



Mathematical Models in Evolutionary Ecology

Guest Editor:

Dr. Bjarki Eldon

Leibniz Institute for Evolution
and Biodiversity Science,
Museum für Naturkunde, 10115
Berlin, Germany

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Message from the Guest Editor

Mathematical models are essential to our understanding of the natural world. The process by which we continue to learn and understand the mechanics driving natural phenomena often begins with verbal hypotheses explaining an observation, from which one extracts the essential components into a tractable mathematical theory. Darwin's theory of evolution by natural selection is a case in point. However, just as natural populations evolve, so do our models of the natural world. In addition, advances in molecular techniques for obtaining whole-genome sequence data could revolutionize our ability to test hypotheses of evolution and ecology.

Even today there are misconceptions about the role of mathematics in biology. Rigorous analysis of the properties of a tractable model incorporating at least the most relevant characteristics of a particular system, and the model's predictions, can be a stronger test of a verbal hypothesis than any open-ended experiment or exploratory data analysis.

The purpose of this Special Issue is to publish theoretical advancements relevant for evolution and/or ecology, as well as critical assessments of current theory through genomic data analysis.





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Editor-in-Chief

Prof. Dr. Francisco Chiclana
School of Computer Science and
Informatics, De Montfort
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Leicester LE1 9BH, UK

Message from the Editor-in-Chief

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Mathematics Editorial Office
MDPI, Grosspeteranlage 5
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