Special Issue

Genetic Basis of Complex Traits and Breeding Innovation in Pigs

Message from the Guest Editors

The successful release of resources like PigGTEx has catalyzed a new era in porcine genomics. Large-scale genetic analyses have begun to unravel the architecture of over 200 complex traits, and initiatives such as the PigBiobank platform are providing invaluable datasets for the research community. While these advances have mapped numerous quantitative trait loci and identified potential candidate genes, some challenges remain. The genetic basis for certain traits may still be limited by sample size or breed diversity, and a number of economically and biologically important characteristics await comprehensive investigation. A key frontier lies in innovatively leveraging these vast biological priors to develop new models and methods for prediction and selection. Furthermore, the rapid evolution of sequencing technologies is continuously revealing new molecular traits. Integrating these multi-omics layers is crucial for pinpointing key causal genes and variants. This Special Issue aims to compile cutting-edge research on the genetic mechanisms of complex traits and innovative analytical and genomic strategies to advance the next generation of precision breeding in pigs.

Guest Editors

Dr. Zitao Chen

Dr. Jinyan Teng

Dr. Zhiting Xu

Deadline for manuscript submissions

30 October 2026

About the Journal

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.

Editor-in-Chief

Prof. Dr. Clive J. C. Phillips
1. Curtin University Sustainable Policy (CUSP) Institute, Curtin University, Kent St., Bentley, WA 6102, Australia
2. Former Foundation Professor of Animal Welfare, University of Queensland and Foundation Director, Centre for Animal Welfare and Ethics, University of Queensland, Brisbane, Australia

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Embase, PubAg, AGRIS, Animal Science Database, CAB Abstracts, and other databases.

Journal Rank:

JCR - Q1 (Veterinary Sciences) / CiteScore - Q1 (General Veterinary)