Luciano Pavesi

he/him

PhD, Flood Modeller/ Civil Engineer

Personal info

- ✳ 08 June 1996
- ✉ luciano.pavesi.609286@uniroma2.eu
- in /luciano-pavesi
- ⦿ Rome, Italy

Skills

- **</>** **Coding:** Matlab, Python, PyQGIS, Mathematica, R
- ≋ **Hydrological-Hydraulic Models: RESCUE (Author)**, HEC-RAS, HEC-HMS, SWMM, IBER 2D, MODFLOW, EPANET, FLOW-3D
- 🌐 **Geospatial:** QGIS, ArcGIS Pro, Google Earth Engine, Autocad, Arc Gis Enterprise, Custom Web Gis application (Java & Leaflet)
- ✎ **Writing and Presentations:** LaTeX, Word Excel , PowerPoint

Soft skills

- 👥 Teamwork, Collaboration, Leadership
- 💬 Communication, Presentation Skills
- 💡 Problem Solving, Critical Thinking
- 🕐 Time Management, Prioritization
- 💻 Adaptability, Learning Agility

Languages

- 🔤 Italian (Mother tongue)
- 🔤 English (Fluent)
- 🔤 Spanish (Fluent)

Work Experience

Post Doctoral researcher
University of Rome Tor Vergata

Jan 2025 – In progress

- Project title: *Geomorphological and hydrological-hydraulic models of large-scale hydraulic risk (MUR - PRIN 2022 - FLOOD@ROADS)*

Moody's RMS
Research Internship - London UK

May 2024 – Aug 2024

- Project title: *"The portrait of flood risk in Italy: Main drivers of change from 1870 to 2100"*
- Project Overview: Conducted a comprehensive study on the evolution of flood risk in Italy, focusing on the key drivers of flood risk from 1870 to 2100, including population growth, urbanization, and climate change. The study provided groundbreaking insights into how these factors interact, with a focus also on future projections of flood risk in Italy under climate change scenarios.
- Key Activities:
  - Applied the RESCUE-FR large-scale flood risk model, which I developed during my PhD, to analyze flood risk in Italy across both historical and future time periods.
  - Independently analyzed flood risk drivers and integrated population dynamics with climate models to assess flood risk over a 230-year period.
  - Led the statistical analysis and GIS-based spatial assessments, identifying key trends and insights regarding flood vulnerability.
  - Built projections of future flood risk under the Representative Concentration Pathway (RCP) 8.5 scenario, highlighting the dominance of climate change in shaping future flood risk.

Hydraulic bridge safety assessment
Occasional performance activity- Rome IT

Nov 2022 – Nov 2023

- Hydraulic risk inspection and assessment activities under the Fabre-ANAS agreement

Education

PhD Civil Engineering – Roma Tre University

Rome   Nov 2021 – Apr 2025

Subsidiary subject: Hydrology
In-depth study: Flood risk assessment on a large scale
Thesis title: Flood risk assessment on a large scale

Research Fellow – Roma Tre University

Rome   Oct 2020 – Oct 2021

Project subject: large scale inundation modeling

Master's Degree in Civil Engineering for Natural Risk Protection (Hydraulics) – Roma Tre University

Rome   Mar 2018 – Jul 2020

Grade: 110/110

Erasmus+ – Universidad Politécnica de Cartagena

Cartagena (ESP)   Sep 2018 – Jul 2019

Bachelor's Degree in Civil Engineering – Roma Tre University

Rome   Oct 2014 – Mar 2018

Publications

- Pavesi, L., Nardi, F., Amaddii, M., Amirehsan, C. B., Carboni, A., Castelli, F., ... Arrighi, C. (2025). Where floodwater meets mobility: A GIS approach to bridge risk and rerouting in the Flood@ Road project.

- Pavesi, L., Volpi, E., and Fiori, A. (2024). Flood risk assessment through large-scale modeling under uncertainty. Natural Hazards and Earth System Sciences Discussions, 2024, 1-22, https://nhess.copernicus.org/preprints/nhess-2024-114/

- Pavesi, L., Volpi, E., and Fiori, A. (2024). IL POTENZIALE DI RESCUE NELLA VALUTAZIONE DEL RISCHIO IDRAULICO SU LARGA SCALA, XXXIX Convegno Nazionale di Idraulica e Costruzioni Idrauliche (Extended Abstact)

- Pavesi, L., Volpi, E., and Fiori, A.: RESCUE a new physically-based large scale flood model, EGU General Assembly 2023, Vienna, Austria, 2428 Apr 2023, EGU23-1316, https://doi.org/10.5194/egusphere-egu23-1316,2023

- Pavesi, L., D'Angelo, C., Volpi, E., Fiori, A. (2022). RESCUE: UN MODELLO GEOMORFOLOGICO, IDROLOGICO-IDRAULICO SPEDITIVO PER LA MAPPATURA DELLE AREE INONDABILI SU LARGA SCALA, XXXVII Convegno Nazionale di Idraulica e Costruzioni Idrauliche (Extended Abstact)

- Pavesi, L., DAngelo, C., Volpi, E., and Fiori, A. (2022). RESCUE: A geomorphologybased, hydrologic-hydraulic model for large-scale inundation mapping. Journal of Flood Risk Management, 15(4), e12841. https://doi.org/10.1111/jfr3.12841

Conferences

- XXXIX National Conference on Hydraulics and Hydraulic Engineering
  Parma (IT)   Sep 2024

- The European Geosciences Union (EGU) General Assembly
  Vienna (AU)   Apr 2023

- XXXVIII National Conference on Hydraulics and Hydraulic Engineering
  Reggio Calabria (IT)   Sep 2022

Teaching Experiences

- Seminar at the Bachelor's Degree in Geological Sciences: "RAPID METHODS FOR DELINEATING FLOOD-PRONE AREAS AND ASSESSING LARGE-SCALE FLOOD RISK"
  Sapienza University of Rome (IT)   2023

- Seminar at the Master's Degree in Sustainable Coastal And Ocean Engineering COASTAL HYDROLOGY-COASTAL FLOWS: "Introduction to geomorphological models in a GIS environment"
  Roma Tre University (IT)   2023

- Seminar at the Master's Degree in Civil Engineering for Natural Risk Protection- Hydraulic Protection of the Territory: "Introduction to HEC-RAS calculation code"
  Roma Tre University (IT)   2022

Scientific Outreach

- Participated in the 2026 IAHS Academy at Eastern Institute of Technology, Ningbo, China (January 12-18, 2026), attending the short course "Advanced Hydrological Monitoring" instructed by Prof. Salvatore Manfreda
  Ningbo (CN)   January 2026

- Subject Matter Expert (Cultore della Materia) for Hydraulic Constructions, Urban Hydraulic Constructions, and Geodata and Hydroclimatic Risks courses at University of Rome Tor Vergata, ICAR02 sector
  Rome (IT)   September 2025

- Summer School - Runoff Predictions in Ungauged Basins (PUB): To learn methods of estimating runoff characteristics in the absence of local runoff observations
  Vienna (AU)   July 2023

- International Doctoral Summer School "EXTREMES IN WATER SCIENCE" WARREDOC
  Palermo (IT)   July 2022

- Generation of Runoffs and Vulnerability of Aquifers at MAKER FAIRE
  Rome (IT)   October 2022