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**Poster Abstract - C.61**

# EVOLUTION OF TREES AS DRIVERS OF TERRESTRIAL BIODIVERSITY (EVOLTREE): A NEW EUROPEAN NETWORK OF EXCELLENCE

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The awareness that biological diversity is of fundamental importance for our society has dramatically increased during the last decade since the Convention of Biological Diversity (CBD) was signed in 1993. Diversity is one of the key elements to preserve the adaptive potential and the capacity of organisms to adapt to new environmental conditions. There is a growing concern about the accelerated loss of species, the erosion of diversity under increased human impacts and global change, the modification of the processes shaping diversity. In its broadest sense, biodiversity embraces ecosystem, species and genetic diversity. Within this hierarchy DNA variation is the only reproducible in space and time and offers the possibility for evolution of individuals and species as a response to environmental change. In the past decade genomics has emerged as one of the most sophisticated tool to decipher diversity at its more refined scales (genes and nucleotides). The European Evoltree network aims to apply genomics to understand the past present and future diversity, with a view to regulating its evolution and maintain sustainability. The network aims first to study the genetic diversity of trees, as dominant species and drivers of terrestrial biodiversity, and then to expand its scope to diversity issues at the community level, by considering selected associated organisms of trees, and their interactions with trees. The network intends to capitalise on the substantial expertise and availability of genomic resources accumulated in different countries during the past collaborative projects. It integrates interdisciplinary research (genomics, population and quantitative genetics, ecology, ecophysiology, palaeoecology, reproductive biology, modelling, bioinformatics, conservation biology, silviculture) to decipher the structure, expression and polymorphism of genes of adaptive significance and gain new insight into ecosystem function. The genomic activities are conducted within a 'virtual lab' where high throughput techniques will be developed and then applied to a wide range of tree species, starting with a reduced number of model species. Large data sets will be compiled and made accessible by developing data mining procedures for the analysis of geographic and temporal distribution of genetic diversity. EVOLTREE intends to spread its knowledge and expertise through the development of training capacities and by facilitating mobility opportunities throughout Europe. EVOLTREE is a consortium made up of 24 partners coming from 14 different countries, which has adopted a strong management policy to organise its internal functioning and ensure the durability of the network.