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Research Interests

Measurement error, design of clinical trials, survival analysis, statistical evaluation of diagnostic tests, infectious disease, nutritional and physical activity epidemiology

Education

University of Washington, Seattle, Washington, Ph.D., Biostatistics, 2006
Dissertation: Estimation methods for Cox regression with nonclassical covariate measurement error
Advisor: Ross Prentice, Ph.D.

University of Washington, Seattle, Washington, M.S., Mathematics, 1994

Grinnell College, Grinnell, Iowa, B.A., French and Mathematics, 1990

Professional Positions

Associate Professor, July 2016–Present, Department of Biostatistics and Epidemiology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA

Assistant Professor, July 2013–June 2016, Department of Biostatistics and Epidemiology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA

Mathematical Statistician, October 2006–June 2013, Biostatistics Research Branch, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD

Statistical Research Associate, October 2005–September 2006, Women's Health Initiative, Fred Hutchinson Cancer Research Center, Seattle, Washington

Research Assistant, January–October 2005, June 2002–June 2004, Biostatistics, Fred Hutchinson Cancer Research Center, Seattle, Washington

Teaching/Research Assistant, Winter 2003, Summer–Fall 2004, Department of Biostatistics, University of Washington, Seattle, Washington

Statistical Research Associate, December 1998–July 2001, Cancer Prevention Research Program and Southwest Oncology Group Fred Hutchinson Cancer Research Center, Seattle, Washington

Research Consultant, September 1994–December 1998, Columbia Basin Research, University of Washington School of Fisheries Seattle, Washington

Statistics Instructor, September 1994–March 1995, University of Washington Extension, Seattle, Washington

Research/Teaching Assistant, Autumn 1990–Spring 1994, Department of Mathematics, University of Washington, Seattle, Washington

Affiliate appointments

Affiliate Faculty, 2018-present, Department of Biology and Wildlife, College of Natural Science and Mathematics, University of Alaska Fairbanks

Publications

Refereed Articles (Methodology)

1. Xu R, Mehrotra D, **Shaw PA**. Hazard ratio inference in stratified clinical trials with time-to-event endpoints and limited sample size. *Pharmaceutical Statistics*, 2019 Jan 31; doi: 10.1002/pst.1928. [Epub ahead of print]
2. **Shaw PA**, Deffner V, Dodd KW, Freedman LS, Keogh RH, Kipnis V, Kuechenhoff H, and Tooze JA for the Measurement Error and Misclassification Topic Group (TG4) of the STRATOS Initiative: Epidemiologic analyses with error-prone exposures: Review of current practice and recommendations. *Annals of Epidemiology*, 2018; 28(11): 821-828.
3. **Shaw PA**. Use of composite outcomes to assess risk-benefit in clinical trials. *Clinical Trials*, 2018;15(4):352-8.
4. Freedman LS and **Shaw PA**.: On the formation and use of calibration equations in nutritional epidemiology- Discussion of the Paper by R. L. Prentice and Y. Huang. *Statistical Theory and Related Fields*, 2018; 2(1): 11-13.
5. Xu R, Mehrotra D, **Shaw PA**. Incorporating baseline measurement into the analysis of crossover trials with time-to-event endpoints. *Statistics in Medicine*, 2018 Oct; 37 (23): 3280-3292.
6. Oyama M, **Shaw PA**, and Ellenberg S.: Considerations for analysis of time-to-event outcomes subject to competing risks in veterinary clinical studies. *Journal of Veterinary Cardiology*, 20(3): 143-153, Jun 2018.
7. Oh E, Shepherd B, Lumley T, **Shaw PA**. Considerations for analysis of time-to-event outcomes Measured with Error: Bias and correction with SIMEX. *Statistics in Medicine*, 2018 Apr; 37(8): 1276-1289.
8. Xu R, **Shaw PA**, Mehrotra DV: Hazard Ratio Estimation in Small Samples. *Statistics in Biopharmaceutical Research* 10(2): 139-149, 2018.
9. Oyama MA, Ellenberg SS, **Shaw PA**. Clinical trials in veterinary medicine: A new era brings new challenges. *Journal of Veterinary Internal Medicine* 2017 Jul;31(4):970-978.
10. **Shaw PA**, Yancy W, Wesby L, Ulrich V, Troxel A, Huffman D, Foster GD, Volpp K. The design and conduct of Keep It Off: An online randomized trial of financial incentives for weight-loss maintenance. *Clinical Trials*, 2017 Feb; 14(1):29-36.
11. Anderson GL, Burns CJ, Larsen J, **Shaw PA**. Use of administrative data to increase the practicality of clinical trials: Insights from the Women's Health Initiative. *Clinical Trials*, 2016 Oct; 13(5):519-26.
12. **Shaw PA**, Fay MP: A rank test for bivariate event time outcomes when one event is a surrogate. *Statistics in Medicine*, 2016 Aug 30; 35(19):3413-23.
13. Wang L, **Shaw PA**, Mathelier HM, Kimmel SE, French B. Evaluating risk-prediction models using data from electronic health records. *Annals of Applied Statistics*, 2016 Mar;10(1):286-304.

14. **Shaw PA** and Proschan MA. Null but not void: Considerations for hypothesis testing. *Statistics in Medicine*, 2013, 32(2): 196-205.
15. Shepherd B, **Shaw PA** and Dodd L. Using audit Information to adjust parameter estimates for data errors in clinical trials. *Clinical Trials*, 2012 Dec; 9(6): 721-729.
16. **Shaw PA**, Prentice, RL. Hazard ratio estimation for biomarker-calibrated dietary exposures. *Biometrics*, 2012 Jun; 68(2): 397-407.
17. Lumley T, **Shaw PA**, Dai JY. Connections between survey calibration estimators and semiparametric models for incomplete data. *International Statistical Review*, 2011, 79 (2): 200–220.
18. Proschan MA, **Shaw PA**. Asymptotics of Bonferroni for dependent normal test statistics. *Statistics and Probability Letters*, 2011 Jul; 81: 739-748.
19. Fay MP, **Shaw PA**. Exact and asymptotic weighted logrank tests for interval censored data: the interval R package. *Journal of Statistical Software*, 2010 Aug; 36 (2): 1-34.
20. **Shaw PA**, Pepe MS, Alonzo TA, Etzioni R. Methods for assessing improvement in specificity when a biomarker is combined with a standard screening test. *Statistics of Biopharmaceutical Research*, 2009 Feb 1; 1 (1): 18-25.

Refereed Articles (Applications)

21. Jusko TA, van den Dries MA, Pronk A, **Shaw PA**, Guxens M, Spaan S, Jaddoe VW, Tiemeier H, and Longnecker MP: Organophosphate Pesticide Metabolite Concentrations in Urine during Pregnancy and Offspring Nonverbal IQ at Age 6 Years. *Environmental Health Perspectives* 127(1), Jan 2019 Notes: <https://doi.org/10.1289/EHP3024>.
22. **Shaw PA**, McMurray RG, Butte N, Sotres-Alvarez D, Sun H, Stoutenberg M, Evenson KR, Wong WW, Moncrieft AE, Sanchez-Johnsen LAP, Carnethon M, Arrendo EM, Mathews CE, Mossavar-Rahmani Y.: Calibration of accelerometer and self-reported measures of physical activity in the Hispanic Community Health Study/Study of Latinos. *Journal of Science and Medicine and Sport* 2019 Mar; 22(3), pp.300-306.
23. Ryan RM, Keller RL, Poindexter B, D'Angio CT, **Shaw PA**, Bellamy, Moore P, McPherson C, Greenberg JM. Respiratory Medications in Infants <29 Weeks during the First Year Post Discharge: The PROP Consortium. *The Journal of Pediatrics*, In press 2018.
24. Glanz K, **Shaw PA**, Hoffer K, Chung A, Zhu J, Wu R, Huang Q, Choi J, Volpp K.: The Healthy Weigh Study of Lottery-based Incentives and Environmental Strategies for Weight Loss: Design and Baseline Characteristics. *Contemporary Clinical Trials*, In press 2018
25. Kannan L, **Shaw P**, Morley M, Brandimarto J, Fang J, Sweitzer N, Cappola T, and Cappola A.: Thyroid Dysfunction in Heart Failure and Cardiovascular Outcomes. *Circulation: Heart Failure*, In press, 2018.
26. Gofshteyn J, **Shaw PA**, Teachey D, Grupp S, Maude S, Banwell B, Chen F, Lacey SF, Melenhorst JJ, Edmonson MJ, Panzer J, Barrett DM* and McGuire, J*. *co-senior authors. Neurotoxicity after CTL019 in a Pediatric and Young Adult Cohort. *Annals of Neurology*, 2018; 84(4): 537-546.
27. Yancy W, **Shaw PA**, Wesby L, Hilbert V, Yang Y, Troxel A, Huffman D, Foster GD, Volpp K. : Financial incentive strategies for maintenance of weight loss: Results from an internet-based randomized controlled trial. *Nutrition and Diabetes*, 8(1): 33, May 2018.
28. Kushner T, **Shaw PA**, Kalra A, Magaldi L, Monpara P, Bedi G, Krok K, Centkowski S, Dalldorf K, D'souza

- J, Halegoua-De Marzio D, Goldberg DS, Trooskin S, Levine LD, Srinivas SK, Lewis JD, Forde KA, Lo Re V 3rd: Incidence, determinants and outcomes of pregnancy-associated hepatitis B flares: A regional hospital-based cohort study. *Liver International* 38(5): 813-20, May 2018.
29. Elfassy T, Mossavar-Rahmani Y, Van Horn L, Gellman M, Sotres-Alvarez D, Schneiderman N, Daviglius M, Beasley JM, Liabre MM, **Shaw PA**, Prado G, Florez H, Al Hazzouri, AZ: Associations of Sodium and Potassium with Obesity Measures Among Diverse US Hispanic/Latino Adults: Results from the Hispanic Community Health Study/Study of Latinos. *Obesity*. 26(2): 442-450, Feb 2018.
 30. Keller RL, Feng R, DeMauro S, Ferkol T, Hardie B, Rogers EE, Stevens TP, Voynow JA, Bellamy SL, **Shaw PA**, Moore PE: Bronchopulmonary Dysplasia and Perinatal Characteristics Predict One-Year Respiratory Outcomes in Newborns at Extremely Low Gestational Age: A Prospective Cohort Study. *Journal of Pediatrics* 2017 Aug;187:89-97.
 31. Steytler J, **Shaw PA**, Pau AK, Khabo P, Joshi G, Oelofse P, and Phidisa 2 Study Team. Analysis of Site Heterogeneity and HIV Outcomes Across Rural and Urban Study Sites in Phidisa II - A Multi-site Randomized Controlled Antiretroviral Treatment Trial in a South African Military Cohort. *Current HIV Research* 2017 May;15(3):178-187.
 32. Rastogi D, Jung M, Strizich G, **Shaw PA**, Davis SM, Klein OL, Penedo FJ, Reis AL, Daviglius ML, Moreiras JJ, MA Salathe M, Celedón CC, Isasi CR, Kaplan RC. Association of systemic inflammation, adiposity, and metabolic dysregulation with asthma burden among Hispanic adults. *Respiratory Medicine*, 2017 Apr;125:72-81.
 33. Mossavar-Rahmani Y, J, Wang R, **Shaw PS**, Jung M, Sotres-Alvarez D, Castañeda SF, Gallo LC, Gellman MD, Qi Q, Ramos MD AR, Reid KJ, Van Horn PhD L, Patel SR. Actigraphic sleep measures and diet quality in the Hispanic Community Health Study/Study of Latinos Sueño ancillary study. *Journal of Sleep*, 2017; 26(6): 739-746.
 34. Mossavar-Rahmani Y, Sotres-Alvarez D, Wong W, Loria C, Gellman M, Van Horn L, Alderman M, Beasley J, Lora C, Siega-Riz AM, Kaplan R, **Shaw PA**. Applying recovery biomarkers to calibrate self-report measures of sodium and potassium in the Hispanic Community Health Study/Study of Latinos *Journal of Human Hypertension*, 2017; 31(7): 462-473, Jul 2017.
 35. Fitzgerald JC, Weiss SL, Maude SL, Barrett DM, Lacey S, Melenhorst J, **Shaw PA**, Berg RA, June CH, Porter D, Frey NV, Grupp SA, Teachey DT. Cytokine Release Syndrome After Chimeric Antigen Receptor T Cell Therapy for Acute Lymphoblastic Leukemia. *Critical Care Medicine*, 2017 Feb; 45(2), e124-e131.
 36. Jancel T, **Shaw PA**, Hallahan CW, Kim T, Freeman AF, Holland SM, Penzak SR. Therapeutic drug monitoring of posaconazole oral suspension in paediatric patients younger than 13 years of age: a retrospective analysis and literature review. *Journal of Clinical Pharmacy and Therapeutics*, 2017 Feb 1;42(1):75-9.
 37. Beasley JM, Jung M, Tasevska N, Wong WW, Siega-Riz AM, Sotres-Alvarez D, Gellman MD, Kizer JR, **Shaw PA**, Stamler J; Stoutenberg M, Van Horn L, Wylie-Rosett J, Mossavar-Rahmani Y. Biomarker-predicted sugars intake compared with self-reported measures in US Hispanics/Latinos: Results from the HCHS/SOL SOLNAS Study. *Public Health Nutrition*, 2016 Dec;19(18):3256-3264.
 38. Gopalan A, Paramanund J, **Shaw PA**, Patel D, Friedman J, Brophy C, Bottenheim AM, Troxel AB, Asch DA, Volpp KG. Randomised controlled trial of alternative messages to increase enrolment in a healthy food programme among individuals with diabetes. *BMJ Open*, 2016 Nov; 1;6(11):e012009.
 39. Gowda C, Coppock D, Brickman C, **Shaw PA**, Gross R.: Determinants of HIV Transmission Risk Among HIV-Infected Persons Engaged in Care. *AIDS Education and Prevention*, 2016 Oct; 28(5):440-452.

40. Gowda C, Brown T, Compher C, Forde K, Kostman J, **Shaw PA**, Tien P, Lo Re V: Prevalence and predictors of low muscle mass in HIV/viral hepatitis coinfection. *AIDS*, 2016 Oct 23; 30(16):2519-2528.
41. Wang GJ, **Shaw PA**, Townsend RR, Anderson AH, Xie D, Wang X, Nessel LC, Mohler ER, Sozio SM, Jaar BG, Chen J, Wright J, Taliencio JJ, Ojo A, Ricardo AC, Lustigova E, Fairman RM, Feldman HI, Ky B, and the CRIC Study Investigators: The associations between peripheral artery disease (PAD) and physical outcome measures in men and women with chronic kidney disease (CKD). *Annals of Vascular Surgery*, 2016 Aug; 35:111-20.
42. Teachey DT*, Lacey S*, **Shaw PA***, Melenhorst J*, Frey N, Barrett D, Chen F, Fitzgerald J, Gonzalez V, Maude S, Pequignot E, Weiss S, June C, Porter D, and Grupp S: Characterization of Cytokine Release Syndrome associated with CT019L therapy for Acute Lymphoblastic Leukemia. *Cancer Discovery*, 2016 Jun; 6(6):664-79. *co-first authors.
43. Fleshner M, Olivier KN, **Shaw PA**, Adjemian J, Strollo S, Claypool RJ, Folio L, Zelazny A, Holland SM, Prevots DR.: Mortality among Patients with Pulmonary Nontuberculous Mycobacterial Disease. *International Journal of TB and Lung Disease*, 2016 May; 20(5): 582-587.
44. Memoli MJ, **Shaw PA**, Han A, Czajkowski L, Reed S, Athota R, Bristol T, Fargis S, Risos K, Powers JH, Davey RT, Taubenberger JK. : Evaluation of Anti-Hemagglutinin and Anti-Neuraminidase Antibodies as Correlates of Protection in an Influenza A/H1N1 Virus Healthy Human Challenge Model. *mBio* April 2016; 7(2) doi: 10.1128/mBio.00417-16.
45. Wang GJ, **Shaw PA**, PhD, Townsend RR, Anderson AH, Xie D, Wang X, Nessel LC, , Mohler ER, Sozio SM, Jaar4 BG, Chen J, Wright J, Taliencio JJ, Akinlolu Do, Ricardo AC, Lustigova E, Fairman RM, Feldman HI, Ky B, and the CRIC Study Investigators. Sex Differences in the Incidence of Peripheral Artery Disease (PAD) in the Chronic Renal Insufficiency Cohort (CRIC). *Circulation: Cardiovascular Quality and Outcomes*, 2016 Jan; 9(1): S86-93.
46. Porter DL, Lacey S Grupp S, Hwang W-T, **Shaw PA**, Frey N, Melenhorst J, Chew A, Gonzalez V, Kalos M, Marcucci K, Maude S, Teachey D, Litchman M, Shen A, Wood P, Levine BL, June CH. Chimeric Antigen Receptor (CAR) T Cell Therapy for Relapsed/Refractory CLL. *Science Translational Medicine*, 2015 Sep; 7(303): 303ra139.
47. Poindexter B, Feng R, Schmidt B, Aschner JL, Ballard RA, Hamvas A, Reynolds AM, **Shaw PA**, Jobe A. Comparisons and Limitations of Current Definitions of Bronchopulmonary Dysplasia for the Prematurity and Respiratory Outcomes Program. *Annals of the American Thoracic Society*, 2015; 12(12), 1822-1830.
48. Wang GJ, **Shaw PA**, Mohler ER, Durinka JB, Layne AJ, Etherington MS, Sehgal CM, Fairman R, Ky B. The Role of Femoral Artery Ultrasound Measurements in Predicting Restenosis Following Endovascular Intervention. *Journal for Vascular Ultrasound*, 2015; 39(3): 127-132.
49. Mossavar-Rahmani Y, **Shaw PA**, Wong WW, Sotres-Alvarez D, Gellman MD, Van Horn L, Stoutenberg M, Daviglius ML, Wylie-Rosett J, Siega-Riz AM, Ou F, Prentice RL. Applying recovery biomarkers to calibrate self-report measures of energy and protein in the Hispanic Community Health Study/Study of Latinos. *American Journal of Epidemiology*, 2015; 181(12): 996-1007.
50. Spaan S, Pronk A, Koch HM, Jusko TA, Jaddoe VW, **Shaw PA**, Tiemeier HM, Hofman A, Pierik FH, Longnecker MP. Reliability of concentrations of organophosphate pesticide metabolites in serial urine specimens from pregnancy in the Generation R study. *Journal of Exposure Sciences and Environmental Epidemiology*, 2015; 25(3): 286-294.

51. Pryhuber GS, Maitre NL, Ballard RA, Cifelli D, Davis SD, Ellenberg JH, Greenberg JM, Kemp J, Mariani TJ, Panitch H, Ren C, Schmidt B, **Shaw PA**, Blaisdell C, Taussig L, Hamvas A. Prematurity and Respiratory Outcome Program (PROP): Study protocol of a prospective multicenter study of respiratory outcomes of premature infants in the United States. *BMC Pediatrics*, 2015; 15(37), doi:10.1186/s12887-015-0346-3.
52. Memoli JJ, Czajkowski L, Reed S, Bristol T, Proudfoot K, Fargis S, Stein M, Dunfee RL, **Shaw PA**, Taubenberger JK. Validation of a Wild-Type Influenza A Human Challenge Model: H1N1pdMIST, An A(H1N1)pdm09 Dose Finding IND Study. *Clinical Infectious Diseases*, 2015; 60(5): 693-702.
53. Maude SL, Frey N, **Shaw PA**, Aplenc R, Barrett DM, Bunin NJ, Chew A, Gonzalez VE, Zheng Z, Lacey SF, Mahnke YD, Melenhorst JJ, Rheingold SR, Shen A, Teachey DT, Levine BL, June CH, Porter DL, Grupp SA. Chimeric antigen receptor T cells for sustained remissions in leukemia. *New England Journal of Medicine*, 2014; 371: 1507-17.
54. Jusko TA, **Shaw PA**, Snijder CA, Pierik FH, Koch HM, Hauser R, Jaddoe VW, Burdorf A, Hofman A, Tiemeier H, Longnecker MP. Reproducibility of urinary bisphenol A concentrations measured during pregnancy in the Generation R. *Journal of Exposure Sciences and Environmental Epidemiology*, 2014; 24(5):532-6.
55. Price S, **Shaw PA**, Seitz A, Joshi G, Davis J, Niemela JE, Perkins K, Hornung RL, Folio L, Rosenberg PS, Puck JM, Hsu AP, Lo B, Pittaluga S, Jaffe ES, Fleisher TA, Rao VK, and Lenardo MJ. Natural history of Autoimmune Lymphoproliferative Syndrome associated with FAS gene mutations. *Blood*, 2014; 123(13): 1989-1999.
56. Olivier KN, **Shaw PA**, Glaser TS, Bhattacharyya D, Fleshner M, Brewer CC, Zalewski CK, Folio LR, Seigelman JR, Shallom S, Park IK, Sampaio EP, Zelazny AM, Holland SM, Prevots DR. Inhaled amikacin for treatment refractory pulmonary nontuberculous mycobacterial disease. *Annals of the American Thoracic Society*, 2014 Jan; 11(1):30-5.
57. Marques A, Telford SR, Turk S, Chung E, Williams C, Dardick K, Krause P, Brandenburg C, Crowder CD, Carolan HE, Eshoo MW, **Shaw PA**, Hu LT. Xenodiagnosis to detect *Borrelia burgdorferi* infection: A first-in-human study. *Clinical Infectious Diseases*, 2014; 58(7), 937-945.
58. Sowerwine KJ, **Shaw PA**, Gu W, Ling JC, Collins MT, Darnell DN, Anderson VL, Davis J, Hsu A, Welch P, Puck JM, Holland SM, Freeman AF. Bone Density and Fractures in Autosomal Dominant Hyper IgE Syndrome. *Journal of Clinical Immunology*, 2014 Feb;34(2):260-4.
59. Spinner MA, Sanchez LA, Hsu AP, **Shaw PA**, Zerbe CS, Calvo KR, Arthur DC, Gu W, Gould CM, Brewer CC, Cowen EW, Freeman AF, Olivier KN, Uzel G, Zelazny AM, Daub JR, Spalding CD, Claypool RJ, Giri NK, Alter BP, Mace EM, Orange JS, Cuellar-Rodriguez J, Hickstein DD, Holland SM. GATA2 Deficiency: A Protean Disorder of Hematopoiesis, Lymphatics and Immunity. *Blood*, 2014 Feb 6;123(6):809-21.
60. Lee M, Lee J, Carroll MW, Choi H, Min S, Song T, Via LE, Goldfeder LC, Kang E, Jin B, Park H, Kwak H, Kim H, Heon HS, Jeong I, Joh JS, Chen RY, Olivier KN, **Shaw PA**, Follmann D, Song SD, Lee JK, Lee DH, Kim CT, Dartois V, Park SK, Cho SN, Barry CE. Linezolid for Treatment of Chronic Extensively Drug-Resistant Tuberculosis. *New England Journal of Medicine*, 2012 Oct 18; 367(16):1508-1518.
61. Greenberg DE, Shoffner AR, Marshall-Batty KR, Arora K, Zhao M, Martin R, Ding L, Hammer CH, **Shaw PA**, Kuhns DB, Malech HL, Gallin JI, Zaramber KA, Holland SM. Serologic Reactivity to the Emerging Pathogen *Granulibacter bethesdensis*. *Journal of Infectious Diseases*. 2012 Sep 15;206(6):943-51.
62. Browne SK, Burbelo PD, Chetchotisakd P, Suputtamongkol Y, Kiertiburanakul S, **Shaw PA**, Kirk JL, Jutivorakool K, Zaman R, Ding L, Hsu AP, Patel SY, Olivier KN, Lulitanond V, Mootsikakupun P, Anunnatsiri, S, Angkasekwina N, Sathapatayavongs B, Hsueh P, Shieh C, Brown MR, Thongnoppakhun

W, Claypool R, Sampaio EP, Thepthai C, Waywa D, Dacombe C, Reizes Y, Zelazny AM, Saleeb P, Rosen L, Allen M, Iadarola M, Holland SM. Adult onset immunodeficiency in Thailand and Taiwan. *New England Journal of Medicine*, 2012 Aug 23;367(8):725-34.

63. Carroll MW, Lee M, Cai Y, Hallahan CW, **Shaw PA**, Min JH, Goldfeder LC, Alekseyev V, Grinkrug S, Kang HS, Hwang S, Park HM, Kang E, Lee SY, Jin B, Park HE, Min S, Park SK, Jeon DS, Via LE, Barry CE 3rd. Frequency of Adverse Reactions to First- and Second-line Anti-tuberculosis Chemotherapy in a Korean cohort. *The International Journal of Tuberculosis and Lung Disease*, 2012 Jul;16(7):961-6.
64. Zarembler KA, Marshall-Batty KR, Cruz AR, Chu J, Fenster ME, Shoffner AR, Rogge LS, Whitney AR, Czapiga M, Song HH, **Shaw PA**, Nagashima K, Malech HL, DeLeo FR, Holland SM, Gallin JI, Greenberg DE. Innate immunity against *Granulibacter bethesdensis*, an emerging Gram-negative bacterial pathogen, *Infection and Immunity*, 2012 Mar; 80 (3) 975-981.
65. Hsu AP, Dowdel KC, Davis J, Niemela JE, Anderson SM, **Shaw PA**, Rao VK, Puck JM. Autoimmune Lymphoproliferative Syndrome due to FAS mutations outside the signal transducing death domain: Molecular mechanisms and clinical penetrance. *Genetics in Medicine*. 2012 Jan; 14(1) 81-89.
66. Freeman AF, Mannino EA, **Shaw PA**, Davis J, Hsu AP, Welch P, Matta JR, Hadigan C, Pettigrew RI, Holland SM, Gharib AM. Coronary artery abnormalities in hyper IgE syndrome. *Journal of Clinical Immunology*, 2011 Jun; 31: 338-45.
67. Heimall J, Davis, J, **Shaw PA**, Hsu A, Gu W, Welch P, Holland SM, Freeman AF. Paucity of genotype-phenotype correlations in STAT3 mutation positive hyper IgE syndrome. *Clinical Immunology*, 2011 Apr; 139:75-84.
68. Prevots DR, **Shaw PA** Strickland D, Jackson LA, Raebel MA, Blosky MA, Montes de Oca R, Shea YR, Seltz AE, Holland SM Olivier KN. Nontuberculous mycobacterial lung disease prevalence at four integrated health care delivery systems. *American Journal of Respiratory Critical Care Medicine* 2010 Oct 1; 182 (7): 970-6.
69. **Shaw PA** Combination versus monotherapy for septic shock patients [Commentary]. *Critical Care Medicine*. 2010 Sep; 38 (9): 1905-6.
70. Komati S, **Shaw PA**, Stubbs N, Mathibedi MJ, Malan L, Metcalf JA, Masur H, Hassim S. Tuberculosis risk factors and mortality for HIV infected persons receiving antiretroviral therapy in South Africa. *AIDS*, 2010 Jul 31; 24 (12): 1849-55.
71. Greenberg DE, Marshall-Batty KR, Brinster LR, Zarembler KA, **Shaw PA**, Mellbye BL, Iversen PL, Holland SM, and Geller BL. Antisense phosphorodiamidate morpholino oligomers targeted to an essential gene inhibit *Burkholderia cepacia* complex. *Journal of Infectious Diseases*, 2010 Jun; 201 (12): 1822-30.
72. Hassim S, **Shaw PA**, Sangweni P, Malan L, Ntshani E, Mathibedi MJ, Stubbs N, Metcalf JA, Eckes R, Masur H, Komati S. Detection of a substantial rate of multidrug-resistant tuberculosis in an HIV-infected population in South Africa by active monitoring of sputum samples. *Clinical Infectious Diseases*, 2010 Apr 1; 50(7): 1053-9.
73. Marques A, **Shaw P**, Schmid CH, Steere A, Kaplan RF, Hassett A, Shapiro E, Wormser GP. Re: A randomized, placebo-controlled trial of repeated IV antibiotic therapy for Lyme encephalopathy. Prolonged Lyme disease treatment: enough is enough [Commentary]. *Neurology*, 2009 Jan 27;72 (4):383-4.
74. Prentice RL, **Shaw PA**, Bingham S A, Beresford SA, Caan B, Neuhaus ML, Patterson RE, Stefanick ML, Satterfield S, Thomson CA, Snetselaar L, Thomas A, Tinker LF. Biomarker-calibrated energy and

protein consumption and increased cancer risk among postmenopausal women. *American Journal of Epidemiology*, 2009 Apr 15;169(8):977-89.

75. Zonios DI, Falloon J, Bennett, JE, **Shaw PA**, Chaitt D, Baseler MW, Adelsberger JW, Metcalf JA, Polis MA, Kovacs SJ, Kovacs JA, Davey RT, Lane HC, Masur H, and Sereti I. Idiopathic CD4+ lymphocytopenia: natural history and prognostic factors. *Blood*, 2008 Jul 15; 112 (2): 287-94.
76. Neuhouser ML, Tinker L, **Shaw PA**, Schoeller D, Bingham SA, Van Horn L, Beresford SA, Caan B, Thomson C, Satterfield S, Kuller L, Heiss G, Smit E, Sarto G, Ockene J, Stefanick ML, Assaf A, Runswick S and Prentice RL. Use of recovery biomarkers to calibrate nutrient consumption self-reports in the Women's Health Initiative. *American Journal of Epidemiology*, 2008 May 15; 167 (10): 1247-59.
77. Jewett MW, Lawrence K, Bestor AC, Tilly K, Grimm D, **Shaw PA**, VanRaden M, Gherardini F, Rosa P A. The critical role of linear plasmid lp36 in the infection cycle of borrelia burgdorferi. *Molecular Microbiology* 2007 Jun; 64 (5):1358-74.
78. Etzioni R, Howlader N, **Shaw PA**, Ankerst DP, Penson DF, Goodman PJ, Thompson IM. Long-term effects of finasteride on PSA Levels: results from the Prostate Cancer Prevention Trial. *Journal of Urology* 2005 Sep; 174(3):877-81.
79. **Shaw PA**, Etzioni R, Zeliadt S, Mariotto A, Karnofski K, Penson D, Weiss N, Feuer E. Ecologic study of PSA screening and prostate cancer mortality in nine geographic areas of the US. *American Journal of Epidemiology* 2004; 160(11):1059-1069.
80. Etzioni R, Berry KM, Legler JM, **Shaw PA**. Prostate-specific antigen testing in black and white men: an analysis of Medicare claims from 1991-1998. *Urology* 2002 Feb; 59(2):251-5.
81. Zabel R, Anderson J, **Shaw P**. A multiple reach model to describe the migratory behavior of Snake River yearling chinook salmon. *Canadian Journal of Fisheries and Aquatic Sciences* 1998; 55(3): 658-667.

Methodology Articles in Preparation (submitted)

Giganti MJ, Shepherd BE, **Shaw PA**, Chen G, Bebawy SS, Turner MM, Sterling TR. Accounting for dependent errors in predictors and time-to-event outcomes using validation samples and multiple imputation.

Shaw PA, He J, and Shepherd BE. Regression calibration to correct correlated errors in outcome and exposure.

Keogh RH, **Shaw PA**, Gustafson P, Carroll RJ, Deffner V, Dodd KW, Kipnis V, Küchenhoff H, Tooze JA, Wallace MP, Freedman LS. STRATOS guidance document on measurement error and misclassification of variables in observational epidemiology: Part I – basic theory, validation studies and simple methods of adjustment

Shaw PA, Gustafson P, Carroll RJ, Deffner V, Dodd KW, Keogh RH, Kipnis V, Küchenhoff H, Tooze JA, Wallace MP, Freedman LS. STRATOS guidance document on measurement error and misclassification of variables in observational epidemiology: Part II – sample size, more complex methods of adjustment and advanced topics.

Books

Proschan MA and **Shaw PA**. *Essentials of Probability Theory for Statisticians*. Chapman & Hall/CRC Texts in

Statistical Science, March 2016.

Book Chapters and other non-Refereed Scholarly Publications

Wakim PG and **Shaw PA**. Data and Safety Monitoring. Chapter 10 In: Gallin JI, Ognibene FP. *Principles and Practice of Clinical Research*, 4th Edition. Elsevier Inc.: Academic Press, 2018.

Shaw PA, Lee Johnson L, Borkowf CB. Issues in Randomization. Chapter 23 In: Gallin JI, Ognibene FP. *Principles and Practice of Clinical Research*, 4th Edition. Elsevier Inc.: Academic Press, 2018.

Lee Johnson L, Borkowf CB, **Shaw PA**. Hypothesis Testing. Chapter 24 In: Gallin JI, Ognibene FP. *Principles and Practice of Clinical Research*, 4th Edition. Elsevier Inc.: Academic Press, 2018.

Shaw PA, Lee Johnson L, Proschan MA. Intermediate Topics in Biostatistics. Chapter 27 In: Gallin JI, Ognibene FP. *Principles and Practice of Clinical Research*, 4th Edition. Elsevier Inc.: Academic Press, 2018.

Mossavar-Rahmani Y, Tinker LF, Neuhaus ML, Huang Y, **Shaw P**, Beasley JM, Di C, Zheng C, Li W, Johnson K, and Prentice RL. Women's Health Initiative Dietary Modification Trial: Update and Application of Biomarker Calibration to Self-Report Measures of Diet and Physical Activity In: N. Balakrishnan, ed., *Methods and Applications of Statistics in Clinical Trials, Volume 1: Concepts, Principles, Trials, and Designs*. John Wiley and Sons; 2013.

Shaw PA. The appropriate use of statistics in biological sciences. *The American Association of Immunologists Newsletter*, 2010, March/April.

Anderson J, Hayes J, **Shaw P**, Zabel R. *Columbia River Salmon Passage Model. CRISP1.5 Theory, Calibration and Validation Manual*. Columbia Basin Research, Seattle, WA, 1996.

Shaw P. *Gas saturation and sensitivity using CRISP. Dissolved Gas Abatement Study Phase I*, Army Corps of Engineers Technical Report, Portland, Oregon, 1996.

Presentations

"Understanding and tackling measurement error: a whistle stop tour of modern practical methods, Instructor for Professional Development Continuing Education Course, American Statistical Association (ASA) Section on Statistics in Epidemiology," Joint Statistical Meeting, Denver, CO, August 2019.

"Methods to address correlated covariate and time-to-event measurement error", Invited Presentation, International Biometric Society, WNAR, Annual Meeting, Portland, OR. June 2019.

"Use and misuse of predicted values in epidemiologic data analyses: Examples from the Hispanic Community Health Study", General Meeting of the STRATOS initiative, Measurement Error and Misclassification Topic Group (TG4) Session, Banff, Canada. June 4-7, 2019

"Assessing Efficacy for an interval-censored bivariate failure time outcome when one event is a surrogate." 2019 Conference on Lifetime Data Science: Foundations and Frontiers, Pittsburgh, PA, May 31, 2019

"Estimation methods to address correlated covariate and time-to-event error", University of Waterloo Statistics and Biostatistics Seminar, Waterloo, Canada, April 4, 2019.

"Estimation methods to address correlated covariate and time-to-event error", 5th Conference of the Deutsche Arbeitsgemeinschaft Statistik (DAGStat 2019), Munich, Germany March 20, 2019.

"Raking and regression calibration: methods to address bias induced from correlated covariate and time-to-event error", National Cancer Institute Biostatistics Branch Seminar, Rockville, MD November 7, 2018.

"Methods to address measurement error in time-to-event outcomes in observational studies" National Cancer Institute Workshop: Methodological Issues in Measurement Error, Rockville, MD November 5, 2018.

"Calibration of Isotope ratio data " ISOECOL 2018 Workshop: Approaches to improve the reproducibility of amino acid stable isotope analyses, Vina del Mar, Chile. August 4, 2018.

"On the use of raking to improve regression calibration: a flexible method to address error-induced bias efficiently", American Statistical Association Joint Statistical Meeting, Vancouver, BC, July 31, 2018.

"Considerations for Analysis of Time-to-Event Outcomes Measured with Error", Laurence Freedman Seminar Symposium on Clinical Trials and Measurement Error, Gertner Institute for Epidemiology and Health Policy Research, Tel Hashomer, Israel. February 13, 2018.

"Statistical methods to address measurement error in observational studies: current practice and opportunities for improvement", Joint Conference on Biometrics & Biopharmaceutical Statistics, Central European Network of the International Biometrics Society, Vienna, Austria August 31, 2017

"Understanding and tackling measurement error: a whistle stop tour of modern practical methods." Education for Statistics in Practice Short Course, Joint Conference on Biometrics & Biopharmaceutical Statistics, Central European Network of the International Biometrics Society, Vienna, Austria, August 30, 2017

"Measurement Error in Nutritional Epidemiology: Impact, Current Practice for Analysis, and Opportunities for Improvement", 9th Annual Meeting for the Eastern Mediterranean Region of the International Biometric Society, Thessaloniki, Greece, May 10, 2017

"Choosing Monitoring Boundaries: Balancing Risks and Benefits", 10th Annual Conference on Statistical Issues in Clinical Trials, University of Pennsylvania, Philadelphia, PA April 19, 2017

"Measurement Error and Misclassification: Understanding and Improving Current Practice", Health - Exploring Complexity: An Interdisciplinary Systems Approach (HEC 2016), Joint Annual Meeting of GMDS & DGEpi & IEA-EEF; Munich, Germany. Sep 1, 2016

"Measurement Error and Misclassification: Understanding and Improving Current Practice", General Meeting of the STRATOS initiative "Developing a Comprehensive, Integrated Framework for Advanced Statistical Analyses of Observational Studies", Banff, Canada. July 5, 2016

"Methods to adjust for correlated errors in outcome and exposure in survival analysis", Department of Epidemiology and Biostatistics, Memorial Sloan-Kettering Cancer Center, Oct 21, 2015

"Regression Calibration to Correct Correlated Errors in Outcome and Exposure, with application in Nutritional Epidemiology", Invited Speaker, Penn State College of Medicine, Public Health Sciences, Hershey, PA, September 30, 2015

"Using An Objective Biomarker of Activity-Related Energy Expenditure To Develop A Calibrated Measure of Physical Activity In The Hispanic Community Health Study/Study of Latinos (HCHS/SOL)", 9th International Conference on Diet and Activity Methods (ICDAM9), Brisbane, Australia, September 3, 2015.

"Calibration of Accelerometer and Self-Reported Measures of Physical Activity Using Biomarker data in the Hispanic Community Health Study/Study of Latinos." (poster presentation) International Conference

on Ambulatory Monitoring of Physical Activity and Movement (ICAMPAM), Limerick Ireland June 2015.

"Engineered T Cell Therapy for Relapsed/ Refractory Acute Lymphoblastic Leukemia", Invited Speaker, Clinical Trials Affinity Group, Fred Hutchinson Cancer Research Center, Seattle, WA, March 30, 2015

"Extending regression calibration to adjust for correlated errors in outcome and exposure ", Invited Seminar, Department of Biostatistics, University of Vanderbilt, Nashville, TN, October 8, 2014

"Regression Calibration to Correct Correlated Errors in Outcome and Exposure", Joint Statistical Meeting, Boston, MA, August 2014.

"An analysis approach to correct for correlated errors in outcome and exposure" Invited seminar, Quantitative Health Sciences, Cleveland Clinic, Cleveland, OH, June 27, 2014.

"A novel rank test for a bivariate failure time outcomes when one event is a surrogate." Invited Speaker, Department of Biostatistics, University of Washington, Seattle, WA, Oct 31, 2013.

Department of Biostatistics Alumni Career Panel, Invited Speaker, University of Washington, Seattle, WA, Oct 30, 2013.

"A novel rank test for bivariate outcomes when one is a surrogate." Invited speaker, 59th World Statistics Congress of the International Statistical Institute, Hong Kong. August 2013.

"Methods of analysis for failure time data that adjust for errors in survival outcomes revealed by audits." Invited speaker, Joint Statistical Meeting, Montreal, Canada. August 2013.

"A randomized delayed start trial of linezolid in patients with extensively drug-resistant tuberculosis: Issues in design and analysis." Invited speaker, Harvard School of Public Health Pharmaceutical & Regulatory Sciences Workshop, Boston, MA. May 2013.

"A novel rank test for a time-to-event outcome that incorporates information on a surrogate event." Invited Seminar, New York University School of Medicine, Division of Biostatistics. December 2012.

"A novel rank test for a time-to-event outcome that incorporates information on a surrogate event." University of Pennsylvania Perelman School of Medicine, Invited Seminar, Division of Biostatistics. November 2012.

"Using audit Information to adjust parameter estimates for data errors in clinical trials." International Biometric Society, WNAR Annual Meeting, Fort Collins, CO. June 2012.

"Novel rank test for bivariate interval-censored outcomes with applications." Invited Seminar, Department of Biostatistics, University of Pittsburgh, Pittsburgh, PA. November 2011.

"Null but not void." Joint Statistical Meeting, Miami Beach, Florida. August 2011.

"Novel rank test for bivariate interval-censored outcomes." International Biometric Society, ENAR, Annual Meeting, Miami, Fl. March 2011.

"Novel rank test for bivariate interval-censored outcomes." Joint Statistical Meeting, Vancouver, Canada. August 2010.

"Covariate measurement error in Cox regression: Lessons learned from an example in nutritional epidemiology." Invited Presentation, International Biometric Society, WNAR, Annual Meeting, Seattle, WA. June 2010.

"Use of statistics in biological sciences publications." Invited seminar, Scientific Publishing Workshop, American Association of Immunologists Annual Meeting, Seattle, WA. May 2009.

"Statistical challenges in estimating diet-disease associations: An example from the Women's Health Initiative." Invited seminar, Albert Einstein College of Medicine, Department of Epidemiology & Population Health, New York, New York January, 2009.

"Methods for assessing improvement in specificity when a biomarker is combined with a standard screening test." Invited presentation, Joint Statistical Meeting, Denver, CO. August 2008.

"Methods for assessing improvement in specificity when a biomarker is combined with a standard screening test." Contributed presentation, International Society for Clinical Biostatistics. Copenhagen, Denmark. August 2008.

"Methods for Cox regression with non-classical measurement error in the covariates with an application to nutritional epidemiology." Contributed presentation, Joint Statistical Meeting, Salt Lake City, UT. August 2007.

"Applications of mathematics and statistics in the health sciences." Invited Presentation, Rhodes College Math Department, Memphis, TN. March 2007.

"On estimating the relationship between diet and disease." Invited Presentation for Women in Math and Science Panel, University of Memphis Center for Research on Women, Memphis, TN. March 2007.

"Estimation methods for Cox regression with non-classical measurement error." Contributed presentation, International Biometric Society, ENAR, Annual Meeting, Tampa, Florida. March 2006.

"Evaluating diagnostic accuracy of a combination test when disease status is verified only on positive screenees." Contributed presentation, International Biometric Society, WNAR, Annual Meeting, Fairbanks, Alaska. June 2005.

"Ecologic study of PSA screening and prostate cancer mortality in nine geographic Areas of the US." Contributed presentation, International Biometric Society, WNAR, Annual Meeting, Albuquerque, New Mexico. June 2004.

"The Web-based management of the Selenium and Vitamin E Cancer Prevention Trial." Contributed Presentation, Society for Clinical Trials, Annual Meeting, Denver, CO. May 2001

"The design of the Selenium and Vitamin E Chemoprevention Trial (SELECT)." Contributed Presentation, Society for Clinical Trials, Annual Meeting, Toronto, Canada. April 2000.

"Serial PSA screening for prostate cancer: a computer model evaluates competing strategies." Contributed Presentation, American Urological Association Annual Meeting, Dallas, Texas. May 1999.

"Temperature analysis tools at Columbia Basin Research." Columbia/Snake River Mainstem Water EPA Temperature Workshop. Portland, Oregon, November 1997.

"Modeling total dissolved gas and its effects on salmon." 16th Annual North American Resource Modeling Association Meeting, Seattle, Washington, June 1997.

Teaching Experience

- Guest Lecturer, "Missing data and Intent to Treat", EPID 640 Advanced Topics in Epidemiology, Department of Biostatistics, Epidemiology and Informatics, University of Pennsylvania Perelman

- School of Medicine, Feb 6, 2019
- Guest Lecturer, "Competing Risks" for EPID 638 Advanced Topics in Clinical Trials, Department of Biostatistics and Epidemiology, University of Pennsylvania Perelman School of Medicine, November 27 2018
- Guest Lecturer, "Missing data and Intent to Treat", EPID 640 Advanced Topics in Epidemiology, Department of Biostatistics, Epidemiology and Informatics, University of Pennsylvania Perelman School of Medicine, Feb 21, 2018
- Guest Lecturer, "Tables and Figures", BSTA 511 Biostatistics in Practice, Department of Biostatistics, Epidemiology and Informatics, University of Pennsylvania Perelman School of Medicine, Jan 31, 2018
- Course Director, BSTA 620 Probability, Department of Biostatistics and Epidemiology, University of Pennsylvania Perelman School of Medicine, Fall 2015-2017
- Guest Lecturer, "Missing Data" for EPID 638 Advanced Topics in Clinical Trials, Department of Biostatistics and Epidemiology, University of Pennsylvania Perelman School of Medicine, February 1, 2017
- Guest Lecturer, "Missing Data" for EPID 640 Advanced Topics in Epidemiology, Department of Biostatistics and Epidemiology, University of Pennsylvania Perelman School of Medicine, December 2, 2016
- Lecturer, "Data Safety Monitoring", Introduction to the Principles and Practices of Clinical Research, NIH Clinical Center, January 5, 2016
- Discussion Leader, Radiation Oncology Residents Journal Club, University of Pennsylvania Perelman School of Medicine January 23, 2015
- Co-Instructor, Biostatistics for Epidemiologic Methods II, Biostatistics for Epidemiologic Methods, University of Pennsylvania Perelman School of Medicine Winter 2015
- Lecturer, "Data Safety Monitoring", Introduction to the Principles and Practices of Clinical Research, NIH Clinical Center, January 13, 2015
- Guest Lecturer, EPID 638 Advanced Topics in Clinical Trials, Department of Biostatistics and Epidemiology, University of Pennsylvania Perelman School of Medicine, December 2, 2014
- Instructor, Independent Study-Selected Topics in Survival Analysis, University of Pennsylvania Perelman School of Medicine, Spring 2015
- Instructor, Independent Study-Propensity Score Analysis, University of Pennsylvania Perelman School of Medicine, Fall 2014
- Discussion leader, Penn Reading Project, University of Pennsylvania, August 25, 2014.
- Co-Instructor, Biostatistics for Epidemiologic Methods II, Biostatistics for Epidemiologic Methods University of Pennsylvania School of Medicine Winter 2014
- Co-Instructor, Clinical Translational Research, Study Design Module, NIH, July 2013
- Lecturer, "Data Safety Monitoring", Introduction to the Principles and Practices of Clinical Research, NIH Clinical Center, February 26, 2013
- Guest Lecturer, "Randomization", Stat 6289 Clinical Trials, George Washington University, Feb 7, 2013
- Co-Instructor, Introduction to the Principles and Practices of Clinical Research, NIH/India Ministry of Science and Technology in New Delhi, India October 2012
- Co-Instructor, Clinical Translational Research, Study Design Module, NIH, July 2012
- Co-Instructor, Introduction to Probability Theory, Informal reading course with NIH Intramural Research Trainee, Fall 2010-Winter 2011
- Guest Lecturer, "Methods for Measurement Error in Survival Analysis", Biost 578 Measurement Error and Misclassification, Department of Biostatistics, University of Washington, Spring 2006
- Teaching Assistant, Department of Biostatistics, University of Washington, 2002-2005
 - Biost 511 Medical Biometry I
 - Biost 537 Survival Analysis in Epidemiology
 - Biost 570 Advanced Generalized Linear Models I
- Instructor, University of Washington Extension 1994-1995
 - Stat 220 Basic Statistics
 - Stat 311 Elements of Statistical Methods
- Instructor, Department of Mathematics, University of Washington
 - Summer 1991-1994, Fall 1993
 - Math 124-125 Calculus with Analytic Geometry I,II

- Math 308 Matrix Algebra with Applications
- Teaching Assistant, Department of Mathematics, University of Washington,
Fall 1990-Spring 1994
- Math 120 Precalculus
- Math 124-126 Calculus with Analytic Geometry I,II,II
- Math 554 Linear Analysis

Mentoring

PhD Dissertation Committee Chair for Nicholas Illenberger, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2019-present

PhD Dissertation Advisor for Lilian Boe, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2018-present

PhD Dissertation Committee Member for Lu Huang, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2018-present

Master's Thesis Advisor for Nicholas Illenberger, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2018-present

Academic Advisor for Francesca Mandel, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania Perelman School of Medicine, 2018-present

Biostatistics Lab Rotation Research Advisor for Lilian Boe, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania Perelman School of Medicine, 2017-2018

PhD Dissertation Committee Member for Le Wang, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2017-2018

Academic Advisor for Lilian Boe, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania Perelman School of Medicine, 2017-2018

Master's Thesis Advisor for Mackenzie Edmondson, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2017-2018

Master's Thesis Advisor for Raul Torres Allende, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2017-2018

PhD Dissertation Advisor for Eric Oh, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2017-present

Biostatistics Lab Rotation Research mentor for Nicholas Illenberger, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, Fall 2017

Biostatistics Lab Rotation Research mentor for Joanna Milton, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, Spring 2017

MSCE Thesis Committee Member for Refilwe Senyatso, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2016-present

Biostatistics Research mentor for Eric Oh, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2015-2017

PhD Dissertation co-Advisor for Emily Xu, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2014-2017

MSCE Thesis Committee Member for Tatyana Kushner, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2014-2016

MSCE Thesis Committee Member for Erwin Calgua Guerra, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2013-2016

MSCE Thesis Committee Member for Grace Wang, MD, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2014-2015

Biostatistics Advisor for Victoria Ulrich, MPH student, Graduate Program in Public Health, University of Pennsylvania Perelman School of Medicine, 2014

Research Assistant Mentor for Jiwei He, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2013-2014

MSCE Thesis Committee Member for Hilda Fernandez, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2013-2014

MSCE Thesis Committee Member for Caritha Gowda, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2013-2014

Local Committee Membership

Chair, Admissions Committee, Division of Biostatistics, University of Pennsylvania Perelman School of Medicine, 2019-present

Co-Chair, Admissions Committee, Division of Biostatistics, University of Pennsylvania Perelman School of Medicine, 2017-present

Admissions Committee, Division of Biostatistics, University of Pennsylvania, 2016-present

Service Center Committee, Center for Clinical Epidemiology and Biostatistics, Perelman School of Medicine, University of Pennsylvania, 2014-present

Computing Committee, Division of Biostatistics, University of Pennsylvania, 2013-present

Data and Safety Monitoring Board, Wellth Trial, University of Pennsylvania (S. Kimmel, PI) (Member), 2017-present

Data and Safety Monitoring Board, Reducing Proviral HIV DNA With Interferon-a (BEAT-HIV), L. Montaner, PI), Wistar Institute, 2014-2018

Data and Safety Monitoring Board, University of Pennsylvania Cancer Center (UPCC) 31213 (CART-meso in mesothelin expressing cancers; A. Haas, PI) (Member) 2014-2018

Division of AIDS Prevention Science Review Committee, NIAID, NIH, 2007- 2013

Laboratory of Clinical Infectious Diseases Scientific Review Committee, NIAID, NIH, 2007-2013

Laboratory of Infectious Diseases Scientific Review Committee, NIAID, NIH, 2011-2013

Institutional Review Board, Alternate member, NIAID, NIH, 2011-2013

National and International Committee Membership

Chair-Elect, Biometrics Section of the American Statistical Association, 2019-present

Bone, Reproductive, and Urologic Drugs Advisory Committee (BRUDAC), US Food and Drug Administration, 2017-present

Data and Safety Monitoring Board, VA Cooperative Study, CSP 594: Comparative Effectiveness in Gout: Allopurinol vs. Febuxostat, 2017-present

Data and Safety Monitoring Board, PCORI funded Study, I-STOP-AFib, UCSF (PI Gregory M Marcus), 2017-present

Representative to the Council of Sections, Biometrics Section of the American Statistical Association, 2017-present

Data and Safety Monitoring Board, National Institute of Allergy and Infectious Diseases (NIAID) Transplant Standing DSMB, 2015-present

Innovation in Palliative Care (IPC) Committee, Cystic Fibrosis Foundation, 2013- present

Therapeutics Clinical Research Committee, Cystic Fibrosis Foundation, 2011- present

Organizing roles in Scientific Meetings

Program Chair, Eastern North American Region International Biometric Society, Philadelphia, PA, March 2019

Organizing Committee Member, Statistical Challenges and Opportunities in HIV/AIDS Research in the Era of Getting-to-Zero HIV Infection Conference, Philadelphia, March 2019

Organizing Committee Member, NCI Workshop on Methodological Issues in Measurement Error, NCI, Bethesda, MD November 4-5, 2018

Organizer, Invited Session 215173, American Statistical Association Joint Statistical Meeting Vancouver, Canada July 2018

Committee Chair, The International Biometric Conference (IBC) Young Statisticians Showcase Award Barcelona, Spain, July 2018

Conference Organizer for University of Pennsylvania Center for Clinical Epidemiology and Biostatistics Annual Conference on Statistical Issues in Clinical Trials, 2014- present

Session Chair, Contributed Session 16, Adaptive Designs and Internal Pilot Studies, Society for Clinical Trials Annual Meeting, Arlington, VA, May 20, 2015

Program Committee, Society for Clinical Trials Annual meeting, 2015

Session Moderator, "Statistical Issues in Pragmatic Trials", University of Pennsylvania Conference on Statistical Issues in Clinical Trials, Philadelphia, PA, April 15, 2015.

Session Moderator, "Current Issues Regarding the Use of Biomarkers and Surrogate Endpoints in Clinical Trials", University of Pennsylvania Conference on Statistical Issues in Clinical Trials, Philadelphia, PA, April 8, 2014

Session Chair, Contributed Session 70, Generalized Linear and Nonlinear Mixed Models, ASA Joint Statistical Meeting Boston, MA, 2014

Invited Session Organizer, Number 71, "Challenges in Time-to-Event Outcome Assessments: Issues and Methods of Analysis," ASA Joint Statistical Meeting, Montreal, Canada, August 2013

Panel Discussion Facilitator, "Building future generations of biostatisticians through ongoing biomedical research projects," Strengthening Biostatistics Resources in sub-Saharan Africa Workshop, Gaborone, Botswana June 22-23, 2011

Workshop Organizer for Strengthening Biostatistics Resources in sub-Saharan Africa, Gaborone, Botswana 2011

Editorial Service

Associate Editor, *Trials*, 2018-present

Editorial Board member, *Statistical Communications in Infectious Diseases (SCID)*, 2015-present

Standing Statistical Reviewer, *JAMA Network Open*, 2017-present

Reviewer, *Statistics in Biopharmaceutical Research*, 2007-2009

Reviewer, *Biometrics*, 2007-present

Reviewer, *Critical Care Medicine*, 2008-present

Reviewer, *Statistics in Medicine*, 2009 - present

Reviewer, *American Journal of Epidemiology*, 2010

Reviewer, *Lifetime Data Analysis*, 2010

Reviewer, *Biostatistics*, 2011

Reviewer, *PLoS ONE*, 2011- present

Reviewer, *Biomed Central*, 2012

Reviewer, *Biometrical Journal*, 2013 - present

Reviewer, *Nature Biotechnology*, 2013 - present

Reviewer, *Epidemiology*, 2014 - present

Reviewer, *Statistical Methods in Medical Research*, 2017-present

Professional Memberships

American Statistical Association, 2004- present

International Biometric Society, Eastern North American Region (ENAR), 2010-present

Society for Clinical Trials, 2010-present

Academic Awards and Honors

Sandy Norman Teaching Award, Department of Biostatistics and Epidemiology, University of Pennsylvania, Philadelphia, PA, 2014

Blood Plenary Paper, 2014. Natural history of autoimmune lymphoproliferative syndrome associated with

FAS gene mutations. Blood 123(13): 1989-1999, 2014

Blood Plenary Paper. GATA2 deficiency: a protean disorder of hematopoiesis, lymphatics, and immunity. Blood 123(6): 809-821, 2014

NIH Merit Award, National Institute of Allergy and Infectious Diseases, 2013-2014

Senior Student Award, Department of Biostatistics, University of Washington, 2006

National Institutes of Health Cancer Epidemiology and Biostatistics Trainee, 2001-2006

Graduation with Honors, French and Mathematics, Grinnell College, 1990

Phi Beta Kappa, 1989

Grinnell College Trustee Merit Scholarship