



**Postdoctoral position at Umeå Plant Science Centre,  
Sweden, [www.upsc.se](http://www.upsc.se).**

**We are seeking a highly motivated Postdoctoral Fellow to join our team to investigate lateral root development in response to different sources of organic and inorganic nitrogen.**

**Project description:** *The major aim of this project is to understand how different sources of nitrogen affect lateral root initiation in plants.*

The formation of lateral roots determines plant root system architecture, which is crucial for plant stability and uptake of nutrients and water from the soil, and therefore essential for plant development. Current knowledge suggests that lateral root initiation and development is a highly complex process, influenced by both intrinsic and external factors controlled by an extensive regulatory gene network, and relying on intricate crosstalk between multiple cells and tissues. However, these studies have so far mainly been conducted at the whole plant or root tissue level.

The proposed project will use a systems biology approach to study and compare the effects of inorganic and organic nitrogen on the initiation of lateral roots in the model plant *Arabidopsis thaliana*. We will study organogenesis at the cellular and tissue levels and use cell-type specific molecular tools to dissect the signalling pathways involved in lateral root initiation, in order to increase our understanding of the complex regulatory processes involved. You will work with molecular approaches and high-resolution confocal imaging as well as with novel bioanalytical approaches, such as Fluorescence Activated Cell Sorting (FACS), combined with hormone and transcript profiling.

**Research environment:** The postdoctoral fellow will work in the group of Professor Karin Ljung, [www.upsc.se/karin\\_ljung](http://www.upsc.se/karin_ljung). Umeå Plant Science Centre (UPSC) is a Centre of Excellence in experimental plant biology, located in northern Sweden. The UPSC comprises approximately 200 researchers, from more than 40 countries, working on a variety of key issues in plant biology, including root and shoot development, flowering, biotic and abiotic stress responses and wood formation. UPSC has excellent, world-class laboratories and associated facilities for genomics, proteomics, metabolomics, microscopy, plant growth and genetic manipulation.

**Qualifications:** A PhD in plant molecular biology and/or cell biology, not older than 3 years. The applicant should be well acquainted with different molecular biology and microscopy techniques. Documented experience in working with *Arabidopsis thaliana*, as well as good knowledge of plant development (especially root development) is desirable. The candidate should have a good knowledge of English.

**Application:** The tax-free stipend is granted for two years and amounts to 23.000 SEK per month. It is financed by Kempe Stiftelsen, a research foundation in north Sweden. The project will start early autumn 2019 or by agreement. Please submit your application as a single pdf file by e-mail to [karin.ljung@slu.se](mailto:karin.ljung@slu.se). Selection will be based on the written application, CV, personal references and an interview. Closing date for application is June 30, 2019. For more information, please contact Professor Karin Ljung.