JOB POST

Junior researcher - dendrochronology

JOB DESCRIPTION

The successful candidate is expected to take a leading role in the dendrochronological research of two starting projects:

1) Ecosystem engineering and soil complexity in old-growth temperate forests
2) Complex analysis of biological value of near-natural forest stands in the Protected Landscape Area Bohemian Forest and the proposal of it multifunctional silvicultural approach

Abstract of project No.1): Organisms sometimes modify the abiotic environment so as to improve habitat quality for themselves or other species (ecosystem engineering, EI). Trees may have ecosystem engineering impacts on soils through biomechanical and biochemical effects (BBE), and thereby influence soil evolution and diversity. The goal of the project is to explore the role of BBE in soil formation in old-growth temperate forests. We will test hypotheses that (1) BBE of trees play a significant role in soil diversity and soil evolution (e.g. weathering, podzolization, braunification, clay illuviation, organic matter transformation and translocation), and (2) that these effects constitute niche construction. To achieve this, we will study the spatial patterns and dynamics of BBE (frequencies, areas and volumes of phenomena, qualitative impact in pedogenesis), as well as the role of additional soil forming factors, particularly topography. In this interdisciplinary research, we will use extensive long-term data from unique localities of old-growth forests.

Abstract of project No. 2): There are many overmature forest remains in the region of Šumava Protected Landscape Area (Bohemian Forest). These forest stands are older than the average rotation period, but were managed as productive forests. They are important for biodiversity protection, old-growth element continuity etc. To define the future management of these stands, we need to know their historical trajectory and biological values. The main goals of this projects are: 1) To evaluate the current state of main biological indicators (fungi, insects, plants, malacofauna etc.), to identify the historical disturbance regimes and forest continuity etc.; 2) to compare the primary results with the results from the virgin forest reserves at the same sites (Boubín, Stožec, Milešice virgin forests) and 3) to propose the silviculture guidelines for the overmature forest stands to conserve biological heritage in combination with sustainable management.

Dendrochronological analyses will be carried in both projects in the cooperation with other team experts. Your job will focus on data collecting in the field, data processing in the lab and the preparation of standard scientific publications.

DESIRED SKILLS AND EXPERIENCE

Qualifications

In accordance with the prepositions in project proposals, we search for a person who can demonstrate research expertise and is qualified in dendrochronology. We would prefer a person who finished his/her PhD study and is looking for a starting position in forestry research.

We expect a good command of English, the ability to work in a team and flexibility in timing.

If you are interested in the job call, please send us your standard CV (e.g. EUROPASS) including a list of publications, documented experience in dendrochronology (e.g. recommendation letter) and your ideas about your job position.

ABOUT THE EMPLOYER

Silva Tarouca Research Institute, department Forest Ecology
Our team is called „Blue Cat“. Since 1993 we have focused on the research of old-growth forest dynamics, disturbance dynamics, tree spatial points patterns, vegetation dynamics, biomechanical and biochemical effects of trees insoil formation etc. We are members of the ForestGEO network (http://www.forestgeo.si.edu/).

For more information about our team, please see www.naturalforests.cz

Eduard Průša`s Lab
Our lab is equipped for full dendrochronological research:

Equipment for core sampling and preparation:
- Set of Haglöf increment borers (350-800 mm)
- WSL Core Microtome
- Abrasive band grinding machine

Hardware:
- Travelling stage Time Table (1000 cpr res.)
- Stereomicroscope Arsenal (11-t zoom)
- Calibrated color optical scanner Epson LA2400, 31x44 cm
- Digital video camera CMOS 4 (3 Mpx res.)

Software:
- PAST 4.2
- PAST 5
- WinDENDRO Regular 2014a
- WinCELL Regular 2013
- MiniSee 1.0 (video camera software)

Type of employment: Temporary position – until the end of 2019
Working hours: Full time
First day of employment: As per agreement (the sooner the better)
Salary: Monthly (standard salary on the level of Czech scientific salaries)
Number of positions: 1
City: Brno
Country: Czech Republic
Contacts:
send your application to Tomáš Vrška, Head of Department of Forest Ecology, +420 541 126 263, tomas.vrska@vukoz.cz
if you have any questions about the projects, please contact Pavel Šamonil, project leader, +420 541 126 260, pavel.samonil@vukoz.cz
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