

## Special Issue

# Genetics as a Powerful Tool for a Sustainable Aquaculture: Host–Pathogen Interaction and Breeding for Resistance

### Message from the Guest Editors

Infectious diseases are major losses that affect aquaculture production. Traditional systems such as vaccines and antibiotic treatments are used to prevent and control viral and bacterial diseases, but these approaches are sometimes ineffective, expensive, and difficult to manage. Knowledge of the genetic basis of host–pathogen interaction, disease-resistant, and antimicrobial-resistant genes and breeding for resistance could be useful tools to face this challenge. This global approach could, at the same time, enhance the sustainability of aquaculture production reducing direct and indirect costs related to disease management and reducing the environmental impact of drug treatment associated with the anti-microbial resistance phenomenon, one of the biggest public health challenges of our time. Papers submitted this Special Issue should be original contributions focused on the following:

- Role of genetics in fish resistance to diseases
- Breeding for resistance
- Immunological response to fish pathogens
- Molecular characterization of fish pathogens
- Antibiotic resistance of fish pathogens

---

### Guest Editors

Dr. Silvia Colussi

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta, Italy

Dr. Paolo Pastorino

The Veterinary Medical Research Institute for Piemonte, Liguria and Valle d'Aosta, 10154 Torino, Italy

---

### Deadline for manuscript submissions

closed (30 September 2022)



## Animals

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.7  
CiteScore 5.2  
Indexed in PubMed



[mdpi.com/si/66998](https://mdpi.com/si/66998)

*Animals*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[animals@mdpi.com](mailto:animals@mdpi.com)

[mdpi.com/journal/  
animals](https://mdpi.com/journal/animals)





# Animals

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.7  
CiteScore 5.2  
Indexed in PubMed



[mdpi.com/journal/  
animals](https://mdpi.com/journal/animals)



## 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)