

Special Issue

Applications of Modern Biotechnologies to Improve Reproductive Efficiency in Animals

Message from the Guest Editors

Stress represents a significant biological challenge across animal species, with profound implications for reproductive success and population dynamics. The physiological response to stress involves a cascade of hormonal and molecular changes encompassing both the neuroendocrine and the immune systems. Stress, whether from oxidative damage, heat exposure, or behavioral factors, can significantly reshape the epigenome, leading to lasting alterations in gene expression and physiological responses. These changes occur through mechanisms such as DNA methylation, histone modifications, and the regulation of non-coding RNAs, all of which play crucial roles in how animals adapt to stress. Modern animal production systems introduce unique stressors through intensive management practices, while wildlife populations face increasing challenges from habitat fragmentation, climate change, and human disturbances. Domestic animals experience reproductive impairments due to housing conditions, social hierarchies, and handling procedures, while conservation efforts for endangered species must address how anthropogenic stressors compromise reproductive potential.

Guest Editors

Dr. Rosa Maria Lino Neto Pereira

Dr. Sonia Macedo

Dr. Daniela Franco da Silva

Dr. Vera Pessoa

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Animals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
animals@mdpi.com

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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.

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

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