetings, Miami Beach, FL

Memberships

American Statistical Association — since 2010

International Biometrics Society (Eastern North American Region) — since 2011

International Society for Clinical Biostatistics — since 2013

Outside Consulting

Extracorporeal Life Support Organization (ELSO) — 2019
(Ann Arbor, MI)

Design Research Engineering — 2016
(Novi, MI)