Sofia Di Castri

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EDUCATION

PhD in Genetics and Cellular and Molecular Biology

University of Pavia · Biology and Biotechnology Department "L. Spallanzani" · October 2026 - ongoing

Ph.D. project's title: "The host Microbiota as a Modulator of Wolbachia infection in Insects

PhD Supervisor: prof.ssa Maria Vittoria Mancini
Tutor: dott.ssa Giulia Barbieri

MSc in Biological Sciences

University of Camerino · 2025 · 110/110 cum laude

Thesis: "Microbiota-Host interactions in the invasive mosquito *Aedes koreicus*: implications for arbovirus transmission dynamics"

BSc in Biosciences and Biotechnology

University of Camerino · 2022 · 110/110 cum laude

Thesis: "Optimization of mass rearing conditions of a transinfected *Aedes albopictus* population"

Percorso Formativo 24 CFU

2020

Diploma di Scuola Superiore

I.I.S. Matteo Ricci (MC) · Chimica Materiali Biotecnologie – Settore Sanitario · 2019 · 100/100

WORKING EXPERIENCE

Insectary Manager

Department of Biology and Biotechnology · University of Pavia, Pavia, Italy · October 2025 – May 2026

- Maintenance of mosquito colonies (*Aedes albopictus, Aedes aegypti, Aedes koreicus*) and *Drosophila suzukii* colonies.
- Planned and conducted experimental studies involving SFV-4 viral infections in a BSL-2 facility and conducted downstream molecular analyses

INTERNSHIP EXPERIENCE

Master thesis internship

University of Pavia · Italy · February - September 2025
Supervisor: prof.ssa Claudia Damiani; Co-Supervisor: prof.ssa Maria Vittoria Mancini

- Assessed the vector competence of *Ae. koreicus* for Semliki Forest Virus (SFV), a model alphavirus, in comparison to the established competent vector *Ae. albopictus*
- Evaluated the impact of *Asaia* (isolated from *Anopheles stephensi*) on vector competence, as a preliminary step toward paratransgenesis-based vector control strategies

Erasmus+ Traineeship (post-graduate)

Institute of Molecular Biology and Biotechnology (IMBB) · Crete, Greece · April – September 2023
Supervisor: dott.ssa Chiara Currà

- Maintenance of *Plasmodium berghei* in rodent and mosquito models
- Study of protein involved in oocyst formation and rupture through Western blot and immunofluorescence analyses
- Genetic modification of the parasite's genome and phenotypic analysis to understand gene function

Bachelor thesis internship

University of Camerino – Biovecblok Srl · Italy · May - November 2022
Supervisor: prof.ssa Claudia Damiani

- Optimised mass-rearing of a triple Wolbachia-infected *Ae. albopictus* population (ARwP) using a lower-cost larval diet, as an alternative to the standard diet used in the biofactory
- Assessed Wolbachia density by quantitative molecular assays, and evaluated phenotypic traits and cytoplasmic incompatibility rates to determine whether cost reduction could be achieved without compromising rearing quality

LANGUAGES

Italian: Native speaker

English: Professional working proficiency · Cambridge English First Certificate (Grade A)