Umeå Plant Science Centre

Postdoctoral fellowship
Interactions between plastid and mitochondrial retrograde signalling pathways

The function of the plant cell depends on the regulated and reciprocal interaction between its different compartments. This includes not only the exchange of metabolic intermediates and energy equivalents but also information. It is clear that plastids and mitochondria produce multiple signals at different times of their development and in response to changes in their environment. These so called retrograde signals orchestrate major changes in nuclear gene expression that are essential for coordinating gene expression but also for mediating plant stress responses. The chloroplasts and mitochondria are functionally linked. However, the manner by which the organelles communicate and coordinate their activities is unknown. It is possible that the signal is mediated via the nucleus and there are clear indications of interplay between plastid and mitochondrial retrograde signalling pathways. The goal of this project is to reach a mechanistic understanding of the interactions between plastid and mitochondrial retrograde signalling pathways. Specifically, the postdoctoral candidate will use a collection of retrograde signalling mutants to determine which plastid and mitochondrial retrograde signalling pathways interact and the points of interaction.

The project is a collaboration between Dr. Åsa Strand at Umeå Plant Science Centre, Umeå University and Dr. Jim Whelan, The Plant Energy Biology Centre of Excellence, University of Western Australia. The postdoctoral candidate will benefit from both research environments and the specific expertise of the two research groups. For more information about the project contact Dr. Åsa Strand, Asa.Strand@plantphys.umu.se (www.upsc.se/asa_strand) or Dr. Jim Whelan, seamus@cyllene.uwa.edu.au (www.plantenergy.uwa.edu.au).

The fellowship is for two years (1+1 year) and will start December 1, 2010 at the latest. The applicants should have a doctoral degree in molecular biology/genetics or biochemistry, preferably not older than 3 years. The candidate must have documented experimental experience with genetic and molecular methodologies. An ability to work independently as well as in a team, and good skills in the English language, are essential.

The application should be sent to Dr. Åsa Strand, Asa.Strand@plantphys.umu.se and contain a personal letter describing yourself and your reasons for applying to this position, *Curriculum vitae*, relevant documentation and the names and contact information of 2 references. The deadline for the application is **June 30, 2010**.