

<i>Personal Data</i>			
<i>Last Name</i>	<i>First Name</i>	<i>Organization and Position</i>	<i>Year of birth</i>
Tirafferri	Alberto	Politecnico di Torino, Associate Professor (ICAR/03 - Applied Environmental Engineering)	1983
<i>Education and training</i>			
2013-2015 Post-doctoral Fellow, University of Geneva (Switzerland)			
2012	PhD in Chemical and Environmental Engineering, Yale University (USA) Supervisor: Prof. Menachem Elimelech		
2010	M.Sc. and M.Phil. in Chemical and Environmental Engineering, Yale University (USA)		
2007	M.Sc. in Environmental Engineering, Politecnico di Torino (Italy)		
2005	B.Sc. in Environmental Engineering, Università Politecnica delle Marche (Italy)		
2004-2005 Erasmus Programme, Department of Civil and Environmental Engineering, University of Edinburgh (UK)			
<i>Professional experience</i>			
SUPERVISION			
2015→ Currently supervising 4 Ph.D. students, co-supervising 2 Ph.D. students (50-50% co-supervision), supervising 1 post-doctoral fellow, 1 research assistant and 4 masters' students; graduated 23 masters' students as supervisor.			
2013-2015 Supervised 2 masters' students, University of Geneva (Switzerland)			
CURRENT TEACHING ACTIVITIES			
2017→ Instructor: Water Desalination: Processes, Materials, and the Future, Ph.D. level course, Politecnico di Torino (Italy)			
2015→ Instructor: Environmental and Contaminant Dynamics, master level course, Politecnico di Torino (Italy)			
2019→ Co-instructor: Water and Wastewater Treatment, bachelor level course, Politecnico di Torino (Italy)			
2015→ Co-instructor: Advanced Water and Wastewater Treatment, master level course, Politecnico di Torino (Italy)			
FELLOWSHIPS AND AWARDS			
2013-2015 Marie Curie Intra-European Fellowship for career development, IEF, call of 2012, University of Geneva (Switzerland)			
2010-2012 NWRI-AMTA Fellowship for Membrane Technology			
2010	ACS Environmental Chemistry Graduate Student Award		
2010	Co-recipient of the Membrane X-Prize offered by Oasys Water, Inc. for the fabrication of a forward osmosis membrane with high performance: worldwide prize offered to the first researchers able to design and fabricate a composite forward osmosis membranes with higher performance than any other commercial membranes present on the market.		
2009-2012 PhD Fellowship at Yale University (USA) funded by the KAUST-Cornell Center for Energy			

## and Sustainability, Desalination and Advanced Water Purification Thrust

### INSTITUTIONAL RESPONSIBILITIES

- 2019→ Member of the Departmental board (Giunta di Dipartimento) at DIATI
- 2017→ Scientific manager of the Interdepartmental Center "[CleanWaterCenter@PoliTo](#)", undertaking research and technological transfer in the area of water and wastewater treatment and bringing together four Departments at Politecnico di Torino (Italy)
- 2015→ Principal Investigator of the [en.sur.e water lab](#), Politecnico di Torino (Italy), undertaking research in the area of membrane processes for water treatment and resource recovery, water purification and decontamination with advanced oxidation, reclamation of polluted sites, and contaminant dynamics.
- 2015→ Referent for Research of DIATI Department, Politecnico di Torino (Italy)
- 2015→ Member of the Faculty board of the Ph.D. School in Civil and Environmental Engineering, Politecnico di Torino (Italy)

### ORGANIZATION OF SCIENTIFIC MEETINGS, EDITORIAL AND OTHER SERVICES

- 2017→ Associate Editor of the journal *Frontiers in Environmental Science*
- 2016→ Member of the International Board of the Conference IAP "Interfaces Against Pollution"
- 2016 Civil Court of Como, Italy, expert advice to Judge Dr. Nicoletta Sommazzi for case 6273/14
- 2013 Head of the scientific committee for the symposium "Membranes for Liquid Separation and Water Treatment: Environmental Applications and Future Perspectives", October 2013, Torino, Italy

### MAJOR INTERNATIONAL COLLABORATIONS

- Institut Européen des Membranes (IEM), CNRS, Montpellier (France): Seawater and brackish water desalination using biomimetic membranes
- Prof. Ahmad Rahimpour, Process intensification in water and wastewater treatment, Babol Noshirvani University of Technology (Iran)
- Prof. Baicang Liu, Reuse and recycling of produced and flowback waters from oil & gas extraction fields, Sichuan University (China)
- Prof. Katherine Zodrow, Development of ultrafiltration membranes and systems for point-of-use applications in remote areas, MontanaTech, Butte (USA)
- Dr. Alireza Pendashteh, Management and reuse of flowback and produced water, University of Guilan (Iran)
- Prof. Mark MacLachlan, Advanced oxidation applying heterogeneous biomimetic catalysts, University of British Columbia, Vancouver (Canada)

### PATENTS

- Biomimetic water channel membranes, synthesis methods and uses thereof", French Application filed, Oct. 2019
- Zodrow, K.R.; Eggensperger, C.; Tiraferri, A.; Giagnorio, M.; Holland, M.; Schiffman, J.: "Living filtration membranes", USA Application filed, Mar. 2019
- Sethi, R.; Gallo, A.; Bianco, C.; Tosco, T.; Tiraferri, A.: "Method for the synthesis of a zero-valent metal using dithionite catalyzed by pre-reduction of a noble metal", patent no. 102017000136603,

Feb. 2020.

- Sethi, R.; Bianco, C.; Tiraferri, A.; Tosco, T.; Patiño Higuera, J. E.: "Methods for the controlled delayed deposition and/or destabilization of colloids and their distribution in the subsurface", Italian Application filed, Dec. 2016.
- Giannelis, E.; Wang, Y.; Elimelech, M.; Tiraferri, A.; Mauter, M.: "Nanoparticle-Functionalized Membranes, Methods of Making Same, and Uses of Same", patent no. WO/2012/166701

### *Publications*

Total publications in international peer-reviewed journals: 62.

H-index ISI-Scopus: 20; Scholar: 21. Citations >4000.

LIST OF PUBLICATIONS AT: <https://areweb.polito.it/ensurewater/publications/>

### *Grants and Contracts*

<i>Title or Description</i>	<i>Funding source</i>	<i>Amount (Euros)</i>	<i>Period</i>
Reuse of flowback and produced water from oil & gas extraction fields	Eni Rewind S.p.A. (contract)	98,480	Apr 2019 - Nov 2020 (running)
Optimization of a plant treating phosphogypsum landfill leachate from a site of national interest (SIN)	Eni Rewind S.p.A. (contract)	107,660	Feb - Aug 2019
Evaluation of the suitability, feasibility, and environmental and health issues related to the installation of a plant (72 m <sup>3</sup> /h capacity) for the reuse of produced water in the south of Italy	Syndial S.p.A. (contract)	79,200	Aug 2019 - Oct 2019
Treatment of contaminated groundwater from two sites of national interest (SIN)	Eni S.p.A. (contract)	282,400	Jun 2017 - Dec 2019
<i>FLOWING</i> - Forward Osmosis to Reuse Produced Water in the Oil & Gas Industry	Compagnia di San Paolo (grant)	144,301	Sep 2017 - Oct 2019
<i>StepPolyMem</i> - Novel thin-film composite (TFC) membranes prepared by stepwise fabrication of oligoamide film on porous templates	Italian Ministry of Foreign Affairs; Israeli Ministry of Science, Technology, and Space (grant)	192,637 (for PoliTo)	Dec 2015 - Nov 2017
Removal of chromium from groundwater for drinking water production	SMAT S.p.A.: Società Metropolitana Acque Torino (contract)	90,000	Jan 2016 - Dec 2017