



Ilenia Bracaglia

● ABOUT ME

With a degree in Chemistry and Pharmaceutical Technology, I obtained my license to practice as a pharmacist shortly thereafter. I have always been passionate about the world of forensic research, particularly the chemical-analytical aspect. I consider myself to be very persistent and determined, with a strong aptitude for both team and individual work.

● WORK EXPERIENCE

01/11/2023 - CURRENT Rome, Italy

PHD STUDENT LA SAPIENZA-UNIVERSITÀ DI ROMA

In the project "New methods of mass spectrometry to counter the Novel Psychoactive Substances phenomenon in Italy through epidemiological studies" I am responsible for developing untargeted analysis strategies for the detection of New Psychoactive Substances in biological and non-biological matrices (seizures) using analytical instruments such as UPLC and HPLC-MS/MS, as well as data processing software with multivariate methods and chemometric approaches, in collaboration with law enforcement agencies.

15/10/2022 - 15/10/2023 Bologna, Italy

RESEARCH FELLOW INSTITUTE FOR ORGANIC SYNTHESIS AND PHOTOREACTIVITY (ISOF) - NATIONAL RESEARCH COUNCIL (CNR)

In the project "DeepLearning analysis of massive parallel arrays of Electrochemical Sensors, for detection of Biomedical Conditions" I am responsible for developing a DeepLearning model (using Artificial Intelligence software and programming languages such as Python 3.0) for processing and predicting key diagnostic "biomarkers" of cardiac disorders detected in biological matrix sweat, with the aim of creating PointOfCare sensory devices.

At the same time, I have supported the development of electrochemical biosensors in synthetic matrices using various analytical techniques, such as cyclic voltammetry.

01/02/2022 - 01/08/2022 Rome, Italy

INTERN FARMACIA TUSCOLANA - DOTT. ENRICO VERDIGLIONE

During my work experience at the private company, I was responsible for managing the sales of medicines and pharmaceutical products, as well as preparing galenic formulations. The most commonly produced pharmaceutical forms were solid (capsules, powders, and suppositories), semi-solid (gels, ointments, and pastes), and liquid (syrups, drops, mixtures/oils, and eye drops).

The galenic laboratory of the pharmacy is also equipped with devices for the production and analysis of the prepared medicines (e.g., HPLC for the quantitative analysis of cannabis oil), which offered me the opportunity to apply the analytical techniques I learned during my studies to the pharmaceutical field.

01/03/2021 - 20/01/2022 Rome, Italy

INTERN- THESIS FOR MASTER'S DEGREE DEPARTMENT OF PUBLIC SECURITY, CENTRAL ANTICRIME DIRECTORATE OF ITALIAN NATIONAL POLICE(DAC-SPS)

- Learning and experience with LC/MS-MS instrumental analytical techniques: use of low-resolution (SCIEX 6500 QTRAP) and high-resolution (Synapt-G2S) HPLC and UPLC/MS-MS analytical instruments for the detection of narcotic substances; management of Analyst and MassLynx software for controlling the respective analytical equipment.

Autorizzo il trattamento dei miei dati personali presenti nel CV ai sensi dell'art. 13 d. lgs. 30 giugno 2003 n. 196 - "Codice in materia di protezione dei dati personali" e dell'art. 13 GDPR 679/16 - "Regolamento europeo sulla protezione dei dati personali"

- Knowledge of instrumental analytical techniques GC/FID or GC/MS, HPLC/FT-IR (Fourier-transform infrared spectroscopy).
- Learning and experience with methods for pre-treatment of real non-biological samples (street seizures) and biological samples (saliva).
- Construction of statistical models for predicting chromatographic data: use of software such as JChem (for Excel) and XLMiner Analysis ToolPak.
- Training course on Ion Mobility Spectrometry (IMS) with drift time | April 2021 – Waters Corporation.
- Training course on Differential Ion Mobility Spectrometry (IMS) | December 2021 – Sciex.

● EDUCATION AND TRAINING

31/07/2025 Rome, Italy

CERTIFICATE OF QUALIFICATION IN CHEMIST La Sapienza- Università di Roma

Field of study chemistry

13/05/2024 – 07/06/2024 Copenaghen, Italy

CERTIFICATE OF COMPLETION- INTERNATION SCHOOL OF CHEMOMETRICS University Of Copenaghen – Faculty of Science

- Introduction to Programming (MATLAB, Python) for Multivariate Data Analyses;
- Introduction to Chemometrics, Data Types, Data Pre-Processing, PCA, Multivariate Linear Regression and Linear Algebra for Multivariate Data Analysis;
- Intermediate Topics on Chemometrics. DoE, Variable Selection Methods, Multivariate Curve Resolution
- Classification (PLSDA, Random Forest, KNN, SIMCA, Support Vector Machine)

Field of study Chemistry

25/07/2022 – 25/07/2022 Rome, Italy

CERTIFICATE OF QUALIFICATION IN PHARMACIST La Sapienza- Università di Roma

Field of study pharmaceutical chemistry and technology

01/09/2016 – 20/01/2022 Rome, Italy

SINGLE-CYCLE MASTER'S DEGREE IN PHARMACEUTICAL CHEMISTRY AND TECHNOLOGY La Sapienza- Università di Roma

Learning chemical-technological skills in the pharmaceutical and non-pharmaceutical fields.

During my training period, I completed the curricular laboratory courses required by my degree program, including Pharmaceutical Chemical Analysis Laboratories I, II, and III, and the Pharmaceutical Technology Laboratory, where I gained knowledge and experience in the following areas:

- Instrumental analytical techniques and recognition tests for compounds listed in the European Pharmacopoeia (EP): TLC (thin layer chromatography), extraction methods (Soxhlet, separatory funnel extractions), distillation, and use of Rotavapor.
- Knowledge in Quality Control (QC).
- Quantitative analysis (volumetric and potentiometric titrations) and qualitative analysis (recognition tests) of organic and inorganic compounds.
- Preparation and testing of the main pharmaceutical forms as per the EP.

Additionally, I completed a six-month curricular internship at a private pharmacy (Farmacia Piacitelli, Dr. Carlo Piacitelli | Frosinone), which allowed me to gain knowledge about the activities of the community healthcare system, customer relations, and the preparation of galenic formulations.

Field of study pharmaceutical chemistry and technology **Final grade** 110 cum laude |

Thesis Target e suspect screening di sostanze psicoattive in matrici biologiche e sequestri tramite analisi LC/MS-MS

● LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	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 Python Language – Basic knowledge Good knowledge of OriginLab Software Molecule editor ChemDraw Mendeley Software | MATLAB– Basic knowledge MarvinSketch chemistry software

● **CONFERENCES AND SEMINARS**

17/10/2023 – 19/10/2023 Department of Public Security, Central Anticrime Directorate of Italian National Police(DAC-SPS)

Certificate of Completion- Training UNIFI Synapt G2-Si

Knowledge about UNIFI software to process Mass Spectrometric Data acquired by Synapt G2Si (HRMS)

22/01/2024 – 29/01/2024 Online- The Center for Forensic Science Research & Education

Certificate of Completion- Current Trends in Seized Drug Analysis Symposium

Knowledge of the latest chemical analyses conducted in the field of forensic research.

07/05/2024 – 07/05/2024 Online

Certificate of Completion- Phenomenex

Study on HPLC, the use of mobile phases and optimal gradients.

13/12/2023 – 13/12/2023 Roma- National Research Council (CNR)

La Giornata Tecnologica e Applicativa SCIEX

Applications of SCIEX technology for chemical analyses.

● **HOBBIES AND INTERESTS**

Photography

Use of software for photo processing (Photoshop)