Special Issue

Artificial Intelligence (AI) Techniques for Genome-to-Phenome Applications in Livestock Species

Message from the Guest Editor

The integration of artificial intelligence (AI) techniques into animal breeding and genetics holds immense potential to enhance biological understanding, improve prediction accuracy, and optimize the selection of complex traits in livestock species. AI algorithms are particularly powerful in uncovering intricate, non-linear interactions among multi-dimensional biological datasets (e.g., SNPs, metabolites, microbiome profiles, and transcriptomics) and phenotypic expressions. Moreover, with the rapid evolution of sensor technologies in livestock systems, AI has become an indispensable tool for extracting valuable insights from novel and hard-to-measure indicators obtained from images, videos, sound recordings, accelerometers, and other sensor platforms. Topics of interest include but are not limited to genomic selection, phenotype prediction, trait discovery, marker association studies, high-throughput phenotyping, and multi-omics data integration. We particularly welcome submissions focused on traits of economic, biological, or social significance to livestock production systems.

Guest Editor

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Deadline for manuscript submissions

28 February 2026

Animals

an Open Access Journal by MDPI

Impact Factor 2.7
CiteScore 5.2
Indexed in PubMed

mdpi.com/si/240150

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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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