

Martina Natali

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Summary

PhD Fellow at the University of Perugia and at the Research Institute for Geo-Hydrological Protection (CNR-IRPI).

Work experience

- Jun 2023 - **Data Analyst for Satellite Products**, *CIMA Research Foundation*, Via A. Magliotto, 2 - Savona (SV), Italy
Nov 2023
Main tasks: analysis of satellite products, review of existing libraries and code writing for implementing an operational framework in Python for delivering a new soil moisture satellite product.
- Apr 2023, **Conference Assistant**, *Copernicus Gesellschaft e.V.*, Bruno-Kreisley-Platz 1 - Vienna, Austria
Apr 2024
Main tasks: technical assistance.
- Nov 2022 - **Internship for MSc Thesis**, *University of Ferrara, Laboratory of Nuclear Technologies Applied to the Environment*, Via Saragat 1, Ferrara (FE), Italy
Mar 2023
Main tasks: internship for the completion of a MSc Thesis.
- Sep 2020 - **Academic Tutor**, *University of Ferrara*, Ferrara (FE), Italy
Sep 2022
Main tasks: tutoring and exercises for mainly General Physics lectures for different courses and Departments.
- May 2020 - **Internship for BSc Thesis**, *University of Ferrara, Laboratory of Nuclear Technologies Applied to the Environment*, Via Saragat 1, Ferrara (FE), Italy
Jun 2020
Main tasks: internship for the completion of a BSc Thesis.

Education

- Nov 2023 - **International Doctoral Program in Civil and Environmental Engineering**, *University of Perugia - Department of Civil and Environmental Engineering, Research Institute for Geo-Hydrological Protection (CNR-IRPI)*
ongoing
Project title: "Integrated use of radar backscatter observations, machine learning and land surface modelling to improve soil and vegetation dynamics in Mediterranean agroforestry systems"
- 2020 - 2023 **Masters' Degree in Physics**, *University of Ferrara*, 110 cum laude
Thesis' title: *Soil water balance for improving a Sentinel-1 backscatter model*
- 2016 - 2020 **Bachelors' Degree in Physics**, *University of Ferrara*, 110 cum laude
Thesis' title: *Gamma spectroscopy techniques and Sentinel-1 SAR data for soil moisture assessment in precision agriculture*

Conferences and training

- Apr 2024 **European Geosciences Union General Assembly 2024 (EGU24)**, *Vienna, Austria*
Abstract title: "Irrigation Estimation from Soil Water Balance and the Water Cloud Model by leveraging Sentinel-1 and Sentinel-2 observations", Session HS6.9.

- Dec 2023 - **Geoframe Winter School**, *University of Trento*, Trento (TN), Italy
- Jan 2024 Winter school focused on the implementation and use of the GEOframe system, with the spatially variable quantification of each component of the water balance.
- Nov 2023 **NEOMI Workshop**, *ESA-ESTEC*, Noordwijk, Netherlands
Participation as part of the SLAINTE Satellite Mission team.
- Nov 2023 **8th International Workshop on Retrieval of Bio- & Geo-physical Parameters from SAR Data for Land Applications (BioGeoSAR 2023)**, *Sapienza University of Rome*, Rome (RM), Italy
The workshop is focused on the use of SAR data for land use, classification, and change detection with applications in agriculture, forestry and other fields.
- Nov 2023 **IEEE International Workshop on Metrology for Agriculture and Forestry (MetroAgriFor 2023)**, *Benedettine Conference Center*, Pisa (PI), Italy, **Winner of Best Paper Presented by a Woman Award**
Proceeding title: "A simple framework to calibrate a soil water balance model with Sentinel-1 and Sentinel-2 observations over irrigated fields".
- Jul 2022 **13th International Summer School on Radar/SAR**, (*Online*) *Fraunhofer FHR*
Summer school focused on theory and applications of radar antennas in different fields, such as environmental monitoring, civil engineering, security and defense.
- Jun 2022 **6th Satellite Soil Moisture Validation and Application Workshop**, *Perugia, Italy*, Organized by CNR-IRPI.
Workshop focused on soil moisture products from active and passive satellite platforms.
- Oct 2019 **AGC 2019**, *Orange (France)*
International team exercise for emergency response and radiation monitoring with airborne gamma-ray spectroscopy systems, organized by CEA and IRSN.

Publications and Conference Contributions

- 2024 Natali, Martina, Sara Modanesi, Domenico De Santis, Luca Brocca, Fabio Mantovani, Andrea Maino, Gabrielle De Lannoy, and Christian Massari. 2024. "Irrigation Estimation from Soil Water Balance and the Water Cloud Model by Leveraging Sentinel-1 and Sentinel-2 Observations." EGU24-18745. Copernicus Meetings. <https://doi.org/10.5194/egusphere-egu24-18745>.
- 2023 Natali, Martina, Sara Modanesi, Christian Massari, Luca Brocca, Gabriëlle J. M. De Lannoy, Andrea Maino, and Fabio Mantovani. 2023. "A Simple Framework to Calibrate a Soil Water Balance Model with Sentinel-1 and Sentinel-2 Observations over Irrigated Fields." In 2023 IEEE International Workshop on Metrology for Agriculture and Forestry (MetroAgriFor), 205–10. <https://doi.org/10.1109/MetroAgriFor58484.2023.10424194>.

Dati personali Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".