

Practice module, Bachelor or Master topic

“Analysis of phase-specific influences of jasmonic acid on histological events in root formation in petunia”

Background:

Adventitious root formation is a key process in vegetative propagation of many ornamental crops, in which specific cells at first undergo a reprogramming before first new cell clusters, root meristems and root primordia are successively formed. In our group, we use petunia as a model to study the endogenous control of adventitious root formation to open new perspectives for more sustainable and resource-efficient propagation protocols. Focussing on the role of plant hormones, we have recently found that the hormone jasmonic acid, which accumulates in cuttings in response to the wounding, has an ambivalent role in rooting in dependence on the time of its application. The aim of this work is to characterize phase-specific influences of jasmonic acid on histological events during adventitious rooting in petunia.

Work packages:

- Establishment of *in vitro* stock plants
- *In vitro* rooting tests: application of jasmonic acid during specific rooting phases, analysis of root number and length
- Sampling, embedding, cutting and staining of stem segments
- Microscopic analyses



We are looking for a highly motivated student with strong interest in plant *in vitro* culture and microscopy.

Join a research project in an interdisciplinary, innovative research area and an open and friendly working environment.

The workplace is located at the Erfurt Research Centre for Horticultural Crops (FGK), University of Applied Sciences Erfurt, Kühnhäuser Straße 101, 99090 Erfurt.

Communication and thesis preparation are possible in **English** or **German** language.

If you are interested, then please contact PD Dr. Uwe Droege by email (uwe.droege@fh-erfurt.de) or by phone (0361 6700 3427). Further information is available at <https://www.fh-erfurt.de/fgk>.