

4 Members of the consortium

4.1 Participants (applicants)

EAWAG

Dr. Carlos J. Melian will work for EAWAG in ROBHOOT.

Carlos J Melian takes the official coordinator lead of the ROBHOOT project and takes care of all management aspect.

The Swiss Federal Institute for Aquatic Science and Technology (EAWAG) is an independent research institute within the Swiss Federal Institute of Technology (ETH) domain. As such it is an independent partner in a network of exceptionally strong research and education institutions (2 federal universities and 4 federal research institutes). EAWAG is world-leading water research institute. EAWAG hosts over 300 research fellows, postdocs and PhD students, who are supported by technical and support staff.

Contributions to ROBHOOT ...

Dr. Carlos Melián is a tenured researcher in Theoretical Evolutionary Ecology at EAWAG and associate professor at the University of Bern. Dr. Melián is widely recognized as an expert in Eco-evolutionary networks where he has contributed with novel approaches combining stochastic modeling and empirical patterns to study the interaction between ecological and evolutionary dynamics in multispecies assemblages. Dr. Melian has made important contributions to the fields of Ecological Networks (e.g. De Laender and Melián, 2014, *Ecol Lett*; Melián and Křivan, 2015, *AmNat*), Eco-evolutionary networks (e.g. Melián et al., 2011, *Adv Ecol Res*; Andreazzi and Melián, 2018, *PRSB*), and Diversification on eco-evolutionary networks (e.g. Melián et al., 2012, *PLoS Comput Biol*; Leprieur, Melián, Pellissier, 2016, *Nat Commun*). Most of his contributions combine stochastic modeling, large empirical datasets, and Bayesian approximations, to quantify the impact of intra- and inter-specific trait variation on species interactions, divergence and the macroscopic properties of ecological networks. He has been Principal Investigator in 15 projects obtained in 5 different countries (Spain, USA, UK, Germany and Switzerland) with a total of approx. 1 Million Euro. He has successfully co-supervised 5 PhD students and supervised 7 postdocs. The feasibility of this proposal is firmly established by his track record further reinforced by his solid and active international network of collaborators. Among others he works with Prof. S. Allesina (U Chicago, USA), Dr. A. Eklöf (Linköping U, Sweden), Prof. P. Guimares (U Sao Paulo, Brazil), Prof. M. O'Connor (U Vancouver, Canada), and Dr. F. De Laender (U Namur, Belgium). Dr. Melián has expertise combining skills in networks and experienced in modelling complex multi-scale eco-evolutionary networks. He also has combined basic and applied-oriented research; 2) Integrating a range of methodologies: he is experienced with statistical and mathematical modelling, and has analytical and advanced programming skills; 3) Extensive experience collaborating with theorists and empiricists: he has collaborated with researchers of diverse fields i.e. mathematics, ecology, evolutionary biology, conservation science.

List of publications

- Melián C, et al. 2018. Deciphering the interdependence between ecological and evolutionary networks. *Trends in ecology & evolution* 33,7: 504-512.
- Andreazzi C, Guimaraes P, Melián C. 2018. Eco-evolutionary feedbacks promote fluctuating selection