# Min Zhang

*Curriculum Vitae*

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## Education

2016–2021 (expected) **PhD, Statistics**, Iowa State University, Ames, IA.
Advisors: Professor Chong Wang, Professor Annette O'Connor
**Research Interests**: Statistical Modeling, Bayesian Analysis, Applied Statistics in Veterinary Medicine, Deep Machine Learning

2012–2016 **BS, Statistics**, Shanghai University of Finance and Economics, Shanghai, China.

2014–2015 **Visiting Student, Statistics**, University of Wisconsin Madison, Madison, WI.

## Skills

Programming Proficient with R, SAS. Familiar with C++, Python, TensorFlow, Matlab

Software Proficient with Microsoft Office, LATEX

Language Proficient in English. Native in Chinese

## Research Assistantship

Jun 2018 – Present **Solving The Inadequacies Of Current Approaches To Analysis Of Antibiotic Resistance Data From Food Safety Serveillance**.
Advisors: Dr. Chong Wang and Dr. Annette O'Connor
- Develop a Hierarchical latent class mixture model with censoring for detection of (linear) temporal changes in antibiotic resistance of Salmonella
- Do Bayesian analysis through Markov Chain Monte Carlo with R
- Evaluate the Minimum Inhibitory Concentration (MIC) creep over time for a swine dataset from ISU Veterinary Diagnostic Lab

Aug 2017 – Present **What Is The Best Oral Fluid Sampling Strategy for PRRSV Detection? A Spatiotemporal Approach**.
Advisors: Dr. Chong Wang and Dr. Jeff Zimmerman
- Simulate the PRRSV transmission process based on a latent spacial piecewise exponential model for interval-censored data with R
- Develop a sampling algorithm to improve the power of disease detection with C++
- Construct a user-friendly web interface with RShiny that displays the spacial sampling strategy according to the user inputs

Aug 2016 – May 2017 **Algebra Screening And Progress Monitoring Project**.
Advisors: Dr. Amy Froelich and Dr. Anne Foegen
- Cleaned data from Algebra Screening And Progress Monitoring Project
- Developed a Hierarchical Linear Model with SAS to analyze the contributing factors to algebra scores of high school students from four U.S. states
- Composed Theory and Model Construction sections of the Technical Report

## Professional Experience

Aug 2017 – Present
**Statistical Consultant**.
College of Veterinary Medicine, Iowa State University, Ames, IA
- Provide consultation to faculties and students in Veterinary Medicine about research design, sample size calculation, and statistical methods selection
- Analyze data from experiments and clinical trials with R/SAS
- Help with results interpretation, and statistical sections for publications and conferences
- Problems involve but not limited to application of Generalized Linear Models, Non-parametric Analysis, and Data Visualization, etc.

Jan 2016 – May 2016
**Internship Experience**.
Nike, Inc., Headquarters of Asia-Pacific, Shanghai, China
- Sampled and summarized retail data from the key stores in Shanghai
- Assisted group manager with preparation of seasonal retail training

## Publications

Jul 2018 Gorden, P., Ydstie, J., Kleinhenz, M., Brick, T., Smith, J., Griffith, R., Wulf, L., Rajewski, S., **Zhang, M.**, Sidhu, P., Mochel, J., Coetzee, J.. "Comparative plasma and interstitial fluid pharmacokinetics and tissue disposition of ceftiofur crystalline free acid in cattle with induced coliform mastitis." *Journal of Veterinary Pharmacology and Therapeutics.*

Aug 2018 Garraway, K., Johannes, C., Bryan, A., Peauroi, J., Rossi, G., **Zhang, M.**, Wang, C., Allenspach, K., Jergens, A.. "Relationship of the mucosal microbiota to gastrointestinal inflammation and the presence of small cell intestinal lymphoma in cats." *The Journal of Veterinary Internal Medicine.*

## Papers In Progress

2018 **Zhang, M.**, Wang, C., Kreuder, A., Krull, A., Yuan, C., O'Connor, A.. "Long-term patterns of antibiotic resistant in Salmonella enterica serovar Typhimurium and S. enterica serovar 4,[5],12:i:- from swine submissions at a veterinary diagnostic laboratory: A multi-year prevalence survey." (In preparation)

2018 **Zhang, M.**, Wang, C., Rotolo, M., Zimmerman, J.. "Survey sampling guidelines for oral fluid-based surveys of swine: open source software provides easy access to users." *Preventive Veterinary Medicine.* (In preparation)

2018 Palerme, JS., Lamperelli, E., Gagne, J., Cazlan, C., **Zhang, M.**, Olds, J.. "Seroprevalence of infectious diseases in free-roaming cats in Iowa." *Vector-Borne and Zoonotic Diseases.* (Accepted)

2018 Michael, A., West, M.H., Greenlee, J.J., **Zhang, M.**, Harm, T.A., Lind, M.S., Smith, J.D.. "Characterization of microglial polarization over time in a murine model of scrapie." *Veterinary Pathology.* (In revision)

2018 Ho-Eckart, L., Zellner, E., **Zhang, M.**, Hedlund, C.. "Evaluation of Risk Factors and Clinical Significance of Intraoperative Culture Results in Abdominal Surgeries: 122 cases." *Veterinary Surgery.* (In preparation)

## Honors And Awards

2016 **Excellent Graduate with Bachelor Degree**, SUFE.
Awarded annually to outstanding graduates

2015 **Academic Achievement Award**, UW.
Awarded annually to students with the best academic performance

2014 **National Scholarship**, SUFE.
Awarded annually to top one percent students at the university

2016 Third Prize of Renmin Scholarship, SUFE.

2015 Third Prize of Overseas Study Scholarship, SUFE.

2014 First Prize of Renmin Scholarship, SUFE.

2014 First Prize of Debate Competition, SUFE.

2013, 2014 Outstanding Student Learship, SUFE.

## Service

2018 – 2019 **Vice President of Iowa STAT-ers**, ISU.
Organize and facilitate company visits, academic and professional workshops

2015 – 2016 Coach of Debate Team, SUFE.

2012 – 2016 Member of Volunteer Department, SUFE.

## Graduate Coursework

- STAT 500/ 510/ 520: Statistical Methods I/ II/ III
- STAT 521: Theory and Applications of Sample Surveys
- STAT 542/ 543: Theory of Probability and Statistics I/ II
- STAT 546: Nonparametric Methods in Statistics
- STAT 579: An Introduction to R
- STAT 580: Statistical Computing
- STAT 601: Advanced Statistical Methods
- STAT 606: Advanced Spacial Statistics
- STAT 641: Foundations of Probability Theory
- STAT 642: Advanced Probability Theory
- STAT 590A: An Introduction to Causal Inference (audit)
- EE 526X: Deep Machine Learning: Theory and Practice
- GR ST 529: Preparing Publishable Thesis Chapters

## References

References are available upon request.

- Dr. Chong Wang, Associate Professor, Department of Statistics, ISU
  Contact by e-mail: chwang@iastate.edu
- Dr. Annette O'Connor, Professor, College of Veterinary Medicine, ISU
  Contact by e-mail: oconnor@iastate.edu