INRAE

JOB OFFER

Postdoc Grenoble (38)

INRAE presentation

The French National Research Institute for Agriculture, Food, and the Environment (INRAE) is a public research establishment. It is a community of 12,000 people with more than 200 research units and 42 experimental units located throughout France. The institute is among the world leaders in agricultural and food sciences, in plant and animal sciences, and is 11th in the world in ecology and environment. INRAE's main goal is to be a key player in the transitions necessary to address major global challenges. In the face of the increase in population, climate change, scarcity of resources and decline in biodiversity, the institute develops solutions for multiperformance agriculture, high quality food and sustainable management of resources and ecosystems.

Work environment, missions and activities

■ INRAE invites applications for a postdoc position that will develop trait-based integral projection models for forests in Europe and North America. This postdoc will work within the National Research Agency project DECLIC, which focuses on understanding how tolerance to abiotic stresses such as drought and frost interact with competition to drive tree species distributions at the continental scale. The key originality of the project is to connect physiological traits to demographic data at large scale. The postdoc will contribute to the ongoing development of the model (see Kunstler et al. 2020 J. Ecol. early view) by focusing on expanding the model to North America, including multispecies competition based on crown traits, and improving the recruitment processes. The post-doc will contribute to one of the key aims of the DECLIC project: testing how trade-offs between abiotic stress tolerance and competitive ability control species demographic performance across their range.

■ The post-doc will work in the team DYNAMICS of the LESSEM research unit (Mountain Ecosystems and Societies Laboratory). We study forest dynamics using a broad range of modelling technics ranging from the individual up to the landscape level, with expertise in Bayesian statistics, statistical inference for stochastic simulation models, and connection between demographic data and functional traits. LESSEM is part of Université Grenoble Alpes (UGA). The postdoc will be supervised by Dr Georges Kunstler. The postdoc will have strong interactions with two other postdocs hired in the project: A postdoc working with physiological traits supervised by Dr Sylvain Delzon at INRAE BIOGECO and Guillaume Charrier at INRAE PIAF, and a postdoc working on model' analysis supervised by Dr Franck Jabot INRAE LISC and Dr Georges Kunstler. We also expect strong interactions with Prof Jim Clark from Duke University for the North American analysis (Prof Jim Clark is currently hosted 6 months per year at LESSEM within his FORBIC MOGPA project). Finally, the postdoc will have interactions with researchers from the recently funded European BIODIVERSA project FUNPOTENTIAL. Our research unit is connected to a local network of labs working on ecology related topics, and situated in attractive surroundings in the heart of the French Alps. University of Grenoble-Alpes has a special office to facilitate the arrival of international students and scientists.

Training and skills

■ We are looking for candidates with (i) an excellent doctoral degree in ecology (or applied statistics), (ii) experience with demographic models, or Bayesian statistics, and (iii) a demonstrated ability to communicate in English and to publish in international scientific journals. Skills in R programming are mandatory. Good knowledge of functional traits and theoretical ecology will be a plus.

INRAE's life quality

By joining our teams, you benefit from:

- 30 days of annual leave + 15 days "Reduction of Working Time" (for a full time);
- parenting support: CESU childcare, leisure services;
- skills development systems: training, career advise;
- social support: advice and listening, social assistance and loans;
- holiday and leisure services: holiday vouchers, accommodation at preferential rates;
- sports and cultural activities;

↘ Job details

- Research Unit: LESSEM

- Location : Campus 38402 Saint Martin d'Hères

- Contract : Postdoctoral position

- Duration : 24 months

- Starting date : from 01/02/2021

- Salary : starting from 2516 Euros (gross) per month

↘ How to apply

Applications and inquiries should be sent via e-mail to Georges Kunstler georges.kunstler@inrae.fr

Please submit your application as a single PDF file. This file should contain a 1-page cover letter describing your motivation to apply, a CV including relevant certificates, a publication list, and contact details of 2 potential referees. Review of applications will begin on 14 December 2020 and will continue until the position is filled.

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■ INRAE invites applications for a postdoc position that will develop and use trait-based integral projection models for forests to analyse the resilience of European forests to different disturbance regimes. This postdoc will work within the European BIODIVERSA project FUNPOTENTIAL, which focuses on testing how functional diversity can increase the disturbance resiliency of forests and forest-based socio-ecological systems. The postdoc will contribute to the ongoing development of the model (see Kunstler et al. 2020 J. Ecol.) by including the effect of different disturbances on tree mortality and modelling how forest resilience is influenced by pre-disturbance trait composition of the forest. The post-doc will also help connecting the IPM model to economic analysis to test how diversity affects economic risks and returns.

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