

Giulia Evangelista

Hydraulic Engineer, Ph.D., currently Post-doc @ Politecnico di Torino



Age: 30 yo

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ResearchGate: <https://www.researchgate.net/profile/Giulia-Evangelista>

Research Experience

Vienna University of Technology (Austria), Institute of Hydraulic Engineering and Water Resources Management

Research topic: Non-linear flood attenuation effects of dams

Visiting Post-doc

May 2024

Politecnico di Torino (Italy), Dept. of Environment, Land and Infrastructure Engineering

Research topic: Assessment of hydrological and hydraulic hazard in small watersheds in Italy, with a focus on large infrastructures and river intersections

Post-doc

Mar 2024 - now

Politecnico di Torino (Italy), Dept. of Environment, Land and Infrastructure Engineering

Research topic: Support for the creation of a water infrastructure inventory in Italy

Research fellow

Nov 2023 – Mar 2024

University of Bristol (UK), Dept. of Civil Engineering

Research topic: Identification of dominant controls on basin response times in UK

Visiting Ph.D. Student

Feb 2023 – May 2023

Education

Politecnico di Torino (Italy), Dept. of Environment, Land and Infrastructure Engineering

Thesis: Flood hazard sensitivity on infrastructures in small ungauged watersheds

Final grade: Ph.D. degree *cum laude*

Ph.D. Student

Nov 2020 – Jan 2024

University of Palermo (Italy)

Summer School on Ecohydrology and Global Environmental Change

Participant

Jul 2023

University of Birmingham (UK)

Catchment Science Summer School

Participant

Aug 2022

Lake Como School of Advanced Studies (Como, Italy)

Summer School on quantitative approaches to soil system dynamics

Participant

Sep 2021

Politecnico di Torino (Italy)

Thesis: Methodological and numerical analysis of groundwater flows effects on shallow landslides, in the presence of topographical discontinuities

Final grade: 110/110

Master Student

Oct 2017 – Oct 2020

Università Politecnica delle Marche (Italy)

Thesis: An approach to develop a water distribution networks control system aimed at reducing hydraulic unavailability and leakages

Final grade: 103/110

Undergraduate Student

Sep 2013 – Jul 2017

Professional Experience

CINID (Consorzio Interuniversitario per l'IDrologia)

Update and revision of the hydraulic risk scenarios of the Mazzeno river (Noli, SV, Italy)

Consultant

Jun 2022 – Sep 2022

Hydrological studies for the purposes of hydraulic risk mitigation in Vezza d'Alba (CN, Italy)

Consultant

Oct 2021

Hydrological and hydraulic assessment and review of the Civil Protection planning tools for the town of Noli (SV, Italy) - [Civil Protection plan](#)

Consultant

Apr 2021 – Dec 2022

Teaching Experience

MSc course in Environmental Engineering, Politecnico di Torino (Italy)

Climatology & Hydrology

Teaching Assistant

2023-2024

MSc course in Environmental Engineering, Politecnico di Torino (Italy)

Operative Hydrology

Teaching Assistant

2022-2023

Transversal skills and Orientation Project, Politecnico di Torino (Italy)

Digital Tech for Natural Hazards

Tutor

2021-2022

MSc course in Environmental Engineering, Politecnico di Torino (Italy)
Civil Protection

Tutor
2021-2022

MSc course in Environmental Engineering, Politecnico di Torino (Italy)
Operative Hydrology

Tutor
2021-2022

Tutoring

Master Thesis in Civil Engineering, Politecnico di Torino (Italy)
Chiaro M. - Characterization of flood discharges in high-elevations basins in the Italian Alps

Co-supervisor
2023

Master Thesis in Civil Engineering, Politecnico di Torino (Italy)
Ruggeri C. – Empirical estimates of rational method annual runoff coefficients

Co-supervisor
2023

Master Thesis in Environmental Engineering, Politecnico di Torino (Italy)
Bogoni P. – Direct estimation of characteristic response times of Piedmont basins by using event analysis

Co-supervisor
2023

Master Thesis in Environmental Engineering, Politecnico di Torino (Italy)
Mcdowell M. - The influence of wildfires on the occurrence of shallow landslides and related triggering mechanisms

Co-supervisor
2023

Master Thesis in Environmental Engineering, Politecnico di Torino (Italy)
Demateis Raveri M. - Calibration of the FloodAlp model on basins in the north-western Alps
Awarded with the "Premio di Laurea Magistrale Andrea Gambi" on water resources management

Co-supervisor
2022

Research Projects

FRISBEE (National funding)
Flood pRediction In Small ungauged Basins of Italy through Enhanced runoff coefficient assessment
Topic: Runoff coefficient estimation through historical data and regionalization

Collaborator
Sep 2023 - now

RETURN (EU funding)
Multi-Risk sciEnce for resilienT commUnities undeR a changiNg climate
Topic: Hydrological hazard assessment over critical infrastructures

Collaborator
Apr 2023 - now

RESBA (EU funding)
RESilienza agli SBArramenti - RESiliencecesBArrages
Topic: Flood volumes estimation

Collaborator
Nov 2020

Project Reports

Lavalle L., Villani M.L., Patriarca T., Bazzurro N., Serale G., Cova P., Converso R., Delsoldato G., Piramide V., Ghillani A., Adorni M., De Giovanni M., Fiorini M., Freni G., Torregrossa M., Giovannini G., Mauro A., Agostini I., Ceresara M., Carpanese P., Saler E., Donà M., Badin L., Follador V., da Porto F., Claps P., Mazzoglio P., **Evangelista G.**, Cammarata G., Zani G., Lombardi M., Berardi D., Ridolfi E., De Girolamo P., Codato C., Toth E., Bragalli C. (2023). Inventory, Description and Classification of Interdependent Infrastructures and their Critical Assets. RETURN PNRR project Deliverable D6.2.1.

Publications

In preparation

1. **Evangelista, G.**, Demateis Raveri, M., Monforte, I., Claps, P. How design floods in mountain basins are likely to increase in a warming climate. **2024**.
2. **Evangelista, G.**, Mazzoglio, P., Ganora, D., Pianigiani, F., Claps, P. Features of the large Italian dams and their upstream catchments. **2024**.

Published/Accepted for publication

1. Claps, P., **Evangelista, G.**, Ganora, D., Mazzoglio, P., and Monforte, I.: FOCA: a new quality-controlled database of floods and catchment descriptors in Italy, *Earth Syst. Sci. Data*, 16, 1503–1522, <https://doi.org/10.5194/essd-16-1503-2024>, **2024**.
2. **Evangelista, G.**, Ganora, D., Mazzoglio, P., Pianigiani, F., Claps, P.: Flood attenuation potential of Italian dams: sensitivity on geomorphic and climatological factors. *Water Resour. Manag.*, 37, 6165–6181, <https://doi.org/10.1007/s11269-023-03649-z>, **2024**.
3. **Evangelista, G.**, Woods, R., Claps, P.: Dimensional analysis of literature formulas to estimate the characteristic flood response time in ungauged basins: a velocity-based approach, *J. Hydrol.*, 627, 130409, <https://doi.org/10.1016/j.jhydrol.2023.130409>, **2023**.
4. Demateis Raveri, M., **Evangelista, G.**, Monforte, I.: Taratura del modello FloodAlp su bacini dell'arco alpino nord- occidentale, *L'Acqua*, 4, 99-108, **2023** (in Italian).

- Ganora, D., **Evangelista, G.**, Cordero, S., Claps, P.: Design flood hydrographs: a regional analysis based on flood reduction functions, *Hydrol. Sci. J.*, 68(2), 325-340, <https://doi.org/10.1080/02626667.2022.2153051>, 2023 - Selected as HSJ Featured Article 2023.

Conference Proceedings

- Monforte, I.; **Evangelista, G.**; Claps, P. 2022. Flooding Risk from Global Warming in Alpine Basins: An Estimate along a Stream Network. Presented at the *International Conference EWAS5*, 12th-15th July 2022, Naples (Italy). In: Environmental Sciences Proceedings. <https://www.mdpi.com/2673-4931/21/1/22>
- Monforte, I., **Evangelista, G.**, Ganora, D., Mazzoglio, P., Claps, P. 2022. Nuovi open-data per nuove stime idrologiche alla scala di distretto. Il caso del Po. Presented at the *XXXVIII Convegno Nazionale di Idraulica e Costruzioni Idrauliche*, 4th-7th September 2022, Reggio Calabria (Italy). In: *Atti del XXXVIII Convegno Nazionale di Idraulica e Costruzioni Idrauliche* 2022. https://www.researchgate.net/publication/363846782_Nuovi_opendata_per_nuove_stime_idrologiche_alla_scala_di_distretto_Il_caso_del_Po
- Evangelista, G.**, Ganora, D., Cordero, S., Claps, P. 2022. Stime regionali di idrogrammi di piena da una nuova banca dati nel nord ovest italiano. Presented at the *XXXVIII Convegno Nazionale di Idraulica e Costruzioni Idrauliche*, 4th-7th September 2022, Reggio Calabria (Italy). In: *Atti del XXXVIII Convegno Nazionale di Idraulica e Costruzioni Idrauliche*. 2022. https://www.researchgate.net/publication/364328600_STIME_REGIONALI_DI_IDROGRAMMI_DI_PIENA_DA_UNA_NUOVA_BANCA_DATI_NEL_NORD_OVEST_ITALIANO
- Evangelista, G.**, Mazzoglio, P., Pianigiani, F. and Claps, P. 2022. Towards the assessment of the flood attenuation potential of Italian dams: first steps and sensitivity to basic model features. Presented at the *39th LAHR World Congress*, 19th-24th June 2022, Granada (Spain). In: *Proceedings of the 39th LAHR World Congress*. <https://www.iahr.org/library/infor?pid=21567>
- Evangelista, G.**, Barbero, M., Butera, I., Castelli, M., Claps, P., and Tamea, S. 2021. Calibrating soil cohesion and saturated conductivity in rainfall induced landslides in the Langhe area (1994). Presented at the *2nd LAHR Young Professionals Congress*, Online, 30th November-2nd December 2021. In: *Proceedings of the 2nd LAHR Young Professionals Congress*. <https://www.iahr.org/library/infor?pid=20555>

Conference Abstracts

- Evangelista, G.**, Ganora, D., Claps, P. 2024. Exploring the robustness of the Synthetic Flood Attenuation Index for large-scale flood hazard assessment. *9th International Junior Researcher and Engineer Workshop on Hydraulic Structures*, 20th June 2024, Zurich (Switzerland).
- Claps, P., **Evangelista, G.**, Ganora, D., Mazzoglio, P., Monforte, I. 2024. FOCA: a new quality-controlled collection of floods and catchment attributes in Italy. *EGU General Assembly 2024*, 14th-19th April 2024, Vienna (Austria). Abstract: <https://doi.org/10.5194/egusphere-egu24-12459>
- Woods, R., Yin, Y., **Evangelista, G.**, Claps, P., Giani, G., Zheng, Y., Coxon, G., Quaglia, R., Han, D., Rico-Ramirez, M. A fresh start for flood estimation in ungauged catchments. 2024. *EGU General Assembly 2024*, 14th-19th April 2024, Vienna (Austria). Abstract: <https://doi.org/10.5194/egusphere-egu24-1692>
- Evangelista, G.**, Woods, R., Claps, P. How to avoid unreliable formulas for time of concentration in ungauged basins. 2024. *EGU General Assembly 2024*, 14th-19th April 2024, Vienna (Austria). Abstract: <https://doi.org/10.5194/egusphere-egu24-1038>
- Ganora, D., **Evangelista, G.**, Mazzoglio, P., Claps, P. 2024. Hydrological models and datasets to support flood flow estimation at river-bridge intersections. *Ponti, viadotti, e gallerie esistenti: ricerca, innovazione e applicazioni*, 12th-15th February 2024, Genova (Italy).
- Evangelista, G.**, Ganora, D., Mazzoglio, P., Pianigiani, F., Claps, P. 2024. Key elements for a homogeneous flood hazard assessment on Large Dams in Italy. *RETURN Dissemination Workshop*, 1st-2nd February 2024, Torino (Italy) [poster presentation, available at: https://drive.google.com/file/d/19L-QWbL0HKW0eVLXY4R6XXjqidy_kS-r/view?pli=1].
- Claps, P., **Evangelista, G.**, Ganora, D., Mazzoglio, P., Monforte, I. 2024. The Italian FIOod and Catchment Atlas (FOCA). *RETURN Dissemination Workshop*, 1st-2nd February 2024, Torino (Italy) [poster presentation, available at: <https://drive.google.com/file/d/1SpZMOPcw0Gde-pIrGL2i2Of1WY4HwS/view>].
- Claps, P., **Evangelista, G.**, Ganora, D., Mazzoglio, P., Monforte I. 2023. FOCA: FIOod and Catchment Atlas for 631 gauged watersheds in Italy. *AGU Annual Meeting 2023*, 11th-15th December 2023, San Francisco (US) [poster presentation]. <https://agu.confex.com/agu/fm23/meetingapp.cgi/Paper/1379495>
- Evangelista, G.**, Demateis Raveri, M., Monforte, I., Claps, P. 2023. How global warming can modify hydrological extremes in the Italian Alps. *AGU Annual Meeting 2023*, 11th-15th December 2023, San Francisco (US). <https://agu.confex.com/agu/fm23/meetingapp.cgi/Paper/1381628>
- Evangelista, G.**, Demateis Raveri, M., Monforte, I., Claps, P. 2023. Flood risk in the Alps: implications of rainfall and temperature variations on hydrological extremes. *SISC (Società Italiana per le Scienze del Clima) 11th Annual Conference*, 22nd-24th November 2023, Milan (Italy) [poster presentation].
- Evangelista, G.**, Claps, P., Barbero, M., Castelli, M. 2023. A simple procedure to calibrate soil parameters for slope stability modelling: the Langhe (1994) case study. *6th World Landslide Forum*, 14th-17th November 2023, Florence (Italy). Abstract: https://www.researchgate.net/publication/375672694_A_simple_procedure_to_calibrate_soil_parameters_for_slope_stability_modelling_the_Langhe_1994_case_study
- Claps, P., **Evangelista, G.**, Ganora, D., Mazzoglio, P., Monforte, I. 2023. FOCA (Italian FIOod and Catchment Atlas): l'atlante italiano delle piene e dei descrittori dei bacini idrografici. *Giornate dell'idrologia della Società Idrologica Italiana 2023*, 13th-15th September 2023, Matera (Italy).
- Evangelista, G.**, Ruggeri, C., Claps, P. 2023. Stima dei coefficienti di deflusso in piccoli bacini italiani mediante l'uso di dati storici. *Giornate dell'idrologia della Società Idrologica Italiana 2023*, 13th-15th September 2023, Matera (Italy).
- Evangelista, G.**, Ganora, D., Mazzoglio, P., Pianigiani, F., Claps, P. 2023. Sensitivity of Italian dams' flood mitigation capacity to the combined effect of morphological and climatological factors. *LAHS-AISH Scientific Assembly 2023*, 12th-16th July 2023, Berlin (Germany). Abstract: <https://c-in.floq.live/event/iugg2023berlin/search?objectClass=timeslot&objectId=649483f664c73802ac745ec5&type=detail>

15. **Evangelista, G.**, Monforte, I., Demateis Raveri, M., Claps, P. **2023**. Relationship between rainfall and flood frequency curves in high elevation areas. *EGU General Assembly 2023*, 24th-28th April 2023, Vienna (Austria). Abstract: <https://doi.org/10.5194/egusphere-egu23-16657>
16. Claps, P., **Evangelista, G.**, Mazzoglio, P. **2022**. Nubifragi “anomali” da Bitti (2020) a Cantiano (2022) e spunti per un ripensamento delle fasi di prevenzione e protezione. *Giornate dell'idrologia della Società Idrologica Italiana 2022*, 9th-11th November 2022, Genova (Italy). Abstract: https://www.researchgate.net/publication/365852720_Nubifragi_anomali_da_Bitti_2020_a_Cantiano_2022_e_spunti_per_un_ripensamento_delle_fasi_di_previsione_e_prevenzione
17. **Evangelista, G.**, Mazzoglio, P., Pianigiani, F., Claps, P. **2022**. Primi passi verso la valutazione del potenziale di laminazione delle grandi dighe italiane. *Giornate dell'idrologia della Società Idrologica Italiana 2022*, 9th-11th November 2022, Genova (Italy). Abstract: https://www.researchgate.net/publication/365852670_Primi_passi_verso_la_valutazione_del_potenziale_di_laminazione_delle_grandi_dighe_italiane
18. **Evangelista, G.**, Claps, P. **2022**. Dimensional analysis and intercomparison of the basin time of concentration formulas. *EGU General Assembly 2022*, 23rd-27th May 2022, Vienna (Austria). Abstract: <https://doi.org/10.5194/egusphere-egu22-471>
19. Claps, P., Brunetto, M., **Evangelista, G.**, Mazzoglio, P., Monforte, I. **2022**. FaBI: A new collection of flood data and attributes of basins in Italy. *EGU General Assembly 2022*, 23rd-27th May 2022, Vienna (Austria). Abstract: <https://doi.org/10.5194/egusphere-egu22-5563>
20. Monforte, I., **Evangelista, G.**, Claps, P. **2022**. Along-stream assessment of mountain flood dependence on global warming. *SnowHydro 2022, 3rd International Conference on snow hydrology*, 31st January-3rd February 2022 [online].
21. **Evangelista, G.**, Barbero, M., Butera, I., Castelli, M., Claps, P., and Tamea, S. **2021**. Parameter's calibration in rainfall induced landslides in the Langhe area (1994), *EGU General Assembly 2021*, 3rd-8th April 2021 [online]. Abstract: <https://doi.org/10.5194/egusphere-egu21-10999>

Talks and Other Presentations

1. **Evangelista, G.**, Ganora, D., Mazzoglio, P., Pianigiani, F., Claps, P. **2024**. Efficacia delle grandi dighe italiane nella mitigazione delle portate di piena. In: *Opere idrauliche e territorio: importanza, obsolescenza, adattamento*, 22nd March 2024, Torino (Italy) [poster presentation].
2. Claps, P., **Evangelista, G.**, Mazzoglio, P. **2024**. Cambiamento climatico e rischio idrogeologico: indicazioni tecniche e direzioni di approfondimento. In: *Dall'emergenza alla cultura della prevenzione: la centralità del rischio idrogeologico per la gestione del territorio*, 6th February 2024, Torino (Italy).
3. Claps, P., **Evangelista, G.**, Demateis Raveri, M. **2023**. Alluvioni nelle Alpi in tempi di riscaldamento globale. In: *Le Azioni del Politecnico e del Territorio per la Crisi Climatica*, 13th October 2023, Torino (Italy) [poster presentation].
4. Claps, P., **Evangelista, G.**, Mazzoglio, P. **2023**. Caratteristiche statistiche e idrologiche di recenti eventi alluvionali significativi e possibili risposte della Missione 4.2 del PNRR. In: *Eventi estremi nell'ambito dei cambiamenti climatici – Le conseguenze idrologiche ed idrauliche*, 21st September 2023, Bergamo (Italy).
5. Claps P., **Evangelista G.**, Mazzoglio P. **2023**. Coherence vs. Novelty: which directions towards rainstorm and flood hazard assessment for the Infrastructures in Italy? Insights from the RETURN project. In: *International Workshop “Novel concepts for the mitigation of flood and drought risk – Science progress and engineering practice”*, 11th September 2023, Bologna (Italy).
6. **Evangelista, G.**, Woods, R., Claps, P. **2023**. Valutazione della robustezza di formule di letteratura per la stima del tempo di risposta caratteristico di bacino: analisi dimensionale basata sulle velocità medie. In: *PhD Days del Gruppo Italiano di Idraulica*, 11th-12th September 2023, Matera (Italy) [poster presentation].
7. Claps, P., Ganora, D., **Evangelista, G.** **2023**. Considerazioni sulla pubblicazione dei dati disponibili. In: *Workshop “Linee guida per la ricostruzione degli idrogrammi di piena massimi annui”*. ITCOLD, 21st March 2023, Milano (Italy).
8. **Evangelista, G.** **2023**. (Re)Discovering empirical formulas to estimate the watershed response time. In: second webinar of the “Gotta catch'em all – A catchment by catchment hydrological adventure” serie organized by BHS, YHS, YHS-IT and EGU-HS, 21st February 2023 [online].

Invited talks

1. Podcast interview, *A Climate of Change*, 13th March 2024 [online].
2. IAHR Italy Young Professional coffee breaks, 20th June 2023 [online].

Community involvement

Frontiers in Earth Science
Water Resources Research
Water
Hydrology

Reviewer

Updated: July 2024