

PERSONAL INFORMATION **Eleonora Calzoni**

Sex F | Date of birth | Nationality Italian

## WORK EXPERIENCE

November 2021-September 2022 **Post-Doctoral Scholar**

Università degli Studi di Perugia, Piazza Università, 1, 06100 Perugia

Research activity in the Laboratory of Molecular Biology (University of Perugia) in the framework of the project “**Sviluppo della strategia terapeutica per la cura del Covid-19: identificazione degli inibitori della proteina Sars-Cov-2 M-Pro**”

March 2021-September 2021 **Post-Doctoral Scholar**

Università degli Studi di Perugia, Piazza Università, 1, 06100 Perugia

Research activity in the Laboratory of Molecular Biology (University of Perugia) in the framework of the project “**Interazione proteine e biomateriali per applicazioni di ingegneria**”.

February 2020 – December 2020 **ITS Umbria Academy Laboratory technician**

ITS Umbria Academy, Via Pietro Tuzi, 11, 06128 Perugia PG

Technical support activities for the course teachers.  
Preparation of the material, maintenance of the tools.  
Warehouse management.

March 2019 – December 2019 **ITS Umbria Academy Laboratory technician**

ITS Umbria Academy, Via Pietro Tuzi, 11, 06128 Perugia PG

Technical support activities for the course teachers.  
Preparation of the material, maintenance of the tools.  
Warehouse management.

March 2016 – October 2016 **Microbiologist Analyst**

Umbra Acque s.p.a, via Gustavo Benucci, Perugia

Microbiological analysis on water intended for human consumption and wastewater using IDEEX technology. Determination of total coliform bacteria at 37 ° C, E. coli, Pseudomonas aeruginosa, Enterococci, Clostridium perfringens and Legionelle. Toxicity test with Daphnia magna. Participation in the laboratory accreditation process and ACCREDIA inspection visit.

**September 2015 – March 2016 Microbiologist Analyst**

Microfood srl, via Fratelli Cairoli, 24, 06125 Perugia PG

Microbiological analysis on food samples. Determination of Salmonella, Staphylococcus, Total Mesophilic Charge, Clostridia and Lysteria. Creation of corporate self-control manuals according to ISO 9000: 2001.

**February 2015- August 2015 Voluntary internship**

University of Perugia, Laboratory of Molecular Biology, Via del Giochetto snc

Biochemical and Molecular analysis. Ion Exchange Chromatography, Sds-page electrophoresis, Western Blotting, Cell culture.

**March 2013- June 2018 Saleswoman in the family shop**

Perugia, via Dalmazio Birago, 63

Sale of household items and stationery.

**EDUCATION AND TRAINING****April 2020 Ph.D. in Biotechnology (XXXII cycle)**

Level EQF: 8

Università degli Studi di Perugia, Piazza Università, 1, 06100 Perugia.

- Thesis Title: ENZYME IMMOBILIZATION FOR BIOMEDICAL AND INDUSTRIAL APPLICATIONS. Date of defence: 03 April 2020.
- Supervisor: Prof. Carla Emiliani.

**November 2016–April 2020 Ph.D. student in Biotechnology (XXXII cycle)**

Level EQF: 8

Università degli Studi di Perugia, Piazza Università, 1, 06100 Perugia.

- Project: Enzymatic Immobilization for Biomedical and Industrial Biotechnologies Applications
- Supervisor: Prof. Carla Emiliani

**November 2015 Licence to practise**

Università degli Studi di Perugia, Piazza Università, 1, 06100 Perugia.

Level EQF: 8

**23 February 2015 Master's degree in Applied Biomolecular Sciences Grade 110/110 with honours**

Level EQF: 7

Università degli Studi di Perugia, Piazza Università, 1, 06100 Perugia.

- Thesis Title: GENE THERAPY IN METACHROMATIC LEUKODYSTROPHY: DISTRIBUTION OF ARYLSULFATASE A IN THE NERVOUS SYSTEM OF MACACA FASCICULARIS.
- Supervisor: Prof. Sabata Martino, Dr. Angela Gritti.

28 May 2012 Bachelor's degree in Biological Science Grade 106/110

Level EQF: 6

Università degli Studi di Perugia, Piazza Università, 1, 06100 Perugia

- Thesis Title: PRESENCE OF MELAMINE CYANURATE COMPLEXES IN THE KIDNEY OF RAINBOW TROUT TREATED WITH MELAMINE AND CYANURIC ACID.
- Supervisor: Prof. Antonia Concetta Elia..

July 2008 Scientific High School Diploma Grade: 84/100

Level EQF : 5

Liceo Scientifico Statale Galeazzo Alessi, via Ruggero D'Andreotto, 19, 06124 Perugia.

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
CLA (Centro Linguistico d'Ateneo) – University of Perugia					

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user  
Common European Framework of Reference for Languages

Job-related skills

- Biochemical techniques: protein purification by ion-exchange chromatography, Bradford protein assay, lysosomal fraction enzymes assay by spectrum-fluorimetric analysis, TCA protein precipitation, spectrophotometric analysis. Enzyme immobilization techniques. Protein covalent immobilization on biopolymers. Characterization of immobilized proteins. Applications of immobilized enzymes for biomedical and industrial applications.
- Molecular Biology Techniques: Extraction of tissue proteins and cellular pellets purification and quantification, SDS-PAGE, Western Blotting, Elisa, preparation of solutions.
- Cell Biology Techniques: basic techniques, including preparation of culture media, seeding and expansion of cell lines, freezing and thawing. Extraction of fibroblasts from skin.
- Equipment: centrifuges, autoclave, laminar flow hood, spectrophotometer, spectrofluorimeter, conventional electrophoresis equipment, for Western Blotting, equipment for cell biology.

Computer skills

- Great knowledge of Windows OS and Microsoft Office™ tools.
- Good command of dedicated programs for data analysis, such as OriginLab®, ImageJ and GraphPad.

Driving license

- B

## ADDITIONAL INFORMATION

**Patents** **Patent No. 10202000003344 (8.03.2022)** Biomateriale comprendente un polimero biocompatibile e l'enzima  $\beta$ -D-N-acetilesosaminidasi A, suoi usi in campo medico e procedimento di preparazione.

**Patent No. 102019000025012 (10.12.2021)** Proteasi immobilizzate su matrici di acido polilattico, procedimento per la loro preparazione e uso per la degradazione di biomasse.

**Publications**

Montegiove, N., Calzoni, E., Emiliani, C., & Cesaretti, A. (2022). Biopolymer Nanoparticles for Nose-to-Brain Drug Delivery: A New Promising Approach for the Treatment of Neurological Diseases. *Journal of Functional Biomaterials*, 13(3), 125.

Montegiove, N.; Calzoni, E.; Cesaretti, A.; Pellegrino, R.M.; Emiliani, C.; Pellegrino, A.; Leonardi, L. The Hard Choice about Dry Pet Food: Comparison of Protein and Lipid Nutritional Qualities and Digestibility of Three Different Chicken-Based Formulations. *Animals* 2022, 12, 1538. <https://doi.org/10.3390/ani12121538>

Cesaretti, A.; Mencaroni, L.; Bonaccorso, C.; Botti, V.; Calzoni, E.; Carlotti, B.; Fortuna, C.G.; Montegiove, N.; Spalletti, A.; Elisei, F. Amphiphilicity-Controlled Localization of Red Emitting Bicationic Fluorophores in Tumor Cells Acting as Bio-Probes and Anticancer Drugs. *Molecules* 2022, 27, 3713. <https://doi.org/10.3390/molecules27123713>

Pelosi, D., Barelli, L., Montegiove, N., Calzoni, E., Cesaretti, A., Di Michele, A., ... & Gammaitoni, L. (2022). Immobilizing Enzymes on a Commercial Polymer: Performance Analysis of a GOx-Laccase Based Enzymatic Biofuel Cell Assembly. *Energies*, 15(6), 2182.

Calzoni, E., Cesaretti, A., Montegiove, N., Di Michele, A., Pellegrino, R. M., & Emiliani, C. (2022). HexA-Enzyme Coated Polymer Nanoparticles for the Development of a Drug-Delivery System in the Treatment of Sandhoff Lysosomal Storage Disease. *Journal of Functional Biomaterials*, 13(2), 37.

Calzoni, Eleonora, et al. "RNA Modifications in Neurodegenerations." *Epitranscriptomics*. Springer, Cham, 2021. 23-77.

Calzoni, E., Cesaretti, A., Montegiove, N., Di Michele, A., & Emiliani, C. (2021). Enhanced Stability of Long-Living Immobilized Recombinant  $\beta$ -dN-Acetyl-Hexosaminidase A on Polylactic Acid (PLA) Films for Potential Biomedical Applications. *Journal of Functional Biomaterials*, 12(2), 32.

Calzoni, E., Cesaretti, A., Montegiove, N., Pellegrino, R. M., Leonardi, L., & Emiliani, C. Protein and amino acid profile analysis of Agri-Food Waste Biomasses. *Scientific Bulletin. Series F. Biotechnologies*, Vol. XXV, No. 1, 2021

Calzoni, E., Cesaretti, A., Tacchi, S., Caponi, S., Pellegrino, R. M., Luzi, F., ... & Di Michele, A. (2021). Covalent Immobilization of Proteases on Polylactic Acid for Proteins Hydrolysis and Waste Biomass Protein Content Valorization. *Catalysts*, 11(2), 167.

Calzoni, E., Cesaretti, A., Montegiove, N., Pierantoni, D. C., Corte, L., Roscini, L., Emiliani, C., Leonardi, L., Cardinali, G. (2020). Mixed microbial and thermal degradation of agricultural derived plant wastes. *Scientific Bulletin. Series F. Biotechnologies*, 24, 11-16.

Montegiove, N., Calzoni, E., Cesaretti, A., Alabed, H., Pellegrino, R. M., Emiliani, C., Pellegrino, A., Leonardi, L. (2020). II. 1. Biogenic amine analysis in fresh meats and meat meals used as raw materials for dry pet food production. *Scientific Bulletin. Series F. Biotechnologies*, 24, No. 2, 2020.

Montegiove, N., Calzoni, E., Cesaretti, A., Alabed, H., Pellegrino, R. M., Emiliani, C., Pellegrino, A., Leonardi, L. (2020). Comprehensive evaluation of lipidic content in dry pet food raw materials: comparison between fresh meats and meat meals. *Scientific Bulletin. Series F. Biotechnologies*, 24, 122-129.

Cesaretti, A., Montegiove, N., Calzoni, E., Leonardi, L., & Emiliani, C. (2020). Protein hydrolysates: from agricultural waste biomasses to high added-value products (minireview). *Agrolife Scientific Journal*, 9(1), 79-87.

Calzoni, E., Cesaretti, A., & Emiliani, C. (2019). Creating Products and Services in Industrial Biotechnology. In *Introduction to Biotech Entrepreneurship: From Idea to Business* (pp. 129-139). Springer, Cham.

Barelli, L., Bidini, G., Calzoni, E., Cesaretti, A., Di Michele, A., Emiliani, C., ... & Sisani, E. (2019, December). Enzymatic fuel cell technology for energy production from bio-sources. In *AIP Conference Proceedings* (Vol. 2191, No. 1, p. 020014). AIP Publishing LLC.

Calzoni, E.; Cesaretti, A.; Polchi, A.; Di Michele, A.; Tancini, B.; Emiliani, C. Biocompatible Polymer Nanoparticles for Drug Delivery Applications in Cancer and Neurodegenerative Disorder Therapies, *J*

Funct Biomater, 2019, 10(1),4.

Morena, F., Argentati, C., Calzoni, E., Cordellini, M., Emiliani, C., D'Angelo, F., & Martino, S. Ex-Vivo tissues engineering modeling for reconstructive surgery using human adult adipose stem cells and polymeric nanostructured matrix. *Nanomaterials*, 2016, 6(4), 57.

#### Honours and awards

**Special Award for Poster Presentation** "Covalent immobilization of Proteases on Polylactic acid for proteins hydrolysis and waste biomass protein content valorization". International Conference "Agriculture for Life, Life for Agriculture 2022". Bucharest, Romania, 2-4 June 2022.

**"JFB 2021 Highly Cited Paper Awards"** "Biocompatible Polymer Nanoparticles for Drug Delivery Applications in Cancer and Neurodegenerative Disorder Therapies"

#### Poster Presentations

**AGRICULTURE FOR LIFE 2022**, Bucharest, Romania, 2-4 June 2022. "Covalent immobilization of Proteases on Polylactic acid for proteins hydrolysis and waste biomass protein content valorization".

**XII International Agriculture Symposium "AGROSYM 2021"**, 7-10 October 2021, Bosnia and Herzegovina. "Mixed microbial and thermal degradation of agricultural derived plant wastes"

**AGRICULTURE FOR LIFE 2021**, Bucharest, Romania, 3-5 June 2021. "Protein and amino acid profile analysis of agri-food waste biomasses"

**AGRICULTURE FOR LIFE 2020**, Bucharest, Romania, 4-6 June 2020. "Mixed microbial and thermal degradation of agricultural derived plant wastes"

**INBB: "RICERCA E INNOVAZIONE PER AMBIENTE, SALUTE ED ALIMENTAZIONE"**, Roma, 24-25 October 2019. "Enzymatic Glucose Fuel Cell Technology for Energy Production from organic substrates"

**METAORGANISMS, MICROBIAL BIOREFINERIES and HUMAN HEALTH**. Bologna, Italy:

- "The long life of immobilized  $\beta$ -D-N-acetyl hexosaminidase A for developing an improved ERT"
- "Mixed microbial and thermic degradation of agricultural derived plant wastes. June 2018"

**THIRD GENERATION BIOREFINERIES**. Bologna, Italy. March 2017. "Immobilized Enzymes for the degradation of agribusiness and food industry biomasses".

#### Congress, Workshop and School

**Kick off Meeting Transnational GreenBe Project**, Bucharest, Romania, 3-4 June 2022.

**International Conference "Agriculture for Life, Life for Agriculture 2022"**, Bucharest, Romania, 2-4 June 2022.

**Agrosym 2021 7-10** October 2021 – Jahorina - University of East Sarajevo, Jahorina, Bosnia-Erzegovina.

**Conference "NanoInnovatio 2021"** 21-24 September 2021- University La Sapienza, Rome.

**International Conference "Agriculture for Life, Life for Agriculture 2021"**, Bucharest,

Romania, 3-5 June 2021.

Training on-line: **"SciFinder training"** 22/10/2020 – Università degli Studi di Perugia

**Conference: "Nano Innovation 2020"** – Roma, 15-18 September 2020.

**International Conference "Agriculture for Life, Life for Agriculture 2020"**, Bucharest, Romania, 4-6 June 2020.

**INBB "Ricerca e Innovazione per Ambiente, Salute ed Alimentazione"**, Roma, 24-25 October 2019.

**Summer School "Star-up in Biotechnology"**, Bucharest, Romania, 22nd-31st July 2019.

**Invited Speaker at Convention "DI NUOVO TUM: MAPPATURA INTERREGIONALE DELLE TEMATICHE SIB TRA TOSCANA, UMBRIA E MARCHE"**. Ancona, 11 June 2019.

**"Third Generation Biorefineries"**, Fondazione Golinelli di Bologna, March 2017.

**"Metaorganisms, Microbial Biorefineries and Human Health"**, Fondazione Golinelli di Bologna, June 2018.

#### Certificates

Certificate of Attendance Transnational GreenBe Project, Bucharest, Romania, 3-4 June 2022.

Certificate of attendance at International Conference: "Agriculture for Life, Life for Agriculture 2022", Bucharest, Romania, 2-4 June 2022.

Certificate of attendance at "Agrosym 2021", Jahorina, Bosnia-Erzegovina, 7-10 October 2021.

Certificate of attendance at "NanoInnovation 2021", Rome, Italy, 21-24 September 2021.

Certificate of attendance at International Conference: "Agriculture for Life, Life for Agriculture 2021", Bucharest, Romania, 3-5 June 2021.

Certificate of attendance: "SciFinder training" 22/10/2020 – Università degli Studi di Perugia.

Certificate of attendance at Conference "Nano Innovation 2020" – Roma, 15-18 September 2020.

Certificate of attendance at International Conference: "Agriculture for Life, Life for Agriculture 2020", Bucharest, Romania, 4-6 June 2020.

Certificate of attendance at Summer School: "Start-Up in Biotechnology", Bucharest, Romania, 22-31 July 2019.

Certificate of attendance at Conference: "DI NUOVO TUM: MAPPATURA INTERREGIONALE DELLE TEMATICHE SIB TRA TOSCANA, UMBRIA E MARCHE" – Ancona, 11 June 2019.

Certificate of attendance: "Primo Soccorso" P.R.A.IT FORMAZIONE – Ente accreditato da Regione Umbria con DD 10802 del 21/12/2012, via A. Palazzeschi, 28 Corciano.

Certificate of attendance: "Corso Antincendio attività a medio rischio" - Ente accreditato da Regione Umbria con DD 10802 del 21/12/2012, via A. Palazzeschi, 28 Corciano.

#### Teaching-related experience

Teaching of "Biomasses composition" (20 hours) at the "Tecnico Superiore per la Ricerca e lo Sviluppo di Prodotti e Processi a Base Biotecnologica" course, ITS Umbria Smart Academy, 2020/2022.

Teaching of "Biotechnology for human and environmental health" (20 hours) at the "Tecnico Superiore per la Ricerca e lo Sviluppo di Prodotti e Processi a Base Biotecnologica" course, ITS Umbria Smart Academy, 2020/2022.

Teaching of "Biomasses composition" (10 hours) at the "Tecnico Superiore per la Ricerca e lo Sviluppo di Prodotti e Processi a Base Biotecnologica" course, ITS Umbria Smart Academy, 2019/2021.

Teaching of " Chemical-physical characterization of bio-based products" (10 hours) at the "Tecnico Superiore per la Ricerca e lo Sviluppo di Prodotti e Processi a Base Biotecnologica" course, ITS Umbria Smart Academy, 2019/2021.

#### References

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Prof. Sabata Martino  
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Università degli Studi di Perugia  
Perugia, Italy  
Phone: +39 075 585 7442  
Email: [sabata.martino@unipg.it](mailto:sabata.martino@unipg.it)

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".

Perugia, 27/09/2022

Dr. Eleonora Calzoni