



## Curriculum Vitae Europass



### ***Personal Informations***

*Name and  
Surname*

**Angelica Giovagnoli**

*Place and date of birth*

06-11-1999, FOLIGNO (PG), 06034, ITALY

### ***Work experience***

*Date*

**November 2023 – until now**

*Job and position*

PhD student at SACMI Imola | University of Bologna

*Main activities and  
responsibilities*

Research and development of hydrophobizing additives for cellulose. The aim of this research is to synthesize an innovative, sustainable and food-compatible hydrophobic additive for use in food & beverage packaging. The hydrophobic cellulosic material must have specific properties for compression molding, guaranteeing the maintenance of the repellent properties over time and functionality in use. Application of additives and characterization of cellulosic substrates for the increase of stiffness of the material.

*Name and address of  
employer*

SACMI Imola - Internal company tutor: Dr. Giovanni Mazzotti, Via Selice 7/a, Imola  
Department of Industrial Chemistry "Toso Montanari" - Academic tutor: Prof. Daniele Caretti, Via Risorgimento 4, Bologna

*Type of activity and  
sector*

POLYMERS, BIOPOLYMERS, ORGANIC CHEMISTRY

<i>Date</i>	<b>February 2023 - September 2023</b>
<i>Job and position</i>	Student Intern (Internship for Master's Degree) Alma Mater Studiorum - University of Bologna, Viale Risorgimento 4, Department of Industrial Chemistry - Bologna (BO) Italy
<i>Main activities and responsibilities</i>	Research and development of supercapacitive and sensor systems based on hydrogel in polyvinyl alcohol and other conductive polymers such as PANI PAMPSA and PEDOT. The project follows a process that ranges from the preparation of basic hydrogels with only PVA and sulphuric acid which can act as solid electrolyte, to the assembly of semi-cells, up to the production of symmetrical supercapacitors introduced into a prototype final device. The sustainable side of this research lies in the non-toxic nature of the polymer materials used and in the fact that no chemical cross-linkers are used to gelify hydrogels, but only physical freezing and thawing processes. The activities carried out are mainly based on the preparation, characterization and processing of data acquired during measurements. In particular, detailed characterizations have been made of both the physical/mechanical nature of the prepared polymer materials and their electrochemical performance. The nature of the materials was characterized by: IR-ATR spectroscopy, TGA, SEM, MECHANICAL TENSILE TESTS, DSC, and POROSITY% measurements. The electrochemical characterization is implemented with impedance (EIS) measurements, charge/discharge (CDC) measurements, 4-probes method for electrical conductivity investigation. Data processing is done using programs such as Excel, Origin and NOVA 2.1.5.
<i>Name and address of employer</i>	Thesis supervisor: Barbara Ballarin- University of Bologna, Viale Risorgimento 4, Department of Industrial Chemistry - Bologna (BO) Italy
<i>Type of activity or sector</i>	POLIMERS and ELECTROCHEMISTRY
<i>Date</i>	<b>March 2021 – July 2021</b>
<i>Job and position</i>	Student Trainee (Internship for the bachelor's degree) University of Perugia, Via dell'Elce di Sotto 8, Department of Chemistry, Biology and Biotechnology - Perugia (PG) Italy
<i>Main activities and responsibilities</i>	Spectroscopic evaluation of the effect of a mordant (Titanium Oxalate) during the dyeing of certified organic natural cellulosic fibers using a natural dye extracted from onion peel Allium Cepa L. Extraction of the dye from onion peels (biomass exploitation) in a "green" way, without the use of chemicals, fabric dyeing, reproducing on laboratory scale the dyeing process of textile industries. Subsequent characterization of the coloured fibres, of the water after dyeing and of the effect of the mordant on the various fibres. The characterization was carried out using specific spectroscopic techniques such as XRF, UV-VIS (also with integrating sphere), COLORIMETER, IR-ATR spectroscopy.
<i>Name and address of employer</i>	Thesis Supervisors: Prof.ssa Catia Clementi, Prof. Aldo Romani- University of Perugia, Via dell'Elce di Sotto 8, Department of Chemistry, Biology and Biotechnology - Perugia (PG) Italy

<i>Type of activity or sector</i>	ANALYTICAL CHEMISTRY-PHYSICAL CHEMISTRY/SPECTROCHEMISTRY
<i>Job and position</i>	2 times secretary of the polling section for municipal elections and referendum
<i>Main activities and responsibilities</i>	Compilation of the electoral registers and management of the polling station in one of the sections of the municipality of MONTEFALCO (PG), both during the voting and during the final counting
<i>Name and address of employer</i>	Municipality di MONTEFALCO, 06036, PG, Italy
<i>Type of activity or sector</i>	Municipal elections / Referendum
<b><i>Education and training</i></b>	
<i>Date</i>	<b>20th of October 2023</b>
<i>Title of the qualification awarded</i>	Doctor in Industrial Chemistry (LM-71) – Master degree
<i>Main subjects/skills held</i>	<p>Acquisition of the fundamental principles of Industrial Chemistry, such as development and management of industrial chemical processes, synthesis and characterization of polymeric materials (also for special use), fundamentals on the control of chemical reactions applied to chemical plants, Electrochemical characterisation techniques, the foundations of physical chemistry and organic chemistry, LCA principles and remediation of contaminated areas, biotechnology principles of industrial fermentation processes. Use of software for electrochemical characterization and data processing such as Nova, Excel, Spectrum. Acquisition of skills related to the preparation of physical hydrogels in PVA and electrochemical characterization.</p> <p>Final vote: <b>110/110 e LODE</b></p> <p>Thesis title: "Preparation and characterization of PVA-based multi-layer conductive hydrogels for the development of symmetrical supercapacitors"</p>
<i>Name and type of education and training organisation</i>	University of Bologna, Alma Mater Studiorum-Industrial Chemistry Department “Toso Montanari”, Via Bologna 40136 (BO), Italy
<i>Date</i>	<b>29th of September 2021</b>
<i>Title of the qualification awarded</i>	Doctor in Chemistry (L-27) – Bachelor degree

Acquisition of the basic principles of Organic, Inorganic, Analytical and Physical Chemistry with numerous practical laboratory activities. Knowledge also in the field of pharmaceutical chemistry, restoration, spectrochemistry and biomass exploitation processes. Principles of chemical computer science with programming (Fortran 77)  
Application of the fundamentals of Mathematical Analysis 1 and 2, Physics 1 and 2.  
Using OriginPro 2018 and Excel software

Thesis title: "Titanium oxalate as a mordant for the coloration of cellulose fibers with onion peel extract (*Allium Cepa* L): spectroscopic investigation ".

University of Perugia - Department of Chemistry, Biology and Biotechnology, Via  
dell'Elce di Sotto, Perugia 06123 (PG), Italy  
Department of EXCELLENCE 2018-2022

School year 2017-2018

Diploma *Liceo Scientifico* - Traditional address

Knowledge of common secondary school subjects such as Italian, history, English, philosophy, Latin, motor and art history with special emphasis on science subjects such as mathematics, chemistry, biology, earth sciences and physics

Scientific Lyceum Guglielmo Marconi- Via Isolabella 1, Foligno (PG) 06034, Italy

*Native speaker*

## Italian

**English**

comprehension				speaking				writing	
Listening		Reading		Spoken interaction		Oral practice			
B2	Independent	B2	Independent	B2	Independent	B2	Independent	B2	Independent

(\*) Quadro comune europeo di riferimento per le lingue

Social and organizational skills acquired during the years of experience in parish (oratory) activities and youth ministry as an animator.

Ability to manage and organise the activities of a research chemical laboratory in a systematic manner

<i>Computer skills and competence</i>	Good skills in using the Office package (Excel, Word, Power Point) and web browser. Good skills also in the use of programs such as Origin, TA instruments softwares, ImageJ, Spectrum, Nova 2.1.5, MestreNova.
<i>Artistic skills and competence</i>	Skills acquired during secondary and higher education, both in creative drawing and technical drawing.
<i>Other certificates</i>	Follow-up and passed, with final assessment examinations, courses on safety at work and chemical risk (2021)
<i>Driver's license</i>	B
<b><i>Attended seminars</i></b>	<p>Seminar Dott. ssa Michela Pirredda IRSA-CNR with title “Effetti delle micro e nanoplastiche negli ecosistemi e loro possibili interazioni con contaminanti organici su piante e microorganismi”</p> <p>Seminar Dott. Abraham Esteve-Nunez IRSA-CNR with title “TWO DECADES OF ELECTROMICROBIOLOGY CLEANING UP THE ENVIRONMENT. QUO VADIS MET”</p> <p>School of Polymers characterization “Mario Farina” 2024 AIM, 13th-17th May 2024, Bertinoro (FC), Italy</p> <p>Online webinar “COMBINING PARTICLE SIZE, ZETA POTENTIAL, AND SHELF-LIFE FOR CUTTING-EDGE RESEARCH”</p> <p>Online webinar “MECCANOCHIMICA, LA NUOVA FRONTIERA DELLA SOSTENIBILITA”</p>
<b><i>Communications at national conferences</i></b>	<p><b>Poster</b> at Workshop “Supercap &amp; energy storage ‘23” Bologna, “<i>PVA/H<sub>2</sub>SO<sub>4</sub> hydrogels for all-in-one flexible and wearable supercapacitor: preparation and characterizations</i>” - L. Yeasmin, V. Di Matteo, G. D’Altri, <b>A. Giovagnoli</b>, S. Scurti, M.F. Di Filippo, S. Panzavolta, M. c- Cassani, D. Caretti, E. Scavetta, I. Gualandi, B. Ballarin- 19th-20th April 2023 – Bologna, Italy</p> <p><b>Poster</b> at Giornata della Chimica dell’Emilia Romagna 2023, 18th December 2023 Parma, “<i>Cellulose hydrophobization for sustainable packaging</i>”-<b>Angelica Giovagnoli</b>, Alessia Barzotti</p> <p><b>Poster</b> at Navile Day 2024, University of Bologna, 30th May 2024, Bologna, “Advanced polymeric materials: from sustainable packaging to smart soft sensors”- <b>Angelica Giovagnoli</b></p> <p><b>Poster</b> at Navile Day 2024, University of Bologna, 30th May 2024, Bologna “Multilayer hydrogel supercapacitors for wearable electronics”-G. D’Altri, <b>A. Giovagnoli</b>, V.Di Matteo, L. Yeasmin, M.F. Di Filippo, I. Gualandi, M.C. Cassani, S. Panzavolta, L. Focarete, M. Rea, B. Ballarin, D. Caretti</p> <p><b>Oral</b> at Workshop “Plastiche &amp; Ambiente”, 6th June 2024 Ravenna, “<i>Sintesi, caratterizzazione e applicazione di molecole lipofile come coating idrofobizzante per packaging di cellulosa</i>”-<b>Angelica Giovagnoli</b></p> <p><b>Oral</b> at Macrogiovani 2024, organized by Associazione Italiana di Scienza e Tecnologie delle Macromolecole (AIM), 12th-13th June 2024 Rimini, “<i>BIO-BASED HYDROPHOBIC COATINGS DEVELOPMENT FOR SUSTAINABLE CELLULOSE PACKAGING</i>”- <b>Angelica Giovagnoli</b></p> <p><b>Poster</b> at XXV Convegno Nazionale AIM, 8th-11th September 2024, Napoli, “MULTI-LAYER PVA-PANI CONDUCTIVE HYDROGEL FOR SYMMETRICAL</p>

**Communications at  
international  
conferences**

SUPERCAPACITORS”- **A. Giovagnoli**, S. Scurti, G. D’Altri, L. Yeasmin, V. Di Matteo, M.F. Di Filippo, I. Gualandi, M.C. Cassani, S. Panzavolta, L. Focarete, M. Rea, B. Ballarin, D. Caretti

**Oral** at XXV Convegno Nazionale AIM, 8th-11th September 2024, Napoli, “BIO-BASED FUNCTIONAL COATINGS DEVELOPMENT FOR SUSTAINABLE CELLULOSE PACKAGING” – **Angelica Giovagnoli**, Daniele Caretti, G. Mazzotti, F. Parrinello, F. Pucci - **BEST POSTER AWARD**

**Poster** at SCI2024 XXVIII Congresso Nazionale della Società Chimica Italiana, 26th-30th August 2024 Milano, “Implementation of polyaniline in biocompatible supports for sensing and energy storage”- G. D’Altri, I. Ragazzini, **A. Giovagnoli**, V. Di Matteo, L. Yeasmin, S. Scurti, M.F. Di Filippo, M. Rea, I. Gualandi, D. Caretti, S. Panzavolta, E. Scavetta, M.C. Cassani, B. Ballarin

**Poster** at Giornata della Chimica dell’Emilia Romagna 2024, 19th December 2024 Modena, “Bio-based functional coatings development for sustainable cellulose packaging”- **A. Giovagnoli**, D. Caretti, G. Mazzotti, F. Parrinello, F. Pucci

**Poster** at Giornata della Chimica dell’Emilia Romagna 2024, 19th December 2024 Modena, “Polyaniline-based materials for smart biocompatible non-invasive medical and humidity sensors and flexible all-in-one supercapacitors”- G. D’Altri, I. Ragazzini, **A. Giovagnoli**, V. Di Matteo, L. Yeasmin, S. Scurti, M.F. Di Filippo, M. Rea, I. Gualandi, D. Caretti, S. Panzavolta, E. Scavetta, M.C. Cassani, B. Ballarin

**Guest speaker (oral)** at Giornata Tecnologica AIM e Tecnopolo di Ferrara 2025, 16th January 2025 as guest speaker, “trattamenti idrofobizzanti per packaging in cellulosa”- **Angelica Giovagnoli**

**Oral** at MACROGIOVANI 2025(AIM), 28th-30<sup>th</sup> of May 2025, Pisa (Italy), “Development of bio-based additives with hydrophobic properties: a promising solution for cellulose-based sustainable packaging”- **A.Giovagnoli**, D.Caretti, G. Mazzotti

**Poster** at ESEAC 2024, 19th International Conference on Electroanalysis 23rd – 26th July 2024, Ulm, Germany, “Polyaniline based conductive material in biocompatible supports for sensing and energy storage”- B. Ballarin, G. D’Altri, **A. Giovagnoli**, V. Di Matteo, L. Yeasmin, S. Scurti, M.F. Di Filippo, M. Rea, I. Gualandi, D. Caretti, S. Panzavolta, E. Scavetta, M.C. Cassani

**Poster** at POLYSOLVAT 15- 2nd-4th December 2024, Kolkata (INDIA), “PVA/H<sub>2</sub>SO<sub>4</sub> hydrogels for wearable devices”- L.Yeasmin, G.D’Altri, V. Di Matteo, **A. Giovagnoli**, S.Scurti, M.C. Cassani, D. Caretti, I. Gualandi, B. Ballarin

**Poster** at APME 2025 -International Conference on Advanced Polymers Via Macromolecular Engineering, 4th-8<sup>th</sup> of May 2025, Catania (Italy), “Hydrophobic coatings development for cellulose based packaging”- **A. Giovagnoli**, D.Caretti, G.Mazzotti, D. Cortecchia, F. Parrinello, F. Pucci

**Poster** at EPF (European polymer Congress), International Conference, 22<sup>nd</sup>-27<sup>th</sup> of June 2025, Groningen (Netherland)- “IMPROVEMENT OF CELLULOSE BARRIER PROPERTIES BY DEVELOPMENT OF HYDROPHOBIC COATINGS FOR FOOD PACKAGING”- **A. Giovagnoli**, D.Caretti, D. Cortecchia, G.Mazzotti, F.Parrinello, F.Pucci

**Poster** at EPF (European polymer Congress), International Conference, 22<sup>nd</sup>-27<sup>th</sup> of June 2025, Groningen (Netherland)- “FLEXIBLE CRYOSTRUCTURATED PVA-BASED HYDROGELS AS MATERIALS FOR ADVANCED SENSING APPLICATIONS”-

**A.Giovagnoli**, S.Scurti, Giada D’Altri, Lamyeya Yeasmin, Valentina Di Matteo, Isacco Gualandi, Maria Cristina Cassani, Daniele Caretti, Barbara Ballarin

## ***Publications***

**Article** – “*Preparation and Characterization of Self-Healing PVA–H<sub>2</sub>SO<sub>4</sub> Hydrogel for Flexible Energy Storage*” – G. D’Altri, L. Yeasmin, V. Di Matteo, S. Scurti, **A. Giovagnoli**, M.F. Di Filippo, I. Gualandi, M.C. Cassani, D. Caretti, S. Panzavolta, E. Scavetta, M. Rea, B. Ballarin, ACS Omega 2024, 9, 6, 6391–6402, January 31, 2024, <https://doi.org/10.1021/acsomega.3c05392>

**Article** – “*Multi-layer PVA-PANI conductive hydrogel for symmetrical supercapacitors: preparation and characterization*” - **A. Giovagnoli**, G. D’Altri, L. Yeasmin; V. Di Matteo; S. Scurti; M. F. Di Filippo; I. Gualandi; M. C. Cassani; D. Caretti; S. Panzavolta; M. L. Focarete, M. Rea, B. Ballarin, Gels 2024, 10 (7), 458, <https://doi.org/10.3390/gels10070458>

**Article** – “*The Influence of DMSO on PVA/PVDF Hydrogel Properties: From Materials to Sensors Applications*”- Giada D’Altri, **Angelica Giovagnoli**, Valentina Di Matteo, Isacco Gualandi, Maria Cristina Cassani, Lamyeya Yeasmin, Stefano Scurti, Silvia Panzavolta, Mariangela Rea, Daniele Caretti and Barbara Ballarin <https://doi.org/10.3390/gels11020133>

## ***Awards***

**Best Poster Presentation** at XXV Convegno Nazionale AIM, 8th-11th September 2024, Napoli with the contribute “MULTI- LAYER PVA-PANI CONDUCTIVE HYDROGEL FOR SYMMETRICAL SUPERCAPACITORS”

**“Toso Montanari” Scholarship**, to support the research period abroad granted by the Department of Industrial Chemistry at the University of Bologna

Autorizzo il trattamento dei dati personali contenuti nel mio curriculum vitae in base all’art. 13 del D.Lgs. 196/2003 e all’art. 13 del Regolamento UE 2016/679 relativo alla protezione delle persone fisiche con riguardo al trattamento dei dati personali.

Date 18<sup>th</sup> of July 2025

  
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