

Curriculum Vitae

PhD Ing. Angela Marchetti

From 01/01/2022 – today: Postdoc in the laboratories of the Dept. of Chemistry, at Sapienza University of Rome, Italy.

22/07/2022: Ph.D. in Chemical Processes for Industry and the Environment, conferred at the Department of Chemistry, La Sapienza University of Rome, Italy. Thesis title "Optimisation of biotechnological processes for polyhydroxyalkanoates production from food industry by-products."

From 08/03/2021 to 02/10/2021: Visiting PhD student at the department of chemistry, NOVA school of science and technology (FCT NOVA), Portugal, in Bioeng. laboratories of Prof. Maria A. Reis.

21/09/2018: Professional Registration in Rome, Italy as engineer, section A / senior.

29/01/2018: Master's degree in environmental engineering at Sapienza University of Rome, Italy, with thesis work on "Synthesis of Magnetic Nanoparticles for the Treatment of Water in Emergency Scenario by Adsorption" with final mark equal to 110/110 cum laude;

18/12/2014: Bachelor's degree in environmental engineering at Sapienza University of Rome, Italy, with thesis work on "Mathematical Model to Estimate the Baseflow of Aniene river" final mark equal to 97/110;

09/07/2010: High school degree at liceo classico "Silvio Lo Piano", Cetraro, Italy, with final mark equal to 84/100.

Specific Knowledge:

Polyhydroxyalkanoates production from mixed microbial cultures. and from purple bacteria.

Production of volatile fatty acids from agro-residues and food industry by-products by acidogenic fermentation.

Wastewater treatment plant units.

Nanotechnologies: production of nanomaterials by process intensified equipment.

Membrane technologies: inhibition of membrane fouling.

Chemical process plants control.

Project and Achievements:

Participation at the research activity of AgriLoop Project (December 2022- today)

Participation at the research activity of Usable Project (unlocking the potential sustainable biodegradable packaging, g.a. n°836884), bio-based industries joint undertaking Horizon 2020 (June 2019- December 2022).

Participation at the Galileo project during the master degree, in year 2017-2018.

Winner of the First Prize of Excellent Master's Degree 2018 endorsed by AIDIC, Italian association of chemical engineering, Milan, Italy, May 2019.

Conferences and others Communications:

European Federation Biotechnology (EFB) – Green Deal Biotechnology, POZNAN, POLAND – 11/2023

Oral presentation: Resources recovery through the acidogenic fermentation of food industry by-products performed in a lab-scale sequencing batch reactor.

1th Symposium for young chemists: innovation and sustainability (SYNC), ROME, ITALY- 06/2022

Oral presentation: Mixed microbial culture polyhydroxyalkanoates production from food industry byproducts.

9th International conference on sustainable solid waste management, CORFU, GREECE- 06/2022

Oral presentation: Mixed cultures polyhydroxyalkanoates accumulation with synthetic and real feedstocks.

7th International conference on industrial biotechnology (IBIC), NAPLES, ITALY- 06/2022

Oral presentation: Polyhydroxyalkanoates production by mixed microbial cultures in sequencing batch reactors operated under different feeding conditions.

European Federation Biotechnology (EFB), online conference, ITALY- 05/2021

Poster presentation: Controlling the composition of polyhydroxyalkanoates produced with mixed microbial cultures from waste feedstocks by fine-tuning the organic load rate.

5th Edition of International Conference on Chemical Engineering (ICCE), online conference, ITALY- 10/2020

Poster presentation: Valorization of food industry byproducts towards polyhydroxyalkanoates production by mixed microbial cultures.

Conference on Environmental Science and Technology (CEST), RHODES, GREECE- 09/2019

Oral presentation: On the effect of specific boundary flux parameters on membrane process design.

14th International Conference on chemical and process engineering (ICHEAP), BOLOGNA, ITALY 05/2019

Oral presentation: Continuous removal of Cr(VI) by lab-scale fixed-bed column packed with chitosan-nanomagnetite particles.

2nd International conference on nanotechnology based innovative applications for the environment (nine) NAPLES, ITALY 04/2019

Oral presentation: Design of novel equipment capable to quickly produce efficient nanomaterials for use in environmental and sanitary emergencies.

7th Mixed microbial culture PHA, properties and applications workshop, VALENCIA, SPAIN 09/2021

Conference of “Associazione Italiana di Ingegneria Chimica (AIDIC)” - “La società sostenibile del futuro: il ruolo dell’ingegneria chimica”, ROME, ITALY 01/2019

Gruppo di Ingegneria Chimica dell’Università (GRICU), PALERMO, ITALY- PhD school and Conference 06/2019 about “Green Chemistry and Chemical Engineering” and “Chemical Engineering for Biomedical Application”.

LIST OF PUBLICATIONS

PEER-REVIEWED PUBLICATIONS:

1) Marchetti, Angela, et al. "Evaluation of the acidogenic fermentation potential of food industry by-products." *Biochemical Engineering Journal* 199 (October-2023): 109029.

<https://doi.org/10.1016/j.bej.2023.109029> (Related to the PhD thesis)

2) Montone, Carmela Maria, et al. "Biotic transformation products of sulfonamides in environmental water samples: High-resolution mass spectrometry-based tentative identification by a suspect screening

approach." *Journal of Pharmaceutical and Biomedical Analysis* 227 (April-2023): 115292. <https://doi.org/10.1016/j.jpba.2023.115292> (Other research)

3) Marzulli, Flavia, et al. "Coupled Biological and Thermochemical Process for Plastic Waste Conversion into Biopolymers." *Chemical Engineering Transactions* 100 (June-2023): 469-474. <https://doi.org/10.3303/CET23100079> (Related to the PhD thesis)

4) Viridis, Bernardino, et al. "Electro-fermentation: sustainable bioproductions steered by electricity." *Biotechnology Advances* 59 (October-2022): 107950. <https://doi.org/10.1016/j.biotechadv.2022.107950> (Related to the PhD thesis)

5) Marchetti, Angela, et al. "Polyhydroxyalkanoates Production by Mixed Microbial Cultures in Sequencing Batch Reactors Operated under Different Feeding Conditions." *Chemical Engineering Transactions* 93 (July-2022): 163-168. <https://doi.org/10.3303/CET2293028> (Related to the PhD thesis)

6) Marchetti, Angela, and Marco Stoller. "On the micromixing behavior of a spinning disk reactor for metallic Cu nanoparticles production." *Applied sciences* 9.16 (August-2019): 3311. <https://doi.org/10.3390/app9163311> (Other research)

7) Vuppala, Srikanth, et al. "Continuous removal of Cr (VI) by lab-scale fixed-bed column packed with chitosan-nanomagnetite particles." *Chemical Engineering Transactions* 73 (January-2019): 193-198. <https://doi.org/10.3303/CET1973033> (Other research)

8) Stoller, Marco, et al. "Design of novel equipment capable to quickly produce efficient nanomaterials for use in environmental and sanitary emergencies." *Chemical Engineering Transactions* (November-2019): 187-192. <https://doi.org/10.3303/CET1973032> (Galileo Project)

9) Stoller, Marco, et al. "On The Effect of Specific Boundary Flux Parameters on Membrane Process Design." *Chemical Engineering Transactions* 74 (January-2019): 685-690. <https://doi.org/10.3303/CET1974115> (Other research)

PROCEEDINGS

1) Marchetti, Angela, et al. "Book chapter- Developing bioplastics from agro-industrial wastes for application in the food packaging from agricultural wastes". *Burleigh dodds science publishing*, (under review). (Related to the PhD thesis)

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