Curriculum vitae

Angela Marchetti

Rome 25/04/2024

Ph.D. Chemistry Engineering – Environmental Engineer

About Me

Always passionate about environmental and sustainability field; passion that lead me to choose an university path as engineer, to have a good visibility of industrial production plant, processes, and different technologies, with strong focus on green perspective. I am both a practical and theoretical person to have fully vision and control of my subject study and work. I am a really determinate and reliable person, who likes to face new challenges and result oriented. After my master graduation I choose to purse a PhD, at Sapienza University of Rome, in Chemistry Engineering, in particular on Fermentation process and Bioplastic production.

Languages

Italian – Mather Language
English – B2
Portuguese – B1

Programs & tools

- Microsoft Office
- Gas Chromatografy
- Gel Perm. Chromatografy
- HPLC / Spectroscopy
- Miro
- Gis
- Risk-Net
- C++
- SolidEdge / Inkscape

Experience

January 2022 – Today: ***Postdoc in Dept. of Chemistry, Sapienza University of Rome***

- *Research activity on AgriLoop Project*: Eco-efficient conversion of agro-industrial residues into a portfolio of high value-added bioproducts capable of generating new biocompatible markets.
- *Research activity on Bioedilnanocarbon Project*: Polyhydroxyalkanoates production from mixed microbial cultures.

November 2019 – December 2022: ***Ph.D., Sapienza University of Rome***
Research activity on Usable Packaging Project: Development of biodegradable and bio-based plastics to implement circular economy in the plastics sector.

November 2018 – July 2022: ***Ph.D., Sapienza University of Rome***
Ph.D. with final dissertation on "Optimisation of biotechnological processes for polyhydroxyalkanoates production from food industry by-products."

March 2021- October 2021: ***Visiting Ph.D. in Dept. of Chemistry,FCT NOVA, Portugal.***
Research on valorization of farinaceous by-products through the acidogenic fermentation process and the PHA production with purple bacteria.

Education

March 2015 - Jan 2018: ***Master's degree in Environmental Engineering, Sapienza University of Rome*** – Specialization in Water treatment plants and soil remediation – final mark 110/110 cum laude
Oct 2010 – Dec 2014*: Bachelor's degree in Environmental Engineering Sapienza University of Rome* – final mark 97/110
Sept 2005 – July 2010: ***High school degree***, ***Liceo classico Silvio Lo Piano, Cetraro (Cs)*** - final mark 84/100.

Certifications & Achievements

- **May 2019 -** Winner of the First Prize of Excellent Master's Degree 2018 endorsed by AIDIC, Italian association of chemical engineering, Milan.
- **September 2018** - Engineering Professional Certification exam.

Publications

1) Marchetti, Angela, et al. "Valorization of Reground Pasta By-Product through PHA Production with Phototrophic Purple Bacteria". *Catalysts*, *14*(4) (April 2024): 239. https://doi.org/10.3390/catal14040239

2) Marchetti, Angela; Salvatori, Gaia; Tayou Nguemna, Lionel; Grumi, Mattia et al. “Developing Bioplastics from Agro-Industrial Wastes for Applications in Food Packaging”. Chapter-book (January-2024); pp. 273–316.

3) 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

4) 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

5) 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

6) Virdis, 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

7) 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

8) 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

9) 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

10) 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

11) 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

Conferences

- **1st annual meeting of AgriLoop project –** LISBON, PORTUGAL – 03/2024
- **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.
- **Kick off meeting of AgriLoop project –** MONTPELLIER, FRANCE – 01/2023
- **1th Symposium for young chemists: innovation and sustainability (SYNC)**, ROME, ITALY- 06/2022 - Oral presentation: Mixed microbial culture polyhydroxyalkanoates production from foodindustry byproducts.
- **9th International conference on sustainablesolid 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".