Martina Lodigiani

ELECTRONIC ENGINEER

CONTACTS

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LANGUAGES

Italian - Mothertongue
English - Intermediate (B2)
Finnish - Basic (A2)

DIGITAL SKILLS

MS Office | Matlab | C | Python | HFSS | CST | LaTeX | Arduino | Web Graphic Enthusiastic

ACADEMIC EDUCATION

University of Pavia | Oct. 2020 - Present

PhD school in Electronics, Computer Science and Electrical Engineering
Microwave radar system for cryosphere monitoring

University of Pavia | Oct. 2018 - Nov. 2020

MS in Electronic Engineering - Space Communication and Sensing (110L/110)
Thesis: Study on data processing for snowpack monitoring using above-the-ground radars

University of Pavia | Oct. 2014 - Jul. 2018

BS degree in Electronic and Computer Engineering
Thesis: Ground station SNOWBEAR in polar environment (Svalbard): analysis of the satellite link in K band

WORKING EXPERIENCES

Leroy Merlin | Apr. 2018 - Jan. 2020

Cashier and shop assistant in the hardware area

ERASMUS+ TRAINEESHIP

Oslo (NO) | Oct. 2022 - Feb. 2023

Universitetet i Oslo (UiO) - Nanoelectronics Lab.
Ultrawide band snow radar

Helsinki (FI) | Mar. 2020 - Jul. 2020

Finnish Meteorological Institute (FMI)
Analysis of radar traces of an above-the-ground system

PAPERS

- S. Pettinato, E. Santi, S. Paloscia, F. Baroni, S. Pilia, L. Santurri, E. Palchetti, F. Bovenga, A. Belmonte, A. Refice, I. Argentiero, R. Colombo, G. Bramati, B. Di Mauro, C. Marin, G. Cuozzo, L. De Gregorio, M. Callegari, M. S. Heredia, V. Premier, C. Notarnicola, M. Pasian, **M. Lodigiani**, L. Silvestri, E. Cremonese, and A. Montuori, "Multi-frequency SAR images for investigations of the cryosphere: preliminary results of CRIOSAR project," International Geoscience and Remote Sensing Sumposium (IGARSS 2023), Pasadena, California, July 16-21, 2023
- **M. Lodigiani**, L. Silvestri, R. Barella, C. Marin and M. Pasian, "Monitoring wet snow with a dual-receiver radar architecture: preliminary experimental results", 17th European Conference on Antennas and Propagation (EuCAP 2023), Florence, Italy, March 26-31, 2023 (in print)
- **M. Lodigiani**, L. Silvestri, R. Barella, C. Marin, B. Di Mauro, R. Colombo, C. Notarnicola, and M. Pasian, "Multi-spectral analysis of dry alpine seasonal snowpack," 2022 52th European Microwave Conference (EuMC), Milan, Italy, September 25-30, 2022
- S. Pettinato, F. Bovenga, E. Santi, S. Paloscia, F. Baroni, A. Belmonte, A. Refice, I. Argentiero, R. Colombo, B. Di Mauro, G. Bramati, C. Marin, G. Cuozzo, L. De Gregorio, C. Notarnicola, M. Callegari, R. Barella, M. Pasian, **M. Lodigiani**, and E. Cremonese, "Monitoring of snow water equivalent and snowmelt through space-borne synthetic aperture radar techniques," 2022 52th European Microwave Conference (EuMC), Milan, Italy, September 25-30, 2022
- **M. Lodigiani** and M. Pasian, “Snowpack and glacier monitoring using a multiband dual-receiver radar architecture,” XXIV Riunione Nazionale di Elettromagnetismo (XXII RiNEm), Catania, Italy, September 18-21, 2022
- **M. Lodigiani**, P. F. Espín-López, L. Silvestri, and M. Pasian, "Multiband radar system for snowpack and glacier monitoring in Alpine area," Cryosphere 2022, Reykjavík, Iceland, August 21–26, 2022
- **M. Lodigiani**, L. Silvestri, and M. Pasian, "Glacier monitoring with dual-receiver radar architecture: preliminary experimental results," International Geoscience and Remote Sensing Sumposium (IGARSS 2022), Kuala Lumpur, Malaysia, July 17-22, 2022
- **M. Lodigiani**, N. Delmonte, and M. Pasian, "A novel PIFA antennas design with capacitive load for glacier monitoring applications," 16th European Conference on Antennas and Propagation (EuCAP 2022), Madrid, Spain, March 27-April 1, 2022
- C. Marin, **M. Lodigiani**, C. Notarnicola, and M. Pasian, "Temporal SAR signature of the high-altitude Alpine snowmelt," 3rd International Conference on Snow Hydrology (SnowHydro 2022), Grenoble, France, February 1-4, 2022
- P. F. Espín-López, **M. Lodigiani,** M. Barbolini, F. Dell'Acqua, L. Silvestri, and M. Pasian, "Proof-of-Concept for a Ground-Based Dual-Receiver Radar Architecture to Estimate Snowpack Parameters for Wet Snow," IEEE Transactions on Geoscience and Remote Sensing, Vol. 60, No. 4301909, pp. 1-9, January 2022
- M. Pasian, **M. Lodigiani**, C. Marin, V. Premier, and C. Notarnicola, "Numerical investigation on the effect of the snowpack surface roughness on the radar echo," International Geoscience and Remote Sensing Sumposium (IGARSS 2021), Brussels, Belgium, July 12-16, 2021

CONFERENCES

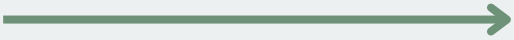
- International Geoscience and Remote Sensing Symposium (IGARSS 2021), Brussels, Belgium, July 12-16, 2021
- 16th European Conference on Antennas and Propagation (EuCAP 2022), Madrid, Spain, March 27-April 1, 2022
- International Geoscience and Remote Sensing Symposium (IGARSS 2022), Kuala Lumpur, Malaysia, July 17-23, 2022
- Cryosphere 2022, 21 – 26 August 2022, Reykjavik, Iceland
- XXIV Riunione Nazionale di Elettromagnetismo (RiNEm 2022), 18 – 21 September 2022, Catania, Italy
- European Microwave Week (EuMW 2022), 25 – 30 September 2022, Milan, Italy
- IEEE Nordic Circuits and Systems Conference (NorCAS 2022), 25 - 26 October 2022, Oslo, Norway
- 17th European Conference on Antennas and Propagation (EuCAP 2023), Florence, Italy, March 26-31, 20223

OTHER ACTIVITIES

- PhD student representative in the PhD board
- PhD student representative in the PhD quality board
- IEEE Student Branch Pavia Treasurer
- Pavia Engineering Student Branch chair
- Tutor of Electronics for BS student
- Student Volunteer at EuMW 2022 - Milan, 25-30 September 2022
- Student Volunteer at EuCAP 2023 - Florence, 27-31 March 2023
- 12th International Summer School on Radar/SAR, 2-9 July 2021, online - organized by Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR
- Main researcher in Interact TA/RA 2020 by Horizon2020 - "ARCTIC-GBR"
- Main researcher in Interact TA/RA 2023 by Horizon2020 - "RADARC"
- "Snow expert" certification by AINEVA (09/05/2023)
- Satellite Microwave Remote Sensing Course, 22-26 May 2023 - ESA ESTEC - Noordwijk, The Netherlands - organized by the European Space Agency (ESA), in collaboration with the Association of Retired ESA Staff (ARES).

FIELD CAMPAIGNS

In the next page, a list of the field campaigns that I carried out during my researches is presented. It is worth to note that each monitoring campaign, either with dry or wet snow, has been conducted with radar instruments and the results validated by means of the traditional manual analysis.



FIELD CAMPAIGNS

07/05/2019	Cheneil, Aosta Valley (IT)	First test
12/02/2020	Cheneil, Aosta Valley (IT)	Dry snow monitoring
16/03/2020	Sodankylä, Lapland (FI)	5 days, above the ground configuration on dry snow
27/10/2021	Cherillon glacier, Aosta Valley (IT)	Glacier monitoring
15/02/2022	Torgnon, Aosta Valley (IT)	Dry snow monitoring
01/03/2022	Cheneil, Aosta Valley (IT)	Dry snow monitoring
15/03/2022	Lazaun, South Tyrol (IT)	Dry snow monitoring
26/05/2022	Lazaun, South Tyrol (IT)	Wet snow monitoring
06/06/2022	Gran San Bernardo, Aosta Valley (IT)	Wet snow monitoring
10/11/2022	TerraXcube by Eurac, Bolzano (IT)	Melting/refreeze cycle investigation
26/01/2023	Tryvann, Oslo (NO)	Dry snow monitoring with UWB sensor
04/03/2023	Riale, Piedmont (IT)	Wet snow monitoring
06/03/2023	Cime Bianche, Aosta Valley (IT)	Dry snow monitoring
14/03/2023	Passo Rolle, Autonomous Province of Trento(IT)	Course on manual analysis and other commercial instruments
13/04/2023	Sodankylä, Lapland (FI)	15 days - melting/refreeze cycle investigation and above-the-ground configuration monitoring
16/06/2023	Gran San Bernardo, Aosta Valley (IT)	Wet snow monitoring