

Joint PhD scholarship in Forest Ecology at UCLouvain – KU Leuven (Belgium)

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“Disentangling effects of litter quality and biotic soil regulation on litter decomposition processes in forests of the northern hemisphere using a synthetic community approach”

Synopsis

As part of a Global PhD Partnership between KU Leuven and UCLouvain, we offer a 4-yr PhD scholarship focusing on the impacts of tree diversity on litter decomposition.

Context and project description

This PhD proposal aims at investigating the linkages between tree biodiversity and litter decomposition, a key ecosystem function affecting nutrient and carbon cycles. To do this, we use a synthetic community approach capitalizing on the unique geographical arboretum of Tervuren (Belgium) that features the world’s major temperate and boreal forest communities. It allows testing the effect of composition, traits and biogeographical origin for an unprecedented range of tree communities, while controlling for climate and soil. The analysis of obtained data will explicitly account for non-linear threshold behavior. Focusing on the initial stages of leaf litter decomposition, we hypothesize that different tree communities result in contrasting decomposition rates through the supply of litter inputs of varying quality and quantity (direct effects), as well as through their impact on the decomposition environment (indirect effects).

Candidate profile

- a master degree in forest science, forest ecology, soil science, environmental science, or related fields;
- experience in and motivation for field work;
- skills in statistics and data analysis, and experience with common statistical softwares such as SAS or R;
- interest in modeling;
- ability to work in a team and independently;
- ability to communicate/report clearly in English, both orally and in writing;
- need to have a driving license.

Application and selection process

It is required that the candidate shall at the date of recruitment, be in the first four years (full time equivalent research experience) of their research career and has not been awarded a doctoral degree.

Your application will consist of a letter of motivation, a CV, academic transcripts, and contact details of at least two academic references. Please send your application by email with the subject “PhD – Forest Ecology” **by October 3rd, 2021 the latest** to Bart Muys (bart.muys@kuleuven.be) and Quentin Ponette (quentin.ponette@uclouvain.be).

Based on this, a short list of candidates will be retained for an interview between 11th and 15th October 2021. The successful candidate is expected to start working in November, 2021.

Working environment

The PhD student will be co-supervised by Prof. Quentin Ponette (UCLouvain) and Prof. Bart Muys and Prof. Karen Vancampenhout (KU Leuven). During the first two years, the candidate will be hosted at the Pool ‘Environmental Sciences’ of the Earth and Life Institute of the University of Louvain (UCLouvain, Louvain-la-Neuve, Belgium). For the next two years, he/she will join the Division ‘Forest, Nature and Landscape’ at KU Leuven (Leuven, Belgium). The PhD researcher will strongly interact with all partners of the project, in particular with the managers of the Geographical Arboretum of Tervuren. All strategic decisions will be taken in common during three-monthly project meetings, and all papers, independent if they are developed in the first or second term will be outlined and developed together in co-authorship with joint coaching of the PhD candidate. The candidate will obtain a doctoral degree in Bioscience Engineering from both institutions.