



## Spatio-Temporal Dynamics of Species

Guest Editors:

**Prof. Dr. Antonio López-Quílez**

Department of Statistics and  
Operational Research, University  
of Valencia, Dr. Moliner 50, 46100  
Burjassot, Spain

**Dr. Oscar Rodriguez de Rivera  
Ortega**

School of Mathematics, Statistics  
and Actuarial Science University  
of Kent, Canterbury CT2 7FS, UK

Deadline for manuscript  
submissions:

**closed (1 July 2020)**

### Message from the Guest Editors

Dear Colleagues,

Classical models based on system dynamics approach provide a useful way to represent and comprehend changing behaviours in time, but they do not adequately represent spatial processes. An ecosystem is a system that progresses with both time and space; thus the development of spatio-temporal ecological models is necessary.

Spatio-temporal models seem to offer additional benefits beyond the classical species distribution models (SDM) or spatially explicit modelling. Hierarchical models can deal with complex interactions by specifying parameters changing on several levels via the introduction of random effects. The benefits of applying hierarchical Bayesian models arises more so as the level of complexity rises, when, for instance, spatio-temporal change needs to be modelled explicitly.

This Special Issue is intended for a wide and multidisciplinary audience and presents some of the most recent advances and novel approaches in the analysis of spatio-temporal dynamics in ecological systems.

Prof. Dr. Antonio López-Quílez

Dr. Oscar Rodriguez de Rivera Ortega

*Guest Editor*





an Open Access Journal by MDPI

## Editor-in-Chief

**Prof. Dr. Giulio Nicola Cerullo**  
Dipartimento di Fisica,  
Politecnico di Milano, Piazza L.  
da Vinci 32, 20133 Milano, Italy

## Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

## 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), Inspec, CAPlus / SciFinder, and other databases.

**Journal Rank:** JCR - Q1 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering)

## Contact Us

---

*Applied Sciences* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

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

[mdpi.com/journal/applsci](http://mdpi.com/journal/applsci)  
[applsci@mdpi.com](mailto:applsci@mdpi.com)  
[X@Applsci](#)