

# Chong Wang

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## EDUCATION

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Ph.D. **Statistics**, with minor in **Epidemiology**, Cornell University, Ithaca, NY, 08/2006

**Dissertation:** ROC Analysis for Cross-Sectional and Longitudinal Disease Diagnostic Data without a Gold Standard Test: Application to Johne's Disease in Dairy Cows  
Advisor: Bruce W. Turnbull

M.S. **Statistics**, Cornell University, Ithaca, NY, 12/2004

B.S. **Statistics and Probability**, Peking University, Beijing, P.R. China, 07/2001

## EMPLOYMENT

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08/2015 – present	Associate Professor, Department of Veterinary Diagnostic and Production Animal Medicine, Iowa State University
08/2015 – present	Associate Professor, Department of Statistics, Iowa State University
01/2009 – 08/2015	Assistant Professor, Department of Veterinary Diagnostic and Production Animal Medicine, Iowa State University
01/2009 – 08/2015	Assistant Professor, Department of Statistics, Iowa State University
08/2007 – 12/2008	Assistant Professor, Department of Biostatistics, University of Kentucky
08/2007 – 12/2008	Assistant Professor, Department of Statistics, University of Kentucky
08/2006 – 05/2007	Visiting Assistant Professor, Department of Mathematics, Cornell University
08/2006 – 07/2007	Postdoctoral Associate with <u>Yrjö T. Gröhn</u> , Department of Population Medicine and Diagnostic Sciences, College of Veterinary Medicine, Cornell University

## RESEARCH INTERESTS

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- Biostatistics and Epidemiology
- Design of Animal Disease Surveillance
- Diagnostic Test Evaluation
- Bayesian Statistical Modeling
- Bioinformatics
- Development and Application of Statistical Methods in Veterinary Medicine

**PEER-REVIEWED MANUSCRIPTS (\* Indicates Wang student and/or research assistant)**

176. Hu, D. \*, **Wang, C.**, O'Connor, A.M. (2020) A method of back-calculating the log odds ratio and standard error of the log odds ratio from the reported group-level risk of disease. PLoS ONE 15(3): e0222690. <https://doi.org/10.1371/journal.pone.0222690>
175. Zhang, M. \*, **Wang, C.**, O'Connor, A. (2020) A hierarchical Bayesian latent class mixture model with censorship for detection of linear temporal changes in antibiotic resistance. PLOS ONE 15(1): e0220427, Antimicrobial Resistance Collection. <https://doi.org/10.1371/journal.pone.0220427>
174. Meier NF, Bai Y, **Wang C**, Lee DC. (2020) Validation of a Multielectrode Bioelectrical Impedance Analyzer With a Dual-Energy X-Ray Absorptiometer for the Assessment of Body Composition in Older Adults. J Aging Phys Act. Jan 8;:1-7. doi: 10.1123/japa.2019-0211.
173. Naberhaus SA, Krull AC, Arruda BL, Arruda P, Sahin O, Schwartz KJ, Burrough ER, Magstadt DR, Matias Ferreyra F, Gatto IRH, Meiroz de Souza Almeida H, **Wang C**, Kreuder AJ. (2020) Pathogenicity and Competitive Fitness of Salmonella enterica Serovar 4,[5],12:i:- Compared to Salmonella Typhimurium and Salmonella Derby in Swine. Front Vet Sci. 6:502. doi: 10.3389/fvets.2019.00502.
172. Putra M, Sharma S, Gage M, Gasser G, Hinojo-Perez A, Olson A, Gregory-Flores A, Puttachary S, **Wang C**, Anantharam V, Thippeswamy T. (2020) Inducible nitric oxide synthase inhibitor, 1400W, mitigates DFP-induced long-term neurotoxicity in the rat model. Neurobiol Dis. Jan; 133:104443. doi: 10.1016/j.nbd.2019.03.031.
171. Zhao J\*, **Wang C**, Totton SC, Cullen JN, O'Connor AM (2019) Reporting and analysis of repeated measurements in preclinical animals experiments. PLoS ONE 14(8): e0220879. <https://doi.org/10.1371/journal.pone.0220879>
170. Hu, D. \*, O'Connor, A., Winder, C., Sargeant, J., & **Wang, C.** (2019). How to read and interpret the results of a Bayesian network meta-analysis: A short tutorial. Animal Health Research Reviews, 20(2), 106-115. doi:10.1017/S1466252319000343
169. Moura, C. A., Johnson, C., Baker, S., Holtkamp, D. J., **Wang, C.** & Linhares, D. C. L. (2019). Assessment of immediate production impact following attenuated PRRS virus vaccination in breeding herds. *Porcine Health Management*, 5(13), 1–6.
168. Atherly T, Rossi G, White R, Seo YJ, **Wang C**, Ackermann M, Breuer M, Allenspach K, Mochel JP, Jergens AE. (2019) Glucocorticoid and dietary effects on mucosal microbiota in canine inflammatory bowel disease. PLoS One;14(12):e0226780. doi: 10.1371/journal.pone.0226780.
167. O'Connor, A., Hu, D., Totton, S., Scott, N., Winder, C., Wang, B., **Wang, C.**, Glanville, J., Wood, H. White, B., Larson, R., Waldner, C., Sargeant, J. (2019). A systematic review and network meta-analysis of bacterial and viral vaccines, administered at or near arrival at the feedlot, for control of bovine respiratory disease in beef cattle. Animal Health Research Reviews, 20(2), 143-162. doi:10.1017/S1466252319000288
166. O'Connor, A., Hu, D., Totton, S., Scott, N., Winder, C., Wang, B., **Wang, C.**, Glanville, J., Wood, H. White, B., Larson, R., Waldner, C., Sargeant, J. (2019). A systematic review and network meta-analysis of injectable antibiotic options for the control of bovine respiratory disease in the first 45 days post arrival at the feedlot. Animal Health Research Reviews, 20(2), 163-181. doi:10.1017/S1466252320000031

165. Winder, C., Sargeant, J., Hu, D., **Wang, C.**, Kelton, D., Leblanc, S., T. F. Duffield, J. Glanville, H. Wood, K. J. Churchill, J. Dunn, M. D. Bergevin, K. Dawkins, S. Meadows, B. Deb, M. Reist, C. Moody, O'Connor, A. (2019). Comparative efficacy of teat sealants given prepartum for prevention of intramammary infections and clinical mastitis: A systematic review and network meta-analysis. *Animal Health Research Reviews*, 20(2), 182-198. doi:10.1017/S1466252319000276
164. Winder, C., Sargeant, J., Hu, D., **Wang, C.**, Kelton, D., Leblanc, S., T. F. Duffield, J. Glanville, H. Wood, K. J. Churchill, J. Dunn, M. D. Bergevin, K. Dawkins, S. Meadows, B. Deb, M. Reist, C. Moody, O'Connor, A. (2019). Comparative efficacy of antimicrobial treatments in dairy cows at dry-off to prevent new intramammary infections during the dry period or clinical mastitis during early lactation: A systematic review and network meta-analysis. *Animal Health Research Reviews*, 20(2), 199-216. doi:10.1017/S1466252319000239
163. Winder, C., Sargeant, J., Hu, D., **Wang, C.**, Kelton, D., Godkin, M., Churchill, K. J., O'Connor, A. (2019). Comparative efficacy of antimicrobials for treatment of clinical mastitis in lactating dairy cattle: A systematic review and network meta-analysis. *Animal Health Research Reviews*, 20(2), 229-246. doi:10.1017/S1466252319000318
162. Sargeant, J., Michele D. Bergevin, Katheryn Churchill, Kaitlyn Dawkins, Bhumika Deb, Jennifer Dunn, Dapeng Hu, Catherine M. Logue, Shannon Meadows, Carly Moody, Anastasia Novy, Annette M. O'Connor, Mark Reist, Yuko Sato, **Chong Wang**, Charlotte B. Winder (2019). The efficacy of litter management strategies to prevent morbidity and mortality in broiler chickens: A systematic review and network meta-analysis. *Animal Health Research Reviews*, 20(2), 247-262. doi:10.1017/S1466252319000227
161. Sargeant, J., Bhumika Deb, Michele D. Bergevin, Katheryn Churchill, Kaitlyn Dawkins, Jennifer Dunn, Dapeng Hu, Carly Moody, Annette M. O'Connor, Terri L. O'Sullivan, Mark Reist, **Chong Wang**, Barbara Wilhelm, Charlotte B. Winder (2019). Efficacy of bacterial vaccines to prevent respiratory disease in swine: A systematic review and network meta-analysis. *Animal Health Research Reviews*, 20(2), 274-290. doi:10.1017/S1466252319000173
160. Sargeant, J., Michele D. Bergevin, Katheryn Churchill, Kaitlyn Dawkins, Bhumika Deb, Jennifer Dunn, Dapeng Hu, Carly Moody, Annette M. O'Connor, Terri L. O'Sullivan, Mark Reist, **Chong Wang**, Barbara Wilhelm, Charlotte B. Winder (2019). A systematic review of the efficacy of antibiotics for the prevention of swine respiratory disease. *Animal Health Research Reviews*, 20(2), 291-304. doi:10.1017/S1466252319000185
159. Amanda E Bries, Chong Wang, Isaac Agbemafle, Brian Wels, Manju B Reddy. (2019) Assessment of Acute Serum, Non-Transferrin Bound Iron and Gastrointestinal Symptoms with 3-Week Consumption with Iron-Enriched *Aspergillus Oryzae* Compared to Ferrous Sulfate, *Current Developments in Nutrition*, Dec;3(12):nzz127. <https://doi.org/10.1093/cdn/nzz127>
158. Yangjunna Zhang, Annette M. O'Connor, **Chong Wang**, James S. Dickson, H. Scott Hurd, and Bing Wang (2019) Interventions Targeting Deep Tissue Lymph Nodes May Not Effectively Reduce the Risk of Salmonellosis from Ground Pork Consumption: A Quantitative Microbial Risk Assessment. *Risk Analysis*, Vol. 39, No. 10
157. Fan J, Gerber PF, Cubas Atienzar A, Eppink L, Wang C, Opriessnig T. (2019) Porcine reproductive and respiratory syndrome virus RNA detection in different matrices under typical storage conditions in the UK. *Vet Rec.* 2019 Jul 6;185(1):21. doi: 10.1136/vr.105312. Epub 2019 Apr 30.

156. Cesar A. A. Moura, Clayton Johnson, Samuel R. Baker, Derald J. Holtkamp, **Chong Wang**, Daniel C. L. Linhares (2019) Assessment of immediate production impact following attenuated PRRS type 2 virus vaccination in swine breeding herds. *Porcine Health Management* volume 5, Article number: 13.
155. Mehling, S.; Henao-Diaz, A.; Maurer, J.; Kluber, E.; Stika, R.; Rademacher, C.; Zimmerman, J.; Giménez-Lirola, L.; **Wang, C.**; Holtkamp, D.J.; Main, R.; Karriker, L.; Linhares, D.C.L.; Breuer, M.; Goodell, C.; Baum, D. (2019) Mortality Patterns in a Commercial Wean-To Finish Swine Production System. *Vet. Sci.* 2019, 6, 49.
154. Sun, Y\*, **Wang, C.**, Meeker, W. Q., Morris, M. and Zimmerman, J. (2019). A Latent Spatial Piecewise Exponential Model for Interval-Censored Disease Surveillance Data with Time-Varying Covariates and Misclassification. *Statistics and Its Interface*, 12(1):11-19. DOI: 10.4310/SII.2019.v12.n1.a2
153. Allenspach KA, Mochel JP, Du Y, Priestnall SL, Moore F, Slayter M, Rodrigues A, Ackermann M, Krockenberger M, Mansell J; WSAVA GI Standardization Working Group., Luckschander N, **Wang C**, Suchodolski J, Berghoff N, Jergens AE. (2018) Correlating Gastrointestinal Histopathologic Changes to Clinical Disease Activity in Dogs With Idiopathic Inflammatory Bowel Disease. *Vet Pathol.* Dec 18:300985818813090. doi: 10.1177/0300985818813090.
152. Poonsuk K, Giménez-Lirola LG, Magtoto RL, Ji J, Baum DH, Rademacher CJ, Brown JT, Zhang J, **Wang C**, Main RG, Zimmerman JJ. (2018) The effect of chemical clarification of oral fluids on porcine epidemic diarrhea virus antibody responses. *J Vet Diagn Invest.* 30(6):937-941. doi: 10.1177/1040638718798672.
151. Weiser AC, Poonsuk K, Bade SA, Gauger PC, Rotolo M, Harmon K, Gonzalez WM, **Wang C**, Main R, Zimmerman JJ. (2018) Effects of sample handling on the detection of porcine reproductive and respiratory syndrome virus in oral fluids by reverse-transcription real-time PCR. *J Vet Diagn Invest*, 30(6):807-812. doi: 10.1177/1040638718805534.
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149. Garraway K, Johannes CM, Bryan A, Peuroi J, Rossi G, Zhang M, **Wang C**, Allenspach K, Jergens AE. (2018) Relationship of the mucosal microbiota to gastrointestinal inflammation and small cell intestinal lymphoma in cats. *J Vet Intern Med*, 32(5):1692-1702. doi: 10.1111/jvim.15291.
148. Henao-Díaz YA, Giménez-Lirola L, Poonsuk K, Cheng TY, **Wang C**, Ji J, Baum DH, Main RG, Zimmerman JJ. (2018) Effect of chemical clarification of oral fluids on the detection of porcine reproductive and respiratory syndrome virus IgG. *J Vet Diagn Invest*, 30(5):671-677. doi: 10.1177/1040638718789220.
147. Goren E\*, Liu P, Wang C, **Wang C**. (2018) BinQuasi: a peak detection method for ChIP-sequencing data with biological replicates. *Bioinformatics*, 34(17):2909-2917. doi: 10.1093/bioinformatics/bty227.
146. Canning P, Bates J, Skoland K, Coetzee J, Wulf L, Rajewski S, **Wang C**, Gauger P, Ramirez A, Karriker L. (2018) Variation in water disappearance, daily dose, and synovial fluid concentrations of tylvalosin and 3-O-acetyltylosin in commercial pigs during five day water medication with tylvalosin under field conditions. *J Vet Pharmacol Ther*; 41(4):632-636. doi: 10.1111/jvp.12503.

145. Kleinhenz MD, Van Engen NK, Smith JS, Gorden PJ, Ji J, **C Wang**, SCB Perkins, J.F. Coetzee. (2018) The impact of transdermal flunixin meglumine on biomarkers of pain in calves when administered at the time of surgical castration without local anesthesia. *Livestock Science*; 212:1-6. doi: 10.1016/j.livsci.2018.03.016.
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143. Makielski KM, Brooks MB, **Wang C**, Cullen JN, O'Connor AM, LeVine DN. (2018) Development and implementation of a novel immune thrombocytopenia bleeding score for dogs. *J Vet Intern Med*; 32(3):1041-1050. doi: 10.1111/jvim.15089.
142. Yuan C\*, Krull A, **Wang C**, Erdman M, Fedorka-Cray PJ, Logue CM, O'Connor AM. (2018) Changes in the prevalence of Salmonella serovars associated swine production and correlations of avian, bovine and swine-associated serovars with human-associated serovars in the United States (1997-2015). *Zoonoses Public Health*. 65(6) :648–661. doi: 10.1111/zph.12473.
141. Dewell RD, Dewell GA, Euken RM, Sadler LJ, **Wang C**, et al. (2018) Association of floor type with health, well-being, and performance parameters of beef cattle fed in indoor confinement facilities during the finishing phase. *THE BOVINE PRACTITIONER*; 52(1):16.
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138. Gorden, P.J., Kleinhenz, M.D., Wulf, L.W., Rajewski, S.J., **Wang, C.**, Gehring, R., Coetzee, J.F. (2018) Comparative plasma and interstitial fluid pharmacokinetics of flunixin meglumine and ceftiofur hydrochloride following individual and co-administration in dairy cows. *J Vet Pharmacol Ther*, 41(1):76-82. doi: 10.1111/jvp.12437.
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136. Du X, Schrunk DE, Shao D, Imerman PM, **Wang C**, Ensley SM, Rumbelha WK. (2017) Intra-laboratory Development and Evaluation of a Quantitative Method for Measurement of Aflatoxins B1, M1 and Q1 in Animal Urine by High Performance Liquid Chromatography with Fluorescence Detection. *J Anal Toxicol*;41(8):698-707. doi: 10.1093/jat/bkx059.
135. Baker, K.L., Thomas, P.R., Karriker, L.A., Ramirez, A., Zhang, J., **Wang, C.**, Holtkamp, D.J. (2017) Evaluation of an accelerated hydrogen peroxide disinfectant to inactivate porcine epidemic diarrhea virus in swine feces on aluminum surfaces under freezing conditions. *BMC Vet Res*, 13(1):372. doi: 10.1186/s12917-017-1300-4

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132. White, R., Atherly, T., Guard, B., Rossi, G., **Wang, C.**, Mosher, C., Webb, C., Hill, S., Ackermann, M., Sciabarra, P., Allenspach, K., Suchodolski, J., Jergens, A.E. (2017) Randomized, controlled trial evaluating the effect of multi-strain probiotic on the mucosal microbiota in canine idiopathic inflammatory bowel disease. *Gut Microbes*,8(5):451-466. doi: 10.1080/19490976.2017.1334754
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4. King, D., Painter, T., Holtkamp, D., DuBois, P., **Wang, C.** (2010). Effect of injection tool on incidence of head and neck abscesses at slaughter. *Journal of Swine Health and Production*, 18(6):290-293.
3. Kittawornrat, A., Prickett, J., Chittick, W., **Wang, C.**, Engle, M., Johnson, J., Patnayak, D., Schwartz, T., Whitney, D., Olsen, C., Schwartz, K., Zimmerman, J.J. (2010). Porcine reproductive and respiratory syndrome virus (PRRSV) in serum and oral fluid samples from individual boars: Will oral fluid replace serum for PRRSV surveillance? *Virus Research*, 154(1-2):170-176. [DOI:10.1016/j.virusres.2010.07.025](https://doi.org/10.1016/j.virusres.2010.07.025)
2. **Wang, C.**, Turnbull, B. W., Gröhn, Y. T., Nielsen, S. S. (2007). Nonparametric estimation of ROC curves based on Bayesian models when the true disease state is unknown. *Journal of Agricultural, Biological, and Environmental Statistics*, 12:128–146. [DOI:10.1198/108571107X178095](https://doi.org/10.1198/108571107X178095)
1. **Wang, C.**, Turnbull, B. W., Gröhn, Y. T., Nielsen, S. S. (2006). Estimating receiver operating characteristic curves with covariates when there is no perfect reference test for diagnosis of Johne's disease. *Journal of Dairy Science*, 89:3038–3046. [DOI:10.3168/jds.S0022-0302\(06\)72577-2](https://doi.org/10.3168/jds.S0022-0302(06)72577-2)

## PEER-REVIEWED MANUSCRIPTS IN PRESS

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## MANUSCRIPTS SUBMITTED TO PEER-REVIEWED JOURNALS

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1. Ju Ji\*, **Chong Wang**, Marisa Rotolo, Jeff Zimmerman (2020) Modeling the Regional Disease Spread Over Time Using a Dynamic Spatio-temporal Model with an Application in Porcine Epidemic Diarrhea Virus data collected in Iowa, U.S. *Preventive Veterinary Medicine*. Invited revision.
2. Ju Ji\*, Zhulin He, Chong Wang, Karen Hay, Tamsin Barnes, Annette O'Connor. (2018) A Comparison of Statistical Causal Inference Methods for Animal Health Applications. PLOS ONE, Invited Revision.

## MANUSCRIPTS IN PREPERATION

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## RESEARCH GRANTS AND PROPOSALS

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Awarded:

- ◆ FDA (Grant ID: U01 FD007049-01) 09/01/20-08/31/21  
Paul Morley (PI), Bryant T, O'Connor A, Wang C, Nair M, Morgan B, Szasz J, Lawrence T, Richeson T, Lucherker L, Weinheimer B  
Evaluating duration of tylosin phosphate treatment in feedlot cattle for liver abscess prevention to ensure efficacy while addressing concerns about antimicrobial resistance  
Role: Co-Investigator  
Total Award Amount: \$499,943
- ◆ USDA 07/01/18-10/31/20  
Annette O'Connor (PI), Chong Wang  
Solving the inadequacies of current approaches to analysis of antibiotic resistance data.  
Role: Co-Investigator  
Total Award Amount: \$100,000
- ◆ Swine Health Information Center 01/01/19-12/01/20  
Luis Gimenez-Lirola (PI), Phillip Gauger, Rodger Main, Chong Wang, Jeffrey Zimmerman  
Detection of PRV Shedding by PCR: Nasal Swab vs Oral Fluid Samples  
Role: Co-PI  
Total Award Amount: \$102,174
- ◆ Central Plains Federal Statistical Research Data Center (CPRDC) 10/01/18-9/30/19  
Chong Wang (PI), Zhengyuan Zhu, Duck-chul Lee, Peng Liu, Zhulin He  
Statistical Causal Inference Analyses of the Effect of Physical Activity on Cardiovascular Disease and Diabetes  
Role: Principle Investigator  
Total Award Amount: \$ 10,000

- ◆ Swine Health Information Center 09/01/18-09/01/19  
Zimmerman (PI)  
Validation of a FMDV 3ABC indirect ELISA (iELISA) for swine oral fluid specimens  
The goal of this project is to create a FMD 3ABC antibody indirect ELISA (iELISA) for use with swine oral fluids.  
Role: Co-PI  
Total Award Amount: \$24,702
- ◆ Swine Health Information Center 10/01/18-9/30/19  
Jeff Zimmerman(PI), Chong Wang, Rodger Main  
Development of Regional Surveillance Systems for Emerging and FADs of Swine  
Role: Co-PI  
Total Award Amount: \$24,702
- ◆ National Pork Board Checkoff research funds 10/01/17-9/30/18  
Chong Wang (PI), Jeffrey Zimmerman  
What is the best oral fluid sampling strategy for PRRSV detection? A spatiotemporal approach.  
Role: Principle Investigator  
Total Award Amount: \$ 26,062
- ◆ Swine Health Information Center 10/01/17-9/30/18  
Luis G Gimenez-Lirola (PI), Jeffrey Zimmerman, David Baum, Pablo Pineyro, Rodger Main, Chong Wang  
Development of PRV oral fluid/fecal antibody ELISAs (screening and DIVA)  
Role: Investigator  
Total Award Amount: \$ 72,437
- ◆ National Pork Board Checkoff research funds 10/01/11-9/30/13  
Chong Wang (PI), Jeffrey Zimmerman, Jae-Kwang Kim, Alejandro Ramirez, Derald Holtkamp  
Design and analysis of PRRSv surveillance: temporal and spatial sampling, mapping, monitoring and automated rapid detection of outbreak  
Role: Principle Investigator  
Total Award Amount: \$ 24,378
- ◆ FDA 9/1/2013-8/31/2018  
Wilson Rumbelha (PI), Steve Ensley, Paula Imerman, Chong Wang  
ISU Vet-LIRN collaborative validation of testing methods on animal diagnostic specimens  
Role: Co – Principal Investigator  
Total Award Amount: \$ 495,000
- ◆ USDA-NIFA-AFRI Jeffrey Zimmerman (PI) 03/01/12-12/31/14  
Safeguarding the viability of US swine producers through a comprehensive and integrated swine health surveillance system. Part 1. Optimization of diagnostic assays for oral fluid specimens

Role: Co-Investigator  
Total Award Amount: \$ 250,000

- ◆ NIH U19 AI-091031 Michael W. Cho (PI) 07/01/10-6/30/15  
Enhancing B cell immunity against HIV-1 using novel vaccine delivery platforms  
Role: Statistician  
Total Award Amount: \$ 6,859,390
- ◆ National Pork Board Checkoff research funds 01/01/14-06/30/14  
Luis Gabriel Gimenez-Lirola (PI), Kyoung-Jin Yoon, John K Johnson, Darin Michael Madson, Rodger Gary Main, Chong Wang, Jianqiang Zhang, Jeffrey J Zimmerman  
Defining PEDV maternal humoral immunity and correlates of neonatal protection  
Role: Co - Principal Investigator  
Total Award Amount: \$ 107,711
- ◆ National Pork Board Checkoff research funds 12/01/13-11/30/15  
Jeffrey Zimmerman (PI), Kyoung-Jin Yoon, Chong Wang  
Development of on-farm PRRSV surveillance guidelines for the modern pork industry  
Role: Co - Principal Investigator  
Total Award Amount: \$ 199,918
- ◆ Innovative Swine Industry Enhancement Grant Program (ISIEGP), Iowa Attorney General's Office in collaboration with Smithfield Foods Inc. 09/01/13-08/31/14  
Jeffrey Zimmerman (PI), Chong Wang, Kyoung-Jin Yoon  
Developing sample size and frequency guidelines for PRRSV surveillance using pen-based oral fluid samples  
Role: Co - Principal Investigator  
Total Award Amount: \$ 71,027
- ◆ Innovative Swine Industry Enhancement Grant Program, Iowa Attorney General's Office Jeffrey Zimmerman (PI) 05/16/11-05/15/12  
Sample size recommendations for the detection of porcine reproductive and respiratory syndrome virus (PRRSV) infection using pen-based oral fluid samples.  
Role: Co- Principal Investigator  
Total Award Amount: \$ 50,538
- ◆ Zurex Pharma, Inc. (2013) 01/01/13-12/31/14  
Jennifer Schleining (PI), Paul Plummer, Chong Wang  
Antimicrobial Efficacy of a Solution Containing Sodium Citrate and Isopropyl Alcohol as a Preoperative Preparation in Cattle Under Field Conditions.  
Role: Co - Principal Investigator  
Total Award Amount: \$ 36,000
- ◆ American Kennel Club Albert E Jergens (PI) 01/15/12-01/15/14  
Probiotic VSL# 3 reduces enteritis in dogs with inflammatory bowel disease  
Role: Statistician

Total Award Amount: \$ 97,416

- ◆ ISU Presidential Initiative for Interdisciplinary Research (PIIR)  
Balaji Narasimhan (PI), Michael Wannemuehler, Susan Carpenter  
Systems Design of Nanovaccines  
Role: Investigator  
Total Award Amount: \$ 1,500,000

07/01/13-06/30/16
  
- ◆ ISU Presidential Initiative for Interdisciplinary Research (PIIR)  
Michael Cho (PI), Jim Roth, Kyoungjin Yoon  
Integrated, interdisciplinary vaccine research against antigenically diverse viruses  
Role: Investigator  
Total Award Amount: \$ 1,245,000

07/01/13-06/30/16
  
- ◆ ISU Women’s and Diversity Grants Program  
Wilson Rumbelha (PI), Catherine Logue, Chong Wang  
College of Veterinary Medicine diversity climate survey  
Role: Co – Principal Investigator  
Total Award Amount: \$ 5,000

07/01/14-06/30/15
  
- ◆ ISU VCS Competitive Grants David Wong (PI)  
Use of Intravenous Polymyxin B to Ameliorate Endotoxemia in Neonatal Foals  
Role: Statistician  
Total Award Amount: \$ 5,320

01/01/11-12/31/11
  
- ◆ ISU VCS Competitive Grants Bruce W Christensen(PI)  
Somali wild ass (*Equus africanus somaliensis*) chilled semen transport for frozen cryopreservation  
Role: Co-Investigator  
Total Award Amount: \$ 4,900

01/01/11-12/31/11
  
- ◆ Iowa State University CVM Health Livestock Initiative (HLI) 701-05-04-00-0036  
Patrick J. Gorden (PI)  
Development of a Metagenomics Tool Box and Application of Metagenomics to Address culture Negative Clinical Mastitis Samples  
Role: Co-Investigator  
Total Award Amount: \$ 30,000

07/01/09-06/30/11

Proposals Pending:

- ◆ NIH  
Thippeswamy, Thimmasettapp (PI), Wang, Chong  
Saracatinib and 1400W counteract Soman-induced Long-term Neurotoxicity  
Role: Co-Investigator  
Total Award Amount: \$ 3,709,810

07/01/20-06/30/25

- ◆ NIH 07/01/20-06/30/22  
Wilson Rumbelha (PI), Jodi D Smith, Chong Wang  
Mechanisms of dual Midazolam-Cobinamide therapy for acute hydrogen sulfide-induced morbidity and mortality  
Role: Co-Investigator (10%)  
Total Award Amount: \$ 406,849
- ◆ NIH 04/01/20-03/31/23  
Kanthasamy, Anumantha G (PI), Arthi Kanthasamy, Wang, Chong, Gregory Phillips, Jonathan Mochel, Shankumar Mooyottu  
Novel Re-engineered L-DOPA probiotic therapy for Parkinson's Disease  
Role: Co-Investigator (3%)  
Total Award Amount: \$ 1,177,494

Proposals Not Funded:

- ◆ NIH 09/01/19-08/30/24  
Kanthasamy, Anumantha G (PI), Arthi Kanthasamy, Wang, Chong, Auriel A Willette  
Evaluation of Rationale Based Progression Biomarkers for Parkinson's Disease Dementia  
Role: Co-Investigator (7%)  
Total Award Amount: \$ 3,828,906
- ◆ DOD 9/1/2019-2/28/2021  
Kanthasamy, Anumantha G (PI), Mochel, Jonathan P, Phillips, Gregory J, Wang, Chong, Kanthasamy, Arthi  
Reengineered L-DOPA Microbiome Therapy for Depression  
Role: Co-Investigator (5%)  
Total Award Amount: \$ 534,859
- ◆ NIH 07/01/19-06/30/24  
Thippeswamy, Thimmasettapp (PI), Wang, Chong  
Saracatinib and 1400W counteract Nerve Agent-induced Long-term Neurotoxicity  
Role: Co-Investigator  
Total Award Amount: \$ 3,172,655
- ◆ NIH 04/01/19-03/31/24  
Wilson Rumbelha (PI), Arthi Kanthasamy, Smith, Jodi D, Chong Wang  
Deciphering mechanisms of acute hydrogen sulfide-induced neurotoxicity  
Role: Co-Investigator  
Total Award Amount: \$ 1,851,362
- ◆ NIH 07/01/17-06/30/22  
Wilson Rumbelha (PI), Arthi Kanthasamy, Anumantha G Kanthasamy, Chong Wang, Paula M Imerman  
Optimizing cobinamide-midazolam combination therapy for treatment of hydrogen sulfide induced neurotoxicity and neurodegeneration  
Role: Co-Investigator (10%)

Total Award Amount: \$ 3,409,732

- ◆ NIH 03/01/17-2/28/22  
Michael Cho (PI), David Verhoeven, Chong Wang, Young-Jin Lee, Chenxu Yu  
Eliciting protective antibody responses against HIV-1 gp41 MPER  
Role: Co-Investigator (0.620%)  
Total Award Amount: \$ 10,529,573
  
- ◆ FOUNDATION FOR MEAT AND POULTRY 02/01/17-01/31/18  
Annette M O'Connor (PI), Chong Wang, Catherine Logue, James S Dickson  
Assessing the impact of pathogen reduction treatments in plant on Salmonella serotype I 4,[5],  
12:i:-  
Role: Co-Investigator (25%)  
Total Award Amount: \$ 136,809
  
- ◆ NATIONAL PORK BOARD 05/01/17-04/30/18  
Chong Wang (PI), Annette M O'Connor  
Assessing association in antimicrobial resistance between swine and human: A Bayesian  
latent class hierarchical model with arbitrary censoring  
Role: Principle-Investigator (50%)  
Total Award Amount: \$ 21,557
  
- ◆ Boehringer Ingelheim Vetmedica, Inc. 05/16/17-05/15/18  
Chong Wang (PI), Jeff Zimmerman  
What is the best oral fluid sampling strategy for PRRSV detection? An analysis of  
spatiotemporal field data  
Role: Principle-Investigator (50%)  
Total Award Amount: \$ 34,714
  
- ◆ AMERICAN ASSOCIATION OF SWINE VETERINARIANS 06/01/17-05/31/18  
Jianqiang Zhang (PI), Phillip Gauger, Karen M Harmon, Rodger Gary Main, Chong Wang  
Comparison of PRRSV virus isolation in different cell lines towards improving success of  
isolating PRRSV from clinical samples  
Role: Co-Investigator (20%)  
Total Award Amount: \$ 30,000
  
- ◆ SWINE HEALTH INFORMATION CENTER 09/01/17-08/31/18  
Jeff Zimmerman (PI), Chong Wang, Rodger Gary Main  
An exploration of surveillance based on spatial sampling using ISU VDL submission.  
Role: Principle-Investigator (33%)  
Total Award Amount: \$ 69,792
  
- ◆ USDA-NIFA-AFRI 01/01/15-12/31/19  
James Roth (PI), Rodger Main, Jeffrey Zimmerman, Max Morris, Chong Wang  
Implementation of the Secure Pork Supply Business Continuity Plan to Improve  
Prevention, Early Detection, Rapid Diagnosis, Containment, Mitigation and Recovery  
from Four Foreign Animal Diseases  
Role: Co-Investigator  
Total Award Amount: \$ 7,476,936.00

- ◆ Iowa Pork Producers Association 01/01/13-12/31/13  
Phil Gauger (PI)  
Detection and characterization of Influenza A virus endemic circulation in neonatal nursery pigs in a farm using routine influenza vaccination  
Role: Co-Investigator  
Total Award Amount: \$ 70,000
  
- ◆ USDA Johann Coetzee (PI) 12/01/12-11/30/16  
Pain mitigation in organic livestock production: identifying needs and evaluating interventions that assist producers in enhancing animal welfare  
Role: Co-Investigator  
Total Award Amount: \$ 1,270,475
  
- ◆ Morris Animal Foundation (MAF) Grant Annette M O'Connor (PI) 07/01/12-06/30/13  
A systematic review and meta-analysis of the comparative efficacy of interventions for the reduction of fleas populations in dogs  
Role: Co-Investigator  
Total Award Amount: \$ 36,765
  
- ◆ National Science Foundation Robert W Thornburg (PI) 10/01/12-09/30/15  
GEPR: Genomics and biochemistry of plant secretions among the core eudicots  
Role: Co- Principal Investigator  
Total Award Amount: \$ 2,457,192
  
- ◆ Boehringer Ingelheim Vetmedica Inc. Grant Tanja Opriessnig (PI) 03/16/11-03/15/12  
Best Practices For Minimizing False Positive PRRSV Serology Test Results  
Role: Co- Investigator  
Total Award Amount: \$ 25,000
  
- ◆ NSF IOS Plant Genome Research Project 07/01/11-06/30/15  
Robert W Thornburg (PI)  
Genomics and biochemistry of plant secretions among the core eudicots  
Role: Co- Principal Investigator  
Total Award Amount: \$ 3,823,222
  
- ◆ NSF IOS Organismal environ interactions Robert W Thornburg (PI) 07/01/11-06/30/14  
Functional Characterization of swarms of plant peptides and the proteases that spawn them  
Role: Co- Principal Investigator  
Total Award Amount: \$ 1,545,303
  
- ◆ ISU CVM Seed Grants Program Chong Wang (PI) 07/01/11-06/30/12  
Sequential Design and Analysis of Animal Infectious Disease Surveillance  
Role: Principle Investigator  
Total Award Amount: \$ 20,000
  
- ◆ Morris Animal Foundation (MAF) Grant Bruce W Christensen(PI) 01/01/11-12/31/12



Somali wild ass (*Equus africanus somaliensis*) chilled semen transport for cryopreservation  
Role: Co-Investigator  
Total Award Amount: \$ 96,331

- ◆ DOD Albert Jergens (PI) 07/01/11-06/30/14  
Rules of Engagement: Bacterial Mucosal Association Promotes Inflammation and Risk of IBD  
Role: Co-Investigator  
Total Award Amount: \$ 1,025,394
- ◆ NIH R01 Albert Jergens (PI)  
Imbalances in gut microbiota define onset and severity of colitis  
Role: Co-Investigator  
Total Award Amount: \$ 2,548,516
- ◆ PFIZER ANIMAL HEALTH Annette O'Connor (PI)  
An equivalence study for two commercially available PCVII vaccines  
Role: Co-Investigator  
Total Award Amount: \$ 109,754
- ◆ USDA AFRI Nancy Cornick (PI) 1/1/11-12/31/16  
Addressing mechanisms of *Mycoplasma hyopneumoniae* pathogenesis through functional genomics  
Role: Co-Investigator  
Total Award Amount: \$ 2,478,227
- ◆ USDA AFRI Jeffrey Zimmerman (PI) 06/01/11-05/31/14  
New Biology for the 21st Century: Defining New Standards of Animal Welfare and Health in Commercial Swine Populations  
Role: Co-Investigator  
Total Award Amount: \$ 699,517
- ◆ USDA AFRI Chris Minion (PI)  
Addressing mechanisms of *Mycoplasma hyopneumoniae* pathogenesis through functional genomics  
Role: Co-Investigator  
Total Award Amount: \$ 817,156
- ◆ NIH R15 Tim Frana (PI)  
Methicillin-resistant staphylococci found in students visiting animal facilities  
Role: Statistician
- ◆ Boehringer Ingelheim Vetmedica Inc. Bovine Infectious Disease Research Initiative Program  
Annette O'Connor (PI)  
Understanding the Role of *Moraxella bovoculi* in the Epidemiology of Infectious Bovine Keratoconjunctivitis (IBK)  
Role: Co-Investigator

## INVITED PRESENTATIONS

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- ◆ Network Meta-analysis for Veterinarians, Department of Population Medicine, Ontario Veterinary College, University of Guelph, Guelph, Ontario, Canada, December, 2019
- ◆ Modeling Regional PEDV Spread Among Swine Farms in Iowa Using a Bayesian Spatio-temporal Model with Missing Data. USDA, Fort Collins, August, 2019
- ◆ Spatio-temporal approaches to surveillance sampling for disease detection. Keynote Speech. 99th Ann Meet Conference of Research Workers in Animal Diseases. Chicago, Illinois. Dec. 2018
- ◆ A Semi-parametric Bayesian Approach for Differential Gene Expression Analysis with RNA-seq Data, Computational and Applied Math Seminar, Department of Mathematics, Iowa State University, Ames, IA, Sep, 2014
- ◆ Zero-Inflated Poisson Model for Insertion Tolerance Analysis of Genes Based on Tn-seq Data. Symposium: Innovations in Design, Analysis, and Dissemination: Frontiers in Biostatistical Methods. Overland Park, Kansas, April, 2014.
- ◆ Surveillance samples: Where? How many? How often? AASV 2013 Annual Meeting, San Diego, CA, USA, March, 2013
- ◆ Design of repeated sampling for disease detection in surveillance of PRRSV, 2013 ICSA/ISBS Joint Statistics Conference, Bethesda, MD, USA, June, 2013
- ◆ Bayesian Analysis of Longitudinal Disease Diagnostic Data without a Perfect Reference Test, Animal Breeding and Genetics Seminar Series, Iowa State University, Ames, IA, March, 2012
- ◆ Design and analysis of PRRSV surveillance in swine, ICSA 2012 Applied Statistics Symposium, Boston, MA, July 26, 2012
- ◆ Method of Moments Estimation for the Proportion of the True Null Hypotheses in Multiple Testing. Iowa State University 2009 Conference in Statistics. Ames, IA. June 2009.
- ◆ ROC Analysis for Longitudinal Disease Diagnostic Data Without a Gold Standard Test  
University of Kentucky, KY, 2007  
University of Pittsburgh, PA, 2007  
University of Arizona, AZ, 2007  
University of Missouri at Kansas City, MO, 2007  
New Jersey Institute of Technology, NJ, 2007  
California State University, Long Beach, CA, 2007  
Georgia Southern University, GA, 2007
- ◆ Estimation of ROC Curves when There Is No Perfect Reference Test  
Brown University, RI, 2006  
University of Missouri at Columbia, MO, 2006

## OTHER PRESENTATIONS/PROCEEDINGS

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- ◆ A spatio-temporal model for disease spread at regional level. Senior oral presentation, GeoVet 2019, University of California, Davis, October, 2019.
- ◆ Mehling, S., Zimmerman, J. J., Baum, D. H., Rademacher, C. J., Gimenez-Lirola, L. G., Wang, C., ... Stika, R. (2019). Wean-to-finish pig death patterns associated with stocking

density and profitability differences. In Pig Welfare Symposium 2019. Minneapolis, MN. poster #7.

- ◆ Zimmerman, J. J., Arruda, B. L., Baum, D. H., Burrough, E. R., Derscheid, R. J., Gauger, P. C., ... Zhang, J. (2019). NC-229 multistate Committee: Iowa State University Annual Report (2018-2019). In Proceedings of the North American PRRS Symposium (p. 84).
- ◆ Zimmerman, J. J., Baum, D. H., Pineyro-Pineiro, P. E., Wang, C., Main, R. G., Gimenez-Lirola, L. G., ... Poonsuk, K. (2019). Detection of pseudorabies virus antibody in serum and oral fluid specimens using a whole virus indirect IgG ELISA. In Proc 100th Annual Conference of Research Workers in Animal Diseases. Chicago, Illinois.abstr #45
- ◆ Mehling, S., Zimmerman, J. J., Baum, D. H., Rademacher, C. J., Gimenez-Lirola, L. G., Wang, C., ... Stika, R. (2019). Wean-to-finish pig death patterns associated with stocking density and profitability differences. In Pig Welfare Symposium 2019. Minneapolis, MN. poster #7.
- ◆ Zimmerman, J. J., Baum, D. H., Pineyro-Pineiro, P. E., Wang, C., Main, R. G., Gimenez-Lirola, L. G., ... Poonsuk, K. (2019). Detection of pseudorabies virus antibody in serum and oral fluid specimens using a whole virus indirect IgG ELISA. In Proc 100th Annual Conference of Research Workers in Animal Diseases. Chicago, Illinois. abstr #45
- ◆ Zimmerman, J. J., Rademacher, C. J., Gimenez-Lirola, L. G., Wang, C., Holtkamp, D. J., Main, R. G., ... Stika, R. (2019). Detection of pig death patterns during the wean-to-finish period, differences in profitability, and association to management practices and presence of endemic pathogens. In Proc 50th Ann Meet Am Assoc Swine Veterinarians. Orlando, Florida. pp. 281-282
- ◆ Zimmerman, J. J., Arruda, B. L., Baum, D. H., Burrough, E. R., Derscheid, R. J., Gauger, P. C., ... Zhang, J. (2019). NC-229 multistate Committee: Iowa State University Annual Report (2018-2019). In 2019 Proc North American PRRS Symposium. (p. 84). p. 84
- ◆ Zimmerman, J. J., Rademacher, C. J., Gimenez-Lirola, L. G., Wang, C., Holtkamp, D. J., Main, R. G., ... Stika, R. (2019). Detection of pig death patterns during the wean-to-finish period, differences in profitability, and association to management practices and presence of endemic pathogens. In Proc 50th Ann Meet Am Assoc Swine Veterinarians. (pp. 281–282). pp. 281-282
- ◆ Zimmerman, J. J., Rademacher, C. J., Gimenez-Lirola, L. G., Wang, C., Holtkamp, D. J., Main, R. G., ... Stika, R. (2019). Detection of pig death patterns during the wean-to-finish period, differences in profitability, and association to management practices and presence of endemic pathogens. In 50th Ann Meet Am Assoc Swine Veterinarians. Orlando, Florida. pp. 281-282
- ◆ Zimmerman, J. J., & Wang, C. (2019). A spatio-temporal model for disease spread at the regional level. In Proc Novel Spatio-Temporal Approaches in the Era of Big Data. University of California, Davis, California. doi: 10.3389/conf.fvets.2019.05.00040.
- ◆ Zimmerman, J. J., Gimenez-Lirola, L. G., & Wang, C. (2019). Diagnostic assay development and applications to infectious disease surveillance. In Proc 19th International Symposium of the World Association of Veterinary Laboratory Diagnosticians and OIE Seminar. Chiang Mai, Thailand. pp. 56-57
- ◆ Zimmerman, J. J., Baum, D. H., Wang, C., Gimenez-Lirola, L. G., Rademacher, C. J., Holtkamp, D. J., ... Schmaling, E. (n.d.). Measuring the respiratory pathogen burden in

- growing pigs to estimate the impact of disease. In Proc 11th European Symposium of Porcine Health Management. Utrecht, the Netherlands. Abstr HHM-OP-04
- ◆ Linhares, D. C. L., Rademacher, C. J., Zimmerman, J. J., Gimenez-Lirola, L. G., Wang, C., Ramirez, A., ... Goodell, C. (2019). Wean-to-Finish Pig Death Patterns Associated with Stocking Density and Profitability Differences. November 13-15, 2019 Poster 7
  - ◆ Cheng, T., Baum, D. H., Buckley, A., van Geelen, A., Lager, K., Henao-Diaz, A., ... Gimenez-Lirola, L. G. (2019). Detection of pseudorabies virus antibody in serum and oral fluid specimens using a whole virus indirect IgG ELISA. In Proc. 100th Conference of Research Workers in Animal Diseases (CRWAD 2019). (p. Abstract #45).
  - ◆ Zimmerman, J. J., Arruda, B. L., Baum, D. H., Burrough, E. R., Derscheid, R. J., Gauger, P. C., ... Zhang, J. (2019). NC-229 multistate Committee: Iowa State University Annual Report (2018-2019). In Proceedings of the North American PRRS Symposium (p. 84).
  - ◆ Zimmerman, J. J., Arruda, B. L., Baum, D. H., Burrough, E. R., Derscheid, R. J., Gauger, P. C., ... Zhang, J. (2019). NC-229 multistate Committee: Iowa State University Annual Report (2018-2019). In Proceedings of the North American PRRS Symposium (p. 84).
  - ◆ Zimmerman, J. J., Baum, D. H., Wang, C., Gimenez-Lirola, L. G., Rademacher, C. J., Holtkamp, D. J., ... Schmalings, E. (2019). Measuring the respiratory pathogen burden in growing pigs to estimate the impact of disease. In Proc 11th European Symposium of Porcine Health Management. Utrecht, the Netherlands. Abstr HHM-OP-04
  - ◆ Zimmerman, J. J., Baum, D. H., Rademacher, C. J., Gimenez-Lirola, L. G., Wang, C., Ramirez, A., ... Stika, R. (2019). Wean-to-finish pig death patterns associated with stocking density and profitability differences. In Pig Welfare Symposium 2019. Minneapolis, MN. poster #7.
  - ◆ Zimmerman, J. J., Arruda, B. L., Baum, D. H., Burrough, E. R., Derscheid, R. J., Gauger, P. C., ... Zhang, J. (2019). NC-229 multistate Committee: Iowa State University Annual Report (2018-2019). In 2019 Proc North American PRRS Symposium. (p. 84). Chicago, Illinois. p. 84
  - ◆ Zimmerman, J. J., Arruda, B. L., Baum, D. H., Burrough, E. R., Derscheid, R. J., Gauger, P. C., ... Zhang, J. (2019). NC-229 multistate Committee: Iowa State University Annual Report (2018-2019). In 2019 Proc North American PRRS Symposium. (p. 84). Chicago, Illinois. p. 84
  - ◆ Zimmerman, J. J., Rademacher, C. J., Gimenez-Lirola, L. G., Wang, C., Holtkamp, D. J., Main, R. G., ... Stika, R. (2019). Detection of pig death patterns during the wean-to-finish period, differences in profitability, and association to management practices and presence of endemic pathogens. In 50th Ann Meet Am Assoc Swine Veterinarians. (pp. 281–282). pp. 281-282
  - ◆ Zimmerman, J. J., Rademacher, C. J., Gimenez-Lirola, L. G., Wang, C., Holtkamp, D. J., Main, R. G., ... Stika, R. (2019). Detection of pig death patterns during the wean-to-finish period, differences in profitability, and association to management practices and presence of endemic pathogens. In 50th Ann Meet Am Assoc Swine Veterinarians. Orlando, Florida. pp. 281-282
  - ◆ Zimmerman, J. J., Wang, C., Main, R. G., & Rotolo, M. (2019). Application of spatially balanced sampling to regional surveillance. In 50th Ann Meet Am Assoc Swine Veterinarians. Orlando, Florida. p. 321

- ◆ Zimmerman, J. J., Arruda, B. L., Baum, D. H., Burrough, E. R., Derscheid, R. J., Gauger, P. C., ... Zhang, J. (2019). NC-229 multistate Committee: Iowa State University Annual Report (2018-2019). In Proc North American PRRS Symposium. Chicago, Illinois. p. 84
- ◆ Yim-Im, W., Huang, H., Park, J., Wang, C., Calzada, G., Gauger, P. C., ... Zhang, J. (2019). Comparison of different cell lines for improving PRRSV virus isolation from clinical samples. In Proc 50th Annual Meeting American Association of Swine Veterinarians (pp. 37–39).
- ◆ Holtkamp, D. J., Baum, D. H., Wang, C., Zimmerman, J. J., Gimenez-Lirola, L. G., Rademacher, C. J., & Stika, R. (2019). Measuring the respiratory pathogen burden in growing pigs to estimate the impact of disease. In 11th European Symposium of Porcine Health Management (p. 66).
- ◆ Yim-Im, W., Huang, H., Park, J., Wang, C., Calzada, G., Gauger, P. C., ... Zhang, J. (2019). Comparison of different cell lines for improving PRRSV virus isolation from clinical samples. In Comparison of different cell lines for improving PRRSV virus isolation from clinical samples (pp. 37–39).
- ◆ Holtkamp, D. J., Baum, D. H., Wang, C., Zimmerman, J. J., Gimenez-Lirola, L. G., Rademacher, C. J., & Stika, R. (2019). Measuring the respiratory pathogen burden in growing pigs to estimate the impact of disease. (p. 132). \*Sun, Y., **Wang, C.**, Zimmerman, J. Hidden Markov Modeling of Oral Fluid Detection of PRRSV Antibody in Swine Herds. Joint Statistical Meetings, Boston, MA, August, 2014.
- ◆ \*Liu, F., **Wang, C.**, Liu, P. Zero-Inflated Poisson Regression for Identification of Essential Genes with Tn-Seq Data. Joint Statistical Meetings, Boston, MA, August, 2014.
- ◆ Giménez-Lirola LG, Mur L, Rivera B, **Wang C**, Lizano S, Goodell C, Rowland R, Harris DL, Gallardo C, Arias M, Sánchez-Vizcaíno JM, Zimmerman J. June 11, 2014. The African swine fever rp30 ELISA detects antibody in serum and/or oral fluid specimens. 23rd International Pig Veterinary Society Congress. Cancún, México.
- ◆ Giménez-Lirola LG, Mur L, Rivera B, **Wang C**, Rowland R, Harris DL, Gallardo C, Arias M, Zimmerman J, Sánchez-Vizcaíno JM. June 10, 2014. Multiplex Luminex® assay for detection of antibodies against three major proteins of ASFV. 23rd International Pig Veterinary Society Congress. Cancún, México.
- ◆ Goodell CK, Prickett JR, Kittawornrat A, **Wang C**, Zimmerman J. June 11, 2014. Influenza antibody detection in swine using the influenza A multispecies ELISA - experimental study. 23rd International Pig Veterinary Society Congress. Cancún, México.
- ◆ Holmes A, Gonzalez W, Gauger P, Abate S, Yoon KJ, **Wang C**, Zimmerman J. June 11, 2014. Effect of pretreatment on detection of PRRSV in oral fluid by qRT-PCR assay. 23rd International Pig Veterinary Society Congress. Cancún, México.
- ◆ Holmes A, Kittawornrat A, Goodell C, Panyasing Y, **Wang C**, Hoff S, Subramanya K, Zimmerman J. June 10, 2014. Behavioral aspects of oral fluid sample collection. 23rd International Pig Veterinary Society Congress. Cancún, México.
- ◆ Kittawornrat A, Panyasing Y, Goodell C, **Wang C**, Gauger P, Harmon K, Rauh R, Defresne L, Levis I, Zimmerman J. June 9, 2014. PRRSV surveillance using pre-weaning oral fluid samples detects circulation of wild-type PRRSV. 23rd International Pig Veterinary Society Congress. Cancún, México.

- ◆ Panyasing Y, Goodell C, Kittawornrat A, **Wang C**, Levis I, Defresne L, Rauh R, Gauger P, Zhang J, Lin K, Nezai S, Azeem S, Yoon KJ, Zimmerman J. June 10, 2014. Influenza A virus (IAV) surveillance using pre-weaning oral fluid samples. 23rd International Pig Veterinary Society Congress. Cancún, México.
- ◆ Panyasing Y, Goodell C, Kittawornrat A, **Wang C**, Levis I, Defresne L, Rauh R, Gauger P, Zhang J, Lin K, Nezami S, Azeem S, Yoon K-J, Zimmerman J. March 2014. Influenza A virus (IAV) surveillance using pre-weaning oral fluid samples. Proceedings of the American Association of Swine Veterinarians. Dallas, Texas, p. 421.
- ◆ Liu, P., **Wang, C.**, \*Liu. F., A Novel Bayesian Approach for Differential Expression Analysis with RNA-Seq Data. Joint Statistical Meetings, Montreal, Canada, August, 2013.
- ◆ \*Fang, Y., **Wang, C.**, Design of Repeated Sampling for Disease Detection Problem. Joint Statistical Meetings, Montreal, Canada, August, 2013.
- ◆ Olsen C, Coetzee J, Karriker L, Kittawornrat A, Lizano S, Main R, Meiszberg A, Panyasing Y, **Wang C**, Zimmerman J. March 2013. Effect of sample collection material on the detection of PRRSV in oral fluid. Proceedings of the American Association of Swine Veterinarians. San Diego, California, p. 63.
- ◆ Olsen C, **Wang C**, Christopher-Hennings J, Doolittle K, Abate S, Harmon K, Kittawornrat K, Lizano A, Main R, Nelson E, Otterson T, Panyasing Y, Rademacher C, Rauh R, Shah R, Zimmerman J. March 2013. Probability of detecting PRRSV infection using pen-based swine oral fluid specimens as a function of within-pen prevalence. Proceedings of the American Association of Swine Veterinarians. San Diego, California, p. 109-110.
- ◆ Panyasing Y, Goodell C, Giménez-Lirola L, **Wang C**, Kittawornrat A, Lisano S, Lopez P, Schwartz K, Zimmerman J. Detection of influenza A virus nucleoprotein antibody (IgM, IgA, IgG) in serum and oral fluid specimens. Proceedings of the 44th annual meeting of the American Association of Swine Veterinarians. March 2-5, 2013, San Diego, California, p. 409.
- ◆ Kittawornrat A, **Wang C**, Anderson G, Ballagi A, Broes A, Carman S, Doolittle K, Galeota J, Johnson J, Lizano S, Nelson E, Patnayak D, Pogradichniy R, Rice A, Scherba G, Zimmerman J. Ring test evaluation for the detection of PRRSV antibody in oral fluid specimens using a commercial PRRSV serum antibody ELISA. Proceedings of the 44th annual meeting of the American Association of Swine Veterinarians. March 3, 2013, San Diego, California, p.61
- ◆ Panyasing Y, Goodell C, Giménez-Lirola L, **Wang C**, Kittawornrat A, Lisano S, Lopez P, Schwartz K, Zimmerman J. Detection of influenza A virus nucleoprotein antibody (IgM, IgA, IgG) in serum and oral fluid specimens. Proceedings of the 44th annual meeting of the American Association of Swine Veterinarians. March 2-5, 2013, San Diego, California, p. 409.
- ◆ Panyasing Y, Irwin C, **Wang C**, Kittawornrat A, Prickett J, Schwartz KJ, Ballagi A, Zimmerman J. June 2012. Adaptation of a commercial nucleoprotein (NP) blocking ELISA to the detection of antibodies against influenza A virus in pig oral fluid specimens. Proceedings, 22nd International Pig Veterinary Society Congress. Jeju, Korea, p. 426.

- ◆ Olsen C, Coetzee J, Karriker J, Kittawornrat A, Lizano S, Main R, Meiszberg A, Panyasing Y, **Wang C**, Zimmerman J. June 2012. Effect of sample collection material on detection of PRRSV antibody in oral fluid. Proceedings, 22nd International Pig Veterinary Society Congress. Jeju, Korea, p. 986.
- ◆ Irwin C, **Wang C**, Johnson J, Zimmerman J, Kittawornrat A, Prickett J. October 2011. The detection of antibodies to different Subtypes of influenza A virus in swine using a multispecies blocking ELISA. Proc. 54th Annual Conference American Association of Veterinary Laboratory Diagnosticians. Buffalo, NY, p. 152.
- ◆ Kittawornrat A, **Wang C**, Ballagi A, Lizano S, Johnson J, Doolittle K, Nelson E, Broes A, Zimmerman J. April, 2012. Ring test evaluation of the PRRS oral fluid IgG ELISA. 4th European Symposium of Porcine Health Management. Bruges, Belgium, p. 172.
- ◆ Kittawornrat A, **Wang C**, Olsen C, Panyasing Y, Ballagi A, Rice A, Lizano S, Johnson J, Main R, Rowland R, Zimmerman J. April, 2012. Diagnostic performance of the PRRS oral fluid IgG ELISA. 4th European Symposium of Porcine Health Management. Bruges, Belgium, p. 171.
- ◆ **Wang C**, Turnbull, B. W., Nielsen, S. S. and Gröhn, Y. T., Bayesian analysis of longitudinal Johne's disease diagnostic data without a gold standard test. 2011 ADSA-ASAS Joint Annual Meeting. July 2011, New Orleans, LA.
- ◆ Kittawornrat A, Prickett J, **Wang C**, Olsen C, Irwin C, Panyasing Y, Ballagi A, Rice A, Main R, Rademacher C, Hoogland M, Zimmerman J. October 2011. Adaptation of a commercial PRRS serum antibody ELISA to oral fluid specimens. American Association of Veterinary Laboratory Diagnosticians. Buffalo, New York, p. 99.
- ◆ Kittawornrat A, Prickett J, **Wang C**, Olsen C, Irwin C, Panyasing Y, Ballagi A, Rice A, Rowland R, Zimmerman J. October 2011. Diagnostic performance of a commercial PRRS serum Antibody ELISA adapted to oral fluid specimens: longitudinal response in experimentally-inoculated populations. American Association of Veterinary Laboratory Diagnosticians. Buffalo, New York, p. 100.
- ◆ Kittawornrat A, Prickett J, **Wang C**, Olsen C, Irwin C, Panyasing Y, Ballagi A, Rice A, Main R, Rademacher C, Hoogland M, Lowe J, Zimmerman J. October 2011. Diagnostic performance of a commercial PRRS serum antibody ELISA adapted to oral fluid specimens: field samples. American Association of Veterinary Laboratory Diagnosticians. Buffalo, New York, p. 101.
- ◆ Kittawornrat A, Prickett J, **Wang C**, Olsen C, Irwin C, Panyasing Y, Ballagi A, Rice A, Main R, Rademacher C, Hoogland M, Zimmerman J. October 2, 2011. Adaptation of a commercial PRRS serum antibody ELISA to oral fluid specimens. American Association of Veterinary Laboratory Diagnosticians. Buffalo, New York, p. 99.
- ◆ Kittawornrat A, Prickett J, **Wang C**, Olsen C, Irwin C, Panyasing Y, Ballagi A, Rice A, Rowland R, Zimmerman J. October 2, 2011. Diagnostic performance of a commercial PRRS serum Antibody ELISA adapted to oral fluid specimens: longitudinal response in experimentally-inoculated populations. American Association of Veterinary Laboratory Diagnosticians. Buffalo, New York, p. 100.
- ◆ Kittawornrat A, Prickett J, **Wang C**, Olsen C, Irwin C, Panyasing Y, Ballagi A, Rice A, Main R, Rademacher C, Hoogland M, Lowe J, Zimmerman J. October 2, 2011. Diagnostic performance of a commercial PRRS serum antibody ELISA adapted to oral fluid

specimens: field samples. American Association of Veterinary Laboratory Diagnosticians. Buffalo, New York, p. 101.

- ◆ Irwin C, Zimmerman J, **Wang C**, Hesse R, Harmon K, Christopher-Hennings J, Otterson T, McGill J, Vincent A, Shah R, Rauh R. October 2011. Real-Time rt-PCR detection of influenza A Virus in oral fluid using a check test. Proc. 54th Annual Conference American Association of Veterinary Laboratory Diagnosticians. Buffalo, NY, p. 153.
- ◆ Irwin C, Zimmerman J, Jenkins-Moore M, Kitikoon P, **Wang C**, Anderson J, Leslie-Steen P, Patnayak D, Zhang J. October 2011. Virus Isolation from oral fluid using a check test. 54th Annual Conference American Association of Veterinary Laboratory Diagnosticians. Buffalo, NY. p 68.
- ◆ Ramirez A, **Wang C**, Prickett J, Pogranichniy R, Yoon KJ, Main R, Rademacher C, Hoogland M, Johnson JK, Kurtz A, Kurtz E, Zimmerman J. June 2011. Routine collection of epidemiological infectious disease data in pig populations using oral fluids. Proc 6th International Symposium on Emerging and Re-emerging Pig Diseases. Barcelona, Spain, p. 337.
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- ◆ Kittawornrat A, Engle M, Chittick W, Johnson J, Patnayak D, **Wang C**, Whitney D, Olsen C, Prickett J, Schwartz T, Schwartz K, Zimmerman J. June 2011. Porcine reproductive and respiratory syndrome virus (PRRSV) in serum and oral fluid samples from individual boars: Will oral fluid replace serum for PRRSV surveillance? Proc 6th International Symposium on Emerging and Re-emerging Pig Diseases. Barcelona, Spain, p. 58.
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- ◆ Irwin C, Prickett J, Kittawornrat A, Johnson J, **Wang C**, Zimmerman J.J. December 6, 2010. A predictive model for the detection of influenza antibodies over time using a commercially available nucleoprotein ELISA. 91st Ann Meet Conference of Research Workers in Animal Diseases. Chicago, Illinois, Abstr #149.
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- ◆ Kittawornrat A, M Engle, W Chittick, J Johnson, D Patnayak, **C Wang**, D Whitney, C Olsen, J Prickett, T Schwartz, K Schwartz, J Zimmerman. November 13, 2010. Porcine reproductive and respiratory syndrome virus (PRRSV) in serum and oral fluid samples from individual boars: Will oral fluid replace serum for PRRSV surveillance? 53rd Annual Conference, American Association of Veterinary Laboratory Diagnosticians. Minneapolis, Minnesota. P51
- ◆ Kittawornrat A, M Engle, W Chittick, J Johnson, D Patnayak, **C Wang**, D Whitney, C Olsen, J Prickett, T Schwartz, K Schwartz, J Zimmerman. November 13, 2010. Detection of anti-PRRSV antibodies in oral fluid samples from individual boars using a commercial ELISA. 53rd Annual Conference, American Association of Veterinary Laboratory Diagnosticians. Minneapolis, Minnesota. P52
- ◆ **Wang C**, Prickett J, Hoogland M, Main R, Rademacher C, Chittick W, Kolb J, Kurtz A, Kurtz E, Muñoz R, Zimmerman JJ. September 2010. Probability of detecting a singleton PRRSV viremic pig using pen-based oral fluid samples. Allen D. Leman Swine Conference. St. Paul, Minnesota, p. 47.
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- ◆ Jergens AE, Nettleton D, Suchodolski JS, Wymore M, Wilke V, Dowd S, Steiner JM, **Wang C**, Wannemuehler MJ, (2010). Relationship of mucosal gene expression to microbiota composition in dogs with inflammatory bowel disease. Journal of Veterinary Internal Medicine, 24(3), 725-725, meeting abstract: 177.
- ◆ Morrison J, Jergens A, Deitz K, Miles K, King R, **Wang C**, Winter M, Flatjord C, Hodnefield A (2010). Comparison of models for predicting renal disease following i-131 therapy for feline hyperthyroidism. Journal of Veterinary Internal Medicine, 24(3), 744-745, meeting abstract: 242.
- ◆ Morrison J, Jergens A, Deitz K, Miles K, King R, **Wang C**, Winter M, Flatjord C, Hodnefield A (2010). Investigation of prognostic factors for the development of renal disease following i-131 therapy in feline hyperthyroidism. Journal of Veterinary Internal Medicine, 24(3), 725-725, meeting abstract: 243.
- ◆ Morrison J, Clemans J, **Wang C** (2010). Retrospective investigation of survival factors in canine disseminated histoplasmosis. Journal of Veterinary Internal Medicine, 24(3), 744-745, meeting abstract: 305.

- ◆ Kittawornrat A, Engle M, Johnson J, **Wang C**, Whitney D, Olsen C, Prickett J, Schwartz T, Schwartz K, Zimmerman J. (2010). Colección de muestras de fluidos orales para diagnóstico de sementales individuales. XXII Congreso Panamericano de Ciencias Veterinarias. Lima, Peru.
- ◆ Irwin CK, O'Connor A, **Wang C**, Yoon KJ, Zimmerman J. (2010). Assessing the evidence of published studies reporting factors associated with the stability of influenza in the environment using a systematic review. Proceedings of the American Association of Swine Veterinarians. Omaha, Nebraska, pp. 363.
- ◆ Cutler TD, Kittawornrat A, Hoff SJ, **Wang C**, Zimmerman JJ. March 2010. Median infectious dose (ID50) of PRRSV isolate MN-184 for young pigs via aerosol exposure. Proceedings of the American Association of Swine Veterinarians. Omaha, Nebraska, pp. 361.
- ◆ Cutler TD, Hoff SJ, **Wang C**, Warren KJ, Zhou F, Qin Q, Miller C, Ridpath JF, Yoon K-J, Zimmerman J. March 2010. UV254 inactivation of selected viral pathogens. Proceedings of the American Association of Swine Veterinarians. Omaha, Nebraska, pp. 115.
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- ◆ Kittawornrat A, Chittick W, Stensland W, Prickett JR, **Wang C**, Strait E, Yoon K-J, Zimmerman JJ. July 2010. Optimization of PRRS PCR for oral fluid testing. Proceedings of the 21st International Pig Veterinary Society Congress. Vancouver, Canada, p. 484.
- ◆ Cutler TD, Hoff SJ, **Wang C**, Warren KJ, Zhou F, Qin Q, Miller C, Ridpath J, Yoon K-J, Zimmerman JJ. July 2010. UV254 inactivation of selected viral pathogens. Proceedings of the 21st International Pig Veterinary Society Congress. Vancouver, Canada, p. 936.
- ◆ Johnson J, Engle M, Kittawornrat A, Prickett JR, Schwartz, T, Whitney D, Olsen C, Schwartz K, **Wang C**, Zimmerman J. July 2010. Oral fluid diagnostic samples can be collected from individually-penned adult swine. Proceedings of the 21st International Pig Veterinary Society Congress. Vancouver, Canada, p. 512.
- ◆ Cutler TD, Kittawornrat A, Hoff SJ, **Wang C**, Zimmerman JJ. July 2010. Median infectious dose (ID50) of PRRSV isolate MN-184 for young pigs via aerosol exposure. Proceedings of the 21st International Pig Veterinary Society Congress. Vancouver, Canada, p. 506.
- ◆ Lin K, **Wang C**, Murtaugh M, Wong S, Yoon K-J, Halbur PG, Zimmerman J, Meng X-J, Ramamoorthy S. June 2010. A micro-bead array (MBA)-based immunoassay for the simultaneous detection of antibody responses to porcine circovirus type 2 (PCV2) and porcine reproductive and respiratory syndrome virus (PRRSV). Proc 49th North Central Conference of Veterinary Laboratory Diagnosticians. Manhattan, Kansas.
- ◆ Christensen BW, **Wang C**, Penfold LM. Developing a cooled semen protocol for captive breeding of Somali wild ass (*Equus africanus somaliensis*). 7th Biennial Meeting of the Association for Applied Animal Andrology, August 28-29, 2010, Sydney, Australia, 2010.
- ◆ Christensen BW, **Wang C**, Citino S, Penfold LM. Developing a cooled semen protocol for captive breeding of okapi (*Okapia johnstoni*). 7th Biennial Meeting of the Association for Applied Animal Andrology, August 28-29, 2010, Sydney, Australia, 2010.

- ◆ Christensen BW, Bauman K, Junge R, VanSant L, Lorton S, **Wang C**, Asa CS. Semen cryopreservation and transcervical insemination in the Mexican gray wolf (*Canis lupus baileyi*). Annual meeting of the American Association of Zoo Veterinarians, October 23-29, 2010, South Padre Island, Texas, 2010.
- ◆ Cutler TD, Kittawornrat A, Hoff SJ, **Wang C**, Zimmerman JJ. (2009). Infectious dose (ID50) of PRRSV isolate MN-184 for young pigs via aerosol exposure. Proc 2009 International PRRS Symposium. Chicago, Illinois, p 67.
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- ◆ Cutler T, Kittawornrat A, Hoff S, **Wang C**, Zimmerman J. (2009). Median infectious dose (ID50) of PRRSV isolate MN-184 for young pigs via aerosol exposure. 52st Annual Conference, American Association of Veterinary Laboratory Diagnosticians. San Diego, California, p. 110.
- ◆ Cutler TD, Hoff SJ, **Wang C**, Warren KJ, Zhou F, Qin Q, Miller C, Ridpath JF, Yoon K-J, Zimmerman J. December 2009. UV254 inactivation of selected viral pathogens. Proc 90th Ann Meet Conference of Research Workers in Animal Diseases, Abstr #23.
- ◆ **Wang, C.**, Turnbull, B. W., Gröhn, Y. T. (2007). Adjusting ROC curve estimates for covariates without gold standard tests, 2006 Proceedings of the American Statistical Association, Statistics in Epidemiology Section, Seattle, WA: American Statistical Association, 2645-2649.
- ◆ **Wang, C.**, Turnbull, B. W., Gröhn, Y. T. (2005). A flexible Bayesian approach to estimate ROC curves when there is no gold standard test, 2005 Proceedings of the American Statistical Association, Biometry Section, Minneapolis, MN: American Statistical Association, 407-410.

## PROFESSIONAL ASSOCIATIONS

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- ◆ American Statistical Association (ASA)
- ◆ Institute of Mathematical Statistics (IMS)
- ◆ International Biometric Society (ENAR)
- ◆ American Dairy Science Association (ADSA)
- ◆ American Association of Veterinary Laboratory Diagnosticians (AAVLD)
- ◆ International Chinese Statistical Association (ICSA)

## PROFESSIONAL ACTIVITIES

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- ◆ Editorial Consultant Board of peer-reviewed *Equine Veterinary Journal* (2011-present)

- ◆ Technical Committee of the USDA North Central Regional Project 229: Detection and control of porcine reproductive and respiratory syndrome virus and emerging viral diseases of swine. (2014-present)
- ◆ External peer reviewer for professional journals
  - Biometrics* (3)
  - Bioinformatics* (3)
  - Canadian Veterinary Journal* (1)
  - Contemporary Clinical Trials* (3)
  - Equine Veterinary Journal* (6)
  - Indian Journal of Statistics* (1)
  - Journal of Applied Statistics* (3)
  - Journal of Virological Methods* (1)
  - Journal of Wildlife Diseases* (1)
  - PLOS ONE* (2)
  - Preventive Veterinary Medicine* (3)
  - Statistical Applications in Genetics and Molecular Biology* (1)
  - Statistics in Biosciences* (1)
  - Statistics in Medicine* (2)
  - Veterinary Record* (1)
- ◆ External peer reviewer for book proposals
  - CRC Press, Taylor & Francis Group, London, UK* (1)
- ◆ Chair for Topic Contributed Session 459 -- Shrinkage Theory and its Applications, *Joint statistical meetings*, Salt Lake City, UT, 2007
- ◆ Organizer for Invited Session 26 -- Statistical Methods in Disease Surveillance, *ICSA/ISBS Joint Statistics Conference*, Bethesda, MD, USA, 2013

## HONORS and AWARDS

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- ◆ Student Paper Award, the Statistics in Epidemiology Section, American Statistical Association, 2006
- ◆ Paper Award, Johne's Disease Integrated Program (JDIP) 2nd Annual Conference, 2006
- ◆ Best Student Paper Award, International Chinese Statistical Association, 2005
- ◆ Graduate School Travel Award and Fellowship, Cornell University 2005, 2006
- ◆ Excellent Academic Award, Peking University, 2000
- ◆ Eaglet Award, Peking University, 1998, 1999
- ◆ Freshman Scholarship, Peking University, 1997
- ◆ Silver Medal in CMO (Chinese Mathematics Olympic), 1997

## GRADUATE PROGRAM OF STUDY COMMITTEES

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### Current

- ◆ Major professor for PhD students
 

Zhang, Min	Statistics	expected 2020
Dapeng Hu	Statistics	expected 2020
Fang, Yinan	Statistics	expected 2020
McKeen, Lauren	Statistics	expected 2020

Morris, Paul	Statistics	expected 2020
and MS students.		
Liu, Pu	Statistics	expected 2020
♦ Committee member for PhD students		
Badvela, Mani	Meat Science	
Chen, Qi	Veterinary Microbiology	
Heliang Shi	Biomedical Sciences	
Zhao, Xuefei	Agricultural and Biosystem Engineering	
Kevin O'Neill	Veterinary Microbiology	
and 2 MS students.		
Paul Bernhard	Statistics	
Michaud, Nicholas	Statistics	

### Completed

♦ Major Professor for PhD student		
Ji, Ju	Statistics	2019
Emily Goren	Statistics	2019
Du, Yingzhou	Statistics	2018
Yuan, Chaohui	Statistics	2018
Sun, Yaxuan	Statistics	2017
Liu, Fangfang	Statistics	2015
Lin, Hui	Statistics	2013
and MS students		
Zhao, Jing	Statistics	2019
Wang, Chao	Statistics	2015
Ji, Ju	Statistics	2015
Sun, Yaxuan	Statistics	2014
Du, Yingzhou	Statistics	2014
Fang, Yinan	Statistics	2013
Lin, Hui	Statistics	2011
♦ Committee member for PhD students		
Irwin, Christa K.	Veterinary Microbiology	
Panyasing, Yaowalak	Veterinary Microbiology	
Kittawornrat, Apisit	Veterinary Microbiology	
Wang, Bing	Veterinary Microbiology	
Stanton, Brendon	Mathematics	
Carruthers, Michael	Veterinary Microbiology	
Zhang, Yinghui	Nutritional Sciences	
Bai, Yang	Kinesiology., PhD	
and MS students.		
Li, Gerui	Food Science & Technology	

Hare, Eric	Statistics
Krausch, Julianne	Food Science & Technology
Hua, Hong	Statistics
Chittick, Wayne A.	Veterinary Preventive Medicine

## TEACHING EXPERIENCES

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At Iowa State University:

- ◆ **Instructor for STAT 587:** Statistical Methods for Researchers, Iowa State University, Fall 2019
- ◆ **Instructor for VDPAM 527:** Applied Statistical Methods in Population Studies, Iowa State University, Fall 2009, Fall 2011, Fall 2013, Fall 2015, Fall 2017, Fall 2019
- ◆ **Instructor for STAT 565:** Methods in Biostatistics and Epidemiology, Iowa State University, , Fall 2013, Fall 2016
- ◆ **Instructor for STAT 430:** Empirical Methods for Computer Scientists, Iowa State University, , Fall 2012
- ◆ **Instructor for STAT 401:** Statistical Methods for Researchers, Iowa State University, Fall 2009, Fall 2010, Fall 2011, Fall 2014, Fall 2015, Fall 2017, Fall 2019

Elsewhere:

- ◆ **Instructor for STA 570:** Basic Statistical Analysis, University of Kentucky, Fall 2008
- ◆ **Instructor for CPH 930:** Advanced Biostatistics Methods in Public Health, University of Kentucky, Spring 2008
- ◆ **Instructor for STA 291:** Statistical Method, University of Kentucky, Fall 2007
- ◆ **Instructor for MATH 171:** Statistical Theory and Application, Cornell University, Fall 2006, Spring 2007

## INSTITUTIONAL SERVICE

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Role	Committee	Period of Service
Judge	CVM Research Day Poster Competition	2020
Member	Computer, Library & Information Management Committee, College of Veterinary Medicine	2020-2021
Member	Research and Graduate Studies Committee, VDPAM	2029-2021
Member	Karas Award Committee, Iowa State University	2019-2020
Member	Faculty Search Committe, VDPAM	2019-2020
Member	Exam Committee, Statistics	2019-2020
Member	Research and Graduate Studies Committee, VDPAM	2015-2019
Member	Award Committee, Statistics	2015-2019
Chair	Minor Committee, Statistics	2013-2015

Member	IT Committee, VDPAM	2011-2014
Member	Minor Committee, Statistics	2011-2013
Member	Library Committee, Statistics	2009-2014
Member	Social Committee, Statistics	2009-2013