

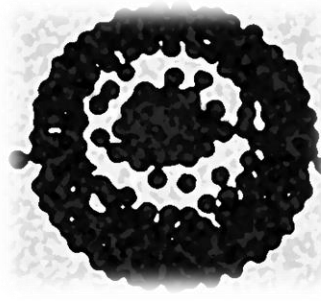
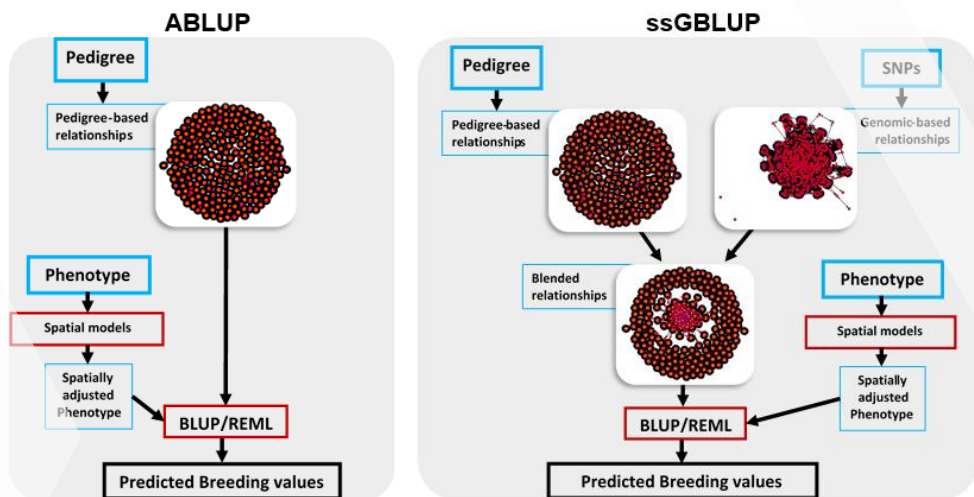
Dr. Eduardo Pablo Cappa,
INTA, Argentina

August 26
15H

CET/Paris time
On line

LIA FORESTIA
web seminars round
2022

#6



INTEGRATING QUANTITATIVE GENETICS AND GENOMICS WITH FOCUS ON IMPROVING PRODUCTIVITY AND CLIMATE-ADAPTABILITY TRAITS IN TWO BOREAL CONIFER BREEDING PROGRAMS

ABSTRACT :

There is an urgent need in forest tree species to accelerate the breeding cycle and to change the seed orchard production profiles from solely one of improved growth, to that of improved climate resiliency. Genomic prediction and genome-wide association analyses are currently being seen as powerful tools to facilitate the rapid selection of superior genotypes and to identify alleles or genomic regions of complex traits in forest tree species. In this presentation, I will focus on different quantitative genetic and genomic tools and how to fully integrate genomic data linked to productivity- and climate change-related (adaptive) traits in two conifer tree-breeding programs: *Pinus contorta* Dougl. (interior lodgepole pine) and *Picea glauca* (Moench) Voss (white spruce), managed by the forest industry and Government of Alberta (Canada), respectively. The results of these studies, presented in three recent scientific publications, illustrate the advantages of using genomic information jointly with productivity and climate-adaptability traits, to enhance the identification and selection of genetic material of these two boreal conifer tree species for the production of resilient and sustainable forests in a changing climate context.

Short Curriculum Vitae : Dr. Eduardo Pablo Cappa holds a PhD (2007) in agricultural sciences from the School of Agronomy, University of Buenos Aires, Argentina. He is a quantitative forest geneticist and his main research areas are the mixed linear models, the statistical methods and quantitative genetics and genomics for evaluation of forest trees. Dr. Cappa currently works at the National Agricultural Technology Institute (INTA) in Buenos Aires (Argentina). He is an adjunct researcher at the National Scientific and Technical Research Council (CONICET) since January 2012. He is also an adjunct professor in the Department of Forest & Conservation Sciences at the Vancouver Campus, Faculty of Forestry, University of British Columbia since 2021, and Deputy Coordinator of the Working Party 2.04.02 "Breeding theory and progeny testing" of IUFRO since 2015. Dr. Cappa has published 40 papers in peer reviewed international journals, he is author and co-author of more than 76 articles in national and international conference proceedings, and is co-author of 4 book chapters. He has participated in more than 15 national and internationally funded research projects and has acted as an advisor and co-advisor of one master and two PhD students.



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