TIANJING ZHAO

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EDUCATION

University of California, Davis CA *March 2019 - June 2023*
Ph.D. in Integrative Genetics and Genomics (concentrate: Statistical and Quantitative Genetics)
Integrative Genetics and Genomics graduate group
Advisor: Prof. Hao Cheng, Department of Animal Science

University of California, Davis CA *September 2017 - March 2019*
Master of Science in Statistics Department of Statistics

Southwestern University of Finance and Economics, China *September 2013 - June 2017*
Bachelor of Economic Statistics Department of Statistics

EMPLOYMENT

Tenure-Track Assistant Professor in Theoretical Quantitative Genetics (70% research, 30% teaching)
August 2023 - present University of Nebraska-Lincoln, NE
Department of Animal Science
Graduate Group in (1) Animal Genetics and Breeding, (2) Complex Biosystems

AWARDS

2023 National agricultural producers data cooperative conference travel award ($1000)
2023 Ursula Abbott travel award ($1700)
2022 Next Gen Leadership award - AGBT Ag conference
2022 Department of animal science award - Humphries Fellowship ($4500)
2022 World congress on genetics applied to livestock production (WCGALP) scholarship (€250)
2022 Ursula Abbott travel award ($1250)
2021 Department of animal science award - McOmie Fellowship ($4500)
2020 Summer institute in statistical genetics (SISG) scholarship ($900)
2020 Ursula Abbott travel award ($1250)
2019 Walton-Berry graduate student support grant ($5000)

PEER-REVIEWED PUBLICATIONS

10. Zhikai Yang, **Tianjing Zhao**, Hao Cheng, and Jinliang Yang. Microbiome-enabled genomic selection improves prediction accuracy for nitrogen-related traits in maize. G3 Genes|Genomes|Genetics, 2023. https://doi.org/10.1093/g3journal/jkad286
9. **Tianjing Zhao**, Fangyi Wang, Richard Mott, Jack Dekkers, and Hao Cheng. Using encrypted genotypes and phenotypes for collaborative genomic analyses to maintain data confidentiality. GENETICS, 2023. https://doi.org/10.1093/genetics/iyad210
8. Jinghui Li, **Tianjing Zhao**, Dailu Guan, Zhangyuan Pan, Zhonghao Bai, Jinyan Teng, Zhe Zhang, Zhili Zheng, Jian Zeng, Huaijun Zhou, Lingzhao Fang, and Hao Cheng. Learning functional conservation between human and pig to decipher evolutionary mechanisms underlying gene expression and complex traits. Cell Genomics, 2023. https://doi.org/10.1016/j.xgen.2023.100390

7. **Tianjing Zhao**, and Hao Cheng. Interpreting single-step genomic evaluations as mixed effects neural networks of three layers: pedigree, genotypes, and phenotypes. Genetics Selection Evolution, 2023. https://doi.org/10.1186/s12711-023-00838-7
6. **Tianjing Zhao**, Jian Zeng, Hao Cheng, Extend mixed models to multilayer neural networks for genomic prediction including intermediate omics data, GENETICS, 2022, https://doi.org/10.1093/genetics/iyac034
5. **Tianjing Zhao**, Rohan Fernando, and Hao Cheng. Interpretable artificial neural networks incorporating Bayesian alphabet models for genome-wide prediction and association studies, G3 Genes|Genomes|Genetics, 2021. https://doi.org/10.1093/g3journal/jkab228
4. **Tianjing Zhao**, Rohan Fernando, Dorian Garrick, and Hao Cheng. Fast parallelized sampling of Bayesian regression models for whole-genome prediction. Genetics Selection Evolution, 2020. https://doi.org/10.1186/s12711-020-00533-x

PROCEEDINGS

3. Jinghui Li, **Tianjing Zhao**, Zhangyuan Pan, Huaijun Zhou, Lingzhao Fang, and Hao Cheng. Quantifying the functional conservation between human and pig using artificial neural networks. In: Proceedings of the 12th World Congress on Genetics Applied to Livestock Production: 3-8 July 2022; Rotterdam. 2022. https://www.wageningenacademic.com/pb-assets/wagen/WCGALP2022/60_008.pdf
2. Hao Cheng, Rohan Fernando, Dorian Garrick, **Tianjing Zhao**, and Jiayi Qu. JWAS version 2: leveraging biological information and high-throughput phenotypes into genomic prediction and association. In: Proceedings of the 12th World Congress on Genetics Applied to Livestock Production: 3-8 July 2022; Rotterdam. 2022. https://www.wageningenacademic.com/pb-assets/wagen/WCGALP2022/36_009.pdf
1. **Tianjing Zhao**, Jian Zeng, and Hao Cheng. Extend mixed models to multi-layer neural networks for genomic prediction including intermediate omics data, In: Proceedings of the 12th World Congress on Genetics Applied to Livestock Production: 3-8 July 2022; Rotterdam. 2022.https://www.wageningenacademic.com/pb-assets/wagen/WCGALP2022/02_007.pdf

INVITED PRESENTATIONS

2024.11 Statistical Education/Training for Researchers Community for American Society of Agronomy (ASA) *workshop*
2024.04.25 Department of Agronomy & Horticulture, University of Nebraska-Lincoln *seminar*
2024.03.22 Department of Animal Science, Iowa State University *seminar*
2024.03.06 Nebraska Center for the Prevention of Obesity Diseases (NCPOD) *seminar*
2024.02.23 Department of Animal Science, University of Nebraska-Lincoln *seminar*
2024.02.12 Nebraska Center for Virology *seminar*
2023.12.01 Centre for Genetic Improvement of Livestock, University of Guelph, Canada *seminar*
2023.11.09 Complex Biosystems PhD Program, University of Nebraska-Lincoln *seminar*
2023.10.28 Statistical Education/Training for Researchers Community for American Society of Agronomy (ASA) *workshop*
2023.09.18 Department of Animal Science, University of Nebraska-Lincoln *seminar*
2023.09.15 US Meat Animal Research Center (USMARC) *talk*
2023.09.13 Department of Statistics, University of Nebraska-Lincoln *seminar*
2023 National Agricultural Producers Data Cooperative (NAPDC) conference *poster*
2023 Peter Hall Conference: Advances in Statistical Data Science *poster*
2022 World congress on genetics applied to livestock production (WCGALP) *talk*
2022 Advances in genome biology and technology agricultural (AGBT Ag) conference *talk*
2022,2020 Integrative genetics and genomics graduate group colloquium *talk*
2020 Plant and animal genome (PAG) conference *poster*

MENTORING

Committee member *2023-present*
University of Nebraska-Lincoln

- Aaron Schram, PhD student in Statistics *2023-present*
- Chad Russell, PhD student in Animal Breeding and Genetics, minor in Statistics *2023-present*

Student mentor *2022 - 2023, 2020 - 2021*
Integrative Genetics and Genomics graduate group, University of California, Davis

COMMUNITY SERVICE

Number of manuscripts reviewed per journal: PLOS Computational Biology (1); Frontiers in Genetics (2); Genetics Selection Evolution (4); Journal of Animal Science (1); Frontiers in Veterinary Science (1); Bio-protocol (1).

- Guest Editor (genetic regulation of reproduction in livestock) - Frontiers in Genetics
- Review Editor (Livestock Genomics) - Frontiers in Genetics
- 2024 Chair - Statistical Education/Training for Researchers Community for American Society of Agronomy (ASA)
- 2023 Vice Chair - Statistical Education/Training for Researchers Community for American Society of Agronomy (ASA)
- 2023 participated in drafting whitepaper for USDA - "The National Agricultural Producers Data Cooperative (NAPDC): Stakeholder Input and Strategic Directions". https://doi.org/10.31219/osf.io/tkg96

MEMBERSHIPS

Functional Annotation of Animal Genomes (FAANG) consortium *2023 - present*
Genetics Society of America (GSA) *2022 - present*
Association for Women in Science (AWIS) *2022 - 2023*

OTHER SERVICE

Safety committee *Aug 2023 - present*
Department of Animal Science, University of Nebraska-Lincoln

Departmental Seminar committee *Aug 2023 - present*
Department of Animal Science, University of Nebraska-Lincoln

Diversity, Equity and Inclusion (DEI) committee *May 2022 - June 2023*
Department of Animal Science, University of California, Davis

Lab Manager *September 2019 - January 2023*
Cheng Lab, University of California, Davis