



Post-doctoral position



at Umeå Plant Science Centre in Sweden – www.upsc.se - (2 years)

Project title

Sub-cellular analysis of lignin synthesis in xylem vessels.

Project description

Lignin is an aromatic cell wall polymer that is one of the main limiting factors determining the quality of plant biomass for conversion to bioethanol and pulp. The present research proposal aims to understand lignin biosynthesis at the sub-cellular level of a distinct lignifying cell type: the tracheary elements (TEs), the cells forming xylem vessels in whole plants. As experimental accessibility to xylem vessels *in planta* is limited, an *in vitro* cell culture hormonally inducible into TEs has been optimized, providing a biological system to better understand TE ontogenesis. The post-doctoral fellow will perform protein localisation, over-expression and silencing of target genes implicated in lignin synthesis. In each case, the impact on lignification will be estimated using both microscopical and biochemical (wood chemistry, saccharification) techniques.

The postdoctoral fellow will work in Dr. Edouard Pesquet's research team, <http://upsc.se/Research/Development/edouard-pesquet-project-page.html>.

Selected publications: Endo *et al.* (2009) *Plant Cell*, 21, 1155-1165 ; Courtois-Moreau *et al.* (2009) *Plant Journal*, 58, 260–274 ; Muñiz *et al.* (2008) *Development* 135, 2573-2582 ; Endo *et al.* (2008) *Plant Journal*, 53, 864-75.

The postdoctoral fellowship given by the Kempe foundation (<http://www.kempe.com>) is for 2 year, and the stipend sum is 18500 SEK per month (tax free). Closing date for application is February 20, 2010. Applicants should submit their CV, list of publications, a letter of intent and 2 references to edouard.pesquet@plantphys.umu.se. Selection criteria will comprise relevant experience in plant cell biology, cell wall biochemistry and English proficiency.

Questions or inquires about the position can be answered by Dr. Edouard Pesquet, tel. +46-(0)90-786 6918, edouard.pesquet@plantphys.umu.se.

I look forward to receiving your application!