

DOCENTE

PAOLO DE ANGELIS - Professore ordinario - Tempo pieno - DIBAF - AGR/05



Comunicazioni

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Curriculum vitae

Prof. Paolo De Angelis, PhD, is Full Professor at the University of Tuscia. Received his "Laur" degree in Forestry in 1989, with a thesis on the environmental and ecological impacts of an thinning, in a *Pinus pinaster* stand. He obtained his PhD degree on 1994, with a thesis on the elevated [CO₂] on a Mediterranean forest ecosystem. The research activities are conducted in the Department for Innovation in Biological, Agro-food and Forest systems (DIBAF). The main scientific research is on Plant & Tree Ecophysiology and Ecology, with particular emphasis on the study of the impact of climate changes (temperature, drought, elevated atmospheric CO₂ concentration) on trees, shrubland. Another sector of application of the ecophysiological studies is on the evaluation of the functional responses of trees and forest to the microclimatic and structural changes induced by silvicultural treatments. The research activities are conducted mainly *in-situ*, by the realization of large-scale manipulation facilities. The scientific methodologies used to conduct the research range from the analysis of leaf and community gas-exchanges, to the analysis of soil-plant-atmosphere relations; from the analysis of ecosystem productivity and carbon cycle, to the plant-pollution and phytoremediation technologies.

He designed and managed large Open Top Chambers, to study the direct effects of a double CO₂ concentration on a natural Mediterranean forest, for more than seven years. He collaborated in the design and management of a Free Air Carbon dioxide Enrichment (FACE) facility, used to experimentally increase atmospheric [CO₂] of 550 ppm in a poplar plantation, from the beginning to the end of the second cycle (six years).

He was the scientific responsible of the Porto Conte installation, where the long-term impact of increased daily minimum temperature (night time warming) and a prolonged summer drought was studied for more than ten years.

He participated to several European Research Projects, mainly focused on the impact of environmental stresses and climatic changes on different forest ecosystem processes (STEP, CIPA, EPOCH, POPFACE, VULCAN, EUROFACE). He also was involved in other European Projects focused on the impact of climate change on forest ecosystems, such as CANIF, FORCAST and LTEEF. In that context his scientific contribution was on the study of the impact of climate change on forest ecosystems using the ecophysiological methods and techniques at level of leaf, tree, community and ecosystems. At the national level his work was also focused on the response of forest communities and trees plantations to the silvicultural management, applying new techniques for that specific sector.

In the context of the European FP7 his scientific activity was: on water use efficiency of poplar plantations; on the impact of climate change on Mediterranean shrublands, as scientific responsible of one partner group of the project INCI (Integrated Network on Climate Change REsearch Activities on Shrubland Ecosystems); on the impact of climate change on the regional scale GHG balance of selected data rich regions in Europe, in the project GHG-Europe (Greenhouse gas management in European land use systems).

His work is also devoted to applied projects, focused on the design and realization of sustainable systems to reuse the wastewater for wood production and for environmental protection. In this context he coordinated: the design and realization of a pilot area in the frame of the international cooperation between Italy and Algeria (MAE-MIUR; MISE-ICE-CRUI); the design of a series of constructed wetlands to protect the seasonal river supporting the palm production in the Saharan region and the design of a constructed wetland to treat the wastewater of a small village in Tunisia, in the frame of a FAO project.