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Stay of four weeks (1-26 June 2009) in Outi Savolainen's group (P21a), University of Oulu, Finland.

Objectives of the mobility

The main objective of this mobility was to compare the molecular basis of adaptation of two pines living in contrasted ecological environment, the boreal Scots pine (*Pinus sylvestris*) and the Mediterranean maritime pine (*Pinus pinaster*). The specific objectives were to: (i) send for a month the post-doctoral fellow D. Grivet from INIA (partner 16a) to the University of Oulu (partner 21a) with the purpose of transferring to *P. pinaster* the primers available for some phenology genes in *P. sylvestris*; (ii) analyze and compare the resulting sequences, as well as those produced during a previous Evoltree mobility for some genes related to drought tolerance, and test whether some common genes are under selection in the two species.

Main outputs

Partner 21a first optimized primers allowing the amplification of the two full-length phenology genes, *Constans* and *Gigantea*, in a limited number *P. pinaster* samples. P16a further optimized these primers on more *P. pinaster* samples and sequenced the two genes (a total of 7 contigs covering about 4800 bp) across all Evoltree populations (120 individuals).

Thanks to these two stays in Oulu, ten genes are now available for comparison studies across the two species. The forthcoming analyses will give us the opportunity of understanding the role of some relevant genes in the adaptation of species that grow in contrasted environments. This research stay not only contributed to the transfer of markers between species, but also of technical expertise across the two teams (JERA2). It finally has allowed fruitful interactions among several young researchers.