FUNCTIONAL GENOMICS IN WOODY SPECIES – EUROPEAN PERSPECTIVES AND AUSTRIAN RESEARCH

Silvia Fluch,
ARC Seibersdorf research, Biogenetics/PICME

Biodiversity and functional diversity in woody species is gaining importance due to the rapid environmental and climatic changes being provoked by human impact. As environmental changes span across political borders, research and management measures have to be transnational too. In order to facilitate transfer of knowledge and technology from the basic science of plant functional genomics to the forestry sector, so as to benefit forest productivity and forest health, the COST Action 'Genosilva – European Forest genomics network' (www.genosilva.org) has been established. In the three main areas of interest wood production, tree maturation and reproduction, and tree health, including disease resistance, adaptation to environmental change, and responses to biotic and abiotic stimuli, researchers from 20 European countries cover various research topics.

Austria, where forest trees play an important ecological and economical role, covers various topics of research ranging from investigation biodiversity of various species on the molecular level applying a wide range of different molecular tools to functional genomics of forest trees using DNA chip technology. An overview on marker development using drought response genes for SNP analysis and mapping as well as the use of transposon based markers (Ty1Copia) for species differentiation in oak will be given. Further more the use of microarrays and the accessibility to gene resources via a plant gene repository centre (www.picme.at) will be discussed.