



*animals*



an Open Access Journal by MDPI

## Genetic Basis of Thermoregulation in Animal Agriculture

Guest Editors:

**Dr. João Pedro Vieira-Da-Rocha**

Department of Microbiology and Molecular Genetics, University of California, Davis, CA, USA

**Dr. Grazyna Tresoldi**

Department College of Agriculture, California State University, Chico, CA, USA

Deadline for manuscript submissions:

**31 August 2024**

### Message from the Guest Editors

Heat stress is a sustainability challenge for the animal industry and the rise in global temperatures will likely worsen this problem. When animals experience high heat load, they face increased discomfort, reduced production and fertility, increased disease risk, and, in extreme cases, mortality. Identifying animals experiencing high heat load and adopting appropriate mitigation strategies can improve animal welfare and the viability of production systems. The most common heat abatement strategies involve modifications on animal housing such as shade, fans, and sprayed water, which all rely on extensive use of natural resources and energy. However, identifying and selecting animals that are more resilient to the hot weather within our production systems can be a more efficient method to achieve sustainability. Therefore, the first step to selecting heat-stress-resilient animals is understanding the genetic basis of thermoregulation. Recognizing the role of genes and pathways associated with heat stress resilience is critical for selecting individuals that can cope better with increasing temperatures.



[mdpi.com/si/147086](https://mdpi.com/si/147086)

**Special** Issue



an Open Access Journal by MDPI

## Editor-in-Chief

### Prof. Dr. Clive J. C. Phillips

1. Institute of Veterinary Medicine  
and Animal Sciences, Estonian  
University of Life Sciences,  
Kreutzwaldi 1, 51014 Tartu,  
Estonia

2. Curtin University Sustainability  
Policy (CUSP) Institute, Kent St.,  
Bentley 6102, Australia

## 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 (2023, ranks 10/80 (Q1) in ‘Agriculture, Dairy & Animal Science’; 16/167 (Q1) in ‘Veterinary Sciences’), 5-Year Impact Factor: 3.0.

## 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)

## Contact Us

---

*Animals* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/animals](http://mdpi.com/journal/animals)  
[animals@mdpi.com](mailto:animals@mdpi.com)  
[X@Animals\\_MDPI](https://twitter.com/Animals_MDPI)