

# EU-funded PhD position on auxin transport and metabolism in plant roots

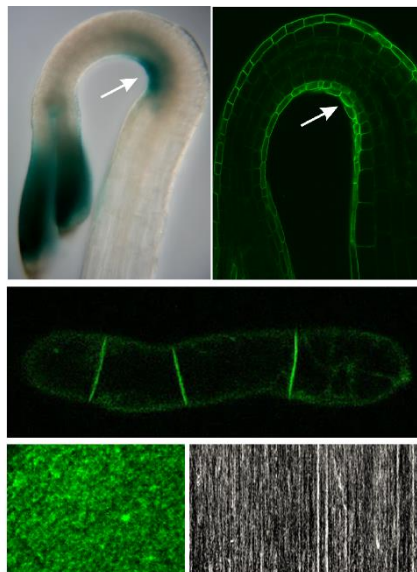
## Mapping auxin transport and metabolism in roots of monocot plants

### Laboratory:

The auxin group of Jan Petrášek within the Laboratory of Hormonal Regulations in Plants (<http://lhr.ueb.cas.cz>) focuses on the regulatory mechanisms defining the levels of auxin within plant cells. We use a spectrum of advanced microscopy approaches, hormonal analytics, molecular cloning, high-throughput transcriptomics and proteomics, and auxin transport assays.

### Project description:

Plant hormone auxin co-ordinates the development of sessile plant body. The setting of auxin concentration gradients in the plant tissues depends on its biosynthesis, metabolism and intra- and intercellular transport. The understanding of how these processes contributes to the plant development is largely based on our long lasting experience with the model plant *Arabidopsis thaliana* and cultured cells of *Nicotiana tabacum*. To orient this research to crop plants, here we propose to perform a set of pioneering experiments that would allow us to map processes of auxin biosynthesis, metabolism and transport during the growth of young root of the model monocot crop plant *Hordeum vulgare*. The dynamics of individual auxin carriers and auxin biosynthesis and metabolism enzymes will be tested using both available and freshly generated marker lines.



### Requirements:

- MSc in biology, biochemistry or biophysics, not necessarily plant biology focused
- Strong motivation for basic research in plant molecular biology
- Curiosity, enthusiasm, excellent self-organization, and communication skills
- Excellent knowledge of the English language
- The desire to try advanced microscopic methods is an advantage

### Offerings:

- 4-year funded PhD position with salary at the Institute of Experimental Botany and PhD scholarship from doctoral study programme at the Faculty of Science, Charles University
- Involvement in the TANGENC project, which brings together all major laboratories of advanced plant research in the Czech Republic
- Vital laboratory with young colleagues, friendly environment of other collaborating laboratories in the Institute of Experimental Botany AS CR, the leading plant science institution in the Czech Republic.
- Strong emphasis on the support the career trajectory of candidates towards their scientific independence
- Continuous support of Euraxess (<https://www.euraxess.cz/>)

### Applications:

Please send by April 22, 2024 to [petrasek@ueb.cas.cz](mailto:petrasek@ueb.cas.cz) a short motivation statement, detailed CV, and two contacts for providing a support letter or supervision feedback report.