



University of Pavia  
Ph.D. School in Electronics, Computer Science and Electrical Engineering

## SEMINAR

# The Alps Are Turning Green

*Dott.ssa Martina Lodigiani*  
University of Pavia

May 19th, 2023 – 11.00

Magenta Seminar Room and on zoom:

[https://us06web.zoom.us/webinar/register/WN\\_\\_euzghZxQzOuL-SHktATBQ](https://us06web.zoom.us/webinar/register/WN__euzghZxQzOuL-SHktATBQ)

**Abstract:** The changes in the climate condition of our planet are increased in the latest years, and they are particularly visible in critical environment such as the Alps. The rising of the temperatures contributes to the melting of the glaciers and of the seasonal snow coverage, turning our mountains from white to green even during winter. The effect of this change is visible in several fields, and the human being is the seriously affected. Fresh water supply, hydroelectrical power generation and avalanches are only few issues coming from the shortage of these important resources. To monitor this condition and, when possible, to prevent damages, several technologies are used. Among them, radars are valuable instruments with high accuracy and easy to use.

**Bio:** Martina received the bachelor's degree in Electronic and Computer Engineering in July 2018 from the University of Pavia with a thesis concerning the analysis of the link budget of a satellite link in polar environment, in the framework of the ESA's project "SNOWBEAR". Then, she also received the master's degree in Electronic Engineering – Space Communication and Sensing in November 2020. The MS thesis has been developed in collaboration with the Finnish Meteorological Institute (FMI), Helsinki (FI), working on a radar system for the monitoring of the electrical properties of different snowpacks. From November 2020, she is working as a PhD student at the Microwave Laboratory of the University of Pavia as a researcher in snowpack monitoring by means of radar systems. During winter 2022/2023, Martina was a Guest Researcher at the Nano Group of the Universitetet i Oslo (UiO), where she worked with a commercial UWB radar applied on snowpack monitoring. She was the principal researcher in ARCTIC-GBR and RADARC, two projects founded by EU Horizon 2020, for monitoring the melting phase of seasonal snow in polar regions. She recently got the title of "Snow Expert" from the Interregional Association for coordination and documentation of snow and avalanche problems AINEVA.

### Organizer

Ing. Enrico Massoni

IEEE Student Branch

PESB – Pavia Engineering Student Branch

Seminar in English

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