

Claudia Vona

● ABOUT ME

I'm a PhD in Chemical Processes for Industry and Environment, driven by a deep commitment to sustainability. My research focuses on turning organic waste into high-value biodegradable plastics (polyhydroxyalkanoates), combining lab-scale experimentation with process modeling. This path led me to co-found a startup dedicated to scaling up sustainable materials production. I recently expanded my skill set with kinetic modeling in MATLAB, and thrive at the intersection between hands-on lab work, data analysis, and innovation. I'm quick to learn, comfortable in dynamic environments, and passionate about science communication and collaboration.

● EDUCATION AND TRAINING

PhD in Chemical Process for Industry and Environment Sapienza University of Rome (2022-2025)

Field of study Chemical Processes for Industry and Environment **Final grade** with honors, mention of Doctor Europeus

Thesis Efficient Production of Polyhydroxyalkanoates with Mixed Microbial Cultures: Combining Process Engineering, Modeling tools and Downstream Strategies "

2020 – 2022 Rome, Italy

MASTER'S DEGREE Sapienza University of Rome

Field of study Industrial Chemistry **Final grade** 110/110 cum Laude

Thesis Development of a continuous-feeding process for the production and accumulation of polyhydroxyalkanoates with microbial mixed cultures

2017 – 2020 Rome, Italy

BACHELOR'S DEGREE Sapienza University of Rome

Field of study Industrial Chemistry **Final grade** 104/110

Thesis Antimicrobial peptides – characterization and supermolecular organization

2012 – 2017 Rome, Italy

HIGH SCHOOL GRADUATION Liceo Scientifico Tullio Levi Civita

Field of study Science **Final grade** 82/100

● WORK EXPERIENCE

2025 – CURRENT

STARTUP CO-FOUNDER SiPHA' s.r.l.

Process optimization and reactor scale-up design

Collaboration on EU project proposals and cost analysis

Website design & digital content creation (photos, visuals)

Communication and marketing strategy development

Web site <https://www.sipha.it/>

2022 – 2025

PHD STUDENT SAPIENZA UNIVESITÀ DI ROMA

Mixed microbial cultures: manipulation of activated sludge, waste-derived substrates, groundwater samples.

Pure strains: work under sterile conditions (biological hood), preparation of culture media, bacterial growth management.

Analytical techniques: Gas Chromatography (GC), HPLC, Mass Spectrometry, COD analysis, gravimetric analysis, Gel Permeation Chromatography (GPC).

Bioelectrochemical systems: electrode and reference electrode handling, potentiostat operation, electrochemical measurements.

Process engineering: parameter studies, process optimization, reactor dimensioning and scale-up with an industrial perspective.

2024 – 2025

PHD STAY UNIVERSIDADE DE SANTIAGO DE COMPOSTELA

Development of a dynamic kinetic model for biotechnological PHA production processes.

MATLAB programming: code development, model creation, parameter estimation and residual minimization.

Kinetic studies and model implementation based on literature data.

2023

ACADEMIC TUTOR SAPIENZA UNIVESITÀ DI ROMA

Tutor for the course "General and Inorganic Chemistry" first year of Civil Engineering degree with professor Isabella Chiarotto, Sapienza University of Rome.

● LANGUAGE SKILLS

Mother tongue: **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C1	C2	C1
SPANISH	C1	C1	C1	C2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● ADDITIONAL INFORMATION

CONFERENCES AND SEMINARS

12/09/2023 – 15/09/2023 – Brno

European Symposium on Biopolymers 2023 Oral presentation "Novel continuous-feeding process for polyhydroxyalkanoates production with mixed microbial cultures".

Link <https://esbp2023.com/>

25/06/2024 – 28/06/2024 – Roma

SYNC – 2nd Symposium for Young Chemists: Innovation and Sustainability Poster presentation "Oxidative treatment for Polyhydroxyalkanoates recovery with Mixed Microbial Cultures cultivated in a continuous process"

Link <https://sync2024rome.org/>

06/09/2023 – 09/09/2023 – Wageningen

EU-ISMET 2023 – Author "Anodic Electro-Fermentation as a tool to manage PHA accumulation with Mixed Microbial Cultures"

Link <https://event.wur.nl/141299>

PUBLICATIONS

Magonara, C., Montagnese, E., Bertasini, D., **Vona, C.**, Salvatori, G., Tayou, L. N., ... Pesante, G. (2025). Mixed-culture polyhydroxyalkanoate production with variable hydroxyvalerate content from agri-food residues. *Environmental Science and Pollution Research*, 1–17. <https://doi.org/10.1007/s11356-025-36316-4>

INTELLECTUAL PROPERTY

Continuous process for polyhydroxyalkanoates production with mixed microbial cultures – Italian Patent Application No. 102024000013207 (filed 10 June 2024, under 18-month confidentiality).

Role: Co-inventor

Assignee / Owner: Sapienza University of Rome.