



UNIVERSITÀ
DEGLI STUDI DELLA
Tuscia



DAFNE

**DIPARTIMENTO DI SCIENZE
AGRARIE E FORESTALI**

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VACANCY ANNOUNCEMENT

Post-doctoral researcher in Central Italy: crop growth models remote sensing data assimilation for irrigation management

The goal of the research that will be carried out by the candidate is the development and/or improvement of algorithms exploiting satellite data for assimilation into crop growth models in support of irrigation management. The work is carried out within the international ERANETMED project "Real time soil moisture forecast for smart irrigation" (RET-SIF) with partners from Italy, France, Morocco, Spain and China.

Crop models will be employed to determine the crop development stage and yield according to water availability, irrigation practices and crop types. The models employed will include a recently released open-source version of Aquacrop (Foster et al., 2017, <http://aquacrops.com>), and the Simple Algorithm for Yield prediction, SAFY (www.cesbio.ups-tlse.fr/fr/modeles/safy_et_safye_new.html). These models will be calibrated and validated over the different case studies areas. The models will be coupled to a hydrological model and remote sensing data assimilation procedures (LAI, LST) will be implemented for sharing pixel soil moisture, biophysical variables retrieved from remote sensing and meteorological data between crop and soil water balance modelling.

The initial appointment is for 1 year but renewable for 1 additional year (or possibly more)

Eligibility and desired competences:

- ☐ master level degree in Engineering, Environmental Sciences, Geography, Agricultural Sciences or Geosciences or similar
- ☐ it is essential to have good coding skills in Matlab
- ☐ PhD or MSc in topics related to the thematic area
- ☐ Experience/interest in the use of satellite remote sensing data
- ☐ Desirable knowledge of R
- ☐ fluency in English, willingness to learn some Italian
- ☐ experience/interest in crop growth modelling
- ☐ adaptation capability, flexibility

Salary: € 23,786.64 /year

Starting period: beginning of July 2019

Deadline for application: 20 June 2019.

The interested applicants should get in touch as soon as possible with Prof. Raffaele Casa (rcasa@unitus.it) to arrange a preliminary informal interview (Skype) sending a CV and motivation letter with contact details of 2 reference persons.

If the interest is confirmed, a formal application should be submitted according to the call published in the University of Tuscia website. Detailed instructions on how to apply will be given directly to the prospective applicants after they get in touch.

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