

## **ZHENG FAN WANG**

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### **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**

- Estimating the stillbirth rate using a Bayesian hierarchical temporal sparse regression model
- Proposing Bayesian Reference Distribution Variable Selection method based on horseshoe prior
- Predicting reporting errors in sibling survival data using covariates related to the respondent and their sibling
- Using sibling reporting error model to estimate survival probabilities from sibling survival data while accounting for reporting errors

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

**Amherst, MA**  
*September 2017- September 2018*

##### **Advisor: Xiangrong Kong, PhD**

- Using 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.
- Studying 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**

- Creating the robust test for multiple endpoints in sequential 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**

- Conducted data analysis to compare mixing lidocaine and propofol decreases the severity but not the incidence of propofol pain on injection to injecting lidocaine before propofol in non-premedicated patients undergoing colonoscopy
- 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 for the study 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 the 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 via 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 and Presentations**

**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*. (submitted to AOAS).

**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.

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.

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

**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. )

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

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

### **Professional Experience**

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

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

- Worked as a teaching assistant for Categorical data analysis, R Software, survival analysis and 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 project

**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 analyzing 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