

**ZHENG FAN WANG**  
(202) 374-1285  
zhengfanwang@umass.edu

### **Education**

**University of Massachusetts-Amherst**

August 2017 - Now  
Ph.D., Biostatistics

**Georgetown University**

August 2014 - December 2015  
Master of Science, Biostatistics

**Beijing Normal University - Hong Kong Baptist University United International College(UIC)**

September 2010 - June 2014  
Bachelor of Science, Statistics

### **Research Experience**

**Department of Biostatistics, University of Massachusetts-Amherst**

**Research Assistant**

**Amherst, MA**

*September 2018 - Now*

**Advisor: Leontine Alkema, PhD**

- Estimated the stillbirth rate using a Bayesian hierarchical temporal sparse regression model in a data-limit setting
- Proposed Bayesian Reference Distribution Variable Selection method based on horseshoe prior
- Estimation and prediction of reporting errors in survival probabilities in sibling survival data

**Department of Biostatistics, University of Massachusetts-Amherst**

**Research Assistant**

**Amherst, MA**

*September 2017- September 2018*

**Advisor: Xiangrong Kong, PhD**

- Developed a hybrid modeling strategy based on Markov transition models with pairwise composite likelihood to deal with the high dimensional correlated data from Stargardt disease trials.
- Studied the visual impairment and eye diseases in HIV-infected people in the Antiretroviral Therapy era in Rakai, Uganda

**Department of Biostatistics, Georgetown University**

**Research Assistant**

**Washington, DC**

*September 2015- January 2017*

**Advisor: Ao Yuan, PhD**

- Proposed a robust test to allow for multiple endpoints in sequential clinical trial design based on symmetric distribution assumption instead of normal distribution via simulation and empirical clinical trial data

**Department of Biostatistics, Georgetown University**

**Research Assistant**

**Washington, DC**

*January 2015-May 2015*

**Advisor: Lin Cai, PhD**

- Tested the hypothesis that injecting a premixed solution of propofol/lidocaine will be associated with less pain than when lidocaine is injected separately before propofol.
- Designed questionnaire and test for the study to evaluate first year medical students' HIV/STI attitudes and counseling knowledge
- Analyzed outcome difference between GLM procedure and MIXED procedure in R and SAS based on CONNOR data
- Conducted data analysis to explore the risk factor of haploid leukemia and URD leukemia

**Department of Biostatistics, Georgetown University**

**Practicum**

**Washington, DC**

*January 2015-December 2015*

**Advisor: Ming Tan, PhD**

- Developed Sequential Conditional Probability Ratio Test(SCPRT) for clinic trial data analysis, designed R packages, evaluated the SCPRT through type I& type II error and discordance probability via simulation

**Department of Science and Technology, UIC**

**Zhuhai, China**

**Advisor: Ping He, PhD**

*January 2014-May 2014*

**Research Content: Application of Markov Chain-Monte Carlo method in logistic regression**

- Created a method to predict result of NBA basketball game by using Markov Chain-Monte Carlo method in logistic regression 2014 NBA data

**Department of Science and Technology, UIC**

**Zhuhai, China**

**Advisor: Jianzhong Zhang, PhD**

*September 2012-November 2012*

**Research Content: Application of MATLAB programing**

- Solved a classical complex logistics problem-optimizing the logistics network by using method of enumeration in MATLAB

### **Publications**

**Wang, Z.,** Fix, M. J., Hug, L., Mishra, A., You, D., Blencowe, H., ... & Alkema, L. (2020). Estimating the Stillbirth Rate for 195 Countries Using A Bayesian Sparse Regression Model with Temporal Smoothing. *arXiv preprint arXiv:2010.03551*.

**Wang, Z.,** Yuan, A., & Tan, M. T. (2016). Computation of the Properties of Multi-Stage Clinical Trial Design Based on SCPRT. *J Clin Trials*, 6(274), 2167-0870.

Jian-Yu, E., **Wang, Z.,** Ssekasanvu, J., Munoz, B., West, S., Ludigo, J., ... & Kong, X. (2021). Visual Impairment and Eye Diseases in HIV-infected People in the Antiretroviral Therapy (ART) Era in Rakai, Uganda. *Ophthalmic Epidemiology*, 28(1), 63-69.

### **Presentations**

**Wang, Z.,** Stillbirth rate estimation model (Presentation. Core Stillbirth Estimation Group Meeting UN Inter-agency Group for Child Mortality Estimation Meeting. Online. Dec 2020.)

**Wang, Z.,** Alkema, L. Imposing Sparseness in a Bayesian Hierarchical Regression Model with Temporal Smoothing via the Horseshoe prior with an Application to Estimate Stillbirths for All Countries. (Paper presentation. JSM. Aug. 2020)

**Wang, Z.,** Estimation of stillbirth rate (Presentation. Second Core Stillbirth Estimation Group Meeting UN Inter-agency Group for Child Mortality Estimation Meeting. New York. July 2019)

**Wang, Z.,** Kong, X. Multivariate Longitudinal Data from Eyes – Microperimetry Macular Sensitivity Loss in Patients with Stargardt Disease. (Poster presentation. JSM. Denver, CO. July 2019)

**Wang, Z.** Alkema, L. Estimating Stillbirth Rates for all Countries from 2000 Till 2017 using a Bayesian Temporal Hierarchical Regression Model. (Poster presentation. NESS. Hartford, CT. May 2019)

**Wang, Z.,** Alkema, L. Stillbirth estimation model (Presentation. Core Stillbirth Estimation Group Meeting UN Inter-agency Group for Child Mortality Estimation Meeting. Montreux, Switzerland. Mar 2019)

Hannallah, M. S., Lopatin, J., Cestare, T., Tefera, E., **Wang, Z.,** & Cai, L. Mixing Lidocaine and Propofol Decreases the Severity but not the Incidence of Propofol Pain on Injection Compared to Injecting Lidocaine Before Propofol in Non-Premedicated Patients Undergoing Colonoscopy. (DC. Oct 2015)

## **Professional Experience**

### **Department of Biostatistics, University of Massachusetts-Amherst Teaching Assistant**

**Amherst, MA**  
*September 2017-May 2019*

- Teaching assistant for
  - Categorical data analysis
  - Computing in R
  - Survival analysis
  - Introduction to Biostatistics

### **Department of Biostatistics, Georgetown University Biostatistics Consultant**

**Washington, DC**  
*January 2015-May 2015*

- Worked as an assistant of statistical counselor, and helped customers conduct projects

### **Johnson & Johnson Internship-Project Assistant**

**Shanghai, China**  
*May 2015-August 2015*

- Worked in statistical department, and participated in the VELCADE and ZYTIGA program
- Assisted finishing the SAP of VELCADE and ZYTIGA and analyzed clinical trial data
- Communicated academic experiment design methods with colleagues in J&J in Japan

### **Sealand Securities Internship-Sales Assistant**

**Taiyuan, China**  
*June 2012-September 2012*

- Wrote the financial plan for VIP client of Sales Department under the guidance of experienced staff
- Designed the classification of customer survey

### **National Bureau of Statistics of the People's Republic of China Internship-Statistic consultant**

**Beijing, China**  
*June 2011-September 2011*

- Trained colleagues using advanced statistical software (SAS, R)
- Increased the efficiency of public transportation system by more than 10%
- Participated in statistic enforcement for a company