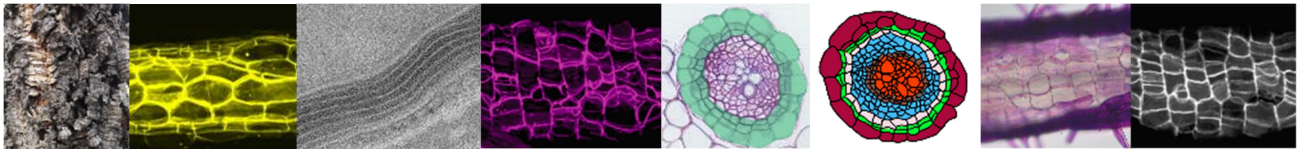


PhD position (f/m/d) in Plant Development & Cell Biology

Our team aims to decipher the processes underlying plant protective barrier formation, with the goal of engineering plants that are more resilient to challenging environmental conditions. We are particularly interested in the periderm formation, the barrier that protects the plant vasculature from the environment, as plant organs increase in girth. The periderm is a dynamic, multilayer barrier composed of the cork cambium stem cell niche and its derivatives, cork and phelloderm. Cork differentiation is marked by suberin and lignin deposition in cork cell walls, and plants lacking these polymers are more susceptible to drought, heat, and salinity.

The establishment a root barrier is such a critical event that plants have evolved a surveillance system to monitor barrier integrity and, in case of failure, activate compensatory mechanisms (such as ectopic suberin and lignin deposition) to seal the root. The aim of this project is to understand the molecular mechanisms of the cork integrity surveillance system and how lignin is deposited in cork cells in a polar manner by employing advanced confocal microscopy, tissue-specific manipulation of signalling hubs, genetic, and transcriptomic approaches.



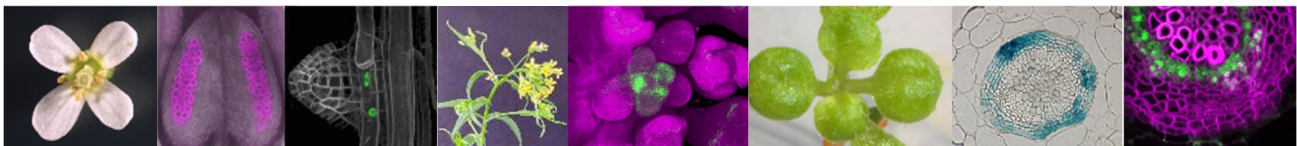
For more info on the research topic: see Wunderling et al. 2018, Xiao et al. 2020, Andersen et al. 2021, Serra et al. 2022, Molina et al 2025, Xiao et al 2025 and [Ragni Team Website](#).

What we are looking for:

- A curious, highly motivated person with a passion for science
- Expert in plant molecular biology (M. Sc. in plant molecular biology, biochemistry or similar)
- Team player, goal-oriented, independent thinker
- Very good oral and written English
- Prior experience in confocal microscopy, image analysis (R, Python) or NGS data analysis is a plus

What we are offering:

- A 3-year DFG-funded PhD position
- International, vibrant, friendly working environment [Plant Community](#) (> 8 plant science groups)
- State-of-the-art research infrastructure
- Additional training and soft skill/personal development via [GRACE](#).



The application deadline is the 15th of April 2026

Please send your application as a single **PDF** (motivation letter, CV, and contact details of three referees) directly to Prof. Laura Ragni (laura.ragni@biologie.uni-freiburg.de)

The University of Freiburg is an equal opportunity employer and particularly welcomes applications from qualified women and individuals with disabilities. Formal employment procedures will be carried out by the central administration of the University of Freiburg. Salary and benefits are in accordance with TV-L E13, in line with the guidelines of the University of Freiburg and the DFG.