PhD position in the CANOPI project – distribution and determinants work package

Employer: University of Liège
Location: Gembloux, Belgium
Closing date: 01/09/2022

Given the rapid changes in climate, immense shifts in forest composition, functioning and carbon balance are expected in tropical forests in central Africa. However, no studies have confirmed this worrisome trend using ground-based data, keeping central Africa a particularly understudied region despite its overwhelming size. Whether tropical forests in central Africa will be sensitive to drier conditions –because they are already limited by water availability– or resistant –because they are adapted to seasonal drought– is the ambitious challenge CANOPI aims to tackle (https://www.canopi.uliege.be/).

Your position
The CANOPI project is transdisciplinary and divided in five complementary work packages, each supported by one doctoral work. This position is relative to the first work package addressing the following question.
“*To what extent does and will climate, and specifically seasonal drought, shape tropical tree species distribution in Africa?*”

Using up-to-date modelling methods, you will identify the environmental determinants shaping the distribution of plant communities and produce floristic and functional maps of central African forests. You will explore the relationship between the distribution of species, communities, and forests and functional traits, specifically those related to drought-mitigation strategies. The determining role of leaf sheading, a major strategy to avoid desiccation, will be specifically explored. Part of the trait data have already been compiled for ~1000 tree species (leaf habit, maximum height, wood density) but additional measurements will be carried out to acquire new data on bark and wood traits. Finally, you will determine the vulnerability of species, communities and forest types under contrasting scenarios of climate change and anthropogenic threats, and identify areas that will experience major shifts in taxonomic and functional composition.

Your profile
We are looking for a highly motivated candidate with a self-organized and solution-oriented work attitude. Applicants should hold a MSc degree in ecology, biogeography, environmental science, computational biology, statistics and data science, or related fields. The **successful candidate should be able to independently conduct spatial and statistical analyses (in R, C++ or other programming language).** Candidates should be able and willing to conduct fieldwork under harsh logistic climatic conditions. The candidate should be able to speak properly in French for the field and to speak and write properly in English for interactions with colleagues and for scientific communication.

We offer you
A fully-funded PhD position for four years (as of 01/10/2022) in a dynamic research group including professors and other colleagues from Liège and Ghent Universities in Belgium, and from the IRD in France, the CENAREST in Gabon and the INERA in the Democratic Republic of Congo. You will join a supportive, collaborative and cooperative working environment. You will have the opportunity to be integrated in established (inter)national research networks. Salary and social benefits are provided according to the rules of the University of Liège.

How to apply
Prepare a 1-page CV and a 1-page motivation letter and send this to AnaisPasiphae.Gorel@UGent.be & adeline.fayolle@uliege.be

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