

## Trainee Grants

50 Individual grants for Early Stage Researchers are offered to attend the COST Dynamic Training School. The Individual grants for trainees will follow the normal COST reimbursement rules (See Chapter 4 of the COST Vademecum: <http://cost.esf.org/index.php?id=guidelines>).

## Organizers

Organizers: Dr. Mauro Centritto and Dr. Francesco Loreto (Institute of Agro-Environmental & Forest Biology National Research Council)

The COST Dynamic Training School is Co-sponsored by: COST FP 0601 (FORMAN - Forest Management and the Water Cycle) and COST FA 0603 (PPE - Plant Proteomics in Europe).

## Further information

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## Registration

To apply for the course, please send the information requested below to:

[federico.brilli@ibaf.cnr.it](mailto:federico.brilli@ibaf.cnr.it)

Application must be sent before 18 April 2009. The number of places available is 50.

Name:
Academic Address:
e-mail address:
Topic of PhD/PostDoc project:
Supervisor(s) of your PhD/PostDoc project:
Running period of your PhD/PostDoc project:
Projected date of completion of your PhD/PostDoc project:
Provisional title of your presentation during the Training School:
Why do you want to participate in this Training School?



**COST Dynamic Training School**

**Forest and water stress in  
a changing environment:  
from cell to ecosystems**

**20-23 May 2009**

**Orvieto (Umbria, Italy)**

**Co-sponsored by:**

**COST FP 0601 FORMAN**

**Forest Management and the Water Cycle**

**COST FA 0603 PPE**

**Plant Proteomics in Europe**

**Institute of Agro-Environmental & Forest Biology  
National Research Council**

**Via Salaria Km 29,300 - 00015 Monterotondo Scalo  
(RM), Italy**

## Highlight

Forests regulate the hydrologic cycle, protect soil resources, and influence climate and atmospheric composition through physical, chemical, and biological processes (i.e. exchanges of energy, water, carbon dioxide, and reactive gases with the atmosphere). The coupling mechanism of ecophysiological and eco-hydrological processes across multiple scales and the implications of protective function of forests for water quality and water-related hazards to ecosystem sustainability in Europe will be the key issues to be explored.

Drought stress is a complex syndrome, involving several climatic, and edaphic factors. The general complexity of drought is often aggravated under arid conditions, by erratic and unpredictable rainfall and by the occurrence of high temperature, high levels of solar radiation and low soil fertility or rising salinity. The resulting large variability in the occurrence of drought stress and the insufficient understanding of its complexity have made it generally difficult to characterize the physiological traits required to improve plant performance under drought. It is now well accepted that the complexity of the drought syndrome can only be tackled with a holistic approach, integrating physiological dissection of the resistance traits using -omics knowledge, with practices aimed at better conservation and utilization of water resources. This asks for a multidisciplinary approach where molecular biologists and ecologists collaborate so as to train a new generation of scientists that are well capable of such an interdisciplinary approach.

## Objectives

The proposed training school aims at sharing current knowledge about forest response to drought available at leading European laboratories. The molecular, biochemical and eco-physiological controls of tree

water use efficiency, and feedback on the hydrological cycle, climate and atmospheric composition will be examined. The school emphasis is on the formation of young researchers who will be able to investigate complex biological questions by using an integrated functional genomics and functional ecological approach. To this end, this training school will bring together guest speakers from around Europe who are highly qualified and selected for their wide experience in molecular biology and biochemistry, physiology, ecology, climatology, and global change sciences, to set the ground for developing an integrated approach to improve our knowledge about forest and water stress-related research in Europe.

## Course Set-up

The meeting will bring together 11 leading scientists and 50 Early Stage Researchers. Invited speakers will present their work in the mornings. Afternoon sessions will consist of student presentations, followed by in-depth discussions with keynote speakers and other students.

In the afternoon sessions, the participants will be split into groups. Invited speakers and course leaders will be convening these discussion groups but the groups will organize themselves with chairs and rapporteurs. Participants in each group will give a short presentation followed by discussion. After the last presentation, each group discusses the main issues identified during that day's group meeting and prepares a short presentation for the plenary session at the end of the afternoon.

Presentations and discussion should focus on where we will stand in five years within the research field of forest and water stress and the issues that then will be at stake, given the fast developments in the field and the occurring (global) change (i.e. climate, land use). Groups are accordingly expected to postulate how these issues should be addressed and investigated. At

the end of each day the rapporteur of each discussion group will present the main points of discussion of that afternoon in the plenary session. As a trigger for the discussion, speakers will be asked to submit challenging propositions in the light of where we stand in 5 years. Speakers are also requested to send 3-5 pdf's of publications before the meeting and each student will be supplied with this material to prepare for leading the discussion.

## Speakers

<b>E. Brugnoli</b>	National Research Council, Italy
<b>M. Centritto</b>	National Research Council, Italy
<b>S. Cohen</b>	Volcani Center, Israel
<b>W. Davies</b>	Lancaster University, UK
<b>F. Loreto</b>	National Research Council, Italy
<b>M. Mencuccini</b>	School of GeoSciences, University of Edinburgh, UK
<b>Ü. Niinemets</b>	Estonian University of Life Sciences, Estonia
<b>J. Jorrín Novo</b>	University of Cordoba, Spain
<b>C.S. Pinheiro</b>	Universidade Nova de Lisboa, Portugal
<b>J. Renaut</b>	Centre de Recherche Public Gabriel Lippmann, Luxembourg
<b>J.-P. Schnitzler</b>	Institute for Meteorology and Climate Research, Germany