and long-term stability of antagonistic networks. Proc. R. Soc. B 285: 20172596.
• Melián C, Seehausen O, Eguiluz V, Fortuna M, Deiner K. 2015. Diversification and Biodiversity Dynamics of Hot and Cold Spots. Ecography 38, 393-401.
• Melián C, et al. 2015. Dispersal dynamics in food webs. American Naturalist 185, 2: 157-168.
• Melián C., et al. 2014. Individual trait variation and diversity in food webs. Advances in Ecological Research. Vol. 50. Academic Press, 207-241.

List of relevant projects

2020 Melián, C. J. and Ferrão Filho, Aloysio S. Granted: Brazilian-Swiss Joint Research Programme SNSF, Title: Feedbacks between coevolving predator-prey interactions and the funcitoning of aquatic ecosystems. Period: 24 Months, SFr 228k
2018 Melián, C. J., Andreazzi, C., and Astegiano, J. SNSF, Scientific exchange program, Title: Biodiversity Dynamics in Coevolutionary Metaecosystems. Period: 3 Months, SFr 20k
2016 Melián, C. J., Matthews, B., Seehausen, O., and Harmon, L. J. Granted: Swiss National Science Foundation, International exploratory workshops. Title: Interactions on Trees. Period: 1 Week, SFr 21k.
2015 Kalinkat, G., and Melián, C. J. Granted: German Academic Exchange Service (DAAD). Germany. Title: Analysing the interplay between allometric constraints and intraspecific trait variation to predict food web dynamics. Period: 6 Months, SFr 19k.
2015 Melián, C. J. Granted: Swiss National Science Foundation, Division III. Switzerland. Title: A theory for next- generation food web data. Period: 2 years (Postdoc), SFr 161k.

Infrastructure relevant to the proposed work

EAWAG in Kastanienbaum Lucerne offers excellent office, meeting rooms, laboratory and testing facilities in modern, state-of-the-art buildings. EAWAG provides access to first class research facilities that regularly offer training for the use of equipment, tools and software. Of particular relevance for this research project is the access to two computing clusters “Leonhard” and “Euler” with more than 50 000 processor cores available for scientific computations, and training for their use offered by ETH Zürich.

CSIC

Biological Donana Station (EBD)

Dr. Carlos J. Melian will work for EBD in ROBHOOT v1.0.
Miguel A Fortuna takes the leader role in the Milestone 1, Data knowledge discovery.

Brief description of EBD ...

Contributions to ROBHOOT ...
Dr. Miguel A. Fortuna is an ecologist and evolutionary biologist turned network scientist who thinks differently about problem solving. He conducts interdisciplinary research by combining mathematical models, computer simulations, and database analysis, to answer questions that go beyond the traditional boundaries among disciplines, merging ecology with evolution, sociology, genetics, software design, and artificial life.

His current research line builds on his previous research and is among the few trying to understand how evolution in complex networks of interactions can help us control human diseases. This research line combines, with a solid methodology, community ecology and evolutionary biology in a new fresh way. It has implications in at least three burgeoning fields of biotechnological and biomedical research: 1) cancer research (i.e., recent advances have shown that tumours—like species striving for survival—harbour intricate population dynamics, which suggests the possibility to exploit the ecology of tumours for treatment), 2) phage therapy (i.e., recent findings are showing the success of using phage cocktails to