

Joint ICTP-IAEA Workshop on the Use of Cosmic Ray Neutron Sensor for Soil Moisture Management and Validation of Remote Sensing Soil Moisture Maps



4 - 8 May 2020
Trieste, Italy

Further information:
<http://indico.ictp.it/event/9085/>
E-mail: smr3440@ictp.it

Cosmic Ray Neutron Sensor (CRNS) has potential for soil moisture monitoring of agricultural land. The results can be used for irrigation scheduling and extreme weather event forecasting. Remote sensing can extrapolate the acquired soil moisture data to larger areas.

Director:

E. FULAJTAR, IAEA, Austria

Description:

The increasing demand for food production due to population increase and climatic hazards requires improving land management practices. One of the major demands is to support the decision processes by reliable and representative information on soil moisture, which is difficult to obtain by conventional soil moisture measurements. CRNS is a much more suitable technique for this purpose since it is non-invasive and has a large footprint overcoming the problem of soil moisture spatial microvariability. The data acquired from CRNS measurements can be used for scientific tasks such as validation of hydrological models and remote sensing soil moisture products, as well as for practical land management and environmental applications such as soil moisture management under rain-fed agriculture, irrigation scheduling, drought management and flood forecast.

Topics:

- Basic principles of soil moisture measurements using Cosmic Ray Neutron Sensor (CRNS)
- Methodological challenges: footprint extension, heterogeneity mapping, root depth moisture interpolation, biomass impact
- Hydrological models as a tool used for land management
- Use of remote sensing and soil moisture products for land management
- Use of CRNS data for hydrological modeling
- Use of CRNS data for validation of remote sensing soil moisture products
- Use of CRNS data for rain-fed agriculture
- Use of CRNS data for irrigation scheduling
- Use of CRNS data for drought management
- Use of CRNS data for flood forecast

Local Organizer:

P. CREMINELLI, ICTP, Italy

Speakers:

B. BAUER-MARSCHALLINGER, TU Wien, Austria
T. FRANZ, University of Nebraska-Lincoln, USA

How to apply:

Online application:
<http://indico.ictp.it/event/9085/>

Female scientists are encouraged to apply.

Grants:

A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries. There is no registration fee.

Deadline:

31 January 2020



ESOF2020
EUROSCIENCE OPEN FORUM
TRIESTE



The Abdus Salam
**International Centre
for Theoretical Physics**
www.ictp.it
Trieste, Italy

