

# Marta Tuninetti

Politecnico di Torino  
Turin, Italy

+393408509416

✉ [marta.tuninetti@polito.it](mailto:marta.tuninetti@polito.it)

🌐 <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

- 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. 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](#)
2. 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](#)
3. **Tuninetti, M.**, Ridolfi, L., and Laio, F. (2020). "Ever-increasing agricultural land and water productivity: a global multi-crop analysis", *Environmental Research Letters*, [PAPER](#)
4. **Tuninetti, M.**, Ridolfi, L., and Laio, F. (2020). "Charting out the future evolution of the international agricultural trade" *Science of the total environment*, [PAPER](#)
5. Distefano, T., **Tuninetti, M.**, Ridolfi, L., and Laio, F. (2020). "Estimating and reconstructing the trade network: GRAS or Gravity?" *Economic System Research*, [PAPER](#)
6. 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](#)
7. **Tuninetti, M.**, Tamea, S., Dalin, C. (2019). "Water debt indicator reveals where agricultural water use exceeds sustainable levels". *Water Resources Research*, [PAPER](#)
8. 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](#)
9. **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](#)
10. **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](#)
11. **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

12. 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*
13. Tamea, S., **Tuninetti, M.**, Rolle, M., (2020). "Green and blue water use for agricultural production: volumes and efficiencies" in *Water Resources and Economic Growth* edited by Distefano, T., *Routledge*

## SUBMITTED ARTICLES

14. **Tuninetti, M.**, Ridolfi, L., and Laio, F. (2021). "Adopting the EAT-*Lancet* diet: transforming the food system while reducing water footprint", *Nature Food*

## IN PREPARATION ARTICLES

15. Dalin, C., **Tuninetti, M.**, Carlson, M.K., Chang, J., Gerber, J., Herrero, M., Kastner, T., Smith, P., and Quinn, R. (2021). "Variability, interactions and drivers of key environmental stressors from food production worldwide".
16. **Tuninetti, M.**, Spadavecchia, C., Ridolfi, L., Herrero, M., and Laio, F. (2021). "Global and multiyear assessment of the water footprint of farm animal products".
17. Bertassello, L., Wiechman, A., Muller-Itten, M.C., Penny, P., **Tuninetti, M.**, and Muller, M. (2021). "Refugee Migration and Displaced Water Scarcity".
18. De Petrillo, E., **Tuninetti, M.**, and Laio, F. (2021). "Assessing sub-national virtual water trade to reconnect the global market of soybean to local water resources in Brazil".
19. Falchetta, G., Semeria, F., and **Tuninetti, M.** (2021). "Quantifying the economic feasibility of solar irrigation in sub-Saharan Africa".
20. Davis, K.F. and **Tuninetti, M.** (2021). "Hotspots of climate sensitivity for global crop production".

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## CONFERENCES AND EDITORIAL ACTIVITIES

- 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

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## 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