

## Special Issue

# Precision Domestic Animal Nutrition: Microbial Interactions to Metabolic Optimization

### Message from the Guest Editor

Precision livestock farming continues to evolve, making optimized nutrition critical for efficiency and animal health. Nutritional needs are shaped by genetic, environmental factors, and complex host-microbiome interactions. Gastrointestinal microbial communities are pivotal in breaking down feed, producing short-chain fatty acids, and influencing metabolic processes, immune responses, and health. Advancing precision nutrition requires systematically exploring interaction networks between gut microbiota and nutritional metabolism. Such insights will improve animal welfare and optimize production performance. This Special Issue welcomes original research and reviews on topics including:

- Microbiome role in nutrient absorption/digestion
- Dietary influences on gut microbial structures
- Metabolic changes/health under varied nutrition
- Microbial metabolites' impact on health
- PLF applications with microbiome interactions
- Microbiome relationship with immune responses

I look forward to your contributions.

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### Guest Editor

Prof. Dr. Xihong Zhou

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### Deadline for manuscript submissions

20 April 2026



## Animals

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### Message from the Editor-in-Chief

*Animals* is an on-line open access journal that was first published in 2011. *Animals* adheres to rigorous peerreview and editorial processes and publishes only high quality manuscripts that address important issues in the many varied disciplines that involve animals, with a focus on animal science, animal welfare and animal ethics. *Animals* is covered in the Science Citation Index Expanded (SCIE) in Web of Science, with the latest Impact Factor: 2.7 (2024, ranks 15/86 (Q1) in 'Agriculture, Dairy & Animal Science'; 21/170 (Q1) in 'Veterinary Sciences'), 5-Year Impact Factor: 3.2.

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### Editor-in-Chief

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