

# Ted Westling, PhD

## Contact

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## Current position

<b>Assistant Professor</b> Department of Mathematics and Statistics University of Massachusetts Amherst	2019 - present
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## Education

<b>University of Washington</b> , Seattle, WA Doctor of Philosophy in Statistics	2013 - 2018
<b>Stanford University</b> , Stanford, CA Bachelor of Science with Honors in Mathematics	2008 - 2012

## Publications and Manuscripts

### Statistical theory and methodology

**Westling, T.**, Luedtke, A., Gilbert, P., and Carone, M. (2023). Inference for treatment-specific survival curves using machine learning. *Journal of the American Statistical Association*, accepted. arXiv:[2106.06602](https://arxiv.org/abs/2106.06602)

**Westling, T.**, Downes, K. J., and Small, D. (2023). Nonparametric maximum likelihood estimation under a likelihood ratio order. *Statistica Sinica*, 33, 1–19. doi:[10.5705/ss.202020.0207](https://doi.org/10.5705/ss.202020.0207)

**Westling, T.** (2022). Nonparametric tests of the causal null with nondiscrete exposures. *Journal of the American Statistical Association*, 117(539):1551–1562, doi:[10.1080/01621459.2020.1865168](https://doi.org/10.1080/01621459.2020.1865168)

Balzer, L. and **Westling, T.** (2021). Demystifying Statistical Inference When Using Machine Learning in Causal Research. *American Journal of Epidemiology*, kwab200. doi:[10.1093/aje/kwab200](https://doi.org/10.1093/aje/kwab200)

Ng, T. L., Murphy, T. B., **Westling, T.**, McCormick, T. H., and Fosdick, B. K. (2021). Modeling the social media relationships of Irish politicians using a generalized latent space stochastic blockmodel. *Annals of Applied Statistics*, 15(4):1923–1944. doi:[10.1214/21-AOAS1483](https://doi.org/10.1214/21-AOAS1483)

**Westling, T.**, van der Laan, M. J., and Carone, M. (2020). Correcting an estimator of a multivariate monotone function with isotonic regression. *Electronic Journal of Statistics*, 14(2):3032–3069. doi:[10.1214/20-EJS1740](https://doi.org/10.1214/20-EJS1740)

**Westling, T.**, Gilbert, P., and Carone, M. (2020). Causal isotonic regression. *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, 82(3):719–747. doi:[10.1111/rssb.12372](https://doi.org/10.1111/rssb.12372)

**Westling, T.** and Carone, M. (2020). A unified study of nonparametric inference for monotone functions. *Annals of Statistics*, 48(2):1001–1024. doi:[10.1214/19-AOS1835](https://doi.org/10.1214/19-AOS1835)

**Westling, T.**, Juraska, M., Seaton, K., Tomaras, G., Gilbert, P., and Janes, H. (2020). Methods for comparing durability of immune responses between vaccine regimens in early-phase trials. *Statistical Methods in Medical Research*, 29(1):78–93. doi:[10.1177/0962280218820881](https://doi.org/10.1177/0962280218820881)

**Westling, T.** and McCormick, T. H. (2019). Beyond Prediction: A Framework for Inference With Variational Approximations in Mixture Models. *Journal of Computational and Graphical Statistics*, 28(4):778–789. doi:[10.1080/10618600.2019.1609977](https://doi.org/10.1080/10618600.2019.1609977)

Fosdick, B. K., McCormick, T. H., Murphy, T. B., Ng, T. L., and **Westling, T.** (2019). Multiresolution Network Models. *Journal of Computational and Graphical Statistics*, 28(1):185–196. doi:[10.1080/10618600.2018.1505633](https://doi.org/10.1080/10618600.2018.1505633)

#### Scientific publications

Ramgopal S., **Westling T.**, Siripong N., Salcido D., Martin-Gill C. (2021). Use of a metalearner to predict emergency medical services demand in an urban setting. *Computational Methods and Programs in Biomedicine*, 207:106201. doi:[10.1016/j.cmpb.2021.106201](https://doi.org/10.1016/j.cmpb.2021.106201)

Fisher, B. T., **Westling, T.**, Boge, C. K., et al. (2021). Prospective Evaluation of Galactomannan and (1→3)  $\beta$ -D-Glucan Assays as Diagnostic Tools for Invasive Fungal Disease in Children, Adolescents and Young Adults with Acute Myeloid Leukemia Receiving Fungal Prophylaxis. *Journal of the Pediatric Infectious Diseases Society*, 10(8):864–871. doi:[10.1093/jpids/piab036](https://doi.org/10.1093/jpids/piab036)

**Westling, T.**, Cowden, C., Mwananyanda, L., et al. (2020). Impact of Chlorhexidine Baths on Suspected Sepsis and Bloodstream Infections in Hospitalized Neonates in Zambia. *International Journal of Infectious Diseases*, 96:54–60. doi:[10.1016/j.ijid.2020.03.043](https://doi.org/10.1016/j.ijid.2020.03.043)

Harbison, R. A., Gray, A. J., **Westling, T.**, Carone, M., Rodriguez, C. P., Futran, N., Cannon, R., and Houlton, J. J. (2020). The role of elective neck dissection in high-grade parotid malignancy: a hospital-based cohort study. *The Laryngoscope*, 130:1487–1495. doi:[10.1002/lary.28238](https://doi.org/10.1002/lary.28238)

Camargo, Yousem, K., **Westling, T.**, Carone, M., and Yousem, D.M. (2019). Ethical Dilemmas in Radiology: Survey of Opinions and Experiences. *American Journal of Roentgenology*, 213(6): 1274–1283. doi:[10.2214/AJR.19.21121](https://doi.org/10.2214/AJR.19.21121)

Saranya, S., Luedtke, A., Langevin, E., Zhu, M., Bonaparte, M., Machabert, T., Savarino, S., Zambrano, B., Moureau, A., Khromava, A., Moodie, Z., **Westling, T.**, Mascareñas, C., Frago, C., Cortés, M., Chansinghakul, D., Noriega, F., Bouckenoghe, A., Chen, J., Ng, S.-P., Gilbert, P. B., Gurunathan, S., DiazGranados, C. A. (2018). Effect of Dengue Serostatus on Dengue Vaccine Safety and Efficacy. *New England Journal of Medicine*, 379(4):327–340. doi:[10.1056/NEJMoa1800820](https://doi.org/10.1056/NEJMoa1800820)

#### Manuscripts submitted for publication

Takatsu, K. and **Westling, T.** (2022). Debiased inference for a covariate-adjusted regression function. arXiv:[2210.06448](https://arxiv.org/abs/2210.06448)

Wu, Y. and **Westling, T.** (2022). Nonparametric inference under a monotone hazard ratio order. arXiv:[2205.01745](https://arxiv.org/abs/2205.01745)

Ye, T., **Westling, T.**, Page, L., and Keele, L. (2022). Nonparametric identification of causal effects in clustered observational studies with differential selection. arXiv:[2206.10364](https://arxiv.org/abs/2206.10364)

## Funding

### Current and pending projects

National Science Foundation DMS 2113171 (Principal Investigator) 2021–2024  
Title: Advances in Causal Inference With Continuous Exposures

National Institutes of Health 1R01HD106108-01A1 (Co-Investigator; PI: Chasan-Taber) 2022–2027  
Title: Cardiovascular Disease Risk Factors in At-Risk Hispanic Women following Pregnancy Complications

## Honors, Awards, and Fellowships

<b>JSM travel award</b> , Biometrics Section of the American Statistical Association	2019
<b>Student paper award</b> , ENAR Spring Meeting	2019
<b>Outstanding student</b> , Fred Hutchinson Cancer Research Center	2017
<b>JSM student paper award</b> , Section on Bayesian Statistical Science of the American Statistical Association	2016
<b>Undergraduate Research Award</b> , Dept. of Mathematics, Stanford University	2012

## Selected Presentations

<b>Invited seminar</b> , Department of Statistics and Data Science, Cornell University, Ithaca, NY	2023
<b>Invited seminar</b> , Center for Causal Inference, Philadelphia, PA	2023
<b>Invited presentation</b> , CMStat 2022, London, England	2022
<b>Invited seminar</b> , Computational Social Science Institute, UMass Amherst, Amherst, MA	2022
<b>Invited presentation</b> , AMS Sectional Meeting, UMass Amherst, Amherst, MA	2022
<b>Invited presentation</b> (virtual), EcoSta 2022, Kyoto, Japan	2022
<b>Invited seminar</b> (virtual), University of Haifa Statistics Seminar, Haifa, Israel	2022
<b>Invited talk</b> , NE-TRIPODS, Tufts University, Medford, MA	2022
<b>Invited seminar</b> , UMass Amherst Biostatistics Department, Amherst, MA	2022
<b>Invited seminar</b> (virtual), Online Causal Inference Seminar, Online	2021
<b>Invited seminar</b> (virtual), University of Illinois Chicago, Chicago, IL	2021
<b>Invited seminar</b> (virtual), Baruch College, NY, NY	2021
<b>Invited seminar</b> (virtual), University of Connecticut, Storrs, CT	2020
<b>Topic-contributed presentation</b> (virtual), Joint Statistical Meetings, Online	2020
<b>Invited seminar</b> , Center for Causal Inference, Philadelphia, PA	2020

<b>Student award presentation</b> , Joint Statistical Meetings, Denver, CO	2019
<b>Invited presentation</b> , New England Statistics Symposium, Hartford, CT	2019
<b>Student award presentation</b> , Eastern North American Region of the International Biometric Society Meeting, Philadelphia, PA	2019

## Teaching

<b>Instructor</b> , STAT 516: Statistics II, University of Massachusetts Amherst	Spring 2022
<b>Instructor</b> , STAT 797S: Efficient estimation in semiparametric and nonparametric models, University of Massachusetts Amherst	Fall 2021
<b>Instructor</b> , STAT 516: Statistics II, University of Massachusetts Amherst	Fall 2020
<b>Instructor</b> , STAT 516: Statistics II, University of Massachusetts Amherst	Spring 2020
<b>Instructor</b> , STAT 797S: Efficient estimation in semiparametric and nonparametric models, University of Massachusetts Amherst	Spring 2020
<b>Instructor</b> , Causal Inference Summer Institute, Center for Causal Inference	July 2019

## Academic Service

**Referee**, Annals of Statistics, Journal of the American Statistical Association (Theory and Methods), Biometrika, Journal of the Royal Statistical Society: Series B (Statistical Methodology), Electronic Journal of Statistics, Journal of the American Statistical Association (Applications and Case Studies), Journal of Computational and Graphical Statistics, Scandinavian Journal of Statistics, Statistics in Medicine, Statistical Methods in Medical Research, Biostatistics, Science Advances, American Journal of Epidemiology, ESAIM: Probability and Statistics, American Causal Inference Conference, Behaviormetrika, F1000 Research, CRC Press, International Journal of Biostatistics, Statistica Nederländica, IEEE Transactions on Information Theory, Epidemiologic Methods, Observational Studies, Statistics and Computing, Journal of the French Statistical Society, Frontiers in Public Health, Workshop on Advances in Approximate Bayesian Inference

**Organizer and chair**, Topic-contributed session “Shape-constrained inference in data science” (sponsored by the Nonparametric Statistics Section of the American Statistical Association), JSM 2023

**Organizer**, Topic-contributed session “Machine learning and nonparametric methods in causal inference” (sponsored by the Section on Statistics in Epidemiology of the American Statistical Association), JSM 2020

**Organizer and chair**, Topic-contributed session “Advances in nonparametric methods in causal inference” (sponsored by the Section on Statistics in Epidemiology of the American Statistical Association), JSM 2019