

## 2 PhD positions (UNIVERSITÄT WIEN)

**Bewerbungsfrist: 31.12.2020**

### Two PhD positions on micro-climates and response of alpine plants to climate change

The *Department of Botany and Biodiversity Research* at the University of Vienna (<http://www.botanik.univie.ac.at/botanik/index.php>) is offering two PhD positions within the framework of an EU-funded research project (ERC-AdG MICROCLIM).

#### Background

The fate of alpine floras in a warming world is contentious. While some researchers expect massive loss of cold-adapted plants because they have little options to escape the heat ('mountaintop extinction'), others assume low sensitivity of high-mountain floras due to widespread microclimatic refugia in the topographically complex alpine terrain. MICROCLIM aims to assess the evidence for these contradictory expectations. A major part of the project will be dedicated to developing and parameterizing a novel modelling framework that simulates the simultaneous range dynamics of many interacting plant species at a fine spatial scale over an Austrian mountain landscape. We will validate the model against monitoring data from the same landscape and apply it to simulate the dynamics of the flora of this mountain over the 21st century. The results of this work shall help understanding how threatened the unique alpine flora of Europe actually is in a warming world and whether mitigating conservation measures will be required to secure its long-term survival.

#### Positions announced

Within this framework, the positions announced will focus on a set of field experiments and observational studies that shall link the performance of alpine plant species to microclimatic conditions. Besides helping to parameterize predictive models of the study species' distribution the data collected shall be used to answer a number of generic questions on the demography of alpine plants and the impact that abiotic and biotic factors as well as the functional traits of the species have on their population dynamics.

#### Qualifications

The positions require a master degree in ecology or a related field. Successful candidates will have to spend 2 – 3 months per year in the field. Physical fitness and willingness to work under the (sometimes) demanding climatic conditions of the alpine terrain are hence required. We also expect all candidates to have (1) interest and experience in population ecology, plant ecophysiology, biogeography, biodiversity research or a related field; (2) knowledge of or at least interest in high-mountain floras, ideally in the flora of the European Alps; (3) experience in writing scientific publications; (4) strong statistical skills (preferably in R); (5) strong collaborative skills; and (6) fluency in English, at least at the B2 level.

#### Offer

The positions are for three years. In accordance with the standards of the Austrian Science Fund, PhD positions are for 30 h / week (approximately 30,000 € gross salary per year, <https://www.fwf.ac.at/en/research-funding/personnel-costs/>). The remaining 10 hours are meant to be spent for work required to acquire the academic degree. PhDs will be part of the University of Vienna's Doctoral School of Ecology and Evolution (<https://vds-ecology-evolution.univie.ac.at/>). No teaching obligation is involved in these positions (but teaching opportunities may be available in case of interest). All positions include health and other social insurance according to Austrian laws.

#### Supervisors and collaborators

Stefan Dullinger is PI of the project and will supervise the successful candidates in collaboration with Karl Hülber and other members of his research group (<http://cvl.univie.ac.at/department/>). The candidates will moreover collaborate with the team of the GLORIA monitoring initiative (<https://www.gloria.ac.at/home>) who ran the monitoring sites in the study area, and with the team of Martin Rutzinger from the University of Innsbruck (<https://www.uibk.ac.at/geographie/personal/rutzinger/>) who will be responsible for providing microclimatic and other environmental maps of the study area.

#### Place of employment

The main working place is the Department of Botany and Biodiversity Research at the University of Vienna. Field work will be conducted in the Ötztal, Tyrol. At the Department, successful candidates will be part of the working group Global Change Biology of the Division of Conservation Biology. Work at the Division is focused on ecological consequences of global environmental change, including climate change, land use change and biological invasions. Methods applied include field studies and experiments as well as macroecological analyses and modelling of species' distribution and population dynamics.

**Starting date** All positions shall be filled by 01/04/2021 at the latest.

**Contact** If you are interested in this position, send a letter of motivation, a CV, including a list of your scientific presentations and publications, and the contact details of two references to [stefan.dullinger@univie.ac.at](mailto:stefan.dullinger@univie.ac.at). Please, merge all submitted documents into a single PDF file and include your name in the file name. The application deadline is **31.12.2020**.

**Further information** Please contact Stefan Dullinger ([stefan.dullinger@univie.ac.at](mailto:stefan.dullinger@univie.ac.at)) if you need any further information.

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