

# Biopesticides and bioformulations

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Natural products and technology

School of Pharmacy

Rapporto strutturati/non strutturati: 1 PO, 3 PA, 1 RTDB, 1 PostDoc, 2 PhD

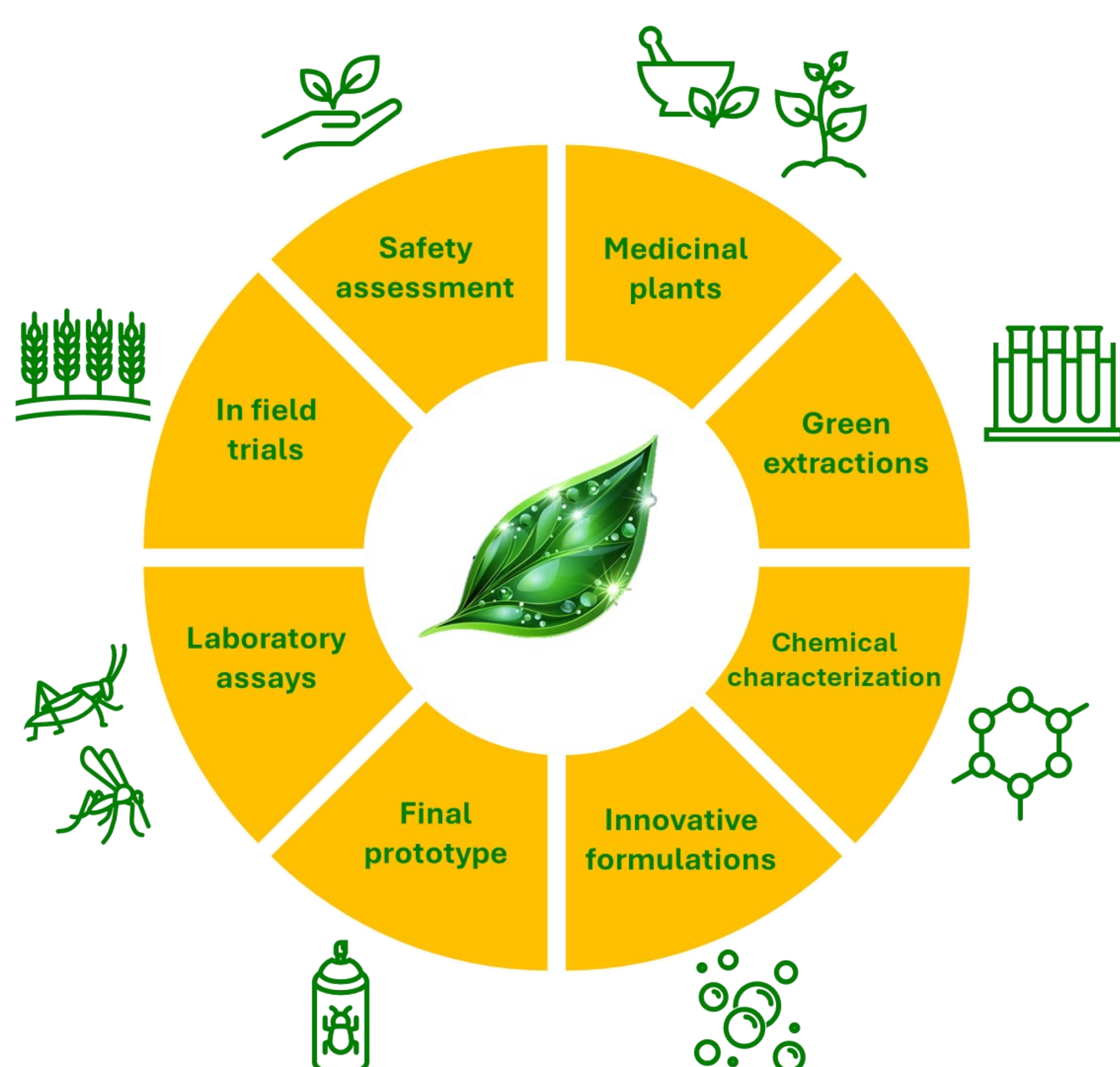


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## Characterizing studies

Our research is centered on the development of novel and eco-friendly extraction processes for medicinal and food plants and on the characterization of their bioactive compounds. Moreover, our group focuses on the study of the biological activity of natural products, with a special interest to their insecticidal potential against pests of agricultural importance and vectors of medical and veterinary relevance. Furthermore, another aim is the encapsulation of natural products into nanoformulations, such as nano- and microemulsions to guarantee their chemical-physical stability by lowering degradation processes, improving water solubility, biological availability, and possibly the bioactivity of the formulated products. These are crucial aspects for the development of potentially safe and “eco-friendly” biopesticides.



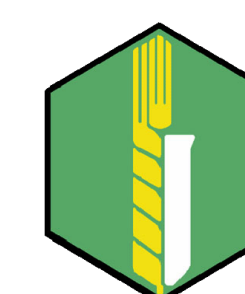
## Relations with SME:

- INDENA Spa
- SIPCAM OXON Spa
- SAM-Società Agricola Moldoi Spa
- NDG-Natural Development Group Spa
- Dompè farmaceutici Spa



## International collaborations:

Crop Research Institute (Prague)  
Agricultural University of Athens  
Umeå University  
Teagasc | Agriculture and Food Development Authority  
Universidad San Jorge – Zaragoza



## National collaborations:

- University of Milan
- University of Pisa
- CREA Research Centre



**National Impact:** The research has a significant national impact. Indeed, the research activities allow the discovery, isolation, and formulation of natural products for their diverse applications. Specifically, the research brings to the valorization of neglected traditional herbal medicines.

**International Impact:** The research has an international impact, as it leads to the discovery and application of new bioactive compounds in many fields. The project aims to drive European cultivation towards more efficient, sustainable, toxic-free crop protection, through reducing and even eliminating the use of xenobiotic compounds protection products. Moreover, the research will allow the employment of innovative tools against insect vectors of public health relevance.

## Roles in scientific societies/Networks/Research centres:

- Member of Società Botanica Italiana (SBI)
- Member of Società Italiana di Fitochimica (SIF)
- Member of Phytochemical Society of Europe

## Sources of fundings:

- EU: LIFE  
(LIFE-2022-SAP-ENV-ENVIRONMENT)
- University of Camerino: FAR
- Regione Marche: PSR
- MUR: PRIN

