



UNIVERSITÀ POLITECNICA DELLE MARCHE

Supervisor: Prof. Arianna Vignini

Dept. of Odontostomatologic and Specialized
Clinical Sciences

<https://www.disco.univpm.it/>

Project idea: : Mediterranean Diet
for Disease Prevention:
Biomarkers, Cellular Mechanisms,
and Functional Foods



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Supervisor:
Prof. Arianna Vignini

Position: Associate Professor - 05/BIOS-07 – Area 05

Institution: Università Politecnica delle Marche
(UNIVPM), Italy

Brief CV & Academic Track

- Graduation in Biological Sciences
- Master's degree in Chemistry and Biochemistry
- Specialization in Nutrition
- PhD in Clinical Pathophysiology and Molecular Medicine
- PhD in Food and Health
- University teaching in Biochemistry and Nutritional Biochemistry

ORCID: <https://orcid.org/0000-0002-2496-7932>

Total publications: 138 (Scopus)

Scopus Author Identifier: 6603133912

Publications

- 1) Schiavoni V, et al; Curr Neuropharmacol. 2025
- 2) Di Paolo A, et al; J Investig Med. 2024
- 3) Pecci F, et al; Oncologist. 2024
- 4) Bilò MB, et al; Allergy. 2022
- 5) Papiri G, et al; Biomolecules. 2022

Funded Projects & Awards

- 2001 Cariverona (Co-I)
- 2002 Young Researcher Project (PI)
- 2007/2009/2022 PRIN (Co-I)
- 2018 eCapital award (PI)
- 2018 FEBS grant (PI)
- 2021 FASTER Valorization Program - PoC Project (Co-I)
- 2022 Fondazione Salesi (Co-I)
- 2023 MIMIT (PI)
- 2024 Regione Marche (Co-I)

Mentorship & Leadership

Supervisor of **5 PhD candidates** and **>30 MSc theses**

Collaborations with local companies on the development and prototyping of functional foods.

Research Interests & Potential MSCA Area

- Identification of early biomarkers associated with non-communicable diseases.
 - Investigation of taste perception in different pathological conditions
 - Mediterranean Diet adherence and related pathological outcomes
- ➔ Potential project domain: Linking Mediterranean Diet to Early Pathological Indicators



HR EXCELLENCE IN RESEARCH



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Department & Research Environment



Department of Odontostomatologic and Specialized Clinical Sciences

Host Department: Department of Odontostomatologic and Specialized Clinical Sciences (DISCO) — UNIVPM

A multidisciplinary environment supporting research in:

- **Health Sciences and Clinical Research** – including nutrition, disease prevention, cardiology, and exercise medicine
- **Biomedical and Laboratory Technologies** – covering molecular biology, microscopy, biomarker analysis, and biotechnology
- **Integrated Clinical and Scientific Platforms** – supporting studies that combine experimental, clinical, and epidemiological approaches

Research Group Description

Head of the Laboratory of Medical and Nutritional Biochemistry
<https://disco.univpm.it/laboratorio-di-biochimica-medica-e-della-nutrizione-responsabile/>

Team composition: **3 postdocs + 1 PhDs**

Strong international network and collaborations with

- Prof. Evzen Amler, Charles University, Prague, Czech Republic.
- Prof. Bulent Mutus, University of Windsor, Windsor, Canada.
- Prof. Lea Pogačnik da Silva, University of Ljubljana, Slovenia
- Prof. Maria J Esteve, Universitat de València, Spain

Key Infrastructure & Laboratories

Available facilities include:

Laboratory of molecular and cellular biology;

Core instruments: centrifuges, multimodal microplate reader, equipment for Electrophoresis and Western Blot, Equipment for Cell Cultures, Spectrofluorimeters with Polarizers and Thermostated Cells

Training & Career Development Opportunities

- **Advanced scientific training** in biochemistry, biomarker analysis, and nutritional epidemiology
- **Access to doctoral school courses and transferable skills training**, including scientific writing, research ethics, project management, and grant proposal preparation.
- **Support for open science practices**, including data management, research dissemination, and communication with scientific and non-scientific stakeholders.
- **Participation in seminars, workshops, and international conferences** to promote networking and professional development.
- **Interdisciplinary collaboration opportunities** with researchers working in clinical, nutritional, and biomedical sciences.
- **Opportunities for secondments and non-academic placements**, allowing exposure to research environments outside academia and strengthening career development.



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**Project idea - Mediterranean Diet for Disease Prevention:
Biomarkers, Cellular Mechanisms, and Functional Foods**



Overall Goal

The project aims to develop a comprehensive framework to identify early biomarkers influenced by the Mediterranean Diet and to design functional foods for preventive health] contributing to:

Scientific advancement in nutritional epidemiology, molecular medicine, and functional food science

Innovation potential in preventive healthcare, personalized nutrition, and functional food development

Strengthening European research excellence

Specific Objectives

Investigate the relationship between adherence to the Mediterranean Diet and early molecular and cellular indicators of chronic diseases

Develop functional foods enriched with bioactive compounds and biomarker-guided nutritional interventions

Validate results through cellular and molecular experiments, enzymatic assays, and analysis of patient-derived biological samples

Novelty & Interdisciplinarity

Combines expertise in nutritional science, molecular and cellular biology, functional food development

Strong potential for academic + non-academic impact

Expected Outcomes

High-impact publications in leading journals

New methodology/biomarker panels/experimental protocols linking diet to early pathology

Prototype functional foods designed for preventive health

Enhanced career perspectives for the fellow, including hands-on expertise in molecular assays, cellular biology, biomarker discovery, and functional food development



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The Department of Odontostomatologic and Specialized Clinical Sciences

Director: Prof. Giovanni Cobellis

2026

AT A GLANCE

DISCO 

Last three years
2023-24-25

15 Scientific Areas
MEDS-07/B, MEDS-14/B, MEDS-14/C, MEDS-16/A, MEDS-22/A, MEDS-22/B, MEDS-20/A, MEDS-21/A, MEDS-26/A, MEDS-08/C, MEDS-26/B, BIOS-07/A, BIOS-08/A, BIOS-09/A, BIOS-10/A, PHYS-06/A

741
Publications 

>2.900.000 €
Research income 

45 Staff 

48 PhD, Post-doc,
Research fellows 

Teaching programs for **undergraduates** in Medicine and Surgery, Dentistry, Professional education, Physiotherapy, Dietetics, Dental hygiene, Nursing, Speech Therapy, Obstetrics, Biomedical laboratory techniques, Prevention techniques in the environment and workplace, Medical, Imaging and Radiation Therapy techniques.

Postgraduate Medical Training specialty in Gynecology and Obstetricia, Medical Physics, Pediatrics, Pediatric Surgery, Radiodiagnostics, Urology, Nuclear Medicine, Oral Surgery, Sport Medicine 

1 Centre of Artificial Intelligence & Digital Health in Medicine and Biology AIDH
1 Centre of Health Education and promotion (CISS) 

Master's Degree in:

- Nutrition and Dietetics
- Applied Nutrition and Dietetics
- Sports Applied Nutrition and Dietetics
- Vegetarian Nutrition and Dietetics
- Expert in Diet Planning
- Nutrition in Physiological condition
- Nutrition in Patological condition

8 Clinical research Units 

19 Research Laboratories

6 Clinic Laboratories