CURRICULUM VITAE Genny Pastore

EDUCATION

- BACHELOR DEGREE
  Genny Pastore received her bachelor degree in Chemistry, 110/110 cum laude, in 2014 at the University of Camerino-Italy, with the dissertation thesis in material chemistry: "*Il ruolo della chimica negli elastomeri: dalle materie prime al prodotto finito*" under the guidance of Professor Enrico Marcantoni and Dr. Daniele Paglialunga from Eurosuole company.
- MASTER DEGREE
  She received then, her master degree in chemistry and advanced chemical methodologies, 110/110 cum laude, in 2016 at the University of Camerino, with the dissertation thesis in organic synthesis: "*Microwave assisted aminolysis of lactones: an easy methodology for the synthesis of amides*", under the supervision of Prof. Enrico Marcantoni.
- SCHOLARSHIP HOLDER
  During the period February 2017-November 2017 she received a scholarship, at the University of Camerino on *"Study and validation of innovative and sustainable devulcanization systems of industrial rubber waste"*, under the supervision of Professor Enrico Marcantoni, Prof. Serena Gabrielli and Dr. Eleftherios Ladikos, from Producta company. During this period, Genny Pastore studied and developed a thermomechanical selective scissions process for recycling of rubber waste.
- PhD in Chemical and Pharmaceutical Sciences and Biotechnology
  In December 2017 she started her PhD studies at the University of Camerino and in September 2021 she obtained the PhD degree in Chemical and Pharmaceutical sciences at the University of Camerino, with a thesis "Biocircular economy: from recycling of industrial wastes to laboratory synthesis of biopolymers", under the supervision of Prof. Enrico Marcantoni and co-supervision of Prof. Serena Gabrielli, Dr. Eleftherios Ladikos, from Producta company and Ing. Andrea Ingargiola form Fratelli Guzzini company.
  In this period Genny Pastore focused her attention on the circular economy and on the synthesis of bio-based polymers. Her research was based on the chemical-physical characterization of industrial waste composite materials and on the study of additives capable of improving the thermal and mechanical performance of recycled materials. Her work also involved the chemical characterization of bio-based polymers and their synthesis. In particular, she studied a new catalytic system for the eco-sustainable synthesis of polylactic acid (PLA) and polyurethane acrylate (PUA).
  During her PhD period, she also acquired experience on the chemical-physical characterization of material composites, using different techniques such as: *scanning electron microscope (SEM), Fourier-transform infrared spectroscopy (FTIR-ATR), thermogravimetric analysis (TGA), nuclear magnetic resonance (NMR), differential scanning calorimetry (DSC), gel permeation chromatography (GPC), high performance liquid chromatography (HPLC), dynamic mechanical analysis(DMA), tensile testing.*
- VISITING PhD
  During her PhD, in 2020, she has been visiting PhD student, in the laboratories of R-NanoLab at the Materials Science and Engineering Department of National Technical

University of Athens under supervisor of Prof. Charitidis Costas. During this period, Genny Pastore worked on the synthesis of mesoporous silica nanoparticles (MSNs) and their functionalization. She also studied different self-healing strategies applicable for thermoplastics, such as the microencapsulation of plasticizers and the incorporation of graphene or carbon nanotubes into the polymer matrix.

- SCHOLARSHIP HOLDER
  During the period June 2021-September 2022 she started a scholarship at the University of Camerino on the *" Development of methodologies for the composition of post-industrial and post-consumer waste composite materials for their reuse or recycling in the circular economy "*, under the supervision of Professor Enrico Marcantoni, Dr. Manuela Cortese and Prof. Serena Gabrielli. During this period, she focused the attention on two research topics, envisaged by the Marlic project, denominated "biobased" and "demanufacturing".
- POSTDOCTORAL FELLOWSHIP
  In October 2022 she started a postdoctoral fellowship on the "*Development of new methodologies to determine the chemical composition of composite materials in order to synthesize suitable organic additives aimed at obtaining formulations in a circular economy perspective*" under the supervision of Prof. Enrico Marcantoni, Dr. Manuela Cortese and Prof. Serena Gabrielli. In particular, she has developed new analytical methodologies to determine the composition of waste composite materials. In this way it is possible to define their life cycle and allow companies to face problems of characterization, processability and classification of waste materials, that are candidates to become secondary raw materials. Furthermore, her studies also focused on the chemical and thermal characterization of proteins from animal and vegetable waste and on the functionalization of natural fibers in order to be able to use them in composite materials as reinforcing agents. She is now working as postdoctoral fellow in the Marlic project.

TEACHING ACTIVITIES

- LECTURES ORGANIC CHEMISTRY
  During her postdoctoral fellowship, in 2023, she did 56 hours of lessons in organic chemistry at Jilin Agriculture University (Changchun, Cina).
- Laboratory of Microplastics
  During her postdoctoral fellowship, in 2023, she did 4 hours of laboratory course of Prof. Serena Gabrielli in Microplastics.
- Laboratory of Polymer Chemistry
  During her postdoctoral fellowship, in 2023, she did 8 hours of laboratory course of Prof. Serena Gabrielli in Polymer Chemistry.
- TUTOR of Organic Chemistry 1
  During her PhD, in 2021, she supervised the laboratory course of Prof. Serena Gabrielli in Organic Chemistry 1.
- TUTOR of Organic Chemistry 2
  During her PhD, in 2020, she supervised the laboratory course of Dr. Cristina Cimarelli in Organic Chemistry 2.

- TUTOR of General Chemistry
  During her PhD, in 2019, she did 25 hours of lessons in general chemistry course of Prof. Riccardo Pettinari.
- LECTURES ORGANIC CHEMISTRY
  During her PhD, in 2019, she did 10 hours of lessons in organic chemistry course of Prof. Enrico Marcantoni.

Supervision of Students:

- 2017-2018 Alex Cerretani "Importanza della ricerca e sviluppo di nuovi materiali per stampa 3D: il PLA per una maggiore ecosostenibilità".
- 2017-2018 Edoardo Parrucci "Studio di un nuovo sistema catalitico per la sintesi ecosostenibile dell'acido polilattico".
- 2017-2018 Francesca Steca "Study of the Lewis acid ring opening polymerization of lactic acid cyclic dimer in the fabrication of eco-friendly completely biodegradable bio-composites".
- 2018-2019 Mauro Garbini "Sviluppo di un sistema catalitico ecofriendly per la sintesi di acido polilattico in applicazioni biomedicali".
- 2018-2019 Gioele Montevidoni "Sviluppo di un nuovo sistema catalitico per la preparazione ecosostenibile dell'acido polilattico".
- 2019-2020 Sabrina Capodaglio "Importance of sustainable processes in the synthesis of biodegradable and biocompatible polymers: poly(lactic acid) and bio-based poly(ester-urethane)".
- 2020-2021 Francesca Stella "Advances in Synthesis of Sustainable Bio-based Polyurethane Acrylates Suitable for Biomedical Applications".
- 2020-2021 Edoardo Parrucci "Microwave as greener route for PET depolymerization for a back-to-monomer recycling method and PolyUrethane Acrylate synthesis".
- 2022-2023 Elettra Gheco "Acido Poli (Lattico Co-Glicolico): Strategie di Sintesi, Impiego di un Nuovo Catalizzatore e Caratterizzazione."

INDUSTRIAL COLLABORATIONS

During her scholarship and PhD studies, she worked on several projects, coming from the collaboration between the Organic Chemistry Division of the University of Camerino and companies in MATERIAL SCIENCE field, scattered throughout the country. Projects developed under the scientific responsibility of Prof. Enrico Marcantoni:

- DELTA- PLADOS (15.07.2011-actually in progress) "Study and development of innovative and eco-friendly composite materials made with scraps and functionalized TiO_2 NPs, to impart antimicrobial and self-cleaning properties in the production of kitchen sinks"
- HAGER-BOCCHIOTTI (03/10/2012-actually in progress) "Study and development of new eco-friendly additives in polymer formulations as fundamental components of high quality, to be introduced in the new area of application"
- ELENTAS (02.01.2013-actually in progress) "Study and realization of a sustainable synthesis of polyhydantoins, featuring excellent flexibility and adhesion to the metal substrate"
- PRODUCTA (10.01.2016-actually in progress) "Study and Characterization of novel composite materials with high eco-sustainability and compatible with the existing industrial methodologies"
- ECService (1.06.2017-31.05.2018) "Study and identification of novel additives for improving the varnish density and to improve the applicability of the same using a specific patented instrument, developed at EcService laboratory"
- F.lli GUZZINI (4.09.2017-actually in progress) "Study and Characterization of principal thermoplastic polymers actually used from the company, and a novel application of Bio-based materials"

- ICA (1.07.2017-actually in progress) “Colorimetric yield of water based varnish using TiO_2 as base additive”
- iGUZZINI (1.03.2019-actually in progress) “Study of resistance and permeability of silicon compounds for indoor-outdoor applications”
- HP COMPOSITES (2021-actually in progress) “Functionalization of natural fiber reinforced epoxy composites

CONFERENCES, SYMPOSYIUM, SEMINAR AND SCHOOL

- Seminar: Chemistry as a melting pot of cultures: from Camerino to Saudi Arabia carried out in Camerino on 19/6/2018.
- Seminar: Open science carried out in Camerino on 12/2/18.
- Seminar: Orientation day carried out in Camerino on 12/2/18.
- Seminar: Ethics in research carried out in Camerino on 14/2/18.
- Seminar: Scientific English carried out in Camerino on 13-16/2/18.
- Seminar: Scientific writing carried out in Camerino on 24-26/9/18.
- Seminar: Gender Training carried out in Camerino on 27/9/2018.
- Seminar: Open Science day carried out in Camerino on 28/9/2018.
- Seminar: The Science and Chemistry Behind Champix (varenicline tartrate), an Aid to Smoking Cessation carried out in Camerino on 5/11/2018.
- Seminar: New Frontier Synthesis, carried out in Camerino on 9/3/2019.
- Seminar: Geopolymers for consolidation of hazardous and non-hazardous, carried out in Camerino on 17/5/2019.
- Seminar: Synthetic approach to generic active principles, carried out in Camerino on 28/6/2019.
- Conference: Enerchem-School carried out in Fiesole on 20-24/02/18.
- Conference: XXXVIII Convegno Nazionale della divisione di chimica organica carried out in Milano on 09-13/9/18.
- Conference: XLIV Summer School "A. CORBELLA" - Seminars on Organic Chemistry carried out in Gargnano on 9-13/6/19.
- Conference: 6th Scientific Day of School of Science and Technology carried out in Camerino, on 28/9/18.
- Conference: EPF 9th Summer School – Dynamic and reversible polymer networks carried out in Bertinoro on 20-24/5/19.
- Conference: XXXVIIII Convegno Nazionale della divisione di chimica organica carried out in Torino on 08-12/9/19.
- Webinar: La rivoluzione Orbitrap: innovazione tecnologie e potenzialità, 29/2/2020.

- Webinar: La risposta dell'igiene e della sanità pubblica e all'emergenza coronavirus, 31/1/2020.
- Webinar: 1° Virtual symposium of Organic Chemist, 06/6/2020.
- Webinar: Corso di Preparativa dei campioni al SEM, 02/4/2020.
- Webinar: Calorimetria Differenziale a Scansione (DSC) e Analisi Termogravimetrica (TGA), 22/04/2020.
- Webinar: Il problem-solving nella filiera dei compositi-analisi DSC e TGA in pratica, 23/4/2021.
- Webinar: Analisi dinamico meccanica (DMA) il metodo standard per il controllo-qualità del prodotto finito, 29/4/2020.
- Webinar: Repair3D - Summer school webinar 14/7/2020. Partecipation to the webinar with the title: Development of sustainable devulcanization process for recycling of industrial rubber waste.
- Participation to the webinar series "Un dottorando in 40 minuti – An initiative to keep going" organized by SAS of University of Camerino with the title: Circular Economy vs Bio-based polymers. What's the clue. 16/6/2020
- Webinar: Il Ruolo del Risk Management nelle Unità di Crisi in era COVID, 6/5/2020.
- Conference: EPF 10th Summer School-Polymers and circular economy, 17-19/5/21.
- Conference: Polymer Process Innovation (PPI), carried out in Greece, 15-16/7/22. Participation with oral communication entitled: sustainable implementation of industrial rubber waste recycling: chemical and thermo-mechanical joining for a selective devulcanization.
- JEC Forum ITALY 6-7/6/23.

POSTER

- G. Pastore, S. Gabrielli, E. Marcantoni, A. Menchi, F. V. Rossi, G. Lupidi, N. Stefanini; "Contamination of polymeric materials with natural molecules".
- A. Menchi, S. Marazzita, E. Marcantoni, G. Pastore; "Characterization of the distribution of TiO_2 resin and pigments whitin a water-based paint".
- G. Pastore, R. Ballini, S. Gabrielli, C. Luciani, A. Menchi, L. Paniccia, E. Marcantoni "Bio-based renewable polymeric materials from research to industrial point of view".
- G. Pastore, S. Gabrielli, D. Gentili, R. Giacomantonio, M. Lippolis, E. Leone, E. Marcantoni "A new non-toxic and eco-sustainable catalytic system for the synthesis of PLA".

- G. Pastore, Roberto Giacomantonio, Gabriele Lupidi, Francesca Stella, Mattia Manfroni, Edoardo Parrucci, Serena Gabrielli, Enrico Marcantoni "Poly(ethylene terephthalate) upcycling for the synthesis of Polyurethane acrylate (PUA) "

PUBLICATIONS

1. "A new and efficient lactic acid polymerization by multimetallic cerium complexes: a poly(lactic acid) suitable for biomedical applications" Pastore, G.; Gabrielli, S.; Cecchi, T.; Giuliani, A.; Cimarelli, C.; Menchi, A.; Marcantoni, E. *RSC Adv.* **2021**, 11, 10592. doi: 10.1039/d0ra10637b
2. "Chemical and Mechanical Characterization of Licorice Root and Palm Leaf Waste Incorporated into Poly(urethane-acrylate) (PUA)" Gabrielli, S.; Pastore, G.; Stella, F.; Marcantoni, E.; Sarasini, F.; Tirillò, J.; Santulli, C. *Molecules* **2021**, 26, 7682. doi:10.3390/molecules26247682
3. "An efficient synthesis of bio-based Poly(urethane-acrylate) by SiO_2-Supported $CeCl_3 \cdot 7H_2O$–NaI as recyclable Catalyst" Pastore, G.; Gabrielli, S.; Giacomantonio, R.; Lupidi, G.; Capodaglio, S.; Stella, F.; Leone, E.; Compagnucci, T.; Marcantoni, E. *Results in Materials* **2022**, 15, 100294. doi:10.1016/j.rinma.2022.100294
4. "A novel treatment and derivatization for quantification of residual aromatic diisocyanates in polyamide resins" Pastore, G.; Gabrielli, S.; Leone, E.; Cortese, M. Gentili, D.; Biondi, G.; Marcantoni, E. *Sci. Rep.* **2022**, 12, 12993. doi:10.1038/s41598-022-17316-7
5. "Microplastics accumulation in gastrointestinal tracts of Mullus barbatus and Merluccius merluccius is associated with increased cytokine production and signaling" Cocci, P; Gabrielli, S.; Pastore, G.; Minicucci, M.; Mosconi, G.; Palermo, F. A. *Chemosphere* **2022**, 135813. doi:10.1016/j.chemosphere.2022.135813.
6. "Chemical, Thermal and Mechanical Characterization of Licorice Root, Willow, Holm Oak, and Palm Leaf Waste Incorporated into Maleated Polypropylene (MAPP)" Gabrielli, S.; Caviglia, M.; Pastore, G.; Marcantoni, E.; Nobili, F.; Bottoni L.; Catorci A.; Bavasso I.; Sarasini, F.; Tirillò, J.; Santulli, C. *Polymers*, **2022**, 14, 4348. doi: 10.3390/polym14204348
7. "Recent Developments in Chemical Derivatization of Microcrystalline Cellulose (MCC): Pre-Treatments, Functionalization, and Applications" Lupidi, G.; Pastore, G.; Marcantoni, E.; Gabrielli, S. *Molecules* **2023**, 28, 2009. doi:10.3390/molecules28052009
8. "Electrochemical Characterization of Charge Storage at Anodes for Sodium-Ion Batteries Based on Corncob Waste-Derived Hard Carbon and Binder" Bottoni L.; Darjazi H.; Sbrascini L.; Staffolani A.; Gabrielli S.; Pastore G.; Tombesi A.; Nobili F. *ChemElectroChem* **2023**, 10, e202201117. doi: 10.1002/celc.202201117
9. "Aquo-DESs: Water-based binary natural deep eutectic solvents" Picciolini, E.; Pastore, G.; Del Giacco, T.; Ciancaleoni, G.; Tiecco, M.; Germani, R. *J. Mol. Liq.*, **2023**, 383, 122057. doi: 10.26434/chemrxiv-2023-dggt1.
10. "Novel terephthalamide diol monomers synthesis from PET waste to Poly(Urethane acrylates) Pastore, G.; Giacomantonio, R.; Lupidi, G; Stella, F.; Risoluti, R.; Papa, E.;

Ballini, R.; Sarasini, F.; Tirillò, J.; Marcantoni, E.; Gabrielli, S. *Front. Chem.*, **2023**, 11. doi: 10.3389/fchem.2023.1234763

PATENT

"Polietilentereftalato (PET) funzionalizzato con attività antiossidante"-IT Patent Application No. 102021000021686- Date of Application 10 th August, 2021.

PERSONAL SKILLS

Mother language (s) Italian

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user Common European Framework of Reference for Languages