

Silvia Fiore
Associate Professor in
Environmental Sanitary Engineering

CURRICULUM VITAE

PERSONAL INFORMATION

Date of birth: 02/24/1971

Nationality: Italian

Status: married, 2 children

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Researcher unique identifier(s): orcid.org/0000-0001-5949-0559; scopus author ID 7005215992; www.researchgate.net/profile/Silvia_Fiore

H-index/citations: Scopus 15/781, Google Scholar 18/1230 (July 2020).

• **EDUCATION**

1999-2003: PhD in Environmental GeoEngineering, Politecnico di Torino, Italy

Topic: Sorption of phenols on natural solid phases. Supervisor: Prof Giuseppe Genon.

1991-1997: MSc in Analytical Chemistry, University of Turin, Italy

• **CURRENT POSITION**

Since 2014: **Associate professor, Environmental Sanitary Engineering**, Department of Engineering for Environment, Land and Infrastructure (DIATI), Politecnico di Torino, Italy. My research group is made of 2 PhD students (Civil and Environmental Engineering doctorate), 2 research assistants, 3 PhD students in co-supervision with Technical University of Iasi, Romania and 15-20 undergraduate/graduate students per year. I hold the courses: Environmental Chemistry (60 hours, BSc), Solid Wastes (30 hours, PhD), Circular Economy (80 hours, BSc). I have been appointed adjunct research professor for 2018-2021 in the Department of Chemical and Biochemical Engineering of Western University, Ontario, Canada. In April 2019 “Gheorghe Asahi” Technical University of Iasi, Romania, awarded me a doctorate honoris causa in Environmental Engineering. In December 2019 I received a national habilitation as full professor in Environmental Sanitary Engineering.

Since 2018: **Coordinator of the laboratory “Biorefinery and Circular Economy” (type 2 biological lab)** at DIATI, Politecnico di Torino. Laboratory equipment: ED-XRF spectrometer, Retsch MM200 ball milling unit, centrifuge, UV-Visible spectrometer, UV-Visible portable photometer, COD digester, BOD analyzer (30 reactors), multi-parameter probe (pH, EC, ORP, T), oven, muffle, shaking incubator (T: 5-60°C), anaerobic digestion reactors (batch: 4x2L, 30X0.5L; semi-continuous/continuous: 1x3L) for fermentation processes at 20-50°C, biogas portable analyzer, UV lamp and E.Coli test equipment, technical/analytical/thermal balances, filtration equipment, laminar flow biological and chemical fume hood.

• **PREVIOUS POSITIONS**

2006 – 2014: Assistant professor (permanent position), Environmental Sanitary Engineering

Department of Environment, Land and Infrastructures Engineering (DIATI), Politecnico di Torino, Italy

2002 – 2006: postdoc research assistant, Environmental Sanitary Engineering

Department of Environment, Land and Georesources Engineering (DITAG), Politecnico di Torino, Italy

1999-2002: PhD student, Environmental GeoEngineering, Politecnico di Torino, Italy (defense: March 2003)

1998-1999: post-graduate research assistant, Land and Georesources Engineering (DITAG), Politecnico di Torino, Italy.

• RESEARCH SUMMARY

My scientific activity involves both fundamental research and pilot/full-scale applications, and it is strongly oriented toward the feasibility of academic findings. The main research topics are:

- Treatment, recovery and disposal of municipal and industrial/special waste (from e-waste/WEEE, agro-industrial waste, cosmetic industry, end-of-life vehicles): physic-mechanical and biological processes (anaerobic digestion, fermentation), Life Cycle Analysis;
- Water treatment (potabilization processes, disinfection by-products, emerging contaminants);
- Wastewater treatment and reuse (municipal and industrial wastewater);
- Energy efficiency and environmental assessment of urban water cycle (Carbon Footprint and Life Cycle Analysis).

• SUPERVISION OF PhD STUDENTS (7) and RESEARCH ASSISTANTS (9):

2020 Martina Bruno, 6 months research assistant, research topic: *Valorization of bottom ash*.

2019-2020 Chiara Marchi, 12 months research assistant, research topic: *Nature-based solutions for the treatment of grey wastewater* (co-supervised).

2019-2021 Vincenzo Santucci, 22 months research assistant, research topic: *Recovery of polyurethane foam from WEEE as secondary raw material*.

2018-2021 Marco Chiappero, **PhD student in Civil and Environmental Engineering**; research topic: *Investigation of biochar role in anaerobic digestion*;

2018 Marco Chiappero, 6 months research assistant; research topic: *Anaerobic digestion of wastewater treatment sludge at low temperature*.

2017-2019 Francesca Demichelis, **PhD student in Civil and Environmental Engineering**; research topic: *Biorefinery processes for the valorization of waste biomasses*;

2016-2017 Francesca Demichelis, 18 months research assistant at DIATI, Politecnico di Torino; Research topic: *Experimental tests about the anaerobic digestion of the wastes produced by L'Oréal plant in Turin area*;

2016-2017 Alice Salaris, 12 months research assistant at DIATI, Politecnico di Torino; Research topics: *Experimental evaluation of ferrate efficiency in water and wastewater treatment and Investigation of the performances of a full-scale water treatment plant towards the removal of pesticides*;

2016-2021 Georgeta Ropcean, **PhD student in Chemical Engineering and Environmental Protection, Technical University of Iasi, Romania** (co-supervised); research topic: *Solid waste management*;

2015-2019 Andreea Florina Gilca, **PhD student in Chemical Engineering and Environmental Protection, Technical University of Iasi, Romania** (co-supervised); research topic: *Emerging pollutants control and risk assessment in water treatment*;

2015-2021 Dumitrita Ibanescu, **PhD student in Chemical Engineering and Environmental Protection, Technical University of Iasi, Romania** (co-supervised); research topic: *WEEE management*;

2014–2017 Florina Fabian, **PhD student in Environmental Engineering** (co-tutored with University of Bacau, Romania); research topic: *Assessment of the efficiency of water and wastewater treatment for different requirements*;

2013-2016 Mihai Belciu, **PhD student in Environmental Engineering** (co-tutored with University of Bacau, Romania); research topic: *Evaluation of technological and environmental aspects of post-closure activity of municipal solid waste landfills*;

- 2014-2015 Marta Franz, 12 months research assistant at DIATI, Politecnico di Torino; Research topic: *Evaluation of the performances of Turin water treatment plant;*
- 2013-2014 Mariantonio Zappone, 2 years research assistant at DIATI, Politecnico di Torino; Research topics: *Environmental balance of Urban Water cycle in Turin metropolitan area and Evaluation of Energy efficiency of Turin wastewater treatment plant;*
- 2011-2013 Alessandro Cedrino, 3 years research assistant at DIATI, Politecnico di Torino; Research topics: *Evaluation of the performances of a lagoon as a pre-treatment for a potabilization process and Assessment of the generation and control of disinfection by-products in Turin water treatment plant.*

• SUPERVISION OF UNDERGRADUATE/GRADUATE STUDENTS FINAL PROJECTS

2006-present: supervision of about 100 BSc/MSc final projects about different topics of Environmental Sanitary Engineering in Environmental/Civil/Energy Engineering study courses. Many final projects were developed in cooperation with public and private companies managing water and wastewater treatment, waste collection and treatment and producing agro-food products.

• TEACHING ACTIVITIES

as Professor:

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|---|------------|
| - Environmental Applied Chemistry (PhD course) | 2011-2014 |
| - Optimization of wastewater treatment plants (post-graduate Master Course) | 2013-2015 |
| - Environmental Technologies of Productive Sites (BSc course) | 2015-2017 |
| - Solid Wastes (PhD course) | since 2012 |
| - Environmental Chemistry (BSc course) | since 2014 |
| - Circular Economy and environmental sustainability (BSc course) | since 2020 |

as teaching Assistant:

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| - Environmental Sanitary Engineering (BSc and MSc courses) | 2000-2019 |
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• INSTITUTIONAL RESPONSIBILITIES

- 2019-2023, elected member of the Academic Senate, Politecnico di Torino;
- 2019-2023, appointed responsible for Sustainability for the Department of Engineering for Environment, Land and Infrastructures (DIATI), Politecnico di Torino;
- 2006-present, member of Environmental Engineering study course (BSc and MSc) collegium, Politecnico di Torino;
- 2009-2015, member of Environmental Engineering doctorate collegium (as supervisor of PhD students), Politecnico di Torino;
- 2015–present, member of the Civil and Environmental Engineering doctorate collegium (as supervisor of PhD students), Politecnico di Torino;
- 2012-2016, appointed responsible for Internships and Integrative activities of Environmental Engineering study courses (BSc and MSc), Politecnico di Torino;
- 2012-2016, appointed member of Outgoing and Job Committee, Environmental Engineering study course, Politecnico di Torino;
- 2012-2019, appointed Member of the Committee for the Quality Evaluation of Study Courses for Environmental Engineering study courses (BSc and MSc), Politecnico di Torino;
- 2010-2015, elected member of DIATI Council, Politecnico di Torino;
- 2007-2011, support at the organization of the Incoming Students day for Environmental Engineering study course, Politecnico di Torino;
- 2015-2018, appointed member of Field Activities Committee, Environmental Engineering collegium, Politecnico di Torino;

2015-2018, appointed member of Environment and Energy Committee, DIATI Department, Politecnico di Torino;

2015-2018, appointed member of web site management Committee, DIATI Department, Politecnico di Torino;

2012-present, appointed member of Teaching Collaborations Designation Committee, Environmental Engineering study courses, Politecnico di Torino

- **COMMISSIONS OF TRUST**

2012-present, **Review panel member for MIUR** (Italian Ministry of University and Research) within FIRB, PRIN, Futuro in Ricerca, SIR, Rita Levi Montalcini calls and VQR.

2015-present, **Review panel member for Romanian National Research Council (CNCS) and Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI)** within Young Research Teams 2014, 2016 and 2019 calls.

2015-present, **Member of the Editorial Board** of *Environmental Engineering and Management Journal* (www.eemj.icpm.tuiasi.ro), IF 1.186.

2020-present, **Member of the Editorial Board** of *Sustainability* (www.mdpi.com/journal/sustainability), IF 2.576.

2003-present, **Reviewer** for ISI Journals: Waste Management, Journal of Environmental Management, Bioresource Technology, Chemosphere, Water Research, Journal of Hazardous Materials, Journal of Cleaner Production, Applied Energy, Energy, Energy Conversion and Management, Resources Conservation and Recycling, Sustainability, Water, Energies.

2015-2018: **member of Scientific Advisory Board** of H2020 project “Standard method and online tool for assessing and improving the energy efficiency of wastewater treatment plants” (ENERWATER) (www.enerwater.eu) funded by EC under H2020 Framework Programme for Research and Innovation - Grant agreement number 644771.

2016-2019: **scientific expert appointed by MIUR** (Italian Ministry of University and Research) for the H2020 ERA-NET project “WATinTECH - Smart decentralised water management through a dynamic integration of technologies” – grant agreement number 95692/2015.

2017: **member of scientific committee** of BIOCHAR Conference (Alba, Italy, 20-24/8/2017).

2017: **member of scientific committee** of ICEEM09 Conference (Bologna, Italy 6-9/9/2017).

2018: **member of scientific committee** of SUM 2018, 4th Symposium on Urban Mining and Circular Economy, 21-23/5/2018, Bergamo, Italy.

2018-2019: **Guest editor** of Process Safety and Environmental Protection Journal (Elsevier, IF 4.966) special issue dedicated to ICEEM09 Conference.

2018-2019: **member of scientific committee** of ICEEM10 Conference (Iasi, Romania, 18-21/9/2019).

2019-2020: **Guest editor** of Process Safety and Environmental Protection Journal (Elsevier, IF 4.966) special issue dedicated to ICEEM10 Conference.

2019: **member of scientific committee** of BIOCHAR II Conference (Cetraro, Italy, 15-20/9/2019).

2019: **Guest editor** of Water (MDPI, IF 2.544) special issue on "Integrated Approaches of the Water Use Cycle: Technical and Environmental Challenges for Sustainability"

2019: **Guest editor** of Sustainability (MDPI, IF 2.576) special issue on “The Sustainable Management of Waste Electrical and Electronic Equipment”.

member of Doctorate final exam panels: University of Pavia, Italy (2011); University of Santiago de Compostela, Spain (2017 and 2018); University of Bacau, Romania (2011 and 2016); University of Iasi, Romania (2019); University of Tampere, Finland (2019).

- **MAJOR COLLABORATIONS with Foreign Universities/Research Centers:**

- **Technical University of Delft (TU Delft), The Netherlands:** *assistant prof. Merle de Kreuk, Prof Luuk Rietveld.* Topics: AnMBR processes, Thermal energy recovery from wastewater (co-supervision of 2 graduate students in 2010 and 2014).

- **Norwegian University of Science and Technology (NTNU), Norway:** *Prof Helge Brattebo,* Topic: *Environmental balance of urban water cycle* (co-supervision of 1 graduate student in 2012). We co-authored one paper indexed on Scopus:

- M. Zappone, S. Fiore, G. Genon, G. Venkatesh, H. Brattebø , L. Meucci (2014) Life Cycle Energy and GHG Emission within the Turin Metropolitan Area Urban Water Cycle, *Procedia Engineering* 12/2014; 89:1382-1389. DOI:10.1016/j.proeng.2014.11.463;

- **University of Bacau, Romania:** *Prof Valentin Nedeff, Prof Gabriel Lazar.* Topics: post-closure activity of landfills, efficiency of water and wastewater treatment processes, environmental impact of industrial processes (co-supervision of 4 graduate and 2 PhD students in 2010-2016). We co-authored 2 papers on peer reviewed ISI Journals:

- F. Fabian, S. Fiore, G. Genon, D. Panepinto, V. Nedeff, M. Panainte (2016), Preliminary evaluation of the environmental impact of water treatment, *Environmental Engineering and Management Journal* (IF 1.186), vol 51 (8), pp. 1867-1872;

- M. Belciu, E. F. Moşneguţu, V. Nedeff, A. Chiţimuş, N. Bârsan, S. Fiore (2016), Production capacity of leachate from Bihor landfill, *Environmental Engineering and Management Journal* (IF 1.186), vol 51 (9), pp. 2057-2062;

- **ATB Potsdam Leibniz Institute of Agricultural Engineering and Bio-economy, Germany:** *Dr Joachim Venus, Dr Daniel Pleissner.* Topic: *synthesis of lactic acid from spent coffee dust and from food waste* (co-supervision of 3 graduate students in 2014-2015). We co-authored 4 papers on high IF peer reviewed ISI Journals:

- D. Pleissner, F. Demichelis, S. Mariano, S. Fiore, I. M. Navarro Gutiérrez, R. Schneider, J. Venus (2017), Direct production of lactic acid based on simultaneous saccharification and fermentation of mixed restaurant food waste, *Journal of Cleaner Production* (IF 7.246), vol. 143, pp. 615-623;

- F. Demichelis, D. Pleissner, S. Fiore, S. Mariano, I. M. Navarro Gutiérrez, R. Schneider, J. Venus (2017), Investigation of food waste valorization through sequential lactic acid fermentative production and anaerobic digestion of fermentation residues, *Bioresource Technology* (IF 67.539), vol. 241, pp. 508-516.

- J. Venus, S. Fiore, F. Demichelis, D. Pleissner (2018), Centralized and decentralized utilization of organic residues for lactic acid production, *Journal of Cleaner Production* (IF 7.246), vol. 172, pp. 778-785.

- F. Demichelis, S. Fiore, D. Pleissner, J. Venus (2018), Technical and economic assessment of food waste valorization through a biorefinery chain, *Renewable and Sustainable Energy Reviews* (IF 12.11), vol. 94, pp. 348.

- **Leuphana University, Germany:** *Dr Daniel Pleissner.* Topic: *synthesis of lactic acid from waste biomass.* We co-authored 1 paper on a high IF peer reviewed ISI Journal:

- Peinemann, J., Demichelis, F., Fiore, S., Pleissner, D. (2019). Techno-economic assessment of non-sterile batch and continuous production of lactic acid from food waste. *Bioresource Technology* (IF 7.539), vol. 289, p. 121631-121641

- **Technical University Hamburg (TUHH), Germany:** *Prof Kerstin Kuchta*. Topic: valorization of solid wastes (WEEE and plastic waste) (co-supervision of 6 graduate students in 2015-2020). In 2017 I joined the **EU COST Action ES1407 ReCrew** – European network for innovative recovery strategies of rare earth and other critical metals from electrical and electronic waste, lead by Prof Kuchta. We co-authored 3 communications published on the proceedings of international conferences and 4 papers published on high IF peer reviewed ISI journals:
 - L. Pfennig, K. Kuchta, A. Prette, S. Fiore (2016), Evaluation of LDPE and ABS degradation by means of NIR spectroscopy, Proceedings of CRETE 2016, 5th International Conference on Industrial and Hazardous Waste Management, Chania, Greece.
 - J. Hobom, K. Kuchta, S. Caiani, S. Fiore (2017), Comparison between German (Hamburg) and Italian (Turin) WEEE management systems, Proceedings of CEST 2017, Rhodes, Greece.
 - A. Alassali, S. Fiore, K. Kuchta (2018), Assessment of plastic waste materials degradation through Near InfraRed spectroscopy, Waste Management (IF 5.448), vol. 82, p. 71-81, Elsevier.
 - A. Alassali, S. Fiore, K. Kuchta (2018), Assessment of antimony in plastics from WEEE. Proceedings of Crete 2018 6th International conference on Industrial and Hazardous Waste management (Chania, Greece, 4-7/9/2018).
 - Alassali, Ayah, Abis, Marco, Fiore, Silvia, Kuchta, Kerstin (2019), Classification of plastic waste originated from waste electric and electronic equipment based on the concentration of antimony. JOURNAL OF HAZARDOUS MATERIALS (IF 9.038), vol. 380, p. 1-6.
 - A. Alassali, C. Picuno, H. Samara, S. Diedler, S. Fiore, K. Kuchta (2019), Antimony mining from PET bottles and e-waste plastic fractions. Sustainability (IF 2.576), vol.11, p.4021.
 - A. Alassali, C. Picuno, T. Bebien, S. Fiore, K. Kuchta (2019), Validation of near infrared spectroscopy as an age-prediction method for plastics. Resources Conservation and Recycling (IF 8.086), vol.154, p. 104555.

- **Western University, Canada:** *prof Franco Berruti*. Topics: *biochar production through different pyrolysis processes, adsorption of metals and metalloids on biochar* (co-supervision of 5 graduate students in 2014-2020). I am **Academic coordinator of ERASMUS+ institutional agreement 2019-2024 between Politecnico di Torino and Western University**. We co-authored 5 papers published on the proceedings of international conferences and on high IF peer reviewed ISI Journals:
 - S. Fiore, M. Morando, C. Briens, F. Berruti (2017) Investigation of innovative and conventional pyrolysis of ligneous and herbaceous biomasses for biochar production, Proceedings of the international conference Biochar: production, characterization and applications, Alba, Italy.
 - S. Fiore, T. Marengo, C. Briens, F. Berruti (2017) Arsenic removal from drinking water by means of low-cost biochars derived from miscanthus and coconut shell, Proceedings of the international conference Biochar: production, characterization and applications, Alba, Italy.
 - S. Fiore, A. Colomba, A. Colomba, C. Briens, F. Berruti (2018) Evaluation of biochars deriving from waste biomasses for mercury adsorption, Proceedings of ISCRE25, 25th International Symposium on Chemical Reaction Engineering, Florence, Italy.
 - S. Fiore, F. Berruti, C. Briens (2018), Investigation of innovative and conventional pyrolysis of ligneous and herbaceous biomasses for biochar production, Biomass and Bioenergy (IF 3.551), vol. 119, p. 381.
 - M. Chiappero, O. Norouzi, M. Hu, F. Demichelis, F. Berruti, F. Di Maria, O. Mašek, S. Fiore (*accepted*), Review of biochar role as additive in anaerobic digestion processes. Renewable and Sustainable Energy Reviews (IF 12.11).

- **McGill University, Montreal, Canada:** Prof Nathalie Tufenkji; Topic: transport of nano-pesticides in porous media (**3 months stay as visiting professor in June-September 2016**, co-supervision of 1 MSc student in 2016/2017); Prof Dominic Frigon; topic: low-temperature anaerobic digestion of waste activated sludge

(co-supervision of 1 graduate student in 2017-2018). We co-authored 1 paper published on a high IF peer reviewed ISI Journal:

- M. Chiappero, F. Demichelis, X. Lin, C. Liu, D. Frigon. S. Fiore (**2019**), Investigation of pre-treatments improving low-temperature anaerobic digestion of waste activated sludge. Process Safety and Environmental Protection (IF 4.966), vol. 131, p. 28-37.

- **Technical University of Crete, Greece**: Prof Nicholas Kalogerakis, topic: use of surfactants for the remediation of oil spills (co-supervision of 2 graduate students in 2017 and 2020). I am **Academic coordinator of ERASMUS+ institutional agreement 2014-2022 between Politecnico di Torino and Technical University of Crete**.

- **“Gheorghe Asahi” Technical University of Iasi, Romania**, Prof Carmen Teodosiu. Our cooperation started in 2015:

- We are academic coordinators of **ERASMUS+ institutional agreement 2015-2021** between Politecnico di Torino and Technical University of Iasi. Within this agreement occurred in both directions 5 student mobilities (6-10 months each) and 8 teaching staff mobilities.
- we co-supervised 2 graduate and 3 PhD students on the topics: WEEE and MSW management and Environmental assessment of water and wastewater treatment processes.
- I was invited as keynote speaker at ICCE2016 Conference, 3rd International Conference on Chemical Engineering at Technical University of IASI (8-12/11/2016).
- I was appointed in the scientific committees of ICEEM09 and ICEEM10 Conferences.
- I was invited as keynote speaker at ICEEM10 Conference, International Conference on Environmental Engineering and Management (Iasi, 18-21/9/2019)
- I was invited as guest editor of Process Safety and Environmental Protection Journal (Elsevier, IF 4.966) special issues dedicated to ICEEM09 and ICEEM10 Conferences.
- we cooperated in the preparation of 2 proposals for Horizon 2020 calls: H2020-MSCA-ITN-2017 and H2020-SUSFOOD2.
- we co-guest edited in 2019 a special issue of Water (MDPI, IF 2.544) on "Integrated Approaches of the Water Use Cycle: Technical and Environmental Challenges for Sustainability"
- we co-guest edited in 2019 a special issue of Sustainability (MDPI, IF 2.576) on "The Sustainable Management of Waste Electrical and Electronic Equipment".
- we co-authored 6 papers published on high IF peer reviewed international journals and 3 papers presented at international conferences, and other papers are currently in preparation:
 - Florina Gilca, G. Barjoveanu, C. Teodosiu, S. Fiore (**2017**), Life cycle assessment of a drinking water production system, Proceedings of ICEEM09.
 - D. Cailean Gavrilescu, D. Ibanescu, C. Teodosiu, S. Fiore (**2017**) Comparative evaluation of greenhouse gas emissions resulted from e-waste management systems in Italy and Romania, Proceedings of ICEEM09.
 - D. Ibanescu, D. Cailean Gavrilescu, C. Teodosiu, S. Fiore (**2018**), Assessment of the waste electrical and electronic equipment management systems profile and sustainability in developed and developing European Union countries, Waste Management (IF 5.448), vol 73, pp. 39-53.
 - C. Teodosiu, A. Florina Gilca, G. Barjoveanu, S. Fiore (**2018**), Emerging pollutants through advances drinking water treatment: a review on processes and environmental performances assessment, Journal of Cleaner Production (IF 7.246), vol. 197, pp. 1210-1221.

- D. Ibanescu, S. Fiore, C. Teodosiu, D. Cailean Gavrilescu, A. Ronco (2018), Sustainability of e-waste management: an Italian case study, Proceedings of SUM 2018 Symposium on Urban mining and circular economy, Bergamo, Italy, 21-23/5/2018
 - S. Fiore, D. Ibanescu, C. Teodosiu, A. Ronco (2019). Improving waste electric and electronic equipment management at full-scale by using material flow analysis and life cycle assessment. Science of the Total Environment (IF 6.551), vol. 659, p. 928-939.
 - D. Fighir, C. Teodosiu, S. Fiore (2019). Environmental and energy assessment of municipal wastewater treatment plants in Italy and Romania: a comparative study. Water (IF 2.544), vol 11, p. 1611.
 - G. Barjoveanu, C. Teodosiu, A. Gilca, I. Roman, S. Fiore (2019), Environmental performance evaluation of a drinking water treatment plant: a life cycle assessment perspective. Environmental Engineering and Management Journal (IF 1.186), vol 18 (2), p. 513-522.
 - A. Gilca, C. Teodosiu, S. Fiore, C. Musteret (*in press*), Emerging disinfection by-products: a review on their occurrence and control in drinking water treatment processes. Chemosphere. Accepted, in press. <https://doi.org/10.1016/j.chemosphere.2020.127476>
- **COORDINATION OF RESEARCH PROJECTS** (or participation as task leader):
 - Material recovery from e-waste, **Italian Ministry of Environment and Sea** (January 2019-January 2021), role: **National Coordinator** (project title: *Recupero di materia da RAEE/R1-R2*).
 - BASH-TREAT Optimization of bottom ash treatment for an improved recovery of valuable fractions, **Horizon 2020 ERA-MIN2 project** (May 2018-April 2021), role: **Coordinator of Research Unit at Politecnico di Torino**.
 - "Investigation of critical issues and optimization perspectives for WEEE management" (January 2018-January 2019), funded by APIRAEE, role: **Coordinator**.
 - "Design and start-up of a pilot scale digester for L'Oréal plant in Settimo Torinese" (October 2017-October 2018), funded by L'Oréal Saipo Industriale SpA, role: **Scientific Coordinator**.
 - "Feasibility study about the anaerobic digestion of the wastes of L'Oréal plant in Settimo Torinese, Turin" (march 2016-april 2017), funded by L'Oréal Saipo Industriale SpA, role: **Scientific Coordinator**.
 - "Evaluation of formaldehyde content in paper waste" (march 2016-may 2017), funded by Ahlstrom Italy SpA, role: **Scientific Coordinator**.
 - "Evaluation of ferrate efficiency in water and wastewater treatment" (december 2015-june 2017), funded by SMAT SpA, role: task leader.
 - "New approaches in training specialists in Environmental Engineering for regional sustainable development and correlation to actual requirements of the labor market (REGIOSIM)" (may 2014-november 2015), funded by EC and Romanian Government, role: **Coordinator of Research Unit at Politecnico di Torino**.
 - "Environmental Monitoring Plan of ILVA SpA steel plant in Taranto, Italy" (november 2013-march 2014), funded by ILVA SpA, role: **Scientific Coordinator**.
 - "Management and design intervenes for the optimization of the performances of a small wastewater treatment plant" (february 2012-december 2013), funded by Alpi Acque SpA, role: **Scientific Coordinator**.
 - "Management, design and start-up of the wastewater treatment plant of a talc mine in Italy" (3 grants in 2008-2012), funded by Imerys Talc Italy SpA, role: **Scientific Coordinator**.
 - "Ecofood" (Valorization of agro-industrial wastes through anaerobic digestion), POR/FESR call of Regione Piemonte, Italy (september 2010-march 2014), role: Task leader.

- "Evaluation of the performances of a lagoon as a pre-treatment for Turin water treatment plant" (august 2010-december 2014), funded by SMAT SpA, role: **Task leader**.
- "Formation of disinfection by-products in Turin water treatment plant" (august 2010-december 2012), funded by SMAT SpA, role: **Task leader**.
- "Energy optimization of Turin wastewater treatment plant" (december 2012-december 2013), funded by SMAT SpA, role: **Task leader**.
- "Optimization of the performances of grit recovery in Turin wastewater treatment" (december 2012-december 2013), funded by SMAT SpA, role: **Task leader**.
- "Environmental and energy balance of Turin water cycle" (december 2012-december 2014), funded by SMAT SpA, role: **Task leader**.

Selected PUBLICATIONS:

1. S.Fiore, M.C.Zanetti, G.Genon (2003) *Experimental study of the pH influence on the transport mechanisms of phenols in soil*, Annali di Chimica Rome, vol. 93, Issue 5-6, pp.595-605;
2. M.C.Zanetti, S.Fiore (2003), *Foundry processes: the recovery of green moulding sands for core operations*, Resources, Conservation and Recycling, vol. 38, Issue 3, pp.243-254;
3. M.C.Zanetti, S.Fiore (2003), *Foundry wastes recycling in moulding operations and in the ceramic industry*, Waste Management & Research, Sage Publications, vol. 21, pp.235-242;
4. M.C.Zanetti, S.Fiore, C.Clerici (2004), *Reuse of foundry sands for cores and glass production*, Journal of Solid Waste Technology and Management, Widner University, vol. 30, No.1, pp. 28-36;
5. S. Fiore, M.C. Zanetti, B. Ruffino (2005), *Waste characterization and recycle in a aluminum foundry*, Resources Conservation and Recycling, vol.45, pp. 48-59;
6. M.C. Zanetti, S. Fiore (2005), *Evaluation of mutual connections between zero-valent iron reactivity and groundwater composition in the degradation of trichloroethylene*, Annali di Chimica Rome, vol 95, Issue 11-12 , pp. 779-789;
7. S.Fiore, M.C.Zanetti (2006), *Degradation of trichloroethylene and perchloroethylene by a zero-valent iron permeable reactive barrier: preliminary tests*, International Journal of Sustainable Planning and Development, WIT Press, vol. 1, issue 4, pp. 1-16 ;
8. M.C. Zanetti, S. Fiore (2007), *Problems and perspectives concerning reclaimed water reuse in urban and agricultural areas*, International Journal of Sustainable Planning and Development, WIT Press, vol. 2, issue 1, pp. 1-11;
9. S. Fiore, M.C. Zanetti (2007) *Foundry wastes reuse and recycling in concrete production*, American Journal of Environmental Sciences, Science Publications, vol 3(3), pp. 126-134, ISSN: 1553-345X, DOI: 10.3844/ajessp.2007.135.142;
- 10.M.C. Zanetti, S. Fiore (2007), *Lab tests for the remediation of a PCE polluted site by means of HRC reactant*, American Journal of Environmental Sciences, vol 3 (3), pp. 151-157;
- 11.S.Fiore, M.C.Zanetti, B.Ruffino (2008), *Waste characterization in steel casting and recycling opportunities in Europe*, American Journal of Applied Sciences, Science Publications, vol. 5 (5), pp. 512-518;
- 12.S. Fiore, M.C. Zanetti (2008), *Industrial treatment processes for the recycling of green foundry sands*, International Journal of Cast Metals Research, W. S. Maney & Son Ltd., vol. 21 (6), pp. 435-438;
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