



Postdoctoral position available at Umeå Plant Science Centre, a centre for experimental plant biology in north Sweden, www.upsc.se.

An analytical approach to understand the regulation of auxin synthesis and breakdown during Arabidopsis root development

The phytohormone auxin (IAA) is essential for virtually all aspects of plant growth and development, but the existence of multiple biosynthetic and catabolic pathways that can differ according to the plant's developmental stage and in response to different environmental stimuli has complicated the elucidation of auxin metabolism. This project will aim at a better understanding of the auxin metabolic networks, using Arabidopsis mutants and transgenic Arabidopsis lines with inducible expression of specific genes involved in regulation of IAA biosynthesis, and focus will be on the roles of these genes and pathways during Arabidopsis root development. You will perform qualitative and quantitative mass spectrometry analysis in order to identify and quantify IAA precursors and catabolites/conjugates, and monitor metabolic fluxes in the different pathways using stable isotope labeling. The mass spectrometry lab at UPSC is very well equipped with instruments for LC- and GC-MS and MS/MS analysis, including a Waters Quattro Ultima QQQ LC-MS/MS instrument, an Agilent 6490 QQQ LC-MS/MS instrument, a Jeol MStation JMS-700 GC-MS/MS instrument and a Thermo LTQ Orbitrap XL LC-MS/MS instrument.

The applicant must have a strong background in analytical chemistry, and should be well acquainted with different sample purification and mass spectrometry techniques (especially LC-MS/MS).

The postdoc will work in the group of Dr Karin Ljung, www.upsc.se/Research/Development/karin-ljung-project-page.html

Selected publications: Petersson et al. 2009, Plant Cell 21:1659-1668; Ikeda et al. 2009, Nature Cell Biology 11: 731-738; Swarup et al. 2007, Plant Cell 19: 2186-2196; Ruzicka et al. 2007, Plant Cell 19:2197-2212; Ljung et al., 2005, Plant Cell 17: 1090-1104.

The postdoctoral fellowship is for 1 year with a possible extension of 1 year, and the stipend sum is 18500 SEK per month (tax free). Closing date for application is January 10, 2010. Applicants should submit their CV including 2 references to karin.ljung@genfys.slu.se.

For more information, please contact Dr Karin Ljung directly by e-mail or phone:

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