

Marta Tuninetti

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🌐 <https://www.watertofood.org/>

🐦 [MartaTuninetti](#)



PROFESSIONAL EXPERIENCE

- 2021-present **Assistant professor**, [Dept. of Environment, Land and Infrastructure Engineering](#).
Research: water-food-energy nexus, agriculture, sustainability, food security.
Teaching: MSc course in Hydraulics, BSc course in Climate Change.
- 2020-present **Lecturer**, [Politecnico di Torino](#).
MSc course: Water-Food-Energy nexus, Master in Climate Change: Adaptation and Mitigation Solutions (ENG).
- 2021 **Researcher**, [Fondazione Eni Enrico Mattei](#).
Project: Renewable Energy for African Agriculture: Integrating Modelling Excellence and Robust Business Models.
- 2018-2021 **Postdoctoral Fellow**, [Dept. of Environment, Land and Infrastructure Engineering](#).
Project: Coping with water scarcity in a globalize world (ERC-No 6477473).
- 2017-2021 **Lecturer**, [Politecnico di Torino](#).
MSc course: Hydrology, Civil Engineering (ENG).
- 2019-2021 **Lecturer**, [Politecnico di Torino](#).
MSc course: Hydrology, Civil Engineering (ITA).
- 2020 **Lecturer**, [ITCILO](#).
MSc course: Water-Food-Energy nexus, Master in Management of Development (ENG).

EDUCATION

Politecnico di Torino.

PhD (2018) in Environmental Engineering

BSc (2011) and MSc (2014) in Environmental Engineering

University College London.

Visiting Scholar (2017)

University of Virginia.

Visiting Student (2013)

FELLOWSHIP AND AWARDS

- 2021 **Best Short Films Awards featuring in the FoodxFilm Festival.**
World Food Forum 2021: Transforming the future of our food. | [World Food Forum 2021](#)
- 2018-2021 **Postdoc fellowship.**
Founds: ERC project No 647473 | [WatertoFood](#)
Supervisor(s): Francesco Laio, Luca Ridolfi
- 2019 **Giovedì Scienza Award, Centro Scienza.**
Top-ten finalist | [video](#)

- 2018 **PhD thesis quality Award**, [Politecnico di Torino](#).
- 2014–2017 **PhD fellowship**, [Politecnico di Torino](#).
- 2014 **Post-graduate fellowship**, [Politecnico di Torino](#).
- 2013 **MSc thesis fellowship**, [University of Virginia](#).
Supervisor(s): Paolo D’Odorico
- 2012 **Internship**, [ITHACA Research Centre](#).
- 2007 **European Union Award**, *Diventiamo cittadini europei*, Consulta regionale europea.

PUBLICATIONS

PEER-REVIEWED ARTICLES

1. **Tuninetti, M.**, Ridolfi, L., and Laio, F. (2022). Compliance with EAT–Lancet dietary guidelines would reduce global water footprint but increase it for 40% of the world population, *Nature Food*, [PAPER](#)
2. De Angelis, P., **Tuninetti, M.**, Bergamasco, L., Calianno, L., Asinari, P., Laio, F., and Fasano, M. (2021). A data-driven appraisal of renewable energy potentials for sustainable freshwater production in Africa, *Renewable and Sustainable Energy Reviews*, [PAPER](#)
3. Tamea, S., **Tuninetti, M.**, Soligno, I., and Laio, F. (2021). Virtual water trade and consumptive water footprint of agricultural products: the 1961-2016 CWASI database, *Earth System Science Data*, [PAPER](#)
4. **Tuninetti, M.**, Ridolfi, L., and Laio, F. (2020). "Ever-increasing agricultural land and water productivity: a global multi-crop analysis", *Environmental Research Letters*, [PAPER](#)
5. **Tuninetti, M.**, Ridolfi, L., and Laio, F. (2020). "Charting out the future evolution of the international agricultural trade" *Science of the total environment*, [PAPER](#)
6. Distefano, T., **Tuninetti, M.**, Ridolfi, L., and Laio, F. (2020). "Estimating and reconstructing the trade network: GRAS or Gravity?" *Economic System Research*, [PAPER](#)
7. D’Odorico, P., Carr, J., Dalin, C., Dell’Angelo, J., Konar, M., Laio, F., Ridolfi, L., Rosa, L., Suweis, S., Tamea, S., **Tuninetti, M.** (2019). "Global virtual water trade and the hydrological cycle: Patterns, drivers, and socio-environmental impacts" *Environmental Research Letters*, [PAPER](#)
8. **Tuninetti, M.**, Tamea, S., Dalin, C. (2019). "Water debt indicator reveals where agricultural water use exceeds sustainable levels". *Water Resources Research*, [PAPER](#)
9. Abdelkader, A., Elshorbagy, A., **Tuninetti, M.**, Laio, F., Ridolfi, L., Fahmy, H., Hoekstra, A. Y. (2018). "National water, food, and trade modeling framework: The case of Egypt". *Science of the total environment*, [PAPER](#)
10. **Tuninetti, M.**, Tamea, S., Laio, F., and Ridolfi, L. (2017). "A Fast-Track approach to deal with the temporal dimension of crop water footprint" *Environmental Research Letters* [PAPER](#)
11. **Tuninetti, M.**, Tamea, S., Laio, F., and Ridolfi, L. (2016). "To trade or not to trade: link prediction in the virtual water network" *Advances in Water Resources* [PAPER](#)
12. **Tuninetti, M.**, Tamea, S., D’Odorico, P., Laio, F., and Ridolfi, L. (2015). "Global sensitivity of high-resolution estimates of crop water footprint" *Water Resources Research*, 51(10), 8257-8272 [PAPER](#)

BOOK CHAPTERS

13. Laio, F., Tamea, S., **Tuninetti, M.** (2020). "The water-food nexus in Italy: water footprint and virtual water trade of agricultural products" in *Water Resources of Italy. Control protection and use* edited by Rossi, G., and Benedini, M., *New Book Series Springer World Water Resources*
14. Tamea, S., **Tuninetti, M.**, Rolle, M., (2020). "Green and blue water use for agricultural produc-

tion: volumes and efficiencies" in *Water Resources and Economic Growth* edited by Distefano, T., *Routledge*

SUBMITTED ARTICLES

15. Bertassello, L., Wiechman, A., Muller-Itten, M.C., Penny, P., **Tuninetti, M.**, and Muller, M. (2022). "Refugee Migration and Displaced Water Scarcity". *Nature Communication*
16. Falchetta, G., ..., **Tuninetti, M.**, and Zulu, A. (2022). "A research agenda for planning and financing nexus 2 development objectives in rural sub-Saharan Africa". *Energy Strategy Reviews*
17. Sharretts, T., Mehta, P., Ali, T., Zoe, Y., Chiarelli, D.D., Deng, Q. Marston, L., Rulli, M.C., **Tuninetti, M.**, Xie, W., Davis, K.F. (2022). "Deepening water scarcity in breadbasket nations". *Nature Geoscience*

IN PREPARATION ARTICLES

18. Dalin, C., **Tuninetti, M.**, Carlson, M.K., Chang, J., Gerber, J., Herrero, M., Kastner, T., Smith, P., and Quinn, R. (2022). "Variability, interactions and drivers of key environmental stressors from food production worldwide".
19. **Tuninetti, M.**, Spadavecchia, C., Ridolfi, L., Herrero, M., and Laio, F. (2022). "Global and multiyear assessment of the water footprint of farm animal products".
20. De Petrillo, E., **Tuninetti, M.**, Ridolfi, L., and Laio, F. (2022). "Assessing sub-national virtual water trade to reconnect the global market of soybean to local water resources in Brazil".
21. Falchetta, G., Semeria, F., and **Tuninetti, M.** (2022). "Quantifying the economic feasibility of solar irrigation in sub-Saharan Africa".
22. Davis, K.F. and **Tuninetti, M.** (2022). "Hotspots of climate sensitivity for global crop production".

CONFERENCES AND EDITORIAL ACTIVITIES

- 2022-2024 **Journal of Hydrology**, Associate Editor.
- 2020-2021 **European Geophysical Union (Wien, Austria)**.
Convener, Sessions: [2020](#), [2021](#)
- 2020-2021 **American Geophysical Union (US)**.
Convener, Sessions: [2020](#), [2021](#)
- 2014-present **National and international conferences**.
Invited author at AGU 2021: [abstract](#)
- 2020 **Environmental Research Letter**, Topic Editor.
Special Issue: [Focus on Sustainable Food System](#)
- 2016-present **Peer review activities for international journals**.
Reviewer of over 30 articles

DISSEMINATION ACTIVITIES

- 2020 **WeSTEAM**, [Association for Science Dissemination](#).
Founder
- 2020 **Slowfood**, [Webpage](#).
Invited speaker, Title: L'orto in rete - L'acqua bene prezioso: l'impronta idrica
- 2020 **Legambiente**, [Webpage](#).
Invited speaker, Title: L'impronta della produzione alimentare sull'ambiente: impatti locali e globali

- 2019 **Settima Edizione del Festival dell’Innovazione e della Scienza**, [Webpage](#),
Invited speaker.
- 2019 **CLIC2-La scuola cambia il clima**, [Webpage](#).
Member of the organization committee, partnered with Hydroaid, MACA, Città Metropolitana.
- 2018 **Salone del Gusto**, [Fondo Ambiente Italiano](#).
Invited speaker, Title: L’acqua virtuale, dinamiche presenti e future sull’uso di acqua in agricoltura
- 2017 **Italian PhD days**, [Italian Group of Hydraulics](#).
Member of the Organization committee
- 2016 **First Water Symposium on Virtual Water**.
Member of the Organization committee