

# MARIANNA VILLANO

## Curriculum Vitae

### GENERAL INFORMATION

**Full Name:** Marianna Villano

**Citizenship:** Italian

**E-mail:** marianna.villano@uniroma1.it

**Current Position:** Associate Professor of Chemical Engineering

**Affiliation:** Department of Chemistry-Sapienza University of Rome (Italy)

**Spoken Languages:** Italian, English

### EDUCATION

**May 2011:** PhD in Industrial Chemical Processes- Sapienza University of Rome

**May 2007:** Master of Science (Summa cum laude) in Industrial Chemistry- Sapienza University of Rome

### PROFESSIONAL EXPERIENCES

**January 2019- January 2022:** Assistant Professor (RTD-B, Tenure-track position) of Chemical Engineering at Sapienza University of Rome- Department of Chemistry

**June 2012- May 2017:** Assistant Professor (RTD-A, fixed term position) of Chemical Engineering at Sapienza University of Rome- Department of Chemistry

**February 2011- January 2012:** Post-doctoral Fellowship at Sapienza University of Rome- Research Center for Applied Sciences to the safeguard of Environmental and Cultural Heritage (CIABC)

**January 2010- June 2010:** Visiting PhD student (6-months) at Department of Biological and Environmental Engineering- Cornell University (Ithaca, NY, USA)

**November 2007- October 2010:** PhD Scholarship at Sapienza University of Rome- Department of Chemistry

**July 2007- October 2007:** Pre-doctoral Scholarship at Sapienza University of Rome- Department of Chemistry

### TEACHING EXPERIENCE

**2021/2022:** Lecturer of the course "Chemical Processes and Plants I" (in Italian), Bachelor degree in Chemical Sciences- Sapienza University of Rome

**2018/2019 - present:** Lecturer of the course "Biological Industrial Processes" (in Italian), Bachelor degree in Agro-Industrial Biotechnology- Sapienza University of Rome

**2019/2020; 2020/2021:** Lecturer of the course "Chemical Plants" (in Italian), Bachelor degree in Environmental and Workplace Prevention Techniques- Sapienza University of Rome

**2013/2014; 2014/2015; 2015/2016; 2016/2017; 2021/2022:** Lecturer of part of the course “Treatment Processes of waste and wastewater with material and energy recovery” (in Italian), Master degree in Industrial Chemistry- Sapienza University of Rome

**2013/2014; 2014/2015; 2015/2016; 2016/2017:** Lecturer of part of the course “Chemical Processes and Plants II” (in Italian), Bachelor degree in Industrial Chemistry- Sapienza University of Rome

## **OTHER ACTIVITIES**

**2019- present:** Member of the PhD board of the PhD School in Chemical Processes for the Industry and the Environment- Sapienza University of Rome

**2019- present:** Advisor of three PhD students in Chemical Processes for the Industry and the Environment

**2016- present:** External Reviewer or jury member of 6 National and International PhD theses

**2014- present:** Tutor and supervisor of undergraduate students for Bachelor and Master thesis in Industrial Chemistry, Agro-Industrial Biotechnology and Genomic, Industrial and Environmental Biotechnology

## **SOCIETY MEMBERSHIPS, AWARDS AND HONORS**

**2022:** Guest Co-Editor of the Special Issue “Biocatalytic processes: a multidisciplinary platform for future biorefineries and energy conversion systems”, Catalysts (MDPI) (*in progress*)

**2021:** Member of the Scientific Committee of the International Conference “7<sup>th</sup> Mixed Microbial Culture PHA, properties and applications workshop” - Valencia (Spain), 21-22 September 2021

**2021:** Member of the Scientific Committee of the International online Conference “5<sup>th</sup> European Meeting of the International Society for Microbial Electrochemistry and Technology (5<sup>th</sup> EU-ISMET)” - Girona (Spain), 13-15 September 2021

**2021:** Elected member (2021-2024) of the Board of Directors of the International Society for Microbial Electrochemistry and Technology (ISMET, <https://is-met.org/about/>)

**2021:** Invited lecture entitled “Polyhydroxyalkanoates production from waste feedstock with mixed microbial cultures” in the Seminar Biocatalysis of FAU- Department of Chemical and Biological Engineering of the Friedrich-Alexander University Erlangen-Nuremberg (FAU, Germany)

**2021- present:** Member of the editorial board of the Journal “Scientific Reports” (Springer Nature)

**2021- present:** Member of the editorial board of the Journal “Environments” (MDPI)

**2021- present:** Member of AIDIC (Italian Association of Chemical Engineering, <https://www.aidic.it/>)

**2020- present:** Co-chair of the working group “Valorization of organics” of the Environmental Biotechnology section of the European Federation of Biotechnology (EB-EFB)

**2020- present:** Member of the editorial board of the Journal “Processes” (MDPI)

**2019- present:** Member of the Scientific Committee of the Research Center for Applied Sciences to the safeguard of Environmental and Cultural Heritage (CIABC)- Sapienza University of Rome

**2017:** Guest Co-Editor of the Special Issue “Recent advances in microbial electrochemical technologies (Topical Issue EU-ISMET 2016)”, Fuel Cells-From Fundamentals to Systems Vol.17(5) (Wiley)

**2017:** Guest Co-Editor of the Special Issue “Biopolymers EU Symposium”, New Biotechnology Vol.37-PartA (Elsevier)

**2016:** Member of the Scientific Committee of the International Conference “The 3<sup>rd</sup> European Meeting of the International Society for Microbial Electrochemistry and Technology (EU-ISMET 2016)” - Rome (Italy), 26-28 September 2016

**2016:** Invited keynote presentation at the International Conference “The 3<sup>rd</sup> European Meeting of the International Society for Microbial Electrochemistry and Technology (EU-ISMET 2016)”. Title of the presentation: “Microbial electrochemical technologies meet anaerobic digestion: from biogas purification and nutrient recovery to electro-fermentation”- Rome (Italy), 26-28 September 2016

**2015:** Member of the Organizing Committee of the International Conference “8<sup>th</sup> European Symposium on Biopolymers (ESBP2015)” - Rome (Italy), 15-18 September 2015

**2013:** Invited keynote presentation at the International Conference “European Symposium on Biopolymers (ESBP2013)”. Title of the presentation: “Olive oil mill wastewater as renewable source in a multi-stage process from phenol recovery to polyhydroxyalkanoates production”- Lisbon (Portugal), 07-09 October 2013

**2010- present:** Reviewer for several International Journals, including: “Bioresource Technology; Bioelectrochemistry; Journal of Chemical Technology and Biotechnology; Journal of Power Sources; Microbial Biotechnology; New Biotechnology; Trends in Biotechnology; Waste Management; Water Research”

**2010:** Award of the Italian Chemical Society (SCI) for the best poster presentation at the Conference “Quarto convegno giovani: la chimica nelle nanoscienze e nelle nanotecnologie” Department of Chemistry- Sapienza University of Rome (Italy), 16-17 June 2010

**2008:** Invited keynote presentation at the International Conference “4<sup>th</sup> European Bioremediation Conference”. Title of the presentation: “Exploiting olive oil mill effluents as a renewable resource for production of biodegradable polymers through an anaerobic-aerobic process” - Chania (Greece), 03-06 September 2008

**2008:** Award of “Ordine dei Chimici di Lazio, Umbria, Abruzzo, Molise (LUAM)” for the best poster presentation at the Conference “Terzo convegno giovani: la chimica sostenibile” Department of Chemistry- Sapienza University of Rome (Italy), 18-19 June 2008

## RESEARCH PROJECTS

**2020- present:** Investigator of the Research Project: “A new life for plastic waste: conversion into polyhydroxyalkanoates via an integrated physical-chemical and biotechnological process” – Sapienza University of Rome (Progetto di Ateneo 2020, Grant n. RG120172B794BC2D)

**2019-present:** Investigator, as responsible of the Sapienza research unit, of the European H2020 Research Project: “USABLE Packaging” (Unlocking the potential of Sustainable Biodegradable Packaging, BBI JU-Project ID: 836884)

**2019-present:** Principal Investigator of the Research Project: “Sviluppo di un processo biotecnologico avanzato in scala di laboratorio per la produzione di polioidrossialcanoati con colture

microbiche miste: dalla selezione microbica all'estrazione ed applicazione del polimero prodotto” – Sapienza University of Rome (Progetto di Ateneo 2019, Grant n. RM11916B87F9FBFB)

**2017-2021:** Investigator of the following European H2020 Research Projects: “NoAW” (Innovative approaches to turn agricultural waste into ecological and economic assets, Project ID: 688338) “SMART-Plant” (Scale-up of low carbon footprint MATERIAL Recovery Techniques for upgrading existing wastewater treatment Plants, Project ID: 690323); “RES URBIS” (RESources from URban Blo-waSte, Project ID: 730349)

**2016-2020:** Investigator of the European FP7 ERANETMED Research Projects “WE-MET” (Sustainable wastewater treatment coupled to energy recovery with microbial electrochemical technologies, Project ID: 14-035)

**2011-2016:** Investigator of the following European FP7 Research Projects: “EcoBioCAP” (Ecoefficient Biodegradable Composite Advanced Packaging, G.A. n°: 265669); “ROUTES” (Novel processing routes for effective sewage sludge management, G.A. n°: 265156); “WATER4CROPS” (Integrating biotreated wastewater reuse and valorization with enhanced water use efficiency to support the Green Economy in EU and India, G.A. n°: 311933)

## **MAIN RESEARCH INTERESTS**

Development of biochemical processes for waste management and resource recovery. In particular, main attention is paid at studying mixed microbial culture-based processes for the treatment and simultaneous valorization of waste and wastewater. Design and operation of chemical and biological reactors (batch and continuous). Production of bio-based and biodegradable polymers (i.e., polyhydroxyalkanoates, PHA) from either synthetic or waste feedstocks. Application of innovative microbial electrochemical technologies for biofuels (i.e., H<sub>2</sub>, CH<sub>4</sub>) generation, production of chemicals, biogas upgrading, or for the control of products deriving from acidogenic fermentation

## **SUMMARY OF SCIENTIFIC ACHIEVEMENTS**

Author of 44 papers in peer-reviewed International Journals (including one highly cited paper, WoS Clarivate Analytics), 5 Book Chapters and over 50 conference papers. H-Index: 22; Citations: 2327 (Source: SCOPUS; March 2022).

MARCH 2022