Biodiversity Research Chair

Post-doctoral research position announcement

Project Network of Leading European AQUAtic MesoCOSM Facilities Connecting Mountains to Oceans from the Artic to the Mediterranean (AQUACOSM) – Grant Agreement number – 731065, European Union – H2020

18 november 2019

Rui Nabeiro Biodiversity Chair

Scientific Area: Ecology, Biology.

Background

Can we predict the effects of climate changes on biodiversity? Existing models are based on several weak assumptions, generally failing to account for complex interdependencies between species. Detailed multi-species models are mathematically intractable and prone to chaotic dynamics whereby small changes in parameterisation can cause massive changes in predictions. For example, modelling species distributions against biotic and abiotic constraints has proven useful in systems with two species interacting with one another, but for systems with many interacting species the problem is currently beyond capacity. An alternative is to model assemblages of species assuming they have collective behaviour. Evidence exist that community responses do exist once the unit of observation is functional groups rather than species.

Some key papers for the project

- Araújo, M.B. & Rozenfeld, A. 2014. The geographic scaling of biotic interactions. Ecography. 37: 406-415.
- Livingston, G., Matias, M., et al. 2012. Competition-colonization dynamics in experimental bacterial metacommunities. Nat Commun. 3: 1234.
- Cazelles, K., Araújo, M.B., Mouquet, N., Gravel, D. 2016. Theory for species co-occurrence in interaction networks. Theoretical Ecology. 9: 39-48.
- Mendoza, M., Janis, C. & Palmqvist, P. 2005. Ecological patterns in the trophic-size structure of large mammal communities: a 'taxon-free'characterization. Evolutionary Ecology Research. 7: 505-530.
- Morales-Castilla, I., Matias, M.G., Gravel, D. & Araújo, M.B. 2015. Inferring biotic interactions from proxies. Trends in Ecology and Evolution. 30: 347–356.

- Moore, J.C. & Ruiter, P.C. 2012. Energetic food webs: An analysis of real and model ecosystems. Oxford Series in Ecology and Evolution.

Research environment:

The postdoc will be associated with Miguel Araújo, while being physically located at the Rui Nabeiro Biodiversity Chair – University of Évora.

Required background and skills:

PhD in Biology. Solid background in theoretical ecology with proven experience inmodelling and numerical analysis of ecological data. Good programming skills are a must.

Language: English as a first or second language is required.

Publication record: Candidates are expected to have a good publication record in internationally refereed journals.

Working Plan: The successful postdoctoral research applicant will endeavour to develop models of food web architectures using published macroecological data sets and experimentally compiled data. The work will contribute to training the postdoc researcher in this scientific field.

Legislation framework: A fellowship contract will be celebrated according to the regulations defined by FCT "Regulations for Advanced Training and Qualification of Human Resources", in accordance with Law 40/2004, of 18 August, as amended and republished by Decree-Law No. 202/2012 of 27 August, and as amended by Decree-Law No. 233/2012 of 29 October and by Law No. 12/2013, of 29 January, and Decree-Law No. 89/2013 of 9 July, to Fellowships Regulation of FCT (https://www.fct.pt/apoios/bolsas/regulamentos).

Place of work: Biodiversity Research Chair – University of Évora

Duration and Starting date: 12 months, starting in January 2020 (starting date flexible)

Stipend: Salary: Monthly stipend is €1509,80 according to the stipends established by FCT, I.P. in Portugal (http://alfa.fct.mctes.pt/apoios/bolsas/valores) plus social security. Payment will be made by bank transfer on a monthly basis.

Other subsidies: EUR 300-600 for inbound and outbound travelling, in accordance with Fellowships Regulation of FCT (www.fct.pt/apoios/bolsas/docs/RegulamentoBolsasFCT2015.pdf).

Evaluation Methods: Evaluation will be based on academic qualifications (25%), motivation and interest in the project (25%), demonstrated experience and skills in relevant areas (50%). There may be resorting to interviews. The jury reserves the right to not select any candidate, if submitted applications do not meet the required profile.

Evaluation Panel: Dr. Miguel Bastos Araújo, Prof. Jorge Araújo, Dr. Diogo Alagador.

Results: The final results will be affixed in a visible and public place at Biodiversity Research Chair -University of Évora and candidates will be notified by email.

Application: the competition is open from November 19 to December 2, 2019. Applications should be sent by email to Ana Rita Ferreira (catedrabio@uevora.pt). The application must include a cover letter (in English) explaining why you think you are an adequate candidate for the post, a short CV (please no more than 5 pages), external links to five of your most relevant papers, certificates of qualifications, and the names and contacts of two academics that can provide a reference for you.

NOTE: Academic degrees obtained in foreign countries need to be recognized by a Portuguese Institution, according to Decree-Law no. 66/2018, of 16 August, and Ordinance no. 33/2019, of 25 January. The presentation of the certificate is mandatory before the signing of the contract. More information can be obtained at:

https://www.dges.gov.pt/pt/pagina/reconhecimento?plid=374