Special Issue

Spatio-Temporal Dynamics of Species

Message from the Guest Editors

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.

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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 multidimensional network.

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