Wenxuan Dong

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Education

Ph.D (2023-)	Biophysics Advisor: Dr. Ophelia Venturelli	University of Wisconsin - Madison, WI, USA
M.S. (2020)	Animal Nutrition Advisor: Dr. Defa Li Thesis: Comparison of the nutritional value of ingredients between sows and growing pigs	China Agricultural University, Beijing, China
B.S. (2017)	Agronomy	China Agricultural University, Beijing, China

Working Experiences

Graduate Research Assistant (2021-2023) Transferred out in 2023	Animal Microbiome Advisor: Dr. Timothy Johnson	Purdue University, IN, USA
Research Associate (2020 - 2021)	China Agricultural University (CAU)	

Research Experiences

2021-2023	Effects of birth weight and antibiotic use on microbiome maturation in suckling and weaning pigs ➢ To identify the gut microbial assembly pattern in pigs using 16S rRNA gene sequencing with a high-frequency sampling scheme Meta-analysis of swine gut microbial community succession: from birth to market ➢ Wrapped up the first QIIME2 based closed-reference OTU picking approach
2017-2021	Effects of antibiotic alternatives on growth performance and gut health of weaning pigs Nutritional evaluation of feed ingredients in swine diets
2016	Effects of storage time on the concentration of biogenic amines of Tilapia fish

Areas of Interest

Microbial ecology, Gut microbiome, Machine learning, Swine Nutrition, Data analysis, Systems & Synthetic biology

Publications

➢ **Dong, W.**, Oladele, P., Ceneno-Martinez, E., Sheets, T., Richert, B., & Johnson, T.A. (2024). Birth weight and in-feed antibiotics alter the assembly and succession of the swine gut microbiota. Under review at *mSystems.*

➢ **Dong, W.,** Ricker, N., Holman, D. B., & Johnson, T. A. (2023). Meta-analysis reveals the predictable dynamic development of the gut microbiota in commercial pigs. *Microbiology Spectrum*, 11(6), e01722-23. https://doi.org/10.1128/spectrum.01722-23

➢ **Dong, W.**, Li, J., Li, Z., Zhang, S., Li, X., ... & Zhang, S. (2020). Physicochemical properties and energy content of yellow dent corn from different climatic origins fed to growing pigs. *Asian-Australasian Journal of Animal Sciences*, 33(11), 1787-1796. https://doi.org/10.5713%2Fajas.19.0715

➢ **Dong, W.**, Zhang, G., Li, Z., Liu, L., Zhang, S., & Li, D. (2020). Effects of different crude protein and dietary fiber levels on the comparative energy and nutrient utilization in sows and growing pigs. *Animals*, 2020, 10(3):495. https://doi.org/10.3390/ani10030495

- **Dong, W.**, Wang, Q., Chen, J., Liu, L., & Zhang, S. (2019). Apparent total tract digestibility of nutrients and the digestible and metabolizable energy values of five unconventional feedstuffs fed to growing pigs. *Journal of Applied Animal Research*, 47(1), 273-279. https://doi.org/10.1080/09712119.2019.1625778
- Centeno-Martinez, R. E., **Dong, W.,** Klopp, R. N., Yoon, I., Boerman, J. P., & Johnson, T. A. (2023). Effects of feeding Saccharomyces cerevisiae fermentation postbiotic on the fecal microbial community of Holstein dairy calves. Animal Microbiome, 5(1), 13. https://doi.org/10.1186/s42523-023-00234-y
- Zhang, N., Song, X., **Dong, W.**, Liu, L., Cui, Z., & Ma, Y. (2021). Nutritional evaluation of fish protein hydrolysate and its application in piglet production. *Journal of Animal Science*, 100(3) 1-8. https://doi.org/10.1093/jas/skab369
- Zhao, J., Zhang, G., **Dong, W.**, Zhang, Y., Wang, J., Liu, L., & Zhang, S. (2019). Effects of dietary particle size and fiber source on nutrient digestibility and short chain fatty acid production in cannulated growing pigs. *Animal Feed Science and Technology,* 114310. https://doi.org/10.1016/j.anifeedsci.2019.114310

Conference

Jun 2022	ASM Microbe Conference 2022	Washington DC, US	Poster Presentation
May 2022	Purdue Microbiome Symposium	West Lafayette, IN, US	Poster Presentation
Aug 2020	Feed Industry Innovation Forum	Beijing, China	Student volunteer for registration

Skills

- Traditional husbandry work and veterinary skills: sampling feed, blood, feces; slaughter; injection, etc.
- Wet Lab Analysis: DNA extraction, 16S rRNA gene sequencing library preparation (PCR, gel electrophoresis, amplicon normalization)
- Bioinformatics Analysis: QIIME2, kneaddata, HUMAnN3, fastQC, multiQC, cutadapt
- Others: R, Linux, Adobe Illustrator, SAS, Python, Matlab

Honors & Awards

- Dean Scholarship for Master Students, China Agricultural University, 2019 *(Top 3 among 137 master students)*
- National Scholarship for Master Students, Chinese Ministry of Education, 2019 *(Top 5 among 137 master students)*
- First Class Academic Scholarship, China Agricultural University, 2019 *(Top 40 among 137 master students)*