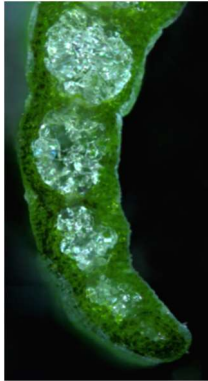


Control and growth of extracellular ice in plant tissues



Frost events have a significant impact on plant life. Biophysical aspects of freezing are much less studied than molecular responses, but are fundamental to understand plants' resistance to freezing. During non-injurious freezing of plant tissues, ice accumulates extracellularly and the cells usually become freeze-dehydrated. How the growth of ice crystals is controlled, how ice masses are managed, and how cellular water is segregated to extracellular ice is currently not understood.

The PhD position is embedded in a project funded by the FWF (34844-B) "Predetermined spaces of ice accumulation in plant tissues".

The holder of the announced PhD position is intended to research on this topic with innovative methods. A recently developed cryo-microscope with reflected-polarized light (CMrpl) enables a clear and fast visualization of ice masses and the analysis of the ice crystal shape and ice deposition on cell walls. Using RAMAN- and mass spectroscopy, the molecular components of ice crystals, but also of cell walls and cell structures close to the ice shall be examined.

Desired qualification

- Master's degree in botany, biology, biophysics, biochemistry or related discipline
- Applicants are expected to have
 - a very strong research motivation and interest in abiotic stress physiology of plants (plant cold hardiness)
 - experience with data handling and statistical data analysis (preferable in R)
 - methodological experience is preferred
 - good communication skills, the ability to work in a team and be fluent in English
 - motivation to publish the results in scientific journals is desirable
 - excellent writing skills which should be proven by an excellent Master thesis

What is offered

Three year's contract - earliest starting date 1.10.2021. The salary is the standard salary for a PhD position as of the FWF.

The position offers the possibility for scientific qualification required for a dissertation. Application for membership in the DP Alpine Biology and Global Change (<https://www.uibk.ac.at/alpinerraum/dps/dp-alpine-biology-and-global-change/index.html.en>) will be highly appreciated and supported.

Application

Your application will consist of a motivation letter, a CV, academic transcripts (non-official copies are acceptable), and contact details of at least one academic reference. Please send your application including supporting documents mentioned above by **30.09.2021** at the latest as a single PDF by email (Gilbert.neuner@uibk.ac.at) to the following address:

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