

# ECOLOGICAL NETWORKS - FROM INDIVIDUALS TO ECOSYSTEMS



**A TALK BY**

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**MONDAY, NOV 6, 1:30 P.M. | NÁDOR U. 15., ROOM 106**

**ABSTRACT** | Ecology is the science of coexistence, so system models and network analysis have always been welcome by ecologists. I present some old and also the latest network models in ecology, including novel methods and tools. We will jump between three levels: we search for key individuals in animal social networks, we will identify keystone species in inter-specific interaction networks (like food webs) and we will speak about critically important habitat patches in habitat networks fragmented in space. The stars of the show will be marmots, sea stars, and vultures. Finally, I will present a simplistic, individual-based simulation model for coupling these three “horizontal” levels of biological organization - and I will discuss the challenges of such “vertical” links.

**BIO** | Ferenc Jordán is a Hungarian biologist, with MSc in Biology (1996) and PhD in Genetics (1999), both from Eötvös Loránd University, Budapest, Hungary. Branco Weiss Fellow (2003-2008, of Society in Science, Zürich, Switzerland) at Collegium Budapest, Institute for Advanced Study (Budapest, Hungary). Group leader at The Microsoft Research – COSBI (2008-2016, Trento, Italy). Fellow at Wissenschaftskolleg zu Berlin, Germany (2016-2017). Visiting Professor at the University of Antofagasta, Chile (2015-). Presently, he is associated professor at Stazione Zoologica, Napoli, Italy (2016-). Doctor of the Hungarian Academy of Sciences (DSc, 2009), editor of several international scientific journals (e.g. Ecology Letters), reviewer of over 500 scientific papers. Dr Jordán published over 80 scientific papers in ISI journals, these have got over 2800 citations. Recently, Dr Jordán is actively serving several grant agencies as a panelist (e.g. European Research Council, Lithuanian Research Council, Polish National Science Center). He is a scientist of highly multidisciplinary interest, working in the widest international collaboration network. Publications focus on better understanding various biological networks (habitat networks, food webs, protein interaction networks, social networks of animals, security-related networks) by identifying their key nodes and critically important indirect links.