**CURRICULUM VITAE MANUELA MANDRONE**

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Bibliometric Parameters

Scopus Author ID: 55274256800

Publications: 61

h-index: 20

Total citations: 1173

**Current Position and Research Topics**

Manuela Mandrone is an Associate Professor at the University of Bologna (UNIBO), Department of Pharmacy and Biotechnology (FaBiT), where she teaches Plant Biology, Pharmaceutical Botany, Foundations of Traditional Medicines, and Metabolomics Applied to Plants. Her research activities lie within the field of Plant Science, with specific focuses on: 1) identification of active principles and biological activities from medicinal plants and plant matrices of interest, including agro-industrial by-products; 2) quality control of botanicals, spices, and flavorings; 3) plant–environment interactions; 4) ethnobotany. These research lines are addressed through various approaches, with a particular emphasis on NMR-based metabolomics.

**Academic Career**

**11/04/2024 – Present:** Associate Professor at the University of Bologna, Department of Pharmacy and Biotechnology (FaBiT)

**11/04/2021 – 11/04/2024:** Senior Researcher (RTD-B) and lecturer at the University of Bologna, FaBiT. Research contract title: “Phytochemical and biological study of medicinal plants used in folk medicine.”

**2024: National Scientific Qualification (ASN) for Full Professor –** Academic recruitment field BIO/05-A1

**02/11/2019 – 12/04/2021:** Postdoctoral researcher at the University of Bologna, FaBiT. Project title: “Phytochemical and biological study of medicinal plants used in traditional medicine.”

**02/11/2016 – 01/11/2019:** Junior Researcher (RTD-A) at the University of Bologna, FaBiT. Project title: “Study of traditional medicinal plants and their application in pharmaceutical and biotechnological fields. Correlation between biological activity and phytochemical profile.”

**19/04/2016:** Ph.D. awarded (with Doctor Europaeus certification) from the University of Bologna, FaBiT. Thesis title: “Medicinal plants from ancient traditions as a source for matrix protease inhibitors. Study of correlation between biological activity and phytochemical profile.”

**01/11/2013 – 01/11/2016:** Ph.D. candidate at the University of Bologna, FaBiT

**02/07/2011 – 30/09/2013:** Research fellow at the University of Bologna, FaBiT. Project: “Ethnobotanical and biotechnological study of medicinal plants from the hilly area of Bologna,” funded by the Foundation “Cassa di Risparmio in Bologna – Cuccoli Legacy.”

**06/2010: Licensed Pharmacist (Italy)**

**Academic Year 2009–2010:** Master’s degree in Pharmaceutical Chemistry and Technology (CTF), University of Bologna. Thesis title: “Design and synthesis of multipotent ligands for Alzheimer’s disease.”

**Research Experience Abroad**

1) **During 2019 and 2022**, several visits were carried out at the University of Belgrade as part of the project: “Metabolomic approach for the detection of frauds in herbs and spices” (Italy–Serbia, code RS19MO03; funded by the Italian Ministry of Foreign Affairs), to organize and conduct research activities related to the project.
2) **15/11/2015 – 15/04/2016**: Erasmus Plus fellowship at the Institute of Biology (IBL), Leiden University (Netherlands), for six months. Project title: “Metabolomic application to screening of collagenase inhibitors from medicinal plants.”
3) **01/04/2014 – 01/10/2015**: One and a half year research stay during Ph.D. studies at Leiden University (Netherlands) under the supervision of Prof. Young Hae Choi.

**Teaching and Other Educational Activities**

**Academic Year 2024–2025** – Present: Lecturer of the elective course “Metabolomics techniques and applications in plant science” in the Master's degree in Molecular and Cell Biology, FaBiT.

**Academic Year 2023–2024** – Present: Lecturer of the module (24 hours, 3 CFU): “Sources of plant metabolites and traditional medicines” within the integrated course “Phytopharmaceuticals: from nature to drug” in the Pharmacy degree program, FaBiT.

**Academic Year 2020–2021** – Present: Lecturer of the course “Plant Biology and Pharmaceutical Botany” (72 hours, 9 CFU) in the Pharmacy degree program, FaBiT.

**Academic Year 2017–2018**: Seminar on the topic “Omic sciences and inductive approach research,” for Ph.D. students of the program “Health, Safety and Green Systems” at the University of Bologna (Imola campus).

**Academic Years 2016–2017** – Present: Seminars on the structural characterization of plant secondary metabolites and plant metabolomics, for the training of research fellows and Ph.D. students in Prof. Poli’s research group (FaBiT).

**Academic Year 2020–2021** – Present: Chair of the examination committee for the course “Plant Biology and Pharmaceutical Botany” in the Pharmacy degree program (FaBiT).

**Academic Year 2023–2024** – Present: Member of the examination committee for the course “Phytopharmaceuticals: from nature to drug” in the Pharmacy degree program (FaBiT).

**Academic Years 2016–2017 to 2019–2020**: Member of the examination committees for courses taught by Prof. Ferruccio Poli:
- Plant Biology and Pharmaceutical Botany (Pharmacy degree program)
- Plant Biology with elements of Pharmaceutical Botany (Pharmaceutical Chemistry and Technology – CTF)
- Pharmaceutical Botany (Applied Pharmaceutical Sciences – Herbal Techniques curriculum)

**Tutoring, Theses Supervision, and PhD Mentoring**

PhD Theses
1) Scientific supervisor of Augusto Hubaide Nozella, PhD candidate in “Health, Safety and Green Systems” at the University of Bologna (Imola campus), Cycle 37 (2022–Present).
2) Scientific supervisor of Simona Trincia, PhD candidate in “Health, Safety and Green Systems” at the University of Bologna (Imola campus), Cycle 38 (2023–Present).
3) Co-supervisor of Ilaria Chiocchio, PhD candidate in “Health, Safety and Green Systems” at the University of Bologna (Imola campus), Cycle 34 (2018–2022).

**Master's** Theses
- Supervisor of Valentina Tognetti (CTF). Thesis title: “Metabolomic analysis applied to the essential oil study of Hyssopus officinalis var. officinalis L.” (2023–2024).
- Supervisor of Clarissa Tarozzi (Pharmacy). Thesis title: “Wild roses from the Apennines: metabolomic study and antioxidant activity” (2022–2023).
- Supervisor of Simona Trincia (Pharmacy). Thesis title: “Phytochemical study through bio-guided fractionation of Arbutus unedo L. for potential treatment of gastrointestinal stromal tumors (GIST)” (2021–2022).
- Supervisor of Giovanni Pigati (Pharmacy). Thesis title: “Metabolomic analysis of Cynara cardunculus L. collected in two different seasons in Sardinia” (2021–2022).
- Ongoing thesis supervision of Valentina Tognetti (Pharmacy, 2023–2024).
- Ongoing industrial thesis supervision of Sofia Magnanesi (Pharmacy, 2023–2024).

Co-supervisor of 9 experimental theses from 2014 to 2024, including international and interdisciplinary works in ethnobotany, metabolomics, phytochemistry, and natural product sciences.

**Projects and Awards**

1) Unit Leader in the PRIN 2022 project titled: “Circular economy: from local agri-food waste to new nutraceuticals against chronic inflammatory bowel diseases – FENICE.”

2) Principal Investigator of the Italy–Serbia project (RS19MO03) funded by the Ministry of Foreign Affairs: “Metabolomics approach for the detection of herbs and spices frauds” (2019–2022).

3) Scientific partner in the ALMA IDEA 2022 project: “Development of an innovative, green, and multifunctional wound dressing based on broom extracts.”

4) Scientific partner in the GiLiMed project: “Development of eco-sustainable wound dressings based on broom and licorice,” funded by the Parmiani Foundation (2023).

5) Scientific partner with the University of Belgrade for the OPCW-funded project: “Detection of dietary supplements fraud using metabolomics approach.”

6) Partner in a project funded by the Region of Umbria: “Evaluation of the efficacy of herbal preparations to counteract muscle atrophy and sarcopenia.”

7) Participant in the University of Bologna FARB Project (FFBO123113): “Plants of traditional medicine as a source of molecules with antiviral and antimicrobial activity.”

8) FaBiT Award for Best Publication on the correlation between chemical profile and biological activity of medicinal plants (2016).
9) Travel Grant Awards from: Italian Society of Phytochemistry (2012), Italian Botanical Society (2014, 2017).

**Third Mission and Outreach Activities**

Outreach Events:

- 19/05/2024: Talk titled “The Treasure of Gardens: History and Science of Medicinal Plants” during the FAI event ‘Walks in Biodiversity’ held at the Orti d’Orfeo Cloister, Bologna.

- 18/05/2024: Public lecture for “Fascination of Plant Day” at the Botanical Garden of Bologna.

- Imola Baccanali Festival 2023: Lecture titled “Wild plants: a unique heritage of our territory,” in collaboration with the chefs of “cooktofeelgood”.

- European Researchers’ Night 2022: Public talk on plant metabolism.

Collaborations with Companies

- Biokyma S.r.l.: Analysis of medicinal plants for the development of dietary supplements.

- Cannamela (Bonomelli S.r.l.): Quality control of spices and flavorings.

- New Food: Quality control of spices and flavorings.

- Biolchim CIFO: Setup of plant cell cultures and testing of sustainable agricultural products.

- Aethera Biotech S.r.l.: Phytochemical analysis of plant cell lines.

**Additional Training**

1) Participation in the Phytochemical School “METABOLOMICS IN NATURAL PRODUCT RESEARCH” organized by the Italian Society of Phytochemistry (SIF), 21–22 September 2023, Catania.

2) Seminar: “Natural Products: Analytical Techniques and New Trends in the World of Natural Products,” organized by BUCHI Italia S.r.l., University of Rome La Sapienza, 14/02/2017.

3) Training course: “LC3. Strategies for the development of robust methods in HPLC and UHPLC,” Phenomenex (Bologna), 16/02/2017.

4) Advanced NMR Course at Bruker (Milan), 22–24 November 2016.

5) Metabolomics workshop at Leiden University (Netherlands), 07–25 April 2014.

6) Seminar: “UltraPerformance-MS Technology,” Waters, University of Bologna, 03/07/2013.

Participation in Conferences and Scientific Oral Communications

* "Metabolomic patterns in response to abiotic stimuli of *Cladonia* lichens from dry grasslands" al CONVEGNO ICNPR 2024 INTERNATIONAL CONGRESS ON NATURAL PRODUCTS RESEARCH, Organizzato dalla Phytochemical Society of Europe in collaborazione con altre società scientifiche internazionali devote allo studio delle piante e dei prodotti naturali tra cui la GA (Society for Medicinal Plants and Natural Products Research).
* “NMR metabolomics approach to detect frauds and adulteration of oregano samples”, VI International Plant Science Conference, Congress, Italian Botanical Society, Padua, from 2019-09-04 to 2019-09-06
* “Screening of 100 plant extracts as tyrosinase and elastase inhibitors, two enzymatic target of cosmetic interest”. 6TH Edition of Interantional Conference on Pharmacognosy and Medicinal Plants, Amsterdam (NL) dal 16-04-2018 al 17-04-2018
* “Application of metabolomics to improve in vitro bioactivities assays for plant crude extracts”, IV International Plant Science Conference, Congress of the Italian Botanical Society onlus, Parma from 20-09-2017 to 23-09-2017
* “Phytochemical profile and biological activities evaluation of three species of Hypericum”, I International Plant Science Conference, Congress of the Italian Botanical Society onlus, Florence from 02-09-2014 to 05-09-2014
* “Screening fitochimico e attività biologiche dell'*Hypericum hircinum* L.” Scuola di Fitochimica “P. Ceccherelli”, Dyes of natural origin, Paestum (SA), from 05-10-2012 to 07-10-2012