

OVE NILSSON, Prof.

Nationality: SWEDISH

Participation in COST Action FP0905:

Member of MC,

Member of WG1

ESR at the time of starting the Action: No

Contact data:

Institution/Organisation: Umeå Plant Science Centre
Dept. of Forest Genetics and Plant Physiology
Swedish University of Agricultural Sciences
S-90183 Umeå, Sweden

Email: Ove.Nilsson@genfys.slu.se

Phone: +46 70 286 9082

Fax: +46 90 786 8165

Institute web page: www.upsc.se

Research area and species (key words):

Tree Biotechnology, Regulation of Flowering Time, Regulation of Stem Secondary Growth,
Arabidopsis thaliana, *Populus tremula x tremuloides*, *Populus tremula*, *Populus trichocarpa*, *Beta vulgaris*, *Picea abies*.

CURRICULUM VITAE (Max 2 pages)

Present position

2005- Chairman of the board of Umeå Plant Science Centre
2006- Director of the UPSC Berzelii Center for Forest Biotechnology

Education/Professional Career

1987 B.Sc. in General Biology and Biochemistry, University of Gothenburg
1987 B.Sc. in Molecular Biology, University of Umeå
1995 Ph.D. in Forest Cell and Molecular Biology
1995-1997 Post doc, Salk Institute, La Jolla, USA.
1997-1999 Assistant Professor, Swedish University of Agricultural Sciences
1999-2002 Associate Professor, Swedish University of Agricultural Sciences
2002- Professor, Swedish University of Agricultural Sciences

Others

2006- Board member of the forest biotechnology company
SweTree Technologies

Research Projects (relevant to Action)

Title: PHOTPERIODIC REGULATION OF PLANT GROWTH AND DEVELOPMENT

National Project

Role: Scientific Responsible

The main objective of the project is to decipher the molecular signals that control flowering and seasonal growth cessation in trees.

Title:REGULATION OF VASCULAR CAMBIUM MERISTEM IDENTITY

National Project

Role: Scientific Responsible

The main objective of the project is to decipher the molecular signals that control the activity of the vascular cambium during secondary growth of tree trunks.

Title: THE UPSC BERZELII CENTRE FOR FOREST BIOTECHNOLOGY

r *National Project*

(Role: Centre Director

) The main objective of the project is to coordinate the work of 25 research groups at UPSC with industrial partners in order to use forest biotechnology to solve important basic biological questions of relevance for the Swedish agricultural and forest industries.

Selected Publications and Communications (relevant to Action)

Nilsson, O., Aldén, T., Sitbon, F., Little, CHA., Chalupa, V., Sandberg, G. & Olsson, O. 1992. Spatial pattern of cauliflower mosaic virus 35S promoter-luciferase expression in transgenic hybrid aspen trees. **Transgenic Research** 1, 209-220.

Weigel, D. & **Nilsson, O.** 1995. A developmental switch sufficient for flower initiation in diverse plants. **Nature** 377, 495-500. (Article)

Nilsson, O., Little, C. H. A., Sandberg, G. & Olsson, O. 1996. Expression of two heterologous promoters, *Agrobacterium rhizogenes* rolC and cauliflower mosaic virus 35S, in the stem of transgenic hybrid aspen plants during the annual cycle of growth and dormancy. **Plant Mol. Biol.** 31, 887-895.

Parcy, F., **Nilsson, O.**, Busch, M. A., Lee, I. & Weigel, D. 1998. A genetic framework for floral patterning. **Nature** 395, 561-566. (Article)

Sterky, et al. 2004. A *Populus* expressed sequence tag resource for plant functional genomics. **Proc Natl Acad Sci U S A.** 101: 13951-13956

Brunner, AM., **Nilsson, O.** (2004). Revisiting tree maturation and floral initiation in the poplar functional genomics era. **New Phytologist** 164: 43-51

Böhlenius, H., Huang, T., Charbonnel-Campaa, L., Brunner, A.M., Jansson, S., Strauss, S.H., **Nilsson, O.** 2006. The conserved CO/FT regulatory module controls timing of flowering and seasonal growth cessation in trees. **Science** 312: 1040-1043

Tuskan, G.A. et al. (The *Populus* Genome Consortium). 2006. The genome of black cottonwood, *Populus trichocarpa* (Torr. & Gray ex Brayshaw). **Science** 13: 1596-1604. (Article)

Description

UPSC represents the largest plant research institute in Scandinavia and one of the largest plant research institutes in Europe, currently hosting 48 research groups and 190 persons devoted to the study of experimental plant research. The annual budget of UPSC is in excess of 12 million € where about 80% of the funding is external funding gained through competition with other research centers. The research topics cover several areas within experimental plant biology. Within UPSC, there is a center of excellence (a so called "Berzelii Centre") in Forest Biotechnology consisting of 25 research groups. Ove Nilsson is serving as the research director for this centre, which represents one of 4 such centers of excellence in the natural sciences in Sweden. UPSC has a strong international profile, currently hosting 37 different nationalities. Currently, UPSC has about 42 post-doctoral researchers and 50 graduate students in training. In 2005, the American journal "The Scientist" appointed UPSC as "the best research environment for post-doctoral researchers in the life sciences" outside the US. This was based on a large world-wide survey of the living and training conditions for post-doctoral researchers. UPSC is an excellent cross-disciplinary research environment with a very strong collaborative working ethos. Post-docs and graduate students from different research groups are mixed in large research laboratories to stimulate a maximum amount of interactions. Weekly seminar series and common activities further strengthen the scientific environment and stimulates interactions. UPSC has strong international collaborations. UPSC was an active partner in the full-genome sequencing of *Populus trichocarpa* performed by the US Departments of Energy's Joint Genome Institute and contributed with its large EST-sequencing program. UPSC has formal agreements for scientific exchange with INRA in France and University of British Columbia in Canada. UPSC publishes 60-70 publications annually with a mean impact factor around 6. This makes UPSC one of the strongest research environments in Sweden considering impact publishing.

UPSC also has strong connections to the Swedish Forest Industries which team up with UPSC researchers within the Berzelii Centre for Forest Biotechnology in order to solve major basic biological questions of relevance for the forest industries. This involves research on tree growth and productivity, nutrient uptake, wood quality, bioenergy, seasonal regulation of growth and development, regulation of flowering, new molecular methods to enhance tree breeding, and clonal forestry.

Infrastructure

UPSC hosts several large technology platforms which serves all the researchers at UPSC. This includes platforms for transcript profiling, metabolomics, proteomics, plant anatomy and microscopy (including confocal microscopy), controlled plant growth facilities, and plant transformation, including one of the largest tree transformation facilities in the world where thousands of transgenic trees have been generated. UPSC also hosts a large biobank with transgenic trees where several hundred genes have been analysed for effects on tree growth, development and wood properties.