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## Molecular Mechanisms Affecting Reproduction and Fertility in Cattle

Guest Editors:

**Dr. Zhangrui Cheng**

Department of Pathobiology and Population Sciences, The Royal Veterinary College, Hatfield, UK

**Dr. Chike Oguejiofor**

University of Nigeria, Nsukka, Nigeria

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### Message from the Guest Editors

Reproductive performance and fertility in dairy cows have declined over the past five decades. Female reproductive processes are complex, including luteolysis, follicular development, ovulation, fertilization, recognition and establishment of pregnancy, and parturition. Disruption in any of these processes will lead to poor reproductive performance and fertility. Many risk factors are involved, including genetics, physiology, nutrition, infections, and management. Selection for a higher milk yield increases metabolic load and leads to negative energy balance and decreased pregnancy rate. However, the explicit underlying molecular mechanisms remain elusive. The development of a wide variety of molecular and cell biology tools, such as gene and protein expression quantification, microarray, next-generation sequencing, proteomics, metabolomics, and the related bioinformatics tools, has enabled the investigation at pathway and global levels. This has also provided important insights improving our understanding of the underlying mechanisms of poor fertility and helping to combat this issue.



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### 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

## Message from the Editor-in-Chief

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

Tel: +41 61 683 77 34  
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