

CURRICULUM VITAE
The Johns Hopkins University School of Medicine

(Signature) _____
(Typed Name) Yuxin (Daisy) Zhu, PhD

(Date of this version)

DEMOGRAPHIC AND PERSONAL INFORMATION

Current Appointments

2018-present Postdoctoral fellow, Department of Biostatistics and Department of Oncology, Johns Hopkins University

Personal Data

Department of Biostatistics
Johns Hopkins Bloomberg School of Public Health
615 N Wolfe St, E3137
Baltimore, Maryland, 21205

E-mail: daisy@jhu.edu

Education and Training

Undergraduate

2009-2013 B.S., Mathematics, Nanjing University, Nanjing

Doctoral/graduate

2013-2018 Ph.D., Biostatistics, Johns Hopkins University, Baltimore, MD

Postdoctoral

2018-present Postdoctoral fellow, Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health (advisor: Mei-Cheng Wang), and Division of Biostatistics and Bioinformatics, Department of Oncology, Johns Hopkins School of Medicine (advisor: Zheyu Wang).

Professional Experience

2014-present Research Assistant, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

2018-present Biostatistician, Armstrong Institute Center for Diagnostic Excellence, Baltimore, MD

PUBLICATIONS

Original Research [OR].

1. Pettigrew C, Soldan A, **Zhu Y**, Wang MC, Moghekar A, Brown T, Miller M, Albert M, and BIOCARD Research Team. Cortical thickness in relation to clinical symptom onset in preclinical AD. *NeuroImage: Clinical*. 2016; 12, 116-122; primary statistician. <https://doi.org/10.1016/j.nicl.2016.06.010>
2. Deng D, Du Y, Ji Z, Rao K, Wu Z, ***Zhu Y**, and Coley RY. Predicting survival time for metastatic castration resistant prostate cancer: An iterative imputation approach. *F1000Research*. 2016; 5; *alphabetically ordered authorship except for the last author. <https://doi.org/10.12688/f1000research.8628.1>
3. Pettigrew C, Soldan A, **Zhu Y**, Wang MC, Brown T, Miller M, Albert M, and BIOCARD Research Team. Cognitive reserve and cortical thickness in preclinical Alzheimer's disease. *Brain imaging and behavior*. 2017; 11(2), 357-367; primary statistician. <https://doi.org/10.1007/s11682-016-9581-y>
4. Albert M, **Zhu Y**, Moghekar A, Mori S, Miller MI, Soldan A, Pettigrew C, Selnes O, Li S, and Wang MC. Predicting progression from normal cognition to mild cognitive impairment for individuals at 5 years. *Brain*. 2018; 141(3), 877-887; primary statistician. <https://doi.org/10.1093/brain/awx365>
5. Newman-Toker DE, Schaffer AC, Yu-Moe CW, Nassery N, Tehrani ASS, Clemens GD, Wang Z, **Zhu Y**, Fanai M, and Siegal D. Serious misdiagnosis-related harms in malpractice claims: the "Big Three"—vascular

events, infections, and cancers. *Diagnosis*. 2019; 6(3), 227-240; secondary statistician.

<https://doi.org/10.1515/dx-2019-0019>

6. Pettigrew C, Shao Y, **Zhu Y**, Grega M, Brichko R, Wang MC, Carlson MC, Albert M, and Soldan A. Self-reported lifestyle activities in relation to longitudinal cognitive trajectories. *Alzheimer Disease & Associated Disorders*. 2019; 33(1), 21-28; primary statistician. <https://doi.org/10.1097/WAD.0000000000000281>
7. Sharp AL, Baecker A, Nassery N, Park S, Hassoon A, Lee MS, Peterson S, Pitts S, Wang Z, **Zhu Y**, and Newman-Toker DE. Missed acute myocardial infarction in the emergency department—standardizing measurement of misdiagnosis-related harms using the SPADE method. *Diagnosis*. 2020; 1(ahead-of-print); statistician. <https://doi.org/10.1515/dx-2020-0049>
8. Newman-Toker DE, Wang Z, **Zhu Y**, Nassery N, Tehrani ASS., Schaffer AC, Yu-Moe CW, Clemens GD, Fanai M, and Siegal D. Rate of diagnostic errors and serious misdiagnosis-related harms for major vascular events, infections, and cancers: toward a national incidence estimate using the “Big Three”. *Diagnosis*. 2020; 1(ahead-of-print); secondary statistician. <https://doi.org/10.1515/dx-2019-0104>
9. Soldan A, Pettigrew C, **Zhu Y**, Wang MC, Gottesman RF, DeCarli C, Albert M, and BIOCARD Research Team. Cognitive reserve and midlife vascular risk: Cognitive and clinical outcomes. *Annals of clinical and translational neurology*. 2020; 7(8), 1307-1317; primary statistician. <https://doi.org/10.1002/acn3.51120>
10. Pettigrew C, Soldan A, **Zhu Y**, Cai Q, Wang MC, Moghekar A, Miller MI, Singh B, Martinez O, Fletcher E, and DeCarli C. Cognitive reserve and rate of change in Alzheimer's and cerebrovascular disease biomarkers among cognitively normal individuals. *Neurobiology of aging*. 2020; 88, 33-41; primary statistician. <https://doi.org/10.1016/j.neurobiolaging.2019.12.003>
11. Soldan A, Pettigrew C, **Zhu Y**, Wang MC, Moghekar A, Gottesman RF, Martinez O, Fletcher E, DeCarli C, and Albert M. White matter hyperintensities and CSF Alzheimer disease biomarkers in preclinical Alzheimer disease. *Neurology*. 2020; 94(9), e950-e960; primary statistician. <https://doi.org/10.1212/WNL.00000000000008864>
12. Chen L, Soldan A, Oishi K, Faria A, **Zhu Y**, Albert M, van Zijl PC, and Li X. Quantitative susceptibility mapping of brain iron and β -amyloid in MRI and PET relating to cognitive performance in cognitively normal older adults. *Radiology*. 2020; 201603; contributing statistician. <https://doi.org/10.1148/radiol.2020201603>
13. Wang Z, Tang Z, **Zhu Y**, Pettigrew C, Soldan A, Gross A, and Albert M. AD risk score for the early phases of disease based on unsupervised machine learning. *Alzheimer's & Dementia*. 2020; 16(11), 1524-1533; contributor in methodology. <https://doi.org/10.1002/alz.12140>
14. **Zhu Y** and Wang MC. Obtaining optimal cutoff values for tree classifiers using multiple biomarkers. *Biometrics*. 2020; in press. <https://doi.org/10.1111/biom.13409>
15. **Zhu Y**, Wang Z, Liberman AL, Chang TP, and Newman-Toker DE. Statistical Insights for Crude-Rate Based Operational Measures of Misdiagnosis-Related Harms. *Statistics in Medicine*. 2021; in press. <https://doi.org/10.1002/sim.9039>

Book Chapters, Monographs [BC]

1. Scharfstein D, **Zhu Y**, and Tsiatis A. Handbook of Statistical Methods for Randomized Controlled Trials. (1st Edition.) Part II.4. Time to event subject to censoring: logrank test, Kaplan-Meier estimation and Cox proportional hazards regression models. CRC press. 2021.

FUNDING

EXTRAMURAL Funding

Current

05/15/2018-04/30/2021

National diagnostic performance dashboard to measure and track diagnostic error using big data

#5756

Gordon and Betty Moore Foundation

\$2,355,438

PI: David Newman-Toker

Statistician, 50%.

09/01/2019-05/31/2024 Biomarkers of Cognitive Decline Among Normal Individuals: The BIOCARD Cohort
U19 AG033655
NIH/NIA
\$3,179,047
PI: Marilyn Albert
Statistician, 50%; To identify biomarkers that predict progression from normal cognitive status to mild impairment or dementia.

EDUCATIONAL ACTIVITIES

Educational Focus

I have experience teaching in statistical curriculum courses, special topics, and statistical courses for non-statistics students at undergraduate and graduate levels. I teach to help students succeed and inspire interest in meaningful research and application.

Teaching

Classroom instruction

2014	Teaching Assistant and Lab instructor, Ph.D. curriculum core course, Probability Theory I-IV, Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health.
2015	Teaching Assistant, undergraduate-level, Undergraduate course in public health statistics, Johns Hopkins University.
2016	Teaching Assistant, graduate-level, Statistics for Lab Scientists, Johns Hopkins Bloomberg School of Public Health.
2016, 2017, and 2018	Teaching Assistant, graduate-level, Statistical Methods in Public Health, Johns Hopkins Bloomberg School of Public Health.
2017	Teaching Assistant and Lab instructor, graduate-level, Survival Analysis and Advanced Survival Analysis, Johns Hopkins Bloomberg School of Public Health.

Mentoring

Educational Program Building / Leadership

2016-2017	Coordinator, Journal Club, Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health.
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RESEARCH ACTIVITIES

Research Focus

My research focuses on developing statistical methods for biomarkers and electronic medical records. I work on methods that combine biomarkers to predict cognitive decline related to preclinical Alzheimer's Disease among normal individuals. I also develop methods to evaluate misdiagnosis-related harm at institution or medical system levels using electronic medical records. Methodologically, I work on tree-based models, latent variable models, survival analysis, and recurrent event analysis. My general interest is in interpretable and robust statistical methodology that advances biomedical understanding and informs practices.

ORGANIZATIONAL ACTIVITIES

Journal peer review activities

2019-present	Biostatistics & Epidemiology
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2021-present	Journal of the American Statistical Association
2021-present	Alzheimer's & Dementia

Professional Societies

2020-present	Member, American Statistical Association
2020-present	Member, Eastern North American Region of the International Biometric Society

Session Chair

08/12/2021	Joint Statistical Meetings,
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RECOGNITION

Invited Talks

National	
2020	“Obtaining Optimal Rule for a Prefixed Tree Classifier”, Michigan Statistics for Individualized-healthcare Lab (MiSIL), Department of Biostatistics, University of Michigan. Virtual.

OTHER PROFESSIONAL ACCOMPLISHMENTS

Oral/Podium Presentations

2016	“Optimal Decision Rule for Multiple Biomarkers Combined as Tree-based Classifiers”, Joint Statistical Meetings, Chicago, IL.
2017	“Adaptive Estimation of High Dimensional Partially Linear Model with Some Provable Gains”, Joint Statistical Meetings, Baltimore, MD, and Conference on Frontiers of Big Data Statistical Sciences (organized by ICSA Canada Chapter), Vancouver, BC, Canada.
2020	“Joint Rate Regression Models for Bivariate Recurrent Events with Frailty Processes”, Joint Statistical Meetings. Virtual.