

Milan, 8 March 2023

Call for grantee(s) within OpenSense Short-Term Scientific Mission Grant

The multidisciplinary research group of CNR and Politecnico di Milano, which brings together skills in the fields of wireless telecommunications and hydrology welcomes grantees for Short Term Scientific Missions (STSMs) related to the topics of OpenSense Action.

We have a huge database including 260 commercial microwave links (CML), a rain gauge network, disdrometers and weather radar data. We published some of our research results on scientific journals [1][2].

Grantee visiting CNR-Politecnico can contribute to one of the following research projects:

- Meteorological application:
 - Sensor merging (CML + radar+ rain gauge+satellite) to improve 2D reconstruction of rainfall fields;
- Hydrological application:
 - Use of CML data into an enhanced version of the hydrological model of a peri-urban area (Seveso basin)
 - Develop a hydrological model based on Machine learning techniques with CML inputs.

Required skills: rainfall sensors, signal processing, hydro-meteorology (depending on the chosen application). Soft skills are appreciated as you will have the opportunity to work together with experts from different research areas.

The period of the STSM is April-June 2023. The preferred duration is upon the applicant but it must be at least 5 days. The proposal has to meet all the criteria given in First Call for STSM (Short-Term Scientific Mission) – 2023 and also general eligibility criteria given by COST Association for STSM grants.

Details on application rules are here:

<https://opensenseaction.eu/grants/mobility-grants/>

In case of interest, please contact Roberto Nebuloni (roberto.nebuloni@ieiit.cnr.it) or Carlo De Michele (carlo.demichele@polimi.it).

References (CNR – Politecnico recent publications on the subject)

- [1] Cazzaniga, G., De Michele, C., D'Amico, M., Deidda, C., Ghezzi, A., and Nebuloni, R.: Hydrological response of a peri-urban catchment exploiting conventional and unconventional rainfall observations: the case study of Lambro Catchment, Hydrol. Earth Syst. Sci., 26, 2093–2111, <https://doi.org/10.5194/hess-26-2093-2022>, 2022.
- [2] Nebuloni R, Cazzaniga G, D'Amico M, Deidda C, De Michele C.: Comparison of CML Rainfall Data against Rain Gauges and Disdrometers in a Mountainous Environment, Sensors, 2022, doi: 10.3390/s22093218.