MELISSA LATELLA

DoB: 19 April 1994 (Italy)
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Environmental Engineer and Postdoctoral Researcher investigating: (1) how water, vegetation and sediments interact across rivers, watersheds and coastal environments, and (2) the use of field and remote sensing data for monitoring and modelling natural systems. Fluent in English. Excellent teamwork and communication skills.

PROFESSIONAL EXPERIENCE

2023 - now **Post-doctoral Researcher**
Centro Euromediterraneo Cambiamenti Climatici (CMCC), Impacts on Agriculture, Forests and Ecosystem Services (IAFES).
Research topics: soil erosion; SDGs indicators; remote sensing; satellite images.

2022 - 2023 **Research Fellow**
Politecnico di Torino – Department of Environment, Land and Infrastructure Engineering (DIATI), Turin, Italy.
- Research Topic: fluvial hydraulics; river restoration; vegetation monitoring.

2018 - 22 **PhD Civil and Environmental Engineering (XXXIV cycle)**
Politecnico di Torino – Department of Environment, Land and Infrastructure Engineering (DIATI), Turin, Italy.
- Main Activities: (i) conducting scientific research; (ii) presenting the research outcomes at national and international conferences; (iii) writing scientific articles for international peer-reviewed journals; (iv) performing field surveys.

TEACHING EXPERIENCE

2022 Teaching assistant, Politecnico di Torino, with Prof. Luca Ridolfi. BSc course: *Hydraulics*.
2022 Teaching assistant, Politecnico di Torino, with Prof. Carlo Camporeale. MSc course: *River engineering and restoration.*
2021 Teaching assistant, Politecnico di Torino, with Prof. Carlo Camporeale. MSc course: *River hydraulics*.
2018 Student tutor, Politecnico di Torino, with Prof. Marina Pirulli. MSc course: *Slope stability*.
2017 Student tutor, Politecnico di Torino, with Prof. Elena Comino. BSc course: *Applied ecology*.

PROJECTS

2023 - now **EO4EU - AI-augmented ecosystem for Earth Observation data accessibility with Extended reality User Interfaces for Service and data exploitation**
European Commission funded innovation project. Role: researcher.

2023 - now **SDGs-EYES - Sustainable Development Goals - Enhanced monitoring through the family of copErnicus Services**
HORIZON.2.4.10 - Space, including Earth Observation. Role: researcher.

2022 - now **RITA – Risposta Impatti Tempesta Alex (Response to Alex storm's impacts)**
Interreg ALCOTRA project funded by FESR and Fondo di rotazione statale. Role: researcher/advisor.

2021-22 **CONVERGES – European Riparian Ecosystems**
European Cooperation in Science and Technology (COST)-Action funded by the EU. Role: participant.

EDUCATION

2018 – 22 **PhD Civil and Environmental Engineering (XXXIV cycle)**
Politecnico di Torino, Italy.
- Thesis: Integrated approaches for monitoring and modeling vegetation in riparian and coastal environments.
- Grade: Excellent Cum Laude

2021 **Visiting PhD student**
Deltares, The Netherlands.
- Research Topic: Modelling meander chute cut-off mechanisms in gravel-bed rivers.

2017 – 18 **Diploma Alta Scuola Politecnica (certification)**
Politecnico di Milano, Italy -- Politecnico di Torino, Italy.
- Thesis: Metropolitan Approach for Rio de Janeiro Food and Water Policy.

2016 – 18 **Double Degree: MSc. Environmental And Land Planning Engineering**
Politecnico di Milano, Milan, Italy -- Politecnico di Torino, Turin, Italy.
- Thesis: Calibration of a stochastic model for riparian vegetation dynamics from LiDAR acquisitions.
- Grade: 110/110 Cum Laude

2017 **Visiting MSc. student - Erasmus E+/EU Programme Countries**
Kungl. Tekniska Högskolan (KTH - Royal Institute of Technology), Sweden.
- Courses: Planning for resilience; Applied Hydrogeology; Tunneling; Modelling of Water Systems.

2013 - 16 **BSc. Environmental and Land Engineering**
Politecnico di Torino, Italy.
- Thesis: Passaggi artificiali per ittiofauna: analisi del comportamento idraulico-biologico [in Italian].
- Grade: 110/110 Cum Laude

OTHER CERTIFICATIONS

2021 **Training courses (24 CFU) for admission to public exams to teach** (anthropology, psychology, didactics)
University of Turin, Italy.

2020 **Engineer Profession - Sector Civil and Environmental Engineering** (Section A, according to the Italian Law)
Politecnico di Torino, Italy.

2018 **Professional qualification: Occupational Health and Safety** (according to the Italian Law Decree 81/2008)

Politecnico di Torino, Italy.

2011 **Music certification: Theory and solfeggio**
Conservatorio Niccolò Paganini, Genova, Italy.

2011 **European Computer Driving Licence (ECDL)**
AICA - Associazione Italiana per l'Informatica ed il Calcolo Automatico, Italy.

LANGUAGES

Language	Listening	Reading	Writing	Speaking	Certification
Italian (mother tongue)	/	/	/	/	/
English	C1	C1	C1	C1	IELTS 7.5 (March 10th, 2018)
Spanish	A2	A2	A2	A2	Ongoing

COMMUNITY INVOLVEMENT

Peer-Reviewer
Elsevier, MDPI, Frontiers, Current World Environment.
Member of national and international organizations
AIAT *(Italian ass. for environmental engineers)* since 2016; EGU *(European Geosciences Union)* since 2019; IAHR *(International Ass. for Hydro-Environment Engineering and Research)* since 2020; IAHR-YPN *(Young Professional Network)* since 2021.

2023 - now **President of the IAHR Italy Young Professional Network**
International Association for Hydro-Environment Engineering and Research (IAHR)

2022- now **Member of the leadership team of the working group on Nature-Based solutions**
International Association for Hydro-Environment Engineering and Research (IAHR)

2020 - 22 **Volunteer Research & Engineering Project Leader**
Save the Water™ , Florida, US (remote).

2020 - 21 **Volunteer & Representative of volunteers in the metropolitan area of Torino**
Life project VisPO – Volunteering Initiative for Sustainable PO, Turin, Italy.

HONOURS and AWARDS

2023 **PhD thesis Quality Award,** *Politecnico di Torino.*
2022 **GEAM high-quality publication,** *Associazione Georisorse e Ambiente (GEAM), Politecnico di Torino.*
2022 **John F. Kennedy Student Paper Competition (finalist),** *International Ass. for Hydro-Environment Engineering and Research (IAHR).*
2022 **Travel Award,** *MDPI – forests.*
2022 **Best Reviewer of the Month – January 2022,** *Current World Environment Journal.*
2021 **Gerhard Jirka Award for Young Researchers (2nd place),** *International Ass. for Hydro-Environment Engineering and Research (IAHR).*
2020 **PROM - International Scholarship Exchange of Doctoral Students and Academic Staff,** *Institute of Geophysics Polish Academy of Sciences, Warsaw, Poland.*
2013 **Gherzi best student award,** *Comune di Sanremo, Italy.*

PUBLICATIONS IN INTERNATIONAL JOURNALS

6. Latella, M., Raimondo, T., Belcore, E., Salerno, L., and Camporeale, C. (2022), On the integration of LiDAR and field data for riparian biomass estimation. Journal of Environmental Management, 322, 116046. https://doi.org/10.1016/j.jenvman.2022.116046

5. Rodríguez González, P. M., Abraham, E., … **Latella, M.**, … et al. (64 authors) (2022), Bringing the margin to the focus: 10 challenges for riparian vegetation science and management. WIREs Water, 9(5), e1604. https://doi.org/10.1002/wat2.1604

4. Belcore, E., & **Latella, M.** (2022). Riparian ecosystems mapping at fine-scale: a novel approach based on multi-temporal UAV photogrammetric point clouds. Remote Sensing in Ecology and Conservation. https://doi.org/10.1002/rse2.267

3. Latella, M., Luijendijk, A., Moreno-Rodenas, A. M., and Camporeale, C. (2021). Satellite image processing for the coarse-scale investigation of sandy coastal areas. Remote Sensing, 13(22), 4613. https://doi.org/10.3390/rs13224613

2. Latella, M., Sola, F., and Camporeale, C. (2021). A Density-Based Algorithm for the Detection of Individual Trees from LiDAR Data. Remote Sensing, 13(2), 322. https://doi.org/10.3390/rs13020322

1. Latella, M., Bertagni, M. B., Vezza, P., and Camporeale, C. (2020). An integrated methodology to study riparian vegetation dynamics: From field data to impact modeling. Journal of Advances in Modeling Earth Systems, 12, e2020MS002094. https://doi.org/10.1029/2020MS002094

TECHNICAL REPORTS

2. Berends, K., Spruyt, A., Dijkstra, J., and **Latella, M.** (2022) State of the art and research trends in fluvial vegetation resistance modelling, Deltares (11208033-018-ZWS-0002).

1. Camporeale, C., Laio, F., Vezza, P., and **Latella, M.** (2022) Attività di supporto tecnico scientifico alla progettazione esecutiva di opere di gestione dei sedimenti del torrente Orco. Consulenza Tecnica - Piano di Monitoraggio, Politecnico di Torino.

CONFERENCES and MEETINGS

Refereed Conference Proceedings

9. Latella, M., Raimondo, T., and Camporeale, C., Estimating riparian vegetation geometry and biomass from LiDAR point clouds, Proceedings of the 39th IAHR World Congress, Vol. 19, p. 24, 19-24 June 2022, Granada, Spain.

8. Latella, M., Notti, D., Baldo, M., Giordan, D., and Camporeale, C., Investigating the short-term ecomorphological evolution of a gravel-bed river, *EGU General Assembly Conference*, 23-27 May 2022, Vienna, Austria. https://doi.org/10.5194/egusphere-egu22-9159

7. Latella, M., and Camporeale, C., Forzanti stocastiche e sviluppo della vegetazione costiera, *IDRA2020 - XXXVII Convegno Nazionale di Idraulica e Costruzioni Idrauliche*, 14-16 June 2021, Reggio Calabria, Italy [in Italian].

6. Latella, M., Bertagni, M. B., Vezza, P., and Camporeale, Approccio integrato per la modellazione della vegetazione riparia, *IDRA2020 - XXXVII Convegno Nazionale di Idraulica e Costruzioni Idrauliche*, 14-16 June 2021, Reggio Calabria, Italy [in Italian].

5. Latella, M., Luijendijk, A., and Camporeale, C., Regional-scale analysis of dune-beach systems using Google Earth Engine, *EGU General Assembly Conference*, 19-30 April 2021, Vienna, Austria. https://doi.org/10.5194/egusphere-egu21-12923
4. Camporeale, C., **Latella, M.**, and Sola, F., Density-based individual tree detection from three-dimensional point clouds, *EGU General Assembly Conference*, 19-30 April 2021, Vienna, Austria. https://doi.org/10.5194/egusphere-egu21-15628
3. Latella, M., and Camporeale, C., Role of stochastic forcing in coastal dune vegetation, *6th IAHR Europe Congress 2020*, 15-18 February 2021, Warsaw, Poland.
2. Latella, M., Bertagni, M. B., Vezza, P., and Camporeale, C., An integrated methodology for the riparian vegetation modelling, *6th IAHR Europe Congress 2020*, 15-18 February 2021, Warsaw, Poland.
1. Latella, M., Bertagni, M. B., Vezza, P., and Camporeale, C. V., Calibration of a stochastic model for riparian vegetation dynamics from LiDAR acquisitions, *EGU General Assembly Conference*, Vol. 21, 14859, 2019. EGU, 7-12 April 2019, Vienna, Austria.

Talks

6. **Latella, M.,** An integrated approach for monitoring and modelling vegetation in riparian and coastal environments, 9 January 2023, Invited seminar at Università di Genova, Italy.
5. Latella, M., Cicorello, S., and Camporeale, C. Calibrating ecomorphodynamic modelling with field data for short-term riparian simulations, *RIPA-1: First International Conference on Riparian Ecosystems Science and Management*, 6-7 April 2022, Bratislava, Slovakia.
4. Latella, M., From point clouds to vegetation biomass for riparian mapping and river modelling, *NCR December Lecture*, 15 December 2021, Netherlands Centre for River studies (NCR), Delft, Netherlands. https://vimeo.com/666738266
3. Salerno, L., **Latella, M.**, and Camporeale, C., Different uses of Google Earth Engine to study vegetation dynamics, *Google Earth Engine Networking And Workshop Day*, 8 April 2021, Società Italiana di Selvicoltura ed Ecologia Forestale (SISEF), Firenze, Italy.
2. Latella, M., Alberi e territorio: il ruolo dell'albero dai fiumi ai pendii [in Italian], *Life Project ViSPO*, 28-11-2020, Legambiente Piemonte e Valle d'Aosta ONLUS, Torino, Italy.
1. Latella, M., Sola, F., and Camporeale, C., Ecomorphodynamics applications of Delft3D Flexible Mesh, *Delft Software Days 2019*, 4-15 November 2019, Delft, The Netherlands.

I hereby authorize the use of my personal data in accordance with the GDPR 679/16 - "European regulation on the protection of personal data".
Torino, 01 March 2023