

Introduction to Soil and Water Bioengineering for ecological restoration

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Draft program:

Soil and Water Bioengineering (SWB): is a discipline that combines technology with biology, making use of native plants and plant communities as construction material and erosion control in degraded environments. It pursues technological, ecological, economic and landscape regeneration goals.

The fields of application are very large, including the restoration of the natural environment of extractive activities (mining, quarrying ...), infrastructure (motorways, railways...) riverbeds, dunes and coastal areas, urban areas... Although these techniques have a potential combined with other techniques of ecological restoration there is still a deficit in knowledge and training of technicians and professionals, both in projects and in the implementation.

The proposal that we present is to organize a practical course in soil bioengineering coinciding with the celebration of the 13th SER Europe Conference of Ecological Restoration.

Landslide stabilisation in Forestry -P. Sangalli

The aim of this course is to introduce the audience in the techniques of soil Bioengineering with a duration of 8 hours divided in two parts: The first part is devoted to theory while in second part will be held a practical workshop in which the participants will construct 1:20 scale models of the following techniques: living wattle fence, living brush mattress, fascine, vegetated log crib wall and living grid.

This proposal has been prepared by the Spanish Association of Landscape Engineering (AEIP), the Italian Association of Naturalistic Engineering (AIPIN) and has the support of the European Federation of Soil Bioengineering.

Teachers: members of AEIP, AIPIN and EFIB

- Daniel Arizpe: Agriculture Engineer Centre of Applied Forest Research (CIEF) /AEIP board of member
- Gianluigi Pirrera: Civil Engineer Vice President AIPIN /EFIB Board of members
- Paola Sangalli - Landscape architect and Biologist and President of the European Federation of Soil and Water Bioengineering- AEIP . Course coordinator
- Albert Sorolla Biologist -Naturalea-/ AEIP board of members

Course Objectives:

- Know the principles and action areas of Bioengineering
- Know the main techniques used in both field level and in river slope stabilization
- Using the model workshop at 1:20 scale in order to explain the main construction methods of Bioengineering techniques





Duration: 7 hours Morning 8:30-13:30 Afternoon : 15:00-17:00 **Lenguages:** English ,Spanish, Italian

Detailed program:

20/08/2022 Morning 8:30 -13:30 Theoretical Session

- 8:30 Course presentation Paola Sangalli
- 8:45-9:30 Principles for the implementation of soil Bioengineering techniques Paola Sangalli
- 9:30 to 10:30 SWBioengineering Techniques in river restoration Gianluigi Pirrera / Albert Sorolla
- 10:30 to 11:00 Coffee Break
- 11:00 to 12:00 SWBioengineering Techniques in the stabilization of slopes Guillermo Tardío /Paola .Sangalli
- 12:00-13: 30 From project to implementation in the Mediterranean area. Daniel Arizpe/A.Sorolla



River rehabilitation in urban Area with Soil Canal Artia Irun G Vasco. Foto:P. Sangalli



Mediterranean River restoration Foto. A.Sorolla

Afternoon 15-17:00 Practical Workshop in groups of 8-10 people

- 15:00:17:30 Organisation of a work: Selection of plant material, preparation of the work and the plant material
- Construction simulation with 1:20 scale models of the principal techniques
- 16:30 to 17:00 asking questions, summary, conclusions, and evaluation



Practical Workshop EFIB

Coorganized by

