MASTER FOREST MANAGEMENT BASED ON DATA SCIENCE

Course: Genetic Resources Conservation and Molecular Markers (A11)

ECTs: 6 Module: Optional Language: English

When taught: First semestre

Teachers: Dr. Rosario Sierra de Grado (Coordinator), Dr. Elena Hidalgo Rodríguez, Dr. José Climent Maldonado

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THEMATIC BLOCKS:

1. Concepts and drivers of evolutionary change
2. Morphological / functional traits and life history features
3. The problem of homogenizing protocols
4. Quantitative genetics
5. Phenotypic plasticity, g x e interaction and trait correlation (integration)
6. The adaptive phenotype in conservation and deployment of forest genetic resources
7. Molecular basis of biodiversity and potential consequences of mutations
8. Molecular markers & tools in detecting intraspecific biodiversity
9. Uses of genetic maps in breeding FGR
10. Basis for Molecular Genetic & Genomic Databases uses
11. FGR: concepts, state of the world's FGR, main threats.
12. Insight of population genetics to support the conservation of FGR.
13. Distribution of the genetic variability in forest populations. Management of the geographic variability.
14. Strategies of conservation of FGR: in situ, ex situ, circa situm.
15. Main databases related to conservation of FGR.

IMPORTANT ACTIVITIES:

Activity	Duration	Approximate Date/Period
Technical visit to common garden experiment	4 h	End of october

EVALUATION:

Evaluation method	Ponderation	Observations
Continuous evaluation (active participation in the course)	25%	
Personal and group projects presentations	35%	
Final exam	50%	The exam includes both theoretical and practical aspects