

Personal information

**Camilla Di Marcantonio**

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**Postdoctoral Researcher in Environmental and Hydraulic Engineering**

Work experience

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| June 2023 - today                                       | <p><b>Postdoctoral Research activity on “REclaimed Wastewater for CROPs irrigation: an interdisciplinary assessment (ReWCrop)”</b><br/>           Call BE-FOR ERC 2022 from Sapienza University of Rome, PI of the project. Department of Civil, Constructional and Environmental Engineering (DICEA), University of Rome “La Sapienza”.</p>  |
| July 2023 – September 2023                              | <p><b>Research period abroad in the framework of the ReWCrop project</b><br/>           Universidad Nacional de Córdoba ICYTAC-CONICET, Córdoba, Argentina.</p> <ul style="list-style-type: none"> <li>▪ Supervisor: Professor Daniel Wunderlin, Dr Natalia Podio</li> </ul>  |
| September 2021 – May 2023<br>and<br>June 2020- May 2021 | <p><b>Postdoctoral Research activity on the “Optimization of landfarming treatment for the remediation of contaminated soils through sustainable strategies”</b><br/>           Contract between ITELYUM Regeneration S.r.l and the Department of Civil, Constructional and Environmental Engineering (DICEA), University of Rome “La Sapienza”.</p>  |
| April 2020 -today                                       | <p><b>“Cultore della Materia” (Subject Expert and Teaching Assistant)</b><br/>           In “Water Treatment Plants” and “Principles of Environmental Engineering” (ICAR/03) at the Faculty of Civil and Industrial Engineering, University of Rome “La Sapienza”.</p>  |
| June 2021 - August 2021                                 | <p><b>Research scholarship: Modelling the relationships between emerging organic micropollutants in wastewater effluents and in groundwater: Central Italy case study</b><br/>           Sapienza Research grants - year 2020. Department of Civil, Constructional and Environmental Engineering (DICEA), University of Rome “La Sapienza”.</p>   |
| February 2020 – May 2020                                | <p><b>Research scholarship: evaluation of the efficiency of traditional and innovative processes for the removal of emerging organic micropollutants from waters</b><br/>           Department of Civil, Constructional and Environmental Engineering (DICEA), University of Rome “La Sapienza”.</p>  |
| December 2018 – December 2020                           | <p><b>Research activity on the Integrated Water Service Performance Index</b><br/>           Contract between the Società Fondazione AMGA and the Department of Civil and Constructional Engineering, Engineering (DICEA), University of Rome “La Sapienza”.</p>  |
| June – September 2016                                   | <p><b>Collaboration at the research programme “Evaluation of investment selection methods in water supplies, aqueduct, sewage and waste water treatment for the regulation of the Integrated Water Service”.</b><br/>           Contract between the Italian Authority of Electricity, Gas and Water Systems (AEEGSI) and the Department of Civil, Constructional and Environmental Engineering (DICEA), University of Rome “La Sapienza”.</p>      |
| October 2015 – January 2016<br>January – December 2013  | <p><b>Support for the library service</b><br/>           Department of Structural and Geotechnical Engineering - Sala Architettura, Via E. Gianturco, 2, 00196 Rome and Department of Civil, Constructional and Environmental Engineering - sede Trasporti e Strade “Franco Giannini”, Via Eudossiana 18, 00184 Rome</p> <ul style="list-style-type: none"> <li>▪ Scholarship for librarian activity, use of online Sebina Open Library.</li> </ul> |
| July – August 2013                                      | <p><b>Sustainability assessment of European projects in Guatemala</b><br/>           Internship at Cirps (Interuniversity Research Center for Sustainable Development, University of Rome “La Sapienza”)</p> <ul style="list-style-type: none"> <li>▪ Sustainability assessment of projects founded by Aea (Alianza Energía y Ambiente) in Guatemala</li> </ul>   |

## Educational and training

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- November 2016 – February 2020 **European Ph.D in Environmental and Hydraulic Engineering - XXXII cycle**  
 Department of Civil, Constructions and Environmental Engineering (DICEA), University of Rome “La Sapienza”.  
 ▪ Doctor of Philosophy - Doctor Europaeus degree on 27/02/2020  
 ▪ Supervisor: Professor Agostina Chiavola, Co-Supervisor Professor Maria Rosaria Boni  
 ▪ Fate and removal of emerging contaminants in water and wastewater treatment plants.
- July 2019 – September 2019 **Research period abroad**  
 KWR, Water Research Institute, Nieuwegein, The Netherlands  
 ▪ Supervisors: Dr. Cheryl Bertelkamp, Dr. Nikki van Bell, Dr. Andrea Brunner  
 ▪ Development of a non-target screening-based data analysis workflow for the structural identification of transformation products and its application to real scale drinking water treatment samples
- February 2018 – August 2018 **Research period abroad: Joint research projects for the mobility of Ph.D. students**  
 Department of Civil and Environmental Engineering and School of Biological Sciences, University of Auckland, New Zealand.  
 ▪ Supervisor: Professor Naresh Singhal  
 ▪ A new strategy to enhance the removal of emerging contaminants in the activated sludge treatment for domestic sewage based on the stimulation of biocatalysts production.
- October 2013 - January 2016 **Master’s Degree, Environmental and Land Engineering**  
 Department of Civil, Constructional and Environmental Engineering (DICEA), University of Rome “La Sapienza”  
 ▪ Final mark 110/110 with honours, date 29/01/2016  
 ▪ Thesis title: Definition of an experimental protocol for the feasibility evaluation of bioremediation treatment on hydrocarbon contaminated soils.  
 ▪ Principal Subjects: wastewater treatment plants, hydraulic construction, environmental remediation, solid waste management planning, materials reuse and recycling
- October 2015 – January 2016 **Educational internship at ENEA (Agency for new technologies, energy and environment)**  
 ENEA Research center Casaccia, Via Anguillarese, 301, 00123 Rome  
 ▪ Characterization of hydrocarbons in soils during bioremediation using gas chromatography / mass spectrometry.
- February – June 2014 **Erasmus Programme**  
 Universidad de Cantabria - Escuela Técnica Superior de Ingenieros de Caminos, Canales y Puertos, Santander, Spain  
 ▪ Principal Subjects: environmental economics, renewable energies, limnology, wastewater treatment by phytoremediation.
- September 2010 – December 2013 **Bachelor's Degree, Environmental and Land Engineering**  
 Department of Civil, Constructional and Environmental Engineering (DICEA), University of Rome “La Sapienza”  
 ▪ Final mark 100/110, date 19/12/2013  
 ▪ Thesis title: Analysis of biodiesel production processes.
- September 2005 – July 2010 **High School Diploma**  
 Secondary school focused on scientific studies, “Liceo Leonardo Da Vinci”, Pescara, Italy

## Personal skills

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Mother tongue Italian  
 Other tongue (s)

Altre lingue	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken Interaction	Spoken Production	
English	B2	B2	B2	B2	B2
Spanish	C1	C1	C1	C1	B2
French	B1	B1	B1	B1	B1

## Digital competence

- Microsoft Office Suite
- R software
- Quantum Gis
- Wastewater treatment plants simulator (BioWin; SimpleTreat 4.0; ASIM)

Driving licence A1, A3, B

## Additional information

## Teaching activity

- Tutor at Environmental and Sanitary Engineering course (9CFU) A.A. 2016/2017, 2017/2018, 2018/2019, 2019/2020, 2020/2021, 2021/2022 and 2022/2023. Constructional and environmental systems engineering, University of Rome La Sapienza, Via A.M. Ricci, Rieti.
- Teaching activity support through practical exercises, for Water treatment plants course (9CFU). Environmental and Land engineering, University of Rome "La Sapienza".
- Co-supervisor of several master degree thesis in the field of environmental engineering.

## Honours and awards

- Winner of the Call Seal of SAPIExcellence 2023 from Sapienza University of Rome, as PI of the project REclaimed Wastewater for CROPs irrigation: stakeholder SUPPORTed assessment (REWCROP-SUPPORT)
- Winner of the Call Avvio Terza missione 2022 from Sapienza University of Rome, as PI of the project "Come stanno i nostri fiumi? Monitoraggio attivo della qualità delle acque in ambito urbano"
- Winner of the Call BE-FOR ERC 2022 from Sapienza University of Rome, as PI of the project ReWCrops.
- Award of the Seal of Excellence for the project 101104927 — ReWCrop, in the framework of HORIZON-MSCA-2022-PF-01-01 — MSCA Postdoctoral Fellowships 2022: High Quality Project, awarded by the European Commission.
- Winner of joint research projects for the mobility of the XXXI and XXXII cycle Ph.D. students 2018 with the project CHEMBIOCAT.
- Best paper award presented by young scientists in the conference topic Nexus Framework and governance. II edition of international conference on Water Energy Nexus, 14-17 November 2018, Salerno, Italy
- Winner of Start searching Scholarship, University of Rome La Sapienza, 2017

## Publications on international scientific journals

- 1) Mainardis, M.; Ferrara, C.; Cantoni, B.; Di Marcantonio, C.; De Feo, G.; Goi, D. How to Choose the Best Tertiary Treatment for Pulp and Paper Wastewater? Life Cycle Assessment and Economic Analysis as Guidance Tools. *Sci. Total Environ.* 2024, 906 (October 2023), 167598. <https://doi.org/10.1016/j.scitotenv.2023.167598>
- 2) Chiavola, A.; Di Marcantonio, C.; D'Agostini, M.; Leoni, S.; Lazzazzara, M. A Combined Experimental-Modeling Approach for Turbidity Removal Optimization in a Coagulation–Flocculation Unit of a Drinking Water Treatment Plant. *J. Process Control* 2023, 130, 103068. <https://doi.org/10.1016/j.jprocont.2023.103068>
- 3) Di Marcantonio, C.; Chiavola, A.; Noce, A.; Straccamore, E.; Giannuzzi, A.; Jirillo, J.; Gallo, F.; Boni, M. R. A Sustainable Approach to Enhance Heavy Hydrocarbons Removal in Landfarming Treatment. *Biodegradation* 2023, No. 0123456789. <https://doi.org/10.1007/s10532-023-10025-6>
- 4) Di Marcantonio, C.; Chiavola, A.; Gioia, V.; Leoni, S.; Cecchini, G.; Frugis, A.; Ceci, C.; Spizzirri, M.; Boni, M. R. A Step Forward on Site-Specific Environmental Risk Assessment and Insight into the Main Influencing Factors of CECs Removal from Wastewater. *J. Environ. Manage.* 2023, 325 (PA), 116541. <https://doi.org/10.1016/j.jenvman.2022.116541>.

- 5) Chiavola, A., D'Amato, E., Di Marcantonio, C., 2022. Comparison of Adsorptive Removal of Fluoride from Water by Different Adsorbents under Laboratory and Real Conditions. *Water* 14, 1423. <https://doi.org/10.3390/w14091423>
- 6) Di Marcantonio, C., Chiavola, A., Gioia, V., Frugis, A., Cecchini, G., Ceci, C., Spizzirri, M., Boni, M.R., 2022. Impact of COVID19 restrictions on organic micropollutants in wastewater treatment plants and human consumption rates. *Sci. Total Environ.* 811, 152327. <https://doi.org/10.1016/j.scitotenv.2021.152327>
- 7) Décima, M.A., Marzeddu, S., Barchiesi, M., Di Marcantonio, C., Chiavola, A., Boni, M.R., 2021. A Review on the Removal of Carbamazepine from Aqueous Solution by Using Activated Carbon and Biochar. *Sustainability* 13, 11760. <https://doi.org/10.3390/su132111760>
- 8) Di Marcantonio, C., Chiavola, A., Paderi, S., Gioia, V., Mancini, M., Calchetti, T., Frugis, A., Leoni, S., Cecchini, G., Spizzirri, M., Boni, M.R., 2021. Evaluation of removal of illicit drugs, pharmaceuticals and caffeine in a wastewater reclamation plant and related health risk for non-potable applications. *Process Saf. Environ. Prot.* 152, 391–403. <https://doi.org/10.1016/j.psep.2021.06.024>
- 9) Chiavola, A., Salvati, C., Bongiolami, S., Di Marcantonio, C., Boni Maria, R., 2021. Techno-economic evaluation of ozone-oxidation for sludge reduction at the full-scale. Comparison between the application to the return activated sludge (RAS) and the sludge digestion unit. *J. Water Process Eng.* 42, 102114. <https://doi.org/10.1016/j.jwpe.2021.102114>
- 10) Di Marcantonio, C., Bertelkamp, C., van Bel, N., Pronk, T.E., Timmers, P.H.A., van der Wielen, P., Brunner, A.M., 2020a. Organic micropollutant removal in full-scale rapid sand filters used for drinking water treatment in The Netherlands and Belgium. *Chemosphere* 260, 127630. <https://doi.org/10.1016/j.chemosphere.2020.127630>
- 11) Di Marcantonio, C., Chiavola, A., Bains, A., Singhal, N., 2020b. Effect of oxic/anoxic conditions on the removal of organic micropollutants in the activated sludge process. *Environ. Technol. Innov.* 20, 101161. <https://doi.org/10.1016/j.eti.2020.101161>
- 12) Di Marcantonio, C., Chiavola, A., Dossi, S., Cecchini, G., Leoni, S., Frugis, A., Spizzirri, M., Boni, M.R., 2020c. Occurrence, seasonal variations and removal of Organic Micropollutants in 76 Wastewater Treatment Plants. *Process Saf. Environ. Prot.* 141, 61–72. <https://doi.org/10.1016/j.psep.2020.05.032>
- 13) Barchiesi, M., Chiavola, A., Di Marcantonio, C., Boni, M.R., 2020. Presence and fate of microplastics in the water sources: focus on the role of wastewater and drinking water treatment plants. *J. Water Process Eng.* 101787. <https://doi.org/10.1016/j.jwpe.2020.101787>
- 14) Chiavola, A., Di Marcantonio, C., Boni, M.R., Biagioli, S., Frugis, A., Cecchini, G., 2020. Experimental investigation on the perfluorooctanoic and perfluorooctane sulfonic acids fate and behaviour in the activated sludge reactor. *Process Saf. Environ. Prot.* 134, 406–415. <https://doi.org/10.1016/j.psep.2019.11.003>
- 15) Chiavola, A., Boni, M.R., Di Marcantonio, C., Cecchini, G., Biagioli, S., Frugis, A., 2019. A laboratory-study on the analytical determination and removal processes of THC-COOH and bezoylecgonine in the activated sludge reactor. *Chemosphere* 222, 83–90. <https://doi.org/10.1016/j.chemosphere.2019.01.117>
- 16) Boni, M.R., Chiavola, A., Di Marcantonio, C., Scaffoni, S., Biagioli, S., Cecchini, G., Frugis, A., 2018. A study through batch tests on the analytical determination and the fate and removal of methamphetamine in the biological treatment of domestic wastewater. *Environ. Sci. Pollut. Res.* <https://doi.org/10.1007/s11356-018-1321-y>

## Publications on international conferences proceedings

- 1) Di Marcantonio C., Chiavola A., Leoni S., Calchetti T., Gioia V., Mancini M., Frugis A., Cecchini G., Spizzirri M., Boni M.R., 2021. Presence and removal of Organic Micropollutants in 8 different Wastewater Treatment Plants and residual Risk Assessment, 17th International Conference on Environmental Science and Technology (CEST2021), 1-4 September 2021, Athens, Greece.
- 2) Di Marcantonio C., Spagnoli D., Chiavola A., Frugis A., Leoni S., Cecchini C., Spizzirri M., Boni M.R., 2020. Removal of Contaminants of Emerging Concern in the Wastewater Treatment Plants and Residual Environmental Risk, 5th IWA Specialized International Conference 'Ecotechnologies for Wastewater Treatment (ecoSTP) 2021', 21-25 June 2021, Milan, Italy
- 3) Di Marcantonio C., Chiavola A., Calchetti T., Dossi S., Cecchini G., Leoni S., Frugis A., Spizzirri M., Boni M.R., 2020. Occurrence and removal of organic micropollutants in 76 wastewater treatment plants, SIDISA 2021 – XI INTERNATIONAL SYMPOSIUM ON ENVIRONMENTAL ENGINEERING, 30-2 July 2021, Turin, Italy
- 4) Di Marcantonio C., Bains A., Chiavola A., Singhal N., Boni M.R., 2018. Dissolved oxygen perturbations: a new strategy to enhance the removal of organic micropollutants in activated sludge process, 2nd WaterEnergyNEXUS Conference, 14-17 September 2018, Salerno, Italy. [https://doi.org/10.1007/978-3-030-13068-8\\_93](https://doi.org/10.1007/978-3-030-13068-8_93)
- 5) Chiavola A., Di Marcantonio C., Boni M.R., Cecchini G., Biagioli S., Frugis A., 2018. PFOA and PFOS removal processes in activated sludge reactor at laboratory scale, 2nd WaterEnergyNEXUS Conference, 14-17 September 2018, Salerno, Italy. [https://doi.org/10.1007/978-3-030-13068-8\\_94](https://doi.org/10.1007/978-3-030-13068-8_94)
- 6) Mazzola M.R., Bettenzoli E., Chiavola A., Di Marcantonio C., Fortunato A., Groppi A., Lombardo A., Manca J., Rolle E., 2017. Performance indicators to assess water & wastewater service criticalities and investments efficiency and effectiveness in the Italian regulatory context, paper presented at IWA Pi 2017; Specialist Conference on Benchmarking and Performance Assessment, 15-17 May 2017, Vienna, Austria
- 7) Chiavola A., Boni M.R., Di Marcantonio C., Organtini S., Cecchini G., Biagioli S., Frugis A., 2017. Uncertainties about analytical methods and removal processes of some drugs of abuse in the biological wastewater treatment, paper presented at CEST2017, 31 August-2 September 2017, Rhodes, Greece. ISBN 978-960-7475-53-4

## Publications on national conferences proceedings

- 1) Maria Rosaria Boni, Agostina Chiavola, Camilla Di Marcantonio, Francesco Gallo, Andrea Giannuzzi, Jacopo Jirillo, Simone Marzeddu, Alessandra Noce, Elisabetta Straccamore. Studio alla scala di laboratorio per l'ottimizzazione del processo di landfarming per la rimozione degli idrocarburi dal suolo. RemTech Expo 2021, 20-24 settembre 2021, Ferrara.
- 2) Gioia V., Cecchini G., Frugis A., Leoni S., Spizzirri M., Chiavola A., Di Marcantonio C., Dossi S., Boni M.R., 2020. Occorrenza, variazione, rimozione e impatto di microinquinanti organici emergenti in 76 WTPP, ECOMONDO, 3 - 6 Novembre, 2020, Rimini, Italia
- 3) Maria Rosaria Boni, Agostina Chiavola, Camilla Di Marcantonio, Francesco Gallo, Jacopo Jirillo, Simone Marzeddu, Elisabetta Straccamore. Il landfarming per la bonifica di un suolo contaminato da idrocarburi. Studio preliminare per la messa a punto di un caso reale. RemTech Expo Digital Edition, 21-25 settembre 2020

## Conferences

- 1) Poster session: C. Di Marcantonio, M. Barchiesi, A. Chiavola, M.R. Boni, G. Cecchini, A. Frugis, V. Gioia, S. Leoni, M. Spizzirri, 2022. Pharmaceuticals, illicit drugs and caffeine in WWTPs of the Central Italy: presence, removal processes, environmental risk assessments and upgrading technologies, paper presented at 12th MICROPOL & ECOHAZARD CONFERENCE 2022, 6-10 June 2022, Santiago de Compostela, Spain.
- 2) Oral presentation: C. Di Marcantonio, M. Barchiesi, T. Calchetti, G. Cecchini, A. Chiavola, A. Filippi, A. Frugis, S. Leoni, M. Spizzirri, M. R. Boni, 2022. Environmental Risk Assessment associate to Organic Micropollutants in the final effluent of Urban Wastewater Treatment Plants, 7th International Conference ECOLOGICAL & ENVIRONMENTAL CHEMISTRY, March 3-4, 2022, Chisinau, Republic of Moldova.
- 3) Oral presentation: Chiavola A., Di Marcantonio C., Boni M.R., Cecchini G., Biagioli S., Frugis A., 2018. PFOA and PFOS removal processes in activated sludge reactor at laboratory scale, 2nd WaterEnergyNEXUS Conference, 14-17 September 2018, Salerno, Italy.
- 4) Oral presentation: Di Marcantonio C., Bains A., Chiavola A., Singhal N., Boni M.R., 2018. Dissolved oxygen perturbations: a new strategy to enhance the removal of organic micropollutants in activated sludge process, 2nd WaterEnergyNEXUS Conference, 14-17 September 2018, Salerno, Italy.
- 5) Poster session: Chiavola A., Boni M.R., Di Marcantonio C., Organtini S., Cecchini G., Biagioli S., Frugis A., 2017. Uncertainties about analytical methods and removal processes of some drugs of abuse in the biological wastewater treatment, paper presented at CEST2017, 31 August-2 September 2017, Rhodes, Greece.
- 6) Poster session: Chiavola A., Boni M.R., Di Marcantonio C., Cecchini G., Frugis A., Biagioli S., 2017. Analytical Determination, Fate and Removal of Methamphetamine (MET) in the biological treatment of domestic wastewater, AOPs Summer School: 2nd Summer School on Environmental applications of Advanced Oxidation Processes, 10-14 July 2017, Porto, Portugal.

**Reviewer of international scientific journals**

- Environmental Science Processes & Impacts
- Environmental Science: Water Research & Technology
- CLEAN - Soil, Air, Water
- Chemosphere
- Sustainable Environment Research
- Science of the Total Environment
- **Journal of the Air & Waste Management Association**
- Journal of Environmental Management
- Frontiers of Environmental Science & Engineering

**Co-guest editor**

- Sustainability
- Water

**Affiliations**

- Member of International Water Association (IWA)
- Member of the IWA Young Water Professionals Italy
- Member of the NORMAN Network