Alberto Vavassori
curriculum vitae

Personal information

Surname	**Vavassori**
Name	**Alberto**
Nationality	Italian
Date of birth	25/12/1995
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Education

2021 – 2024	**European PhD cum laude in Environmental and Infrastructure Engineering (Geomatics area)**, Politecnico di Milano, Milan, Italy
2017 – 2019	**MSc Degree in Environmental and Land Planning Engineering**, Politecnico di Milano, Milan, Italy *Grade*: 110/110 cum laude
2014 – 2017	**BCs Degree in Environmental and Land Planning Engineering**, Politecnico di Milano, Milan, Italy *Grade*: 110/110 cum laude
2009-2014	**High school diploma** Liceo scientifico G. Galilei (IIS C. Marzoli), Palazzolo S/O, Brescia, Italy *Grade*: 100/100

Work experience

Feb. 2025 – present	**Junior Researcher (RTD-A)**, Department of Civil and Environmental Engineering (Geodesy and Geomatics Division), Politecnico di Milano, Milan, Italy
Nov. 2024 – present	**Postdoctoral Researcher**, Politecnico di Milano, Milan, Italy
Sept. 2020 – Oct. 2021	**Temporary Research Fellow**, Politecnico di Milano, Milan, Italy
Feb. 2020 – Sept. 2020	**Internship in the field of GIS**, Globo srl, Viale Europa 17/B, Treviolo (Bergamo)

Training and research activities at foreign and national institutions

Jul. 2023	**Participation in the Summer School Planning and Realization of Surveys for Land Monitoring**, Macugnaga (Verbania), Italy
May 2022 – Nov. 2022	**Visiting PhD Student**, Universitée de Genève, Institute des Sceinces de l'Environnement, Geneva, Switzerland

Publications

Conference Papers

[1] Vavassori, A., Biraghi, C.A., Bratic, G., Carrion, D., Zamboni, G., Brovelli,

[ ] M.A. (2021) **Citizen science tools for lake monitoring in the framework of the United Nations Sustainable Development Goals: the project SIMILE**. *GI_Forum 2021*, 1, 179-186.

[2] Bratic, G., Vavassori, A., and Brovelli, M. A. (2021) **REVIEW OF HIGH-RESOLUTION GLOBAL LAND COVER**. *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLIII-B4-2021, 175-182.

[3] Oxoli, D., Vavassori, A., Cedeno Jimenez, J. R., and Brovelli, M. A. (2022) **OPEN DATA CUBE APPLICATION TO USER-GENERATED GEODATA: VISITORS TURNOUT INVESTIGATION IN THE INSUBRIA NATURAL PARKS**, *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLIII-B4-2022, 267−272.

[4] Vavassori, A., Puche, M., Brovelli, M.A. (2023) **MEASURING THE INFLUENCE OF A MOTORWAY CONSTRUCTION ON LAND SURFACE TEMPERATURE USING LANDSAT THERMAL DATA: A CASE STUDY IN THE METROPOLITAN CITY OF MILAN**. *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLVIII-1/W2-2023, 1589-1594.

[5] Vavassori, A., Brovelli, M.A., Capizzi, E., Venuti, G., Betti, B., Siciliani de Cumis, M., Sacco, P., and Tapete, D. (2023) **MAPPING LOCAL CLIMATE ZONES WITH MULTIPLE GEODATA AND THE OPEN DATA CUBE: INSIGHTS OF DOMAIN USER REQUIREMENTS AND OUTLOOKS OF THE LCZ-ODC PROJECT**. *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLVIII-1/W2-2023, 581-587.

[6] Vavassori, A., Oxoli, D., Venuti, G., Brovelli, M. A., Mohamed, A. B. E. A., Moazzam, A., Siciliani de Cumis, M., Sacco, P., and Tapete, D. (2024). **PRISMA Hyperspectral Satellite Imagery Application to Local Climate Zones Mapping**, *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLVIII-1-2024, 643−648.

[7] Zgela, M., Vavassori, A., Kolokoussis, P., and Brovelli, M.A. (2024). **Assessing and validating spectral unmixing of hyperspectral PRISMA imagery in Milano with implications for urban climate**, Proceedings of the *75th International Astronautical Congress (IAC)*, October 2024, Milano, Italy

Journal Peer-Reviewed Papers

[8] Vavassori, A., Oxoli, D., and Brovelli, M. A. (2022) **Population Space−Time Patterns Analysis and Anthropic Pressure Assessment of the Insubric Lakes Using User-Generated Geodata**. *ISPRS International Journal of Geo-Information*; 11(3), 206.

[9] Vavassori, A., Carrion, D., Zaragozi, B., Migliaccio, F. (2022). **VGI and Satellite Imagery Integration for Crisis Mapping of Flood Events**. *ISPRS International Journal of Geo-Information*, 11(12), 611.

[10] Vavassori, A., Pugliese, A., Brovelli, M.A. (2022). **Using open data to reveal factors of urban susceptibility to natural hazards and man-made hazards: case of Milan and Sofia**. *GeoScape*, 16(2), 93-107.

[11] Puche, M., Vavassori, A., Brovelli, M.A. (2023). **Insights into the Effect of Urban Morphology and Land Cover on Land Surface and Air Temperatures in the Metropolitan City of Milan (Italy) Using Satellite Imagery and In Situ Measurements**. *Remote Sensing*, 15(3), 733.

[12] Vavassori, A., Giuliani, G., Brovelli, M.A. (2023). **Mapping Local Climate Zones in Lausanne (Switzerland) with Sentinel-2 and PRISMA imagery: comparison of classification performance using different band combinations and building height data**. *International Journal of*

	Digital Earth, 16(2), 4790-4810.
[13]	Vavassori, A., Oxoli, D., Venuti, G., Brovelli, M. A., Siciliani de Cumis, M., Sacco, P., and Tapete, D. (2024). **A combined Remote Sensing and GIS-based method for Local Climate Zone mapping using PRISMA and Sentinel-2 imagery**, *International Journal of Applied Earth Observation and Geoinformation*, 131, 103944.

International awards for research activity

2024	**Best Paper Award** for the publication "*PRISMA Hyperspectral Satellite Imagery Application to Local Climate Zones Mapping*", awarded by the International Society for Photogrammetry and Remote Sensing (ISPRS) Technical Commission I during the ISPRS TC I Mid-term Symposium on Intelligent Sensing and Remote Sensing Application (13 - 17th May 2024, Changsha, China).

Selected Research Projects

Activities in research and educational projects

SIMILE (2020-2021)	Italy-Switzerland Interreg Co-operation Programme 2014–2020
CIDMA (2020)	Capacity Building in the field of Higher Education 2019
GIS4Schools (2021)	Co-funded by the Erasmus+ Programme of the European Union
HARMONIA (2021-2022)	Funded by the EU Horizon 2020 research and innovation programme
Copernicus4Schools (2024)	Co-funded by the European Union's Caroline Herschel Framework Partnership Agreement on Copernicus User Uptake
LCZ-ODC (2022-2024)	Funded by the Italian Space Agency (ASI) in the frame of the Innovation for Downstream Preparation for Science Program I4DP_SCIENCE
LCZ-UHI-GEO (2024)	Funded by the Minister for Foreign Affairs and International Cooperation of Italy (MAECI) and the Department of International Cooperation of the Ministry of Science and Technology of Vietnam (MOST)
Space It Up! (2025 - 2027)	Funded by the Italian Space Agency (ASI) and the Italian Ministry of University and Research (MUR)

Conferences, workshops and training courses

Speaker at national and international conferences and conventions

ISDE12 (2021)	**12th International Symposium on Digital Earth** (6-8 July 2021, online)
GIS OSTRAVA (2022)	**Earth Observation for Smart City and Smart Region** (16-18 March 2022, online)
FBAS (2022)	**International Forum on Big Data for Sustainable Development Goals** (6-8 September 2022, online)
ISPRS Geospatial Week (2023)	**ISPRS Geospatial Week** (2-7 September 2023, Cairo, Egypt)
43rd EARSeL Symposium (2024)	**43rd Symposium of European Association of Remote Sensing Laboratories** (17-20 June 2024, Manchester, UK)
2GG (2024)	**Due Giorni di Geomatica 2024** (15-16 July 2024, L'Aquila, Italy)

ASITA (2024)	**ASITA 2024** (9-13 December 2024, Padova, Italy)
ISPRS Geospatial Week (2025)	**ISPRS Geospatial Week** (6-11 April 2025, Dubai, UAE)
66th SIFET Congress (2025)	**66° Convegno SIFET 2025** (18-20 June 2025, Brindisi, Italy)

Personal and technical skills

Languages	Italian (native)
	English (Full professional proficiency – FIRST Certificate)
Programming languages	Python, MATLAB, R
Software	Office package, LaTeX, QGIS, Esri ArcGIS Pro
Topics	Geographic Information Systems, Earth Observation, Statistics, Topography, Photogrammetry, Data Analysis

Certifications

English	Cambridge English – First Certificate in English (Oct. 2016)
Python	IBM – Python for Data Science (Sept. 2020)
	Coursera, University of Michigan – Programming for Everybody (Getting Started with Python); Python Data Structures; Using Python to Access Web Data (July 2021)
Drone	UAS Remote Pilot for Open Category A1+A3
	EASA Training Zone

Memberships

OSGeo	Charter Member of the Open Source Geospatial Foundation (OSGeo) since November 2024

Teaching experience

a.y. 2022/23, 2024/25	Tutor of the course **052422 - *Geographic Information Systems*** (Prof. Maria Antonia Brovelli), MSc in Geoinformatics Engineering (Politecnico di Milano)
a.y. 2023/24	Tutor of the course **053799 - *Geospatial Data Analysis*** (Prof. Giovanna Venuti, Prof. Mirko Reguzzoni), MSc in Geoinformatics Engineering (Politecnico di Milano)
a.y. 2021/22, 2023/24, 2024/25	Tutor of the course **056792 - *Topografia e Trattamento delle Osservazioni*** (Prof. Alberta Albertella), BSc in Civil Engineering (Politecnico di Milano)
a.y. 2023/24	Lecturer for the course ***L'Osservazione della Terra dallo spazio e la prevenzione di disastri ambientali*** (Call n.002-PNRR/ICAT/23-24, Politecnico di Milano), lectures delivered to students from Italian high schools

Thesis supervision

	Supervisor or co-supervisor of the following **MSc thesis**, in the framework of the MSc Program in **Geoinformatics Engineering** (Politecnico di Milano):
a.y. 2023 - 2024	● *"Urban thermal comfort evaluation and mitigation strategy design based on the UMEP model: the case of Milan"*. Authors: Ge Li and Xunqi Cai; supervisor: Prof. Maria Antonia Brovelli; co-supervisors: **Alberto Vavassori** and Matej Zgela

a.y. 2024 - 2025	- *"Exploring crowdsourced temperature data from Milan for urban heat island analysis"*. Authors: Ahmed Mohamed Eltahir Yassin and Ahmed Omer Ahmed Mukhtar; supervisor: Prof. Maria Antonia Brovelli; co-supervisor: **Alberto Vavassori** - *"Exploration of crowdsourced air temperature data and GWR application for the urban heat island analysis"*. Author: Hussamalden Mohmmed Shereif Mohmmed; supervisor: Prof. Maria Antonia Brovelli; co-supervisor: **Alberto Vavassori** - *"Urban and peri-urban Land Surface Temperature modelling through the integration of multiple Earth Observation data"*. Author: Stefano Brazzoli; supervisor: Prof. Maria Antonia Brovelli; co-supervisor: **Alberto Vavassori** - *"Heat wave and heat stress space-time pattern analysis in Lombardy using climate reanalysis data"*. Author: Filippo Bissi; supervisor: **Alberto Vavassori**, co-supervisor: Matej Zgela