

**MATTEO CAMPORESE, PHD**

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Date of birth: July 30th, 1977

Nationality: Italian

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[https://www.researchgate.net/profile/Matteo\\_Camporese](https://www.researchgate.net/profile/Matteo_Camporese)

**QUALIFICATIONS**

Italian National Scientific Qualification for Full Professorship, 2018

Italian National Scientific Qualification for Associate Professorship, 2013

Ph.D. Environmental Engineering, University of Padova, Italy, 2006

Professional Engineer Licensure, University of Padova, Italy, 2002

BE/ME ("Laurea V.O.") Environmental Engineering, University of Padova, Italy, 2001

**MAJOR RESEARCH INTERESTS**

- Integrated surface-subsurface hydrological modelling
- Data assimilation and inverse modelling
- Ecohydrology

**ACADEMIC EMPLOYMENT**

October 2018 - present	Associate professor, University of Padova, Department of Civil, Environmental, and Architectural Engineering, Padova, Italy
February 2013 - January 2014	Research fellow, Monash University, Department of Civil Engineering, Clayton, Vic, Australia
April 2008 - September 2018	Assistant professor, University of Padova, Department of Civil, Environmental, and Architectural Engineering, Padova, Italy
November 2007 - March 2008	Research associate, University of Padova, Department of Hydraulic, Maritime, Environmental, and Geotechnical Engineering, Padova, Italy
November - December 2007	Visiting research associate, Institut National de la Recherche Scientifique, Centre Eau Terre Environnement (INRS-ETE), University of Quebec, Quebec City, Canada
April - September 2007	Temporary instructor in Water distribution and urban drainage systems, Faculty of Engineering, and Research assistant, Department of Hydraulic,

May 2006 – April 2007

Maritime, Environmental, and Geotechnical Engineering, University of Padova, Padova, Italy  
Postdoctoral researcher, Institut National de la Recherche Scientifique, Centre Eau Terre Environnement (INRS-ETE), University of Quebec, Quebec City, Canada

### TEACHING

- Hydropower and marine renewable energy, Master of Environmental Engineering, University of Padova, Co-instructor, 2023 - ongoing
- River engineering, Master of Environmental Engineering, University of Padova, Course leader, 2022 - ongoing
- Groundwater hydrology, Master of Environmental Engineering, University of Padova, Course leader, 2014 - ongoing
- Water supply systems and urban drainage, Bachelor of Environmental Engineering, University of Padova, Co-instructor, 2021 - 2023
- Hydraulic constructions 2, Master of Civil Engineering, University of Padova, Co-instructor, 2007 - 2016, Course leader 2017 - 2021
- Hydraulic infrastructure, Master of Civil Engineering, University of Padova, Course leader, 2008 - 2010

### POSTGRADUATE SUPERVISION

*PhD students (supervised or co-supervised)*

- Davide Furlanetto (2022 - ongoing), Strategies and models for a correct qualitative and quantitative management of drinking water resources in response and adaptation to climate change, University of Padova, Italy
- Francesca Zanetti (2021 - ongoing), Physics-based hydrological modelling of temporary streams, University of Padova, Italy
- Beatrice Gatto (2019 - 2023), Numerical modeling for groundwater protection in the Venetian plain between the Brenta and Piave Rivers, University of Padova, Italy
- Ali Azarnivand (2018 - 2020), Modeling hydrological response of intermittent catchments to rainfall variability and afforestation, Monash University, Australia.
- Véronique Bouzaglou (2015 - 2016), Calibration de paramètres hydrogéologiques par assimilation de données électriques dans le suivi d'une contamination., INRS-ETE, University of Quebec, Canada
- Marco Lora (2012 - 2015), Rainfall-triggered shallow landslides in a large-scale physical model, University of Padova, Italy
- Francesco Zovi (2011 - 2014), Uncertainty analysis of groundwater flow and transport in natural porous media, University of Padova, Italy
- Elena Crestani (2010 - 2013), Tracer test data assimilation for groundwater inverse modelling in heterogeneous aquifers, University of Padova, Italy

*Postdoctoral researchers*

- Dr Daniele La Cecilia (2023 - 2025), Marie Skłodowska-Curie Actions (MSCA) Postdoctoral fellow, Project: REWATERING - REalistic WATER budgetING in protected agriculture
- Dr Anna Botto (2017 - 2019)

**COMPETITIVE RESEARCH GRANTS AWARDED AS COORDINATOR OR CHIEF INVESTIGATOR**

- Water4All Partnership (Co-funded by the EU), “AQUIGROW - Sustainable AQUifer recharge to enhance resilience of GROundWater services under increased drought risk”, 2022 Joint Transnational Call, € 994,314, 2024-2027.
- Italian Ministry of Foreign Affairs and International Cooperation, “GEOCONS - GEOphysical methods for the characterization of CONtaminated Sites”, Cooperation Agreement for Science, Technology and Industry between Italy and Israel, € 99,550, 2017-2019.
- University of Padova, “A new framework for catchment characterization through hydrological data assimilation and process-based modelling”, € 47,000, 2015-2017.
- University of Padova, “Interpretation of geophysical measurements by ensemble Kalman filter data assimilation techniques for the assessment of natural heterogeneous aquifer hydraulic parameters at the local scale”, € 57,265, 2009-2011.

**PARTICIPATION IN COMPETITIVE RESEARCH GRANTS AS PARTNER INVESTIGATOR**

- European Regional Development Fund, “MoST - Monitoring Sea-water intrusion in coastal aquifers and Testing pilot projects for its mitigation”, Interreg Italy-Croatia, € 2,208,817, 2019-2021 (*Chief investigator: Prof. Paolo Salandin*).
- European Research Council, “DyNET - Dynamical river NETworks: climatic controls and biogeochemical function”, ERC Consolidator Grants 2017, € 1,999,758, 2018-2023 (*Chief investigator: Prof. Gianluca Botter*).
- University of Padova with water industry partners (Piave Servizi Srl and Alto Trevigiano Servizi Srl), “SWAT - Subsurface Water quality and Agricultural Practices monitoring”, Uni-impresa call 2017, € 165,000, 2018-2020 (*Chief investigator: Prof. Paolo Salandin*).
- Australian Research Council, Discovery Project “Exploring water worlds for ecohydrologic modelling of ephemeral catchments”, AU\$ 309,599, 2017-2020 (*Chief investigator: Dr. Edoardo Daly*).
- Australian Research Council, Linkage Project “Catchment water balance and CO<sub>2</sub> fluxes: A comparison between productive land uses”, AU\$ 186,000, 2014-2017 (*Chief investigator: Dr. Edoardo Daly*).
- Ca.Ri.Pa.Ro. Foundation, “RIVERSAFE (RIVERbank Surveillance bAsed on Fiber optic sEnsors)”, Excellence Projects call 2011-2012, € 446,000, 2013-2016 (*Chief investigator: Prof. Paolo Simonini*).
- Italian Ministry of Education, University, and Research “Hydroelectric energy by osmosis in coastal areas”, PRIN 2010-2011, € 840,000, 2012-2015 (*Chief investigator: Prof. Tullio Tucciarelli*).
- University of Padova, “Identification of hydraulic parameters in sedimentary aquifers at the local and catchment scales”, € 40,000, 2011-2013 (*Chief investigator: Prof. Paolo Salandin*).
- University of Padova, “Geological, morphological and hydrological processes: monitoring, modelling and impact in the north-eastern Italy (GEO-RISK), € 1,396,181, 2009-2012 (*Chief investigator: Prof. Rinaldo Genevois*).
- Italian Ministry of Education, University, and Research, “Subsurface flow and transport: coping with complexity and uncertainty in naturally heterogeneous formations”, approximately € 40,000, 2008-2010 (*Chief investigator: Prof. Paolo Salandin*).

## SERVICE TO THE DISCIPLINE

### *Workshop and Conference Organisation*

- Convener of the session “Integrated hydrologic models: challenges, advances and perspectives”, *Computational Methods in Water Resources XXIV*, June 19-23, 2022, Gdańsk, Poland.
- Faculty member of the graduate seminar *Hydrogeophysical inversion and data assimilation for the characterization and monitoring of coastal aquifers*, Venice International University, July 1-5, 2019.
- Co-chair of the session “Data assimilation”, *Computational Methods in Water Resources XXII*, Saint Malo, France, 3 – 7 June 2018.
- Co-Convener of *Model Uncertainties, Parameter Estimation, and Data Assimilation in Surface and Subsurface Hydrology*, European Geosciences Union (EGU) General Assembly, Vienna, Austria, 23 - 28 April 2017.
- Member of the scientific committee of *Computational Methods in Water Resources - CMWR 2016*, University of Toronto, Canada, 20 – 24 June 2016.
- Co-Convener of *Spatial patterns evaluation and process-physics understanding in distributed hydrologic modeling*, European Geosciences Union (EGU) General Assembly, Vienna, Austria, 17 - 22 April 2016.
- Member of the local organizing committee of the *7th International Conference on Porous Media & Annual Meeting*, InterPore, May 18 - 21, 2015, Padova, Italy.
- Convener/Chair of *Advances in Integrated Process-Based Distributed Hydrologic Modeling*, European Geosciences Union (EGU) General Assembly, Vienna, Austria, 12 - 17 April 2015.
- Convener/Chair of *Advances in Representation, Integration, and Coupling of Novel Processes in Hydrologic and Transdisciplinary Models*, American Geophysical Union (AGU) Fall Meeting, San Francisco, USA, 15 - 19 December 2014.
- Convener/Chair of *Advances in Integrated Process-Based Distributed Hydrologic Modeling*, European Geosciences Union (EGU) General Assembly, Vienna, Austria, 27 April – 02 May 2014.

### *Proposal Reviewer*

- Ministero dell’Istruzione, dell’Università e della Ricerca (Italian Ministry of Education, Universities and Research)
- Agence Nationale de la Recherche (French National Research Agency)
- Deutsche Forschungsgemeinschaft (German Research Foundation)
- Fonds Wetenschappelijk Onderzoek - Vlaanderen (Flanders Research Foundation)
- Nederlandse Organisatie voor Wetenschappelijk Onderzoek (Netherlands Organisation for Scientific Research)
- Israel Science Foundation

### *Journal reviewer*

- *Advances in Water Resources* (Outstanding contribution in reviewing: June 2013, July 2015, August 2017)
- *Communications Earth & Environment*
- *Earth’s Future*
- *Environmental Modelling & Software*

- Hydrogeology Journal
- Hydrological Processes
- Hydrology and Earth System Sciences
- Hydrology Research
- Journal of Hydrology (Outstanding contribution in reviewing: March 2017)
- Remote Sensing
- Reviews of Geophysics
- Scientific Reports
- Sensors
- Water
- Water Resources Research

#### *Editorial boards*

- Associate Editor of Frontiers in Water – Water and Hydrocomplexity section, 2024 – ongoing
- Topic Editor of the Research Topic “Advances in Integrated Surface–Subsurface Hydrological Modeling”, Frontiers in Water, 2023 – ongoing
- Topic Editor of the Research Topic “Hydro-informatics for Sustainable Water Management in Agrosystems” – Volumes I and II, Frontiers in Water, 2020 – ongoing
- Associate Editor of Hydrogeology Journal (Springer), 2018 – 2023

#### *Memberships of scientific societies*

- Regular Member of the International Association of Hydrogeologists (IAH)
- Regular Member of the American Geophysical Union (AGU)
- Regular Member of the Italian Hydraulics Group (GII)
- Regular Member of the European Geosciences Union (EGU)

#### **DISTINCTIONS AND AWARDS**

- Fulbright Research Scholar (2019), Project title: “Parsimonious simulation of soil water-vegetation interactions in integrated surface-subsurface hydrological modelling”, Host Institution: University of California, Davis (postponed to 2021 due to Covid-19).
- Schenato, L., L. Palmieri, **M. Camporese**, S. Bersan, S. Cola, A. Pasuto, A. Galtarossa, P. Salandin, P. Simonini (2017), Distributed optical fibre sensing for early detection of shallow landslides triggering, *Scientific Reports*, 7: 14686, doi: 10.1038/s41598-017-12610-1. Article in the Top 100 Scientific Reports Earth science papers in 2017.

#### **INVITED PRESENTATIONS AT CONFERENCES AND SEMINARS (PERSONALLY DELIVERED)**

- Bachini, E., **M. Camporese**, A. Larese, and M. Putti (2023), Geometrically Intrinsic Modeling of 2D Diffusive Wave Overland Flow for Coupled Surface-Subsurface Hydrological Applications, SIAM Conference on Mathematical and Computational Issues in the Geosciences, Bergen, Norway, 19 June 2023.
- Azarnivand, A., **M. Camporese**, S. Alaghmand, and E. Daly (2021), Integrated Surface-Subsurface Hydrological Modeling of Afforestation Impacts on Intermittent Streams, SIAM Conference on Mathematical & Computational Issues in the Geosciences (GS21), Virtual Conference, 22 June 2021.

- **Camporese, M.**, and A. Botto, Challenges and issues of data assimilation for Richards equation-based integrated hydrological models (*Minisymposium Lecture*), SIAM Conference on Mathematical and Computational Issues in the Geosciences, Erlangen, Germany, 13 September 2017.
- **Camporese, M.**, and A. Botto, On the importance of measurement error correlations in data assimilation for integrated hydrological models (*Solicited*), European Geosciences Union General Assembly 2017, Vienna, Austria, 28 April 2017.
- **Camporese, M.**, Groundwater in the box: laboratory experiments @ the University of Padova, *Department of Civil Engineering, Monash University*, Melbourne, Australia, February 2017.
- **Camporese, M.**, Hydrological modeling of small ephemeral catchments with different land uses and impacts of vegetation patterns on their water balance, *Institut National de la Recherche Scientifique, Centre Eau Terre Environnement, Québec, Canada*, December 2016.
- **Camporese, M.**, Groundwater inverse modeling via assimilation of hydrogeophysical data: from theory to practical applications, *Institute for Bio- and Geosciences, IBG-3: Agrosphere, Forschungszentrum Juelich*, Germany, June 2014.
- **Camporese, M.**, G. Cassiani, R. Deiana, P. Salandin, and A. Binley (2013), Is fully coupled hydrogeophysical inversion really better than uncoupled? A comparison study using ensemble Kalman filter assimilation of ERT-monitored tracer test data (*Invited*), Abstract H44D-02 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.
- **Camporese, M.**, Using EnKF to identify the hydraulic conductivity spatial distribution from ERT time-lapse monitoring of tracer test experiments, *Department of Civil Engineering, Monash University*, Melbourne, Australia, October 2012.
- **Camporese, M.**, An ensemble Kalman filter approach to identify the hydraulic conductivity spatial distribution from ERT time-lapse monitoring of three-dimensional tracer test experiments, *Laboratoire d'Hydrologie et de Géochimie de Strasbourg, Université de Strasbourg*, Strasbourg, France, June 2012.