

## Joint species distribution modelling: how to make more out of community data?

**Date** 11<sup>th</sup> Dec (Fri.)

**Time** 16:00 (UTC+8)

**Venue** Zoom



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A central aim community ecology is to understand the processes that determine the assembly and dynamics of species assemblages at different spatiotemporal scales. To facilitate the integration between conceptual and statistical approaches in community ecology, we have developed Hierarchical Modelling of Species Communities (HMSC) as a general, flexible framework for modern analysis of community data. HMSC belongs to the class of joint species distribution models, and it makes it possible to derive simultaneously species- and community level inference from data on species occurrences, environmental covariates, species traits, and phylogenetic relationships. HMSC applies to a wide variety of study designs, including hierarchical data, spatial data, temporal data, and spatio-temporal data. We describe the general HMSC framework and its relationships to other methods for analysing community data, demonstrate the R-package Hmsc by applying it to a case study on Finnish birds, and conclude by discussing the strengths and development needs of this methodological framework.

**All are welcome!**



### About speakers:

**Otso Ovaskainen** is a professor of Mathematical and Statistical Ecology at the University of Jyväskylä, Finland. He has conducted research in mathematical, statistical and empirical ecology, with a particular focus on metapopulation ecology, movement ecology, population genetics, molecular species identification and community ecology.

**Nerea Abrego** is a senior researcher at the University of Jyväskylä, Finland. After obtaining her PhD in fungal ecology, she expanded her research to general community ecology. She has conducted research in empirical, theoretical and statistical ecology, including recent developments in joint species distribution modelling.

