

Proposal for a mini-symposium at CMPD5 (The 5th International Conference on Computational and Mathematical Population Dynamics), Florida Atlantic University, Fort Lauderdale, Florida USA, May 19-24, 2019; <http://www.math.fau.edu/cmpd5/>

Conceptual models of climate change impact on ecosystems and population dynamics

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The global climate change is arguably the biggest challenge that humanity is currently facing. A number of possible adverse feedbacks have been identified including a significant rise in the ocean level, thawing of permafrost, increased frequency of extreme weather conditions, biodiversity loss due to the change in species ranges and habitat fragmentation, outbreaks of rare diseases, etc. However, the future trajectories of the climate change, as well as mechanisms behind its impact on the ecosystems remain poorly understood. Moreover, it seems likely that some other, equally dramatic possible consequences of the climate change may have been overlooked altogether. Since field studies into this issue are rarely possible due to the inconsistency of the temporal scales, mathematical modelling is an efficient alternative and indeed there is a number of manuscripts addressing the climate change through simulations using complicated, "realistic" models. One disadvantage of realistic models, however, is that they are difficult to parametrize whilst their dynamics is often sensitive to the details of functional responses. In contrast, this mini-symposium will focus on an alternative approach where the impact of the global climate change is studied through simpler, "conceptual" models that take into account explicitly only a few essential processes and/or system's component. In the series of carefully selected talks, we will show that such models are in fact an efficient tool to empower our understanding.

Confirmed speakers (in alphabetic order)

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