

POSTDOCTORAL POSITION OFFER FORM

1. Job Position title: Crop water productivity modelling under climate change scenarios
2. Keywords: water productivity, modelling, climate change, water resources management, irrigation agronomy
3. Researcher in charge in DAUCO:
 - Title: Professor
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 - Research group: AGR-119 (Soil-Water-Plant Relationships)
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4. Research Group description (max. 2.000 characters)

The research group “Soil-Water-Plant Relationships” is a team of eleven research scientists and about 28 graduate students and technicians coordinated by Professor Elías Fereres. The Group was established in 1981 at the Agronomy Department in the University of Cordoba and has been conducting research on water, agriculture and environment, for the last 40 years. In 1995, the Group joined the Institute of Sustainable Agriculture (IAS-CSIC) at Cordoba as their agronomy, water management and modelling group.

The team conducts research on agronomy with emphasis on water and soil resources. Using a systemic approach, the group tackles diverse problems related to water scarcity and to soil conservation, two of the main challenges faced by Mediterranean agriculture. Within the Group, there are subteams specialized in irrigation management, crop modeling, remote sensing, irrigation engineering and hydrology, soil erosion and in conservation agriculture. All these elements and tools are combined in different research projects aimed at finding solutions that would made agriculture more productive and sustainable. Research facilities at Cordoba include four laboratories, greenhouses, field facilities with access to two weighing lysimeters and equipment for the measurement of actual ET with eddy covariance techniques, soil water and plant water instrumentation for agronomic, ecophysiological and water management measurements.

5. Job position description (max. 2.000 characters)

The research group “Soil-Water-Plant Relationships” is searching for a postdoctoral researcher with expertise in water productivity modelling and climate change impacts assessments.

This position will involve improving and parameterising a water productivity model for better assessing the climate change impacts on crop productivity and water irrigation requirements. Particular emphasis will be given to identifying and assessing how cropping systems can be adapted to tolerate changes in extreme events, with a special focus on soil-water plant relationships.

The selected candidate is also expected to contribute to implementing research projects oriented to enhance crop water productivity through close collaboration with stakeholders, like FAO, developing new project proposals and apply for funding.

Other responsibilities will be:

- Write and publish articles in peer-reviewed journals.
- Support teaching activities and students supervision.

The applicant should have a PhD degree in agronomical engineering, agricultural water management or similar. The candidate should also have demonstrable experience in the parameterisation and calibration/validation of water productivity models and the identification and design of optimal farming practices for enhancing crop water productivity. Furthermore, the candidate should have experience in assessing the impact of climate change scenarios on crop productivity using modelling techniques. It is also required:

- Skills in handling large datasets and statistical analyses.
- A proven record of research publications in peer-reviewed international journals.
- Experience in international water-related research projects.
- Ability to work independently and on your own initiative.