Project Announcement

Wanted: Candidate for common application to Pre-Doc Award of Leipzig University

GreeNOs: From genetics to imaging

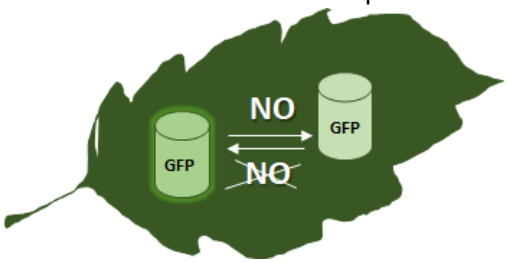
Developing genetically encoded sensors for single-cell nitric oxide bioimaging in planta

Nitric oxide (NO) is a multi-tasking signal molecule involved in all developmental stages of plant life as and response to various biotic interactions such as pathogens and symbiosis partners as well as abiotic stresses, such as temperature stress, drought, hypoxia/anoxia, salinity, herbicides, UV light stress, or mechanical damage.

Current methods of NO detection are restricted in their limited specificity and/or sensitivity and their lack of suitability to give insight into the spatio-temporal NO dynamics inside living cells as they require sample processing. Another major obstacle is the simultaneous detection of NO in multiple compartments. This is particularly important considering the low half-life of NO and its high reactivity and complexity of its biosynthesis in planta. It is crucial to study the real-time dynamics of NO synthesis and signaling during development as well as the stress response and to understand to what extent NO signaling patterns are specific to the type and duration of various stresses.

Developing genetically encoded NO sensor proteins can provide a promising tool for NO detection in living single cells at the subcellular level under control and stress conditions. Non-invasive nature of this imaging technique, allows researchers to visualize NO dynamics in real-time and in a spatially resolved manner. This provides a powerful tool to investigate the complex interactions between nitric oxide and other signaling pathways involved in biotic and abiotic stress responses.

For more information please see:
Vajiheh Safavi-Rizi, Towards genetically encoded sensors for nitric oxide bioimaging in planta, *Plant Physiology*, Volume 187, Issue 2, October 2021, Pages 477–479.



What is the idea?
Developing a joint proposal for this year's Leipzig University's Pre-Doc Award (www.uni-leipzig.de/+pre-doc-award) until June 11, 2023 and, in case of success, research jointly and towards your Ph.D. in the next years.

Who can apply?
A highly qualified Ph.D. candidate with a strong interest and background in molecular biology as well as motivation to work with plants. The ideal candidate should possess exceptional academic credentials, including above-average academic records, and an ability to work collaboratively in a team environment. The ideal candidate should have a strong foundation in molecular biology techniques such as DNA cloning, PCR and preferentially confocal microscopy.
You are strongly encouraged to apply if you have one or more of the above-mentioned criteria.

What do we offer?
As a PhD candidate, you will have the opportunity to work on a cutting-edge research project that focuses on resolving one of the current issues of plant signaling research.
You will get a one on one training with an experienced researcher to design, conduct experiments, analyze data, and interpret results. At the same time, you get support for your independence and for developing your own project-related ideas.

Are you interested?
For sending your application documents (one-page motivation letter, CV, records of transcripts and names and email addresses of two referees) and if you need further information please contact Dr. Vajiheh Safavi-Rizi via **vajiheh.safavi_rizi@uni-leipzig.de**, Institute of Biology, Leipzig University.