

## The Remote Sensing & Terrestrial Ecology group of KU Leuven is opening a vacancy for a postdoc position on quantifying and modelling ecosystem services of urban trees

### Position in the framework of the ERA-NET BIODIVERSA project URBAN-MYCOSERVE

#### Context of the project:

As 80% of the EU population is expected to live in urban areas by 2020, the quality of the urban environment is of growing importance. Urban trees are key elements in mitigating the common environmental problems in urban areas, through provisioning crucial ecosystem services such as air quality improvement, decrease of water runoff and microclimate mitigation. However, urban trees typically face harsh environmental conditions, resulting in reduced health, and potentially jeopardizing ecosystem service provisioning. Because of their well-known host tree benefits, Ectomycorrhizal Fungi (EM) may play an important role in urban tree management, improving tree vigor. Our knowledge of the EM community of urban trees, of its drivers, and of which role these fungi play in sustaining tree health and tree ecosystem service delivery is very limited. The aim of this project is (i) to provide an assessment of the EM community and functional group composition of urban trees, and of its environmental drivers, using next generation sequencing techniques; (ii) to relate specific EM, or functional groups of EM, to tree health, and tree ecosystem service delivery, using advanced noninvasive spectral and physiological sensing technology and urban biophysical modelling. The project is a cooperation between **KU Leuven** (B), **INRA** (Environment and Agronomy Department) (Fr), **Universidade Católica Portuguesa** (Escola Superior de Biotecnologia) (P) and **Strasbourg University** (Laboratory of engineering science, computer science and imagery) (Fr).

#### Context of the position:

The successful candidate will work at the *Remote Sensing & Terrestrial Ecology* group, as part of the *Division Forest, Nature and Landscape* at the *Department Earth & Environmental Sciences* of KU Leuven (head Dr. Ben Somers; <http://ees.kuleuven.be/fnl/research/index.html>). He/she has a proven track record in one or more of the following fields: noninvasive spectral and physiological sensing technology (e.g. thermal, optical and fluorescence measurements; in situ sensor networks, etc.), signal processing, plant physiology, environmental modelling, ecology. Expertise in remote sensing is an added value.

### **Tasks**

Within the URBAN-MYCOSERVE project you will be responsible for quantifying tree health, growth response and ecosystem services provided by model tree species and identify the mediating role of EM community composition, richness and functional diversity. Therefore, you will use noninvasive spectral and physiological sensing technology and urban biophysical models. You will as such be responsible for setting-up and executing a continuous monitoring experiment on several model trees in different cities. You will closely cooperate with a postdoc at the *Plant Population and Conservation Biology* group of KU Leuven who will provide the EM community data, and with the other project partners.

You will further:

- assist in a limited amount of teaching activities (related to remote sensing, GIS, landscape & urban ecology)
- advise PhD and M.Sc. students
- generate scientific output

### **Profile**

- You hold a PhD degree in bioscience engineering, environmental sciences, biology or closely related field. Experience in multiple areas is an advantage
- Extensive experience and proven expertise in noninvasive spectral and physiological sensing technology, data management and data processing, environmental modeling and related software packages
- You have a good publication record relative to your career stage
- You are responsible, can work both independently and in a team, show initiative and seize opportunities
- You hold leadership skills (e.g. project coordination/management and networking)
- You have good written and oral communication skills in English
- You get things done.

### **Offer**

You start with a 1-year contract, renewable after positive evaluation for another year. We offer a very competitive salary with various additional benefits (in terms of holidays, health insurance, transport costs), excellent research facilities, and conference and travel budget. The start date is March 1<sup>st</sup> 2017.

The KU Leuven-University of Leuven is a research oriented institution and is consistently ranked among the top research universities in Europe. Leuven is one of the oldest university towns in Europe, about 30 km from Brussels. It has a rich history, culture and night life, and a unique friendly atmosphere.

**For further information please contact**

Prof. Ben Somers

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**Application procedure**

— Please send a motivation letter and curriculum vitae to Ben Somers before 20/01/2017. Interviews will be held during the week of 30<sup>th</sup> of January.