

## **Profile: Zhontang, Yu**

Professor

Department of Animal Sciences

The Ohio State University

2029 Fyffe Road, Columbus, OH 43210

Tel: 614-292-3057, Fax: 614-292-2929

Email: [yu.226@osu.edu](mailto:yu.226@osu.edu)

Website: <http://ansci.osu.edu/our-people/zhongtang-yu>

Google Scholar: <https://scholar.google.com/citations?user=-nv1fL4AAAAJ&hl=en>

Bibliography: <https://www.ncbi.nlm.nih.gov/sites/myncbi/1DASC-dOhtQkF/collections/45583023/public/>.

### **EDUCATION:**

- 1996 Ph.D. in Molecular Biology, New Mexico State University, Las Cruces, New Mexico

### **ACADEMIC AND RELATED PROFESSIONAL EXPERIENCE:**

- 10/2016-present: Professor: Dept. of Animal Sciences, Center of Microbiome Science, The Ohio State University, Columbus, Ohio
- 10/2012-89/2016: Associate Professor, Dept. of Animal Sciences, The Ohio State University, Columbus, Ohio
- 7/2006-9/2012: Assistant Professor, Dept. of Animal Sciences, The Ohio State University, Columbus, Ohio

### **HONOR AND AWARD:**

- Gamma Sigma Delta Research Award of Merit, 2015.

### **CURRENT AFFILIATION AND PROFESSIONAL SERVICES:**

- American Association for Microbiology (ASM), International Society for Microbial Ecology (ISME), American Association of Animal Science (ASAS), International Foundation for Science (IFS)
- Associate Editor: Microbiome, Animal Microbiome, Frontiers in Microbiology.

### **RESEARCH INTEREST:**

My major research interests center on the diversity and ecology of host-associated microorganisms, including ciliates residing in the rumen of ruminants. We aim to understand host-microbe interactions and microbe-nutrient interactions and use the new knowledge to inform interventions to improve host nutrition and health while decreasing methane emissions and nitrogen excretion. We use various omics technologies and machine learning methods to help achieve project goals.

### **SELECT PEER-REVIEWED PUBLICATIONS (OUT OF >200)**

- Li Z, Wang X, Zhang Y, Yu Z, Zhang T, Dai X *et al* (2022). Genomic insights into the phylogeny and biomass-degrading enzymes of rumen ciliates. *ISME J*.
- Andersen TO, Altshuler I, de Leon AVP, Walter J, McGovern E, Keogh K *et al* (2022). The metabolic influence of the core ciliate *Entodinium caudatum* within the rumen microbiome. *bioRxiv*: 2022.06.22.497163.

- Park T, Ma L, Gao S, Bu D, Yu Z (2022). Heat stress impacts the multi-domain rumen microbiota and some of the functional features independent of its effect on feed intake in lactating dairy cows. *Journal of Animal Sciences and Biotechnology***13**: 71.
- Arndt C, Hristov AN, Price WJ, McClelland SC, Pelaez AM, Cueva SF *et al* (2022). Full adoption of the most effective strategies to mitigate methane emissions by ruminants can help meet the 1.5 degrees C target by 2030 but not 2050. *Proceedings of the National Academy of Sciences***119**: e2111294119.
- Weinroth MD, Belk AD, Dean C, Noyes N, Dittoe DK, Rothrock MJ, Jr *et al* (2022). Considerations and best practices in animal science 16S ribosomal RNA gene sequencing microbiome studies. *Journal of Animal Science***100**.
- Patra AK, Yu Z (2022). Genomic Insights into the Distribution of Peptidases and Proteolytic Capacity among *Prevotella* and *Paraprevotella* Species. *Microbiol Spectr***10**: e0218521.
- Park T, Wijeratne S, Meulia T, Firkins JL, Yu Z (2021). The macronuclear genome of anaerobic ciliate *Entodinium caudatum* reveals its biological features adapted to the distinct rumen environment. *Genomics***113**: 1416-1427.
- Ayemele AG, Ma L, Li X, Yang P, Xu J, Yu Z *et al* (2021). Identification of Bioactive Phytochemicals from Six Plants: Mechanistic Insights into the Inhibition of Rumen Protozoa, Ammoniogenesis, and  $\alpha$ -Glucosidase. *Biology***10**: 1055.
- Gnetegha Ayemele A, Ma L, Park T, Xu J, Yu Z, Bu D (2020). Giant milkweed (*Calotropis gigantea*): A new plant resource to inhibit protozoa and decrease ammoniogenesis of rumen microbiota in vitro without impairing fermentation. *Sci Total Environ***743**: 140665.
- Bu D, Zhang X, Ma L, Park T, Wang L, Wang M *et al* (2020). Repeated Inoculation of Young Calves With Rumen Microbiota Does Not Significantly Modulate the Rumen Prokaryotic Microbiota Consistently but Decreases Diarrhea. *Front Microbiol* 11: 1403.
- Patra AK, Park T, Braun HS, Geiger S, Pieper R, Yu Z *et al* (2019). Dietary Bioactive Lipid Compounds Rich in Menthol Alter Interactions Among Members of Ruminal Microbiota in Sheep. *Front Microbiol***10**: 2038.
- Wang L, Abu-Doleh A, Plank J, Catalyurek UV, Firkins JL, Yu Z (2019). The transcriptome of the rumen ciliate *Entodinium caudatum* reveals some of its metabolic features. *BMC Genomics***20**: 1008.
- van Lingen HJ, Niu M, Kebreab E, Valadares Filho SC, Rooke JA, Duthie C-A *et al* (2019). Prediction of enteric methane production, yield and intensity of beef cattle using an intercontinental database. *Agriculture, Ecosystems & Environment***283**: 106575.