**IMAS MASTER Academic Year 2024 - 2025**

**Proposal of M2 Internship**

**PROJECT TITLE AND SUMMARY:** **Exploring medicinal plants for high-value pharmaceutical biochemical compounds.**

This project seeks to apply advanced plant biotechnologies to investigate and harness bioactive compounds for pharmaceutical applications. The focus is on medicinal plant species, renowned for their rich bioactive profiles and notable pharmacological properties. The project will optimize cutting-edge extraction techniques to efficiently isolate bioactive compounds from these plants. The pharmacological activity of the extracts will be rigorously evaluated, with particular emphasis on antioxidant activity. Comprehensive chemical profiling will be carried out to identify and characterize key bioactive constituents, further elucidating their potential for pharmaceutical use.

**HOST UNIT:** Research Center for Studies of Food Quality and Agricultural Products, University of Agronomic Sciences and Veterinary Medicine

**MAIN ACTIVITIES:**

* Conduct an extensive phytochemical screening of bioactive compounds in plants harvested from both wild and cultivated genotypes of selected species, including *Solidago* sp., *Cynara* sp., and *Aronia* sp..
* Oprimize innovative extraction methods, such as Accelerated Solvent Extraction (ASE), Microwave-Assisted Extraction (MAE), and Ultrasound-Assisted Extraction (UAE), to efficiently isolate bioactive compounds for further analysis.
* Utilize advanced analytical techniques, including High-Performance Liquid Chromatography (HPLC-PDA), Gas Chromatography (GC-MS), and UV-Vis spectroscopy, to identify key bioactive compounds, such as phenolics (flavonoids, anthocyanins), carotenoids, iridoids, and volatile oils.
* Assess the antioxidant activity of the extracted compounds to determine their pharmacological efficacy.

**EXPECTED SKILLS:**

Expertise in extraction methods, chemical analysis, and plant chemistry.

Proficient in practical laboratory techniques, including handling glassware, balances, preparing solutions, performing dilutions, pipetting, and constructing calibration curves.

Strong ability to work autonomously, with excellent organizational skills, attention to detail, and a collaborative team-oriented mindset, coupled with a passion for experimental and laboratory work.

**INDEMNISATION:**

- about 600 € / month

**CONTACT:**

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Organization: University of Agronomic Sciences and Veterinary Medicine, Research Center for Studies of Food Quality and Agricultural Products

Location: 59, Marasti Blvd., Bucharest, 011464, ROMANIA

Duration: 6 months

Dates: 01.03.2025 - 31.08.2025

Level: Master 2

Internship profile: Research