PhD opportunity

Silvicultural management options to enhance forest resilience

As part of the recently funded Horizon 2020 project **RESONATE (**Resilient forest value chains – enhancing resilience through natural and socio-economic responses)**,** the Chair of Silviculture at the University of Freiburg invites applications for a 3-yr doctoral position focusing on silvicultural options to increase resilience. **Starting date 01.10.2021.**

Project description: Climate change puts forests under threat and compromises their ability to provide desired ecosystem services. Against this background, management approaches to foster resilience and adaptability of forest ecosystems are urgently sought. This PhD project will analyse how different silvicultural management options may enhance forest resilience and adaptive capacity to recent climate change through active adaptation management. This will entail compilation of existing information from experiments and exploratory plots from across regional European case studies to study the influence of thinning, tree diversity and structural diversity on forest resilience using a range of different indicators. The PhD candidate will analyse tree growth responses and mortality in relation to disturbance events in a) thinning experiments that cover a range in thinning intensities, and b) tree diversity experiments and exploratory plots that range from mono-specific stands to diverse tree mixtures. The underlying hypothesis is that with increasing thinning intensity and with increasing tree species and structural diversity, tree mortality will decline and resilience to disturbances of productivity will increase. This analysis will include the use of existing data from regular inventories of these experiments and, where necessary, additional measurements to capture the most recent heat and drought wave. In addition, RESONATE will investigate the effect of strict forest protection for biodiversity conservation on tree mortality and forest productivity and carbon sequestration through comparison of reserves and managed reference sites in the project's case study regions. The effects of these different management options on forest resilience will be analysed using a meta-analytical approach. In addition, workshops with stakeholders will be carried out to identify the barriers to the implementation of management options to increase resilience.

Candidate profile: We are looking for a highly motivated and co-operative person with a strong background in forest ecology, silviculture, forest inventory, or related fields. The ideal candidate will have demonstrated his/her ability to successfully carry out relevant research, data analyses and communicate the results. Experience in publishing in scientific journals is desirable. The applicant should be able to independently plan and undertake field sampling, coordinate work with other project partners and compile and analyse large data sets. A strong statistical background and experience with R and systematic reviews/meta-analysis are desirable. A strong command of English is indispensable. For international candidates, knowledge of German (or a willingness to learn) would be beneficial to enhance the experience of living and working in Germany.
Salary is the German standard for doctoral students (TV-L E13, 65% of a full scientist salary) and a starting date in October 2021 is anticipated. The University of Freiburg is an equal opportunity employer and encourages women to apply. Severely disabled applicants with equal qualification and aptitude will be given preferential consideration. For international candidates,

the University of Freiburg offers support with the logistics of relocating to Germany (http://www.welcomecenter.uni-freiburg.de).

Founded in 1457, the University of Freiburg is one of the oldest German universities and now one of the nation's leading research and teaching institutions. Freiburg is a vibrant city at the foot of the Black Forest in close vicinity to France and Switzerland, with a rich cultural and academic life and excellent recreational opportunities.

Your application will consist of a letter of motivation, a CV, academic transcripts (non-official copies are acceptable), and contact details of at least two academic references. Please send your application **as a single PDF** by email with the subject "PhD position in RESONATE" by 5th July 2021 to Ursula Eggert (ursula.eggert@waldbau.uni-freiburg.de). Questions regarding the content of the project can be discussed with Prof. Bauhus (juergen.bauhus@waldbau.uni-freiburg.de).