Benjamin Wyman Langworthy

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RESEARCH &
EMPLOYMENT
University of Minnesota Division of Biostatistics and Health Data Science *Assistant Professor*   Minneapolis, MN.
July 2022 - Present

Harvard T.H Chan School of Public Health *Postdoctoral Associate*   Boston, MA. July 2020 - June 2022
· Advised by Molin Wang

University of North Carolina Department of Biostatistics *Research Assistant*   Chapel Hill, NC. January 2015 - June 2020

TANGO International *Data Analyst*   Tucson, AZ. Jan 2013 - July 2014

Kimetrica *Food Security Data Analyst*   September 2013 - June 2014

Innovations for Poverty Action *Project Associate*   Dallas, TX. Jan 2012 - Jan 2013

Innovations for Poverty Action *Project Associate*   Monrovia, Liberia. June 2011 - October 2011
University of North Carolina at Chapel Hill, Chapel Hill, NC
   Ph.D. Biostatistics, August 2020
      Dissertation: Extensions to canonical correlation analysis and principal components analysis with applications to imaging and survival data
Macalester College, St. Paul, MN
   B.A. Applied Math & Statistics and Economics, *cum laude*, May 2011
      Overall GPA 3.73
      Senior Thesis: The effects of parental migration on child nutrition

TEACHING
University of Minnesota Division of Biostatistics *Instructor*   2023-2024
· Instructor for PUBH 7465, **Biostatistics Consulting**

University of North Carolina Department of Biostatistics *Instructor*   August 2019
· Instructed two week course on Real Analysis for incoming and second year biostatistics doctoral students
· Designed class including homework assignments, tests and quizzes

University of North Carolina Department of Biostatistics *Teaching Assistant*   August 2014 - December 2018
· Assisted instructors with grading for homework assignments
· Held weekly office hours to answer students questions
· BIOS 660/672 **Principles of Statistical Inference**
· BIOS 600 **Probability and Statistical Inference**

University of North Carolina Department of Biostatistics *Tutor*   June 2017 - July 2017
· Held a series of 2 hour long help sessions to assist Master's students in preparing for the qualifying exams
· Graded practice exams for the participants.

University of North Carolina Department of Biostatistics *Grader*   August 2016 - December 2016
· Assisted course instructor with grading for homework assignments
· BIOS 662 **Intermediate Statistical Methods**

Macalester College Department of Mathematics, Statistics, and Computer Science *Preceptor*   September 2010 - May 2011
· Assisted course instructor with grading for homework assignments
· Held weekly office hours to answer students questions
· Facilitated study sessions for exams
· STAT 155 **Introduction to Statistical Modeling**

UMN Master's Plan B Advisees

2023

- Abby Vogel

- Mengting Zhao

- Yuntian Zuo

RA Advisees

- Lindsey Turner, PhD student, University of Minnesota

- Zheng Wang, PhD student, University of Minnesota

- Jack Wolf, PhD student, University of Minnesota

PUBLICATIONS

- Byrd TF, Phelan TA, Ingraham NE, **Langworthy BW**, Bhasin A, Kc A, Belton-Meaux GB, Tignanelli CJ. Beyond Unplanned ICU Transfers: Linking a Revised Definition of Deterioration to Patient Outcomes. *Critical Care Medicine*. (2024).

- Tai DBG, Tande AJ, **Langworthy BW**, Abdel MP, Berbari EF, ten Have B , Jutte P, Soriano A, Suh GA, Zijlstra W, Wouthuyzen-Bakker M. Role of routine suppressive antibiotic therapy after DAIR for acute periprosthetic joint infections. *Open Forum Infectious Diseases*. (2024). DOI: https://doi.org/10.1093/ofid/ofae216

- Urbanski DP, Wolf JM, **Langworthy BW**, Parikh RR, Jutkowitz E, Shippee TP. Reported unmet hearing aid need in older people with dementia: The US National Core Indicators survey. *Journal of the American Medical Directors Association*. S1525-8610(24)00338-4. (2024). DOI: 10.1016/j.jamda.2024.03.107

- Yang C, **Langworthy BW**, Curhan SG, Vaden KI, Curhan GC, Dubno JR, Wang M. Soft classification and regression analysis of audiometric phenotypes of age-related hearing loss. *Biometrics*. 2024 Jan 29;80(1). DOI: 10.1093/biomtc/ujae013.

- Guo F, **Langworthy BW**, Ogino S, Wang M. Comparison between inverse-probability weighting and multiple imputation in Cox model with missing failure subtype. *Statistical Methods in Medical Research*. 33(2):344-356. (2024). DOI: 10.1177/09622802231226328

- **Langworthy BW**, Hou Z, Curhan GC, Curhan SG, Wang M. Estimating intracluster correlation for ordinal data. *Journal of Applied Statistics*. pp 1-9. (2023). DOI: https://doi.org/10.1080/02664763.2023.2280821

- **Langworthy BW**, Cai J, Corty RW, Kosorok MR, Fine JP. Principal components analysis for right censored data. *Statistica Sinica*. 33: pp 1985-2016. (2023). DOI: https://doi.org/10.5705/ss.202021.0087

- Lerman AW, Mahmud SA, Alfath Z, **Langworthy BW**, Hobday PM, Riskalla MM, Binstadt BA. HLA DRB1* 15 and Eosinophilia are Common Among Patients with Systemic Juvenile Idiopathic Arthritis. *Arthritis Care and Research*. pp 1-6. (2023). DOI: https://doi.org/10.1002/acr.25132

- **Langworthy BW**, Wu Y, Wang M. An overview of propensity score matching methods for clustered data. *Statistical Methods in Medical Research*. 32 (4): pp 641-655. (2023). DOI: 10.1177/09622802221133556

- Ugai T, Liu L, Tabung FK, Hamada T, **Langworthy BW**, Akimoto N, Haruki K, Takashima Y, Okadome K, Kawamura H, Zhao M, Mousavi Kahaki SM, Glickman JN, Lennerz JK, Zhang X, Chan AT, Fuchs CS, Song M, Wang M, Yu KH, Giannakis M, Nowak JA, Meyerhardt JA, Wu K, Ogino S, Giovannucci EL. Prognostic Role of Inflammatory Diets in Colorectal Cancer Overall and in Strata of Tumor-infiltrating Lymphocytes. *Clinical and Translational Medicine*. Vol 12 (11), e1114. (2022). DOI: https://doi.org/10.1002/ctm2.1114.

- Wu Y, **Langworthy BW**, Wang M. Marginal structural models for multi-level clustered data. *Biostatistics*. Vol 23 (4): pp 1056-1073. (2022). DOI: https://doi.org/10.1093/biostatistics/kxac027

- He S, Lee J, **Langworthy BW**, Xin J, James P, Yang Y, Wang M. Delay in the effect of restricting community mobility on the spread of COVID-19 during the first wave in the United States. *Open Forum Infectious Diseases*. Vol 9 (1). (2022). DOI: https://doi.org/10.1093/ofid/ofab586

- Ursini G, Punzi G, **Langworthy BW**, Chen Q, Xai K, Cornea E, Goldman BD, Styner M, Knickmeyer RC, Gilmore JH, Weinberger DR. Placental genomic risk for schizophrenia predicts early neurodevelopmental outcome. *PNAS*. Vol 118. (2021). DOI: https://doi.org/10.1073/pnas.2019789118

- Ugai T, Zhao M, Shimizu T, Akimoto N, Shi S, Takashima Y, Zhong R, Lau MC, Haruki K, Arima K, Fujiyoshi K, **Langworthy BW**, Masugi Y, da Silva A, Nosho K, Baba Y, Song M, Chan AT, Wang M, Meyerhardt JA, Giannakis M, Vyrynen JP, Nowak JA, Ogino S. Association of PIK3CA mutation and PTEN loss with expression of CD274 (PD-L1) in colorectal carcinoma. *Oncoimmunology*. Vol 10 (1). (2021). DOI: https://doi.org/10.1080/2162402X.2021.1956173

- **Langworthy BW**, Stephens RL, Gilmore JH, Fine JP. Canonical correlation analysis for elliptical copulas. *Journal of Multivariate Analysis*. Vol 183. (2021). DOI: https://doi.org/10.1016/j.jmva.2020.104715

- Basu S, Holbrook LT, Kudlaty K, Fasanmade O, Wu J, Burk A, **Langworthy B**, Farzal Z, Mamdani M, Bennett WD, Fine J, Ebert Jr. CS, Kimbell JS. Numerical evaluation of spray position for improved nasal drug delivery. *Scientific Reports - Nature*. Vol 10 (1): pp 1-18. (2021). DOI: https://doi.org/10.1038/s41598-020-66716-0

- Stephens RL, **Langworthy BW**, Short SJ, Girault JB, Styner M, Gilmore JH. White matter development from birth to 6 years of age: A longitudinal study. *Cerebral Cortex*. Vol 30 (12): pp 6152-6168. (2020). DOI: https://doi.org/10.1093/cercor/bh

- Gilmore, JH, **Langworthy BW**, Girault JB, Fine JP, Jha SC, Kim SH, Cornea E, Styner M. Individual variation of human cortical structure is established in the first year of life. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*. Vol 5 (10): pp 971-980. (2020). DOI: https://doi.org/10.1016/j.bpsc.2020.05.012

- Corty RW, **Langworthy BW**, Fine JP, Buse JB, Sanoff HK, Lund JL. Antibacterial use is associated with an increased risk of hematologic and gastrointestinal adverse events in patients treated with gemcitabine for stage IV pancreatic cancer. *The oncologist*. Vol 25 (7): pp 579-584. (2020). DOI: https://doi.org/10.1634/theoncologist.2019-0570

- Zhao Y, Haney MJ, Jin YS, Uvarov O, Vinod N, Lee YZ, **Langworthy BW**, Fine JP, El-Hage N, Kabanov AV, Batrakova EV. GDNF-expressing Macrophages Restore Motor Functions at a Severe Late-stage, and Produce Long-Term Neuroprotective Effects at an Early-stage of Parkinson's Disease in Transgenic Parkin Q311X(A) Mice. *Journal of Controlled Release*. Vol 315: pp. 139-149. (2019). DOI: https://doi.org/10.1016/j.jconrel.2019.10.027

- Zhang X, Wang C, Wang J, Hu Q, **Langworthy BW**, Ye Y, Sun W, Lin J, Wang T, Fine JP, Cheng H, Dotti G, Huang P, Gu Z. Cancer Immunotherapy: PD1 Blockade Cellular Vesicles for Cancer Immunotherapy. *Advanced Materials* Vol 30 (22). (2018). DOI: https://doi.org/10.1002/adma.201707112

- Stephens RL, **Langworthy BW**, Short SJ, Goldman BD, Girault JB, Fine JP, Reznick JS, Gilmore JH. Verbal and nonverbal predictors of executive function in early childhood. *Journal of Cognition and Development* Vol. 19 (2): pp. 182-200. (2018). DOI: https://doi.org/10.1080/15248372.2018.1439493

- Girault JB, **Langworthy BW**, Goldman BD, Stephens RL, Cornea E, Reznick JS, Fine JP, Gilmore JH. The Predictive Value of Developmental Assessments at 1 and 2 for Intelligence Quotients at 6. *Intelligence* Vol 68: pp. 58-65. (2018). DOI: https://doi.org/10.1016/j.intell.2018.03.003

TALKS

- **Langworthy BW**, Hou Z, Curhan GC, Curhan SG, Wang M.Estimating intracluster correlation for ordinal data. *Joint Statistical Meetings* (2023).

- **Langworthy BW**, Ugai T, Wang M. The competing risks Cox model for cancer subtypes with non-ignorable missingnes. *Joint Statistical Meetings* (2021).

- **Langworthy BW**, Fine J, Gilmore J, Stephens R. The Association Between White Matter Tracts and Executive Function in Six Year Old Children Using Robust Scale-Invariant Canonical Correlation Analysis. *Joint Statistical Meetings* (2019). Denver, CO.

- **Langworthy BW**. The effects of parental migration on child nutrition. *The Carroll Round* (2011). Washington, D.C.

POSTERS

- **Langworthy B**, Risk B, Sellers K, Vaughn B, Gilmore J, Zhu H, Frolich F. *Triangle Imaging Symposium* (2016). Chapel Hill, NC.

REVIEWER   Biostatistics, Statistics in Medicine, BMC Medical Research Methodology, Ear and Hearing

SKILLS	*Programming Languages & Systems:* R, Python, Bash, LaTeX
	Computer Software & Tools: RStudio series, Github, MATLAB, SAS, Stata, SPSS, Qualtrics, REDCap
	Operating Systems: Microsoft Windows, Linux & Unix
	Other: 4 semesters of college Spanish
HONORS & AWARDS	Gillings Annual Fund Scholarship, Fall 2014
	Deans List: Fall 2007, Fall 2009, Spring 2009, Fall 2010
	Dewitt Wallace Scholarship 2007-2011
	MIAC All Conference for Golf, Fall 2008 and 2009
	Economics Athlete Award, 2011
ACTIVITIES	The American Statistical Association, *Member*, 2019-Present
	Macalester College golf team, *Member*, 2007-2011, *Captain* 2009-2011