Special Issue

Omics in Forest Trees Ecology and Its Applications to Genetic Resources Conservation and Breeding

Message from the Guest Editor

Genome diversity is the result of complex interplay between demographic history and adaptation to ever-changing environments. Understanding the relationships between the (epi)-genomic level and higher levels of organization with the environment is of paramount importance in order to understand, or even predict and anticipate, the impact of environmental change on forest trees and therefore protect the resource they represent. The development of next-generation sequencing technologies has opened a wealth of new perspectives with both theoretical and practical implications. To name a few, it is now possible to i) quantify genome-wide responses to natural selection, ii) describe the genetic architecture of adaptations and, to some extent, iii) predict population/species responses to climate change based on current genetic diversity. In this issue, we welcome studies investigating such questions using -omics data (e.g., SNPs, structural variants, epigenetics, RNA), possibly coupled with phenotypic or ecological data. Simulation, modeling-based, and methods-focused studies are also welcome.

Guest Editor

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Message from the Editor-in-Chief

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