



Marie Curie Postdoc Fellowship

2026



1. Supervisor

Supervisor: Guido Favia – School of Bioscience and Veterinary Medicine (section Biosciences)

Professor of Parasitology and Deputy Rector for Research.

Guido Favia is Full Professor of Parasitology at the University of Camerino and an internationally recognized researcher in vector biology and host–microbe interactions in arthropod vectors. His research focuses on the role of microbial symbionts in shaping vector competence, insect physiology, and the transmission of vector-borne diseases. Over the past two decades, his work has contributed to the development of innovative **symbiotic control strategies** targeting mosquito-borne pathogens through manipulation of vector microbiota. His research integrates molecular biology, microbiology, genomics, and ecology to understand how microbial communities influence vector biology and disease transmission.

Research Interests

- Vector biology and vector-borne diseases
- Microbiota of insect vectors
- Host–symbiont interactions
- Symbiotic control strategies
- Climate change effects on vector ecology
- Mosquito genomics and microbial symbiosis

Research Achievements

Prof. Favia has published extensively in international peer-reviewed journals and has made pioneering contributions to the study of **mosquito symbiosis and microbiota-based control strategies**.

Key contributions include:

- Discovery and characterization of microbial symbionts involved in mosquito physiology and immunity
- Development of **paratransgenesis approaches** for vector control
- Identification of interactions between mosquito symbionts such as **Asaia and Wolbachia**
- Genomic studies revealing adaptive functions of mosquito symbionts

His research has significantly advanced the understanding of how microbial symbionts can be exploited for **environmentally sustainable control of vector-borne diseases**.

Funding and Leadership

He has coordinated and participated in several national and international research projects, including:

- **MIUR-PRIN – Progetti di Ricerca di Interesse Nazionale**
- **EU-Infrastructures**
- **Firb-Ideas**
- European collaborative projects on vector biology
- International research networks on mosquito-borne diseases



Marie Curie Postdoc Fellowship

2026



He leads interdisciplinary research teams combining expertise in entomology, microbiology, genomics, and bioinformatics.

Mentoring and Training

Prof. Favia has supervised numerous PhD students, postdoctoral researchers, and MSc students. Many of his former trainees now hold academic or research positions in leading international institutions.

His laboratory provides a dynamic and interdisciplinary environment particularly suitable for **Marie Skłodowska-Curie Fellows**, offering opportunities to develop innovative research projects in vector biology and microbial symbiosis.

Scientific Service

- Reviewer for major international journals in microbiology, parasitology, and vector biology
- Editorial roles in international scientific journals
- Expert evaluator for national and international funding agencies and research programs

Contacts: guido.favia@unicam.it

2. Research Group and Facilities

Laboratory & Facilities: An Insectary hosting 7 different species of mosquito; A large parasitological lab with Several Microscopes (optical, fluorescence, scanning...) and microbiological facilities; A large bio-molecular Lab with several PCR machines and all needed for high biomolecular analysis. A omics lab.

Research Network: The group is a leading international group in the field of Vector Symbiosis and Mosquito control. It has a large network of International collaborations (among others: Johns Hopkins University, Duquesne University, Texas medical center University in USA; Imperial College, Liverpool School of Tropical Hygiene, University of Glasgow in UK; University of Sao Paulo in Brazil)

3. Research Thematic Area/Project Idea

Title of the project: Microbial competition in mosquito vectors.

Macroarea: Microbial ecology: Symbiosis, Mosquito, Insect vectors, Mosquito Borne Diseases

Project Overview: The project deals with some aspects of the microb-host interactions in mosquito vectors with a special focus on the microbial competition within the host

4. Candidate and Career Plan

Expected background of the candidate: PhD in any field of Biology with relevance to Microbiology and Genetics

Competences and knowledge to be developed by the candidate: In the following fields: Entomology, Molecular Biology, Environmental Microbiology