



## Federica Betuzzi

**Date of birth:** 25/02/1997 | **Nationality:** Italian | **Gender:** Female |

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**Address:** Via Rovereto 8/5, 16157, GENOVA, Italy (Home)

### ● ABOUT ME

I'm deeply interested in Botany and during my academic years I've studied various disciplines within this field: Plant Biology and Histology, Forensic Botany, Phytoalimurgy, Biology of Medicinal Plants, and Ethnobotany. Currently, I'm a PhD student in Biology Applied to Agriculture and Environment at the University of Genoa, with a project focused on the enhancement of agri-food products and their by-products to promote circular economy.

I'm reliable, disciplined, meticulous, and ambitious.

### ● WORK EXPERIENCE

01/11/2023 – CURRENT Genoa , Italy

**PHD STUDENT IN SCIENCE AND TECHNOLOGIES FOR THE EARTH AND ENVIRONMENT - CURRICULUM BIOLOGY APPLIED TO AGRICULTURE AND ENVIRONMENT UNIVERSITY OF GENOA - DISTAV**

The aim of my PhD project is to characterize some typical agri-food products from Liguria Region, also encompassing the potential reuse of by-products generated during both cultivation and processing for innovative applications (such as nutraceuticals, animal feed, cosmetics, and products for organic farming). In particular, my study focuses on:

- Various native cultivars of 'Genovese' basil and waste material deriving both from the cultivation of basil (residual stems) and from the production of pesto (semi-processed basil).
- 'Lavagnina' olive and other Ligurian olive cultivars, pruning residues (leaves and branches) and oil-making by-products (e.g. pomace, hazelnut, etc.).
- Grapevines cultivated in the Genoese area and wine-making by-products such as grape pomace and seeds.

**Address** Corso Europa 26, 16132, Genoa , Italy

26/10/2023 – 05/11/2023 Genoa, Italy

**SCIENTIFIC POPULARIZER GENOA SCIENCE FESTIVAL**

Assistance to the laboratory "The use of insects and plants in forensic investigations".

I explained to the public the concepts of Forensic Science, Forensic Botany and Forensic Entomology, highlighting that also plants and insects can represent important "footprints" useful to reconstruct a criminal event. I helped children and adults in the microscopic identification of different samples of pollen and insects, taken from hypothetical clothing of a victim with the help of tweezers and scotch. I supported the various groups in the analysis of data and in the evaluation of the most likely hypothesis, applying a probabilistic calculation.

03/06/2023 – 03/06/2023 Ovada (AL), Italy

**SCIENTIFIC POPULARIZER ASSOCIAZIONE DIDATTICA MUSEALE (ADM) - NATURAL HISTORY MUSEUM GIACOMO DORIA**

I led a laboratory called "Pollens under the Lens" within the context of "Fiorissima" Market Exhibition. I showed the participants fresh pollen with the help of a portable microscope (Diple - SmartMicroOptics).

**Address** Via Brigata Liguria 9, 16121, Ovada (AL), Italy

03/04/2023 – 31/10/2023 Genoa , Italy

**POST-GRADUATE INTERNSHIP (D.M. 752/2021) GCGURU**

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I have carried out a research aimed at enriching the knowledge of Genoese grapevines and wines, with particular attention to the Valpolcevera CDO. The project, promoted by Enoteca Regionale della Liguria, was overseen by Dr. Giulio Cataudella (gCguru), Simona Venni (member of the Municipality of Genoa representing Enoteca Regionale della Liguria) and Professor Laura Cornara (teacher at University of Genoa, teaching tutor of the internship).

**Address** Via Lodovico Antonio Muratori 5, 16152, Genoa , Italy

14/06/2021 – 06/07/2021 Genoa , Italy

**ASSISTANCE TO UNIVERSITY LABORATORY ACTIVITIES UNIVERSITY OF GENOA - DISTAV**

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During the Summer School of Applied and Experimental Biology degree course (University of Genoa), I joined Professors in helping students in practical laboratory activities, such as:

- Preparation of slides of plant material to be observed under optical microscope (leaf epidermis and pollen).
- Realization of known concentrations of Ponceau Red (serial dilutions) to be read at the spectrophotometer, in order to realize a calibration line and then rise to an unknown concentration.
- Observation of larvae and puparies under the stereomicroscope.

**Address** Corso Europa 26 , 16132, Genoa , Italy

## ● EDUCATION AND TRAINING

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19/10/2020 – 21/10/2022 Genoa , Italy

**MSC DEGREE IN APPLIED AND EXPERIMENTAL BIOLOGY (FORENSIC CURRICULUM) University of Genoa - DISTAV**

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The thesis project involved the pharmacognostic characterization of toxic or psychoactive plants of forensic interest, which have caused both accidental and voluntary intoxications (spontaneous collection, contamination/adulteration, abuse, crime). Thanks to the agreement between Distav and the Department of Chemical, Biological, Pharmaceutical and Environmental Sciences of the University of Messina, I was able to spend a week at the Laboratory of Pharmacology and Toxicology of UniMe to carry out the phytochemical analyses of the plants under study. Overall, the laboratory activities allowed me to learn about plant histology, optical and electron scanning microscopy, spectrophotometry and chromatography.

**Address** Corso Europa 26 , 16132, Genoa , Italy | **Website** <https://corsi.unige.it/corsi/11158/> |

**Final grade** 110/110 and praise | **Level in EQF** EQF level 7 | **Type of credits** CFU | **Number of credits** 120 |

**Thesis** "Food poisoning: confusion between edible plants and toxic plants"

26/09/2016 – 23/10/2019 Genoa, Italy

**BSC DEGREE IN BIOLOGICAL SCIENCES University of Genoa - DISTAV**

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The thesis project involved the study of some poisonous plants for animals, representative of different contexts and environments.

**Address** Corso Europa 26 , 16132, Genoa, Italy | **Website** <https://corsi.unige.it/corsi/8762/> |

**Final grade** 110/110 and praise | **Level in EQF** EQF level 6 | **Type of credits** CFU | **Number of credits** 180 |

**Thesis** "Application of Forensic Botany to the veterinary field: toxic plants for animals"

**Address** Via Ai Cantieri 2, 16158, Genoa , Italy | **Final grade** 88/100 | **Level in EQF** EQF level 4 |

**Thesis** "The scientific investigation at the crime scene"

## LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH (FIRST CERTIFICATE)</b>	B2	B2	B2	B2	B2

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

## DIGITAL SKILLS

Microsoft Office package: Microsoft Word, Excel, PowerPoint, Access | Image J (basics) | SPSS (basics)

## ADDITIONAL INFORMATION

### PUBLICATIONS

#### [Article on international scientific journal](#)

Smeriglio A, Ingegneri M, Germanò MP, Miori L, Battistini G, **Betuzzi F**, Malaspina P, Trombetta D, Cornara L. Pharmacognostic Evaluation of *Monarda didyma* L. Growing in Trentino (Northern Italy) for Cosmeceutical Applications. *Plants*. **2024**; 13(1):112. (Impact Factor 4.5, Q1 in Plant Sciences)

#### [Article on international scientific journal](#)

Cornara L, Malaspina P, **Betuzzi F**, Di Gristina E, D'Arrigo M, Ingegneri M, Trombetta D, Smeriglio A. **2023**. The Influence of Peco-Climatic Conditions on the Micromorphological, Phytochemical Features, and Biological Properties of Leaves of *Saponaria sicula* Raf. *Int J Mol Sci*. Jul 20;24(14):11693. (Impact Factor 5.6, Q1 in Biochemistry & Molecular Biology)

#### [Article on international scientific journal](#)

Malaspina P, **Betuzzi F**, Ingegneri M, Smeriglio A, Cornara L, Trombetta D, **2022**. Risk of Poisoning from Garden Plants: Misidentification between Laurel and Cherry Laurel. *Toxins (MDPI)*, 14, 726. (Impact Factor 4.2, Q1 in Toxicology).

#### [Poster in conference proceedings](#)

Paola Malaspina, Antonella Smeriglio, Mariarosaria Ingegneri, **Federica Betuzzi**, Emilio Di Gristina, Domenico Trombetta, Laura Cornara, **2024**. Pharmacognostic study of the rare *Saponaria sicula* Raf. in relation to different pedo-climatic conditions. In: The 3rd International Electronic Conference on Plant Sciences, 15-17 January 2024, online.

#### [Poster in conference proceedings](#)

Ingegneri M, Malaspina P, **Betuzzi F**, Di Gristina E, Cornara L, Trombetta D, Smeriglio A, **2023**. Preliminary investigation about morpho-anatomical and phytochemical features and antioxidant activity of leaves and flowers from Sicilian *Plumeria rubra* L. cv. "Classica palermitana". In: 1° Congresso intersocietà sui prodotti vegetali per la salute, organized by Società Italiana di Farmacognosia, Società Italiana di Fitochimica, Società Italiana di Farmacologia, Società Italiana di Fitoterapia, and Gruppo Piante Officinali della Società Botanica italiana, 15-17 June 2023, Padova, Italy.

#### [Abstract in conference proceedings](#)

Malaspina P, Cornara L, **Betuzzi F**, Di Gristina E, Ingegneri M, Trombetta D, Smeriglio A, **2023**. Anatomical and phytochemical comparison between leaves of the rare *Saponaria sicula* Raf. growing in two different

sicilian sites. In: Abstracts & Proceedings book (pag. 89) of the 9th International Mediterranean Symposium on Medicinal and Aromatic Plants (MESMAP-9), 3-5 May 2023, Ankara, Turkey.

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### **Abstract in conference proceedings**

**Betuzzi F**, Cornara L, **2022**. Intossicazioni alimentari: confusione tra piante commestibili e piante tossiche. In: Notiziario della Società Botanica Italiana (proceedings in press). Società Botanica Italiana - Sezione Ligure, Scientific meeting, 18 November 2022.

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### **Video Abstract in conference proceedings**

Malaspina P, **Betuzzi F**, Danna C, Smeriglio A, Trombetta D, Cornara L, **2021**. Safe and poisonous garden plants: pharmacognostic comparison between leaves of *Laurus nobilis* L. and *Prunus laurocerasus* L. In: 116° Congresso della Società Botanica Italiana, VII International Plant Science Conference (IPSC), online, 8-10 September 2021, page 33. Link to the video abstract: <https://drive.google.com/file/d/13kNGSh1i6OML76i6osUjMJYaxAQ5PXhr/view>

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### **Abstract in conference proceedings**

**Betuzzi F**, Cornara L, **2021**. Application of Forensic Botany to Veterinary Medicine. In: Notiziario della Società Botanica Italiana, 5 (2): 87-184, page 114. Conference of Young Botanists (CYBO), 6-7 February 2020, Genoa, Italy.

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## **DRIVING LICENCE**

**Driving Licence:** B

## **CONFERENCES AND SEMINARS**

19/12/2023 – 19/12/2023 – Distav, Corso Europa 26 (GE)

**Seminar for Unige Senior** Presentation of: "Enhancement of Genoese viticulture: from origins to new applications".

17/11/2023 – 17/11/2023 – Distav, Corso Europa 26 (GE)

**Società Botanica Italiana - Sezione Ligure, Scientific meeting** Presentation of: "Enhancement of some Ligurian cultivars".

18/11/2022 – Distav, Corso Europa 26 (GE)

**Società Botanica Italiana - Sezione Ligure, Scientific meeting** Presentation of: "Food poisoning: misidentification between edible and poisonous plants".

06/02/2020 – 07/02/2020 – Albergo dei Poveri, Piazzale Emanuele Brignole 2 (Genoa)

**Conference of Young Botanists (CYBO)** Presentation in English of: "Application of Forensic Botany to Veterinary Medicine".

## **ORGANISATIONAL SKILLS**

**Excellent management and planning skills.** During my training and work experience, I gained teamwork skills, critically proposing and evaluating ideas and projects. In addition, I'm able to organize my work efficiently, managing several assignments at the same time and respecting the deadlines. I've also developed a good resistance to stress, as well as the ability to face challenges with determination, keeping calm even in complex situations.

## **COMMUNICATION AND INTERPERSONAL SKILLS**

**Excellent relational and public speaking skills.** I have a natural predisposition to empathy and understanding. Within any working group, I'm always ready to collaborate and contribute to the achievement of common goals. I'm able to speak in public without any problems thanks to my experience as a singer and scientific popularizer. I can express my ideas clearly, adapting my communication style to the target audience, ensuring that the message is understood and received in the best way.

## **COURSES**

25/10/2023 – CURRENT

### **Focus on the invisible - Microscopy school**

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I chose to attend this course promoted by Fondazione Golinelli and G-LAB, and delivered in English, to acquire theoretical skills regarding the functioning of microscopes and the digital imaging techniques.

This course has been awarded at the Deep Tech Talent Training Prize, an initiative sponsored by the European Institute of Innovation and Technology (EIT), winning the first prize in the Life Sciences and Green Technologies area.

10/11/2022 – CURRENT

### **My English School**

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I'm attending this course in order to achieve the C1 Cambridge level.

17/02/2021 – 09/03/2021

### **Agenda 2030 e gli obiettivi di sviluppo sostenibile**

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I chose to attend this course because I'm deeply interested in the principle of environmental, social and economic sustainability to preserve and protect the planet.

## **AWARDS**

11/09/2023 – CURRENT

### **PhD Competition XXXIX cycle (Science and Technologies for the Earth and Environment - Curriculum Biology applied to Agriculture and Environment)**

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03/04/2023 – 31/10/2023

### **Post-graduate internship competition organized by the University of Genoa (D.M. 752/2021, D.R. 4403 14/10/2022)**

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## **CERTIFICATIONS**

16/11/2023

### **Professional License to Practice as a Biologist**

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FNOB - Federazione Nazionale degli Ordini dei Biologi

Mark: 50/50

10/07/2020

### **Acquisition of the 24 credits in the anthropo-psycho-pedagogical disciplines for teaching activities, according to DL 59/2017 and DM 616/2017**

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25/01/2016

### **FCE First Certificate in English**

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Cambridge University Press and Assesment English

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*I authorize the processing of my personal data on the CV pursuant to Legislative Decree 196/2003" and in accordance to the GDPR 679/16 - "European regulation on the protection of personal data".*

*Federica Betuzzi*

Genoa , 28/02/2024

Federica Betuzzi