Curriculum Vitae of

Mario Lloyd Virgilio Martina

Current academic position

2021 - now	Full Professor (I Fascia) in Hydraulic, Maritime and Hydrological Constructions (SSD ICAR/02) at the IUSS University School of Advanced Studies of Pavia
2023 - now	Pro-rector for International Relations of the IUSS University School of Advanced Studies in Pavia
2020 - now	Coordinator of the National Doctorate in Sustainable Development and Climate Change, 60 affiliated Italian universities (www.phd-sdc.it)

Previous academic positions

2018 - 2023	Director of the Department of Science, Technology and Society at the IUSS University of Pavia
2017 - 2018	Director of the Risk and Treatment of Uncertainties Area at the IUSS University of Pavia
2017 - 2021	Associate Professor (II Fascia) in Hydraulic, Maritime and Hydrological Constructions (SSD ICAR/02) at the IUSS University of Pavia
2014 - 2017	Reseacher in Hydraulic, Maritime and Hydrological Constructions (SSD ICAR/02) at the IUSS University of Pavia
2010 - 2012	Research Fellow (research collaboration contract) in Flood Risk Modelling funded by the Willis Research Network (UK) at the University of Bologna

Training

2001 -	PhD in Physical Modelling for Environmental Protection at the University of Bologna
1999 -	Master's degree in Loss Adjustment and Risk Engineering at CINEAS (Consorzio universitario INgegneria nelle ASsicurazioni), Politecnico di Milano
1995 -	Degree with honours in Environmental and Civil Engineering, University of Bologna
1990 -	Classical high school diploma 60/60 at Liceo Ginnasio Benedetto Marzolla in Brindisi

Professional qualification

2001	Certification as a professional engineer

Research activities

International research projects (last 5 years)

2022 -	Local Unit Coordinator for the project "MEDIATE - Multi-hazard and risk informed system for Enhanced local and regional Disaster risk management" funded by the European Commission, Horizon Europe
2019 - 2021	Coordinator of the Project 'SMART - A Statistical, Machine Learning Framework for Parametric Risk Transfer' funded by the World Bank and the UK Department of International Development
2017 - 2018	Coordinator of the Project "Risk Appetite Index based on Machine Learning Techniques, RATIONAL" funded by Allianz Global Corporate Solution, Munich (D)
2017 - 2021	Member of the Research Group of the project 'HBM4EU, coordinating and advancing human biomonitoring in Europe' European Commission's Horizon 2020 Programme, (https://www.hbm4eu.eu)

National research projects (last 5 years)

2023 - now	Co-ordinator of the Department of Excellence programme 'Risk-based design of infrastructure' (6.5 Mln€) funded by the Ministry of University and Research
2020 -	Coordinator of the 'National Doctorate in Sustainable Development and Climate Change' project (28 Mln€) funded by the Ministry of University and Research, 52 Italian universities, 3 public research organisations and 16 companies.
2020 - 2023	Scientific Responsible for the "Programme of interventions for economic recovery" for the construction of a High Performance Computer Data Centre at the IUSS Pavia (3.4 Mln€) funded by the Lombardy Region
2020 - 2021	Coordinator of the project 'Climate change impact in economy', financed and in agreement with IRPET - Istituto Regionale per la Programmazione Economica della Toscana
2019 - 2023	Research Unit Coordinator in the Project "NOCTUA Landscape monitoring. For Everyone. From space" (10 Mln€) funded by the Lombardy Region
2019 - 2021	Head of Research Unit for the Project "Flood risk assessment for the Po River" (350 k€) funded by and in agreement with the Po River Basin District Authority and in agreement with 12 other Italian Universities.
2019 - 2021	Head of Research Unit in the Project "RIDES-IDRO Risk-based design of hydraulic works for flood risk mitigation" (220 k€) funded by the Ministry of Environment
2018 - 2021	Head of Research Unit of the Project "NEWFRAME NEtWork-based Flood Risk Assessment and Management of Emergencies" (180 k€) funded by the CARIPLO Foundation
2018 - 2023	Member of the coordination committee of the 'Departments of Excellence' Project and member of the research group for research line 1 for the development of a holistic approach for risk and resilience assessment of critical infrastructures (6.25 Mln€) Ministry of Education and Research
2017 - 2020	Scientific responsible for the Project "DERRIS - Disaster Risk Reduction"(1.7 Mln€) EU LIFE Programme, (http://www.derris.eu)

Research activities at international universities and institutes (last 5 years)

2017 -	Visiting professor at the Department of Mathematics at the University of Exeter, host Prof. David Stephenson.

Associations

2010 - now	Member of the American Geophysical Union
2009 - now	Founding member of the Italian Hydrological Society
2005 - now	Member of the European Geophysical Union
2001 - now	Order of Engineers of the Province of Bologna (section university teachers)

Teaching activities

Teaching on undergraduate courses at IUSS (last 5 years)

2014/15 - 2018/19	Catastrophic models for the analysis of natural hazards (25 hours), IUSS Pavia

Ratings based on students' opinions were always > 8.5 out of 10 or equiv.

Teaching at master courses (last 5 years)

2017/18 - now	Hydrological Risks (6 CFU), Master's degree course in Civil Engineering for Risk Mitigation from Natural hazards, University of Pavia

Ratings based on students' opinions were always > 8.5 out of 10 or equiv.

Teaching on doctoral courses (last 5 years)

2016/17 - 2017/18	Near real-time natural disaster loss estimation (30 hours), PhD in Understanding and Managing Extreme Situations, IUSS Pavia

Ratings based on students' opinions were always > 8.5 out of 10 or equiv.

Other teachings (last 5 years)

2019 - now	Lecturer of the course Hydro-Meteo-Geological Risks, Master in Infrastructure Risk Management, Cineas - University Consortium of Engineering in Insurance
2004 - now	Lecturer in the course Estimation of Losses from Catastrophic Events (8 hours), Master in Loss Adjustment Advanced, Cineas - University Consortium of Engineering in Insurance
2021 - now	NatCat course lecturer, Pandemics and Climate Change (8 hours), Master in Expert Claims Management, Cineas - University Consortium of Engineering in Insurance
2020	Course lecturer Climate Risk for AIG Insurance Academy
	Lecturer in the course Meteo-Hydro-Geological Risks (8 hours), training course for HDI Assicurazioni
2019	Lecturer in the Multi-hazard Multi risk course (24 hours), training course for Civil Protection organised by the Eucentre Foundation
2018	Lecturer of the course Property risks: insurance against natural disasters (30 hours), training course for AXA Assicurazioni

Supervision of theses

2014 - now	12 doctoral theses and 30 master's theses.

Institutional activities and assignments

Institutional appointments at the IUSS University School of Advanced Studies in Pavia

2023 - now	Pro-rector for International Relations
2021 - now	Coordinator of the Faculty Board of the National PhD in Sustainable Development and Climate Change
2014 - now	Member of the Faculty Board of the International PhD in Understanding and Managing Extreme Situations and Head of the Hydro-geo-meteorological Hazards Curriculum
2020 -	Member of the Quality Assurance Commission
2019 - 2023	Member of the Scientific Coordinating Committee of the 'Centre for Climate Change and Sustainable Actions' of the Federation of Higher Schools (IUSS Pavia, Scuola Normale di Pisa and Scuola Sant'Anna di Pisa)
2018 - 2023	Director of the Department of Science, Technology and Society
2018 - 2023	Member of the Academic Senate
2018 - 2023	Chairman of the School Planning Committee

2017 - 2018	Coordinator of the School's Scientific Areas
2017 - 2018	Head of the Uncertainty Treatment and Risk Assessment Area at the Scuola Universitaria Superiore IUSS Pavia

Institutional appointments in other bodies

2020	Member of the 'Data-Driven Working Group for COVID-19 Emergency' appointed by the Ministry for Technological Innovation and Digitisation

Acknowledgements

2021	Winner of the G20 Techsprint 2021 award from the Bank of Italy and the Innovation Hub of the Bank of International Regulation for the category 'Analysis and assessment of transition and physical climate-related risks'.
2018 - now	Honorary Associate Professor in the Department of Engineering, Mathematics and Physics, University of Exeter (UK)

Publications

Journal articles (peer-review last 5 years)

1. Arosio M, Arrighi C, Bonomelli R, Domeneghetti A, Farina G, Molinari D, Monteleone B, Scorzini AR, Martina M. Unveiling the assessment process behind an integrated flood risk management plan. International Journal of Disaster Risk Reduction. 2024 Oct 1;112:104755.
2. Figueiredo R, Rangel-Parra R, Bussi G, Ceresa P, Coccia G, Martina ML. A semi-quantitative multi-hazard risk assessment framework for European coastal urban areas. Geomatics, Natural Hazards and Risk. 2024 Dec 31;15(1):2378994.
3. Mojtahedi F, Ahelegbey DF, Martina M. Modeling interdependence between climatic factors, commodities, and financial markets. Heliyon. 2024 Sep 15;10(17).
4. Cesarini L, Gonçalves R, Martina M, Romão X, Monteleone B, Pereira FL, Figueiredo R. Comparison of deep learning models for milk production forecasting at national scale. Computers and Electronics in Agriculture. 2024 Jun 1;221:108933.
5. Monteleone, B., Borzì, I., Arosio, M., Cesarini, L., Bonaccorso, B., & Martina, M., Modelling the response of wheat yield to stage-specific water stress in the Po Plain. Agricultural Water Management, 287, 108444, 2023
6. Monteleone, B., Giusti, R., Magnini, A., Arosio, M., Domeneghetti, A., Borzì, I., Martina, M. L., Estimations of Crop Losses Due to Flood Using Multiple Sources of Information and Models: The Case Study of the Panaro River. Water, 15(11), 1980, 2023
7. Monteleone, B., Borzì, I., Bonaccorso, B., Martina M., Quantifying crop vulnerability to weather-related extreme events and climate change through vulnerability curves. Nat Hazards 116, 2761-2796, 2023
8. Bateni, M.M., Martina, M.L.V. & Arosio, Multivariate return period for different types of flooding in city of Monza, Italy. Nat Hazards 114, 811-823, 2022
9. Monteleone B, Borzì, Bonaccorso B, Martina M., Developing stage-specific drought vulnerability curves for maize: the case study of the Po River basin, Agric Water Manage 269(107):713, 2022
10. Cesarini, L., Figueiredo, R., Romão, X., Martina, M., Exposure modelling of transmission towers using street-level imagery and a deep learning object detection model. In Proceedings of the International Conference on Natural Hazards and Infrastructure, 2022
11. Arosio, M., Cesarini, L., & Martina, M. L., Assessment of the Disaster Resilience of Complex Systems: The Case of the Flood Resilience of a Densely Populated City. Water, 13(20), 2830, 2021.
12. Arosio, M., Arrighi, C., Cesarini, L., & Martina, M. L. V., Service accessibility risk (SAR) assessment for pluvial and fluvial floods in an urban context. Hydrology, 8(3), 142, 2021
13. Cesarini, L., Figueiredo, R., Monteleone, B., Martina, M.L.V., The potential of machine learning for weather index insurance. Natural Hazards And Earth System Sciences, vol. 21, p. 2379-2405, ISSN: 1684-9981, doi: 10.5194/nhess-21-2379-2021, 2021
14. Vecere, A., Martina, M.L.V., Monteiro, R., Galasso, C., Satellite precipitation-based extreme event detection for flood index insurance. International Journal Of Disaster Risk Reduction, vol. 55, ISSN: 2212-4209, doi: 10.1016/j.ijdrr.2021.102108, 2021
15. Monteleone, B., Bonaccorso, B., Martina, M.L.V., A joint probabilistic index for objective drought identification: the case study of Haiti. Natural Hazards And Earth System Sciences, vol. 20, p. 471-487, ISSN: 1561-8633, doi: 10.5194/nhess-20-471-2020, 2020

16. Galuppini, G., Quintilliani, C., Arosio, M., Barbero, G., Ghilardi, P., Manenti, S., Petaccia, G., Todeschini, S., Ciaponi, C., Martina, M.L.V., et al. A unified framework for the assessment of multiple source urban flash flood hazard: The case study of Monza, Italy. Urban Water J., 17, 35-77, 2020
17. De Waele, J., Picotti, V., Martina, M.L.V., Brook, G., Yang, L., Forti, P., Holocene evolution of halite caves in the Cordillera de la Sal (Central Atacama, Chile) under different climate conditions. Geomorphology, vol. 370, ISSN: 0169-555X, doi: 10.1016/j.geomorph.2020.107398, 2020
18. Arosio, M., Martina, M.L.V., Creaco, E., Figueiredo R., Indirect Impact Assessment of Pluvial Flooding in Urban Areas Using a Graph-Based Approach: The Mexico City Case Study. WATER, vol. 12, ISSN: 2073-4441, doi: 10.3390/w12061753, 2020
19. Arosio, M., Martina, M.L. V., Figueiredo, R. , The whole is greater than the sum of its parts: a holistic graph-based assessment approach for natural hazard risk of complex systems. Natural Hazards And Earth System Sciences, vol. 20, p. 521-547, ISSN: 1684-9981, doi: 10.5194/nhess-20-521-2020, 2020
20. Dell'Acqua, F., Iannelli, G.C., Torres, M.A., Martina, M.L.V., A Novel Strategy for Very-Large-Scale Cash-Crop Mapping in the Context of Weather-Related Risk Assessment, Combining Global Satellite Multispectral Datasets, Environmental Constraints, and In Situ Acquisition of Geospatial Data. Sensors, 18(2), 591, https://doi.org/10.3390/s18020591, 2018
21. Figueiredo, R., Martina, M.L., Stephenson, D.B. and Youngman, B.D, A Probabilistic Paradigm for the Parametric Insurance of Natural Hazards. Risk Analysis, 38:11, pp 2400-2414, https://doi.org/10.1111/risa.13122, 2018
22. Figueiredo, R., Schröter, K., Weiss-Motz, A., Martina, M. L. V., and Kreibich, H.: Multi-model ensembles for assessment of flood losses and associated uncertainty, Natural Hazards And Earth System Sciences, 18, 1297-1314, https://doi.org/10.5194/nhess-18-1297-2018, 2018.

Scopus 43 publications, 1154 Citations, 18 H-index

Web of Science 34 publications, 1122 Citations, 17 H-Index

Google Scholar 54 publications, 1920 Citations, 21 H-Index

Other skills

Language skills

Italian, mother tongue.

English, fluent spoken and written

Computer skills

Various applications for writing and teaching (MS-office), various programming languages (R, Python, Matlab), various applications for hydraulic and hydrological modelling.

Pavia, 10 January 2025

Mario Martina

mario lloyd virgilio martina
10.01.2025 12:18:39 GMT+02:00