

**FORMATO EUROPEO
PER IL CURRICULUM
VITAE**



Education and Training

2021-in course **PhD in Life and Health sciences (XXXVII cycle) at the University of Camerino, School of Biosciences and Veterinary Medicine.**
Scholarship on Green themes, National Operational Program (PON) "Research and Innovation" REACT-EU.

Research title: "Risk assessment of (re)-emerging Vector-Borne Diseases in Southern Europe based on Machine Learning processing of poly-observational data"
Supervisor: Professor Guido Favia

June 2024 – in course until November 2024 **Doctoral period at company: Anti-drive project**

Aim: to test anti-CRISPR systems for the generation of predictable and controlled countermeasures of CRISPR-based genetic transmissions.

Polo GGB Genomics Genetics and Biology, Genetics and Ecology Laboratory.
Supervisor: PhD Chryssa Taxiarchi

April 2023 - October 2023 **Doctoral period abroad: In parallel surveillance of mosquito's populations, insecticide resistance and pathogen detection in Heraklion and Rethymnon regional units.**
Foundation for Research and Technology (FORTH)- Hellas, Crete, GR.
Supervisor: PhD Chiara Currà

2019 – 2021 **Master degree in Biological sciences (Class LM-6), Molecular Diagnostics and Biotechnology curricula, University of Camerino, MC, IT.**
Final grade: 110/110 e lode
Thesis: "*In silico* and *in vitro* study of *Plasmodium* Endosymbionts"
Supervisors: Professor Favia Guido, Professor Napolioni Valerio

2016 – 2019 **Bachelor degree in Biosciences and Biotechnology (class L-13), Biology curricula, University of Camerino, MC, IT.**
Final grade: 110/110 e lode
Thesis: "Calibration and Internal Quality Controls in the Evaluation of Tumor Markers".
Supervisor: Professor Amantini Consuelo

2011 – 2016 **High school leaving qualification in classical studies at "Giulio Cesare da Varano" high school, Camerino MC, IT.**
Final grade: 94/100

Work Experience

Teaching activities

"Monitoraggio entomologico e sorveglianza delle arbovirosi e parassitosi negli artropodi vettori"; PRINCIPI E TECNICHE PER IL MONITORAGGIO DELLA BIODIVERSITA' (AMBIENTE E GESTIONE SOSTENIBILE DELLE RISORSE NATURALI) (4 Hours). University of Camerino, MC, IT.

"Risk assessment of (re)-emerging Vector-Borne Diseases in Southern Europe based on Machine Learning processing of poly-observational data"; ECOLOGY AND PARASITOLOGY (BIOSCIENCES AND BIOTECHNOLOGY) (2 Hours). University of Camerino, MC, IT.

Laboratory; PRINCIPI E TECNICHE PER IL MONITORAGGIO DELLA BIODIVERSITA' (AMBIENTE E GESTIONE SOSTENIBILE DELLE RISORSE NATURALI) (4 Hours). University of Camerino, MC, IT.

Laboratory; PARASSITOLOGIA E MALATTIE PARASSITARIE DEGLI ANIMALI (SCUOLA DI MEDICINA VETERINARIA). University of Camerino, MC, IT. (17 Hours)

Student co-trainig

Bachelor student in SICUREZZA DELLE PRODUZIONI ZOOTECNICHE E VALORIZZAZIONE DELLE PRODUZIONI ANIMALI DI ORIGINE ANIMALE; Thesis: "Valutazione del rischio parassitologico in zanzare autoctone".

Master student in BIOLOGICAL SCIENCES (NUTRITION AND FUNCTIONAL FOOD); Thesis: "Monitoring the distribution of Phlebotominae and the risk of leishmaniasis in central Italy".

Carlo Urbani Bachelor student in BIOLOGY AND BIOTECHNOLOGY; traineeship at IMBB in Crete; Activity: "Surveillance of L1014F mutation in *Voltage Gated Sodium Channel* involved in insecticide resistance of *Culex pipiens* and *Aedes albopictus* of Crete".

Interpersonal Skills and Competencies

Native speaker

Italian

Other languages

English B2

Reading

Good

Writing

Good

Speaking

Good

Communication, Organisational and Job-related Skills

Mediation skills in facilitating dialogue between students and the institution. Developed through the roles of student representative and member of the university's parity council.

Ability to organize and coordinate the roles and activities of a work group.
Ability to develop and draft a project.

Excellent ability to work collaboratively and proactively with a diverse group in terms of skills, mindset, and experience to achieve a common goal.

2019 - 2021

Student representative at the School of Biosciences and Veterinary Medicine parity council of the University of Camerino.

2016 - 2019

Student representative at the School of Biosciences and Veterinary Medicine council of the University of Camerino.

Technical Skills

Entomological Skills

Mosquito rearing in insectarium (*Aedes albopictus*, *Ae. aegypti*, *Ae. koreicus*, *Anopheles gambiae*, *An. stephensi*, *An. darlingi*, *An. albimanus*, *Culex pipiens*)
Mosquito sampling campaign (techniques: ovitrap, BG-sentinel-2, CDC-CO2 trap, gravitrap, larval sampling), sandflies sampling (light trap).
Morphological identification of mosquitoes under the stereomicroscope
Screening of transgenic larvae and pupae under the fluorescence microscope

Molecular Biology Skills

DNA extraction
RNA extraction
PCR, RTPCR
Gel electrophoresis
Oligonucleotide design for PCR and plasmid assembly
Plasmid assembly (Gibson, Golden gate and T4 ligation)
Monitoring of insecticide resistance targets in *Ae. albopictus* and *Cx. pipiens*

Acquired knowledge in:
Western-Blotting
Bredford assay
ELISA

Microbiology Skills

Bacterial cultivation
Bacterial transformation
Bacterial response assay to pyrethroids

Bioinformatics Skills

Whole-genome sequencing data handling
Ability to use Galaxy tools for WGS QC, genome alignment and annotation.
Ability to use VEuPathDB database resources and Benchling Cloud-based platform for biotech R&D

Good usage of PAST and JASP software
Basic usage of R package for statistical analysis and Machine Learning (Self Organizing Maps SOM)

Optimal proficiency in using Personal Computers, major operating systems, and major browsing software. Optimal proficiency in using major Office software (Word, PowerPoint, Excel). Knowledge of using major social networks.

Other Skills and Competencies

Critical thinking, data analysis, and interpretation skills; Ability to manage stressful situations and contexts; Creativity and proactivity; Tenacity in pursuing objectives; Time management skills by drafting a work plan and meeting deadlines.

Drive licence

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OTHER INFORMATIONS

Publications

Ilbeigi Khamseh Nejad M, Cappelli A, Damiani C, Falcinelli M, Catapano PL, Nanfack-Minkeu F, Mayi MPA, Currà C, Ricci I, Favia G. *Wolbachia* and *Asaia* Distribution among Different Mosquito Vectors Is Affected by Tissue Localization and Host Species. *Microorganisms*. 2024 Mar 8;12(3):545.

Catapano PL, Falcinelli M, Damiani C, Cappelli A, Koukouli D, Rossi P, Ricci I, Napolioni V, Favia G. De novo genome assembly of the invasive mosquito species *Aedes japonicus* and *Aedes koreicus*. *Parasit Vectors*. 2023 Nov 20;16(1):427.

Scientific Collaborations

Molecular Entomology / Pesticide Lab of Institute of Molecular Biology and Biotechnology of the Foundation for Research and Technology Hellas (IMBB-FORTH). Heraklion, Crete, GR.

Istituto Zooprofilattico Sperimentale dell'Umbria e delle Marche "Togo Rosati". Tolentino, MC, IT.

Department of Biology, The College of Wooster, 1189 Beall Avenue, Wooster, OH 44691, USA

Biology of host-parasite interactions group of Institut Pasteur. Paris, FR.

Honours and Awards

Infravec-ISIDORE grant: Genotyping of mosquitoes, insecticide resistance and detection of pathogens. Provider: IMBB-FORTH, John Vontas (Provider PI)

Aim: genotyping of mutations involved in the insecticide resistance of mosquitoes and sandflies; detection of pathogens in mosquito and sandflies; genotyping of species of mosquitoes and sandflies. April 2024-in course.

Arthropod Genomics Symposium (AGS) Travel Grants. June 2022.

**Attendance Of Schools and
Contributions To Congresses**

**XXXIII CONGRESSO NAZIONALE DELLA SOCIETÀ ITALIANA DI
PARASSITOLOGIA (SOIPA 2024).** 18-21 June 2024

Speaker: An indicator framework for the monitoring of vector-borne disease: a study in Italy and Greece.

**XII European Congress of Entomology (ECE 2023), Heraklion, Crete, GR.
16-20 October 2023.**

Speaker: Risk assessment of (re)-emerging VBD in Southern Europe based on Machine Learning processing of poly-observational data.

**Arthropod Genomics Symposium 2022 (AGS 2022), University of Notre
Dame, Notre Dame, IN, USA. 9-11 June 2022.**

Poster session: Whole genome sequencing of the mosquito vectors *Aedes koreicus* and *Aedes japonicus*. Falcinelli M, Napolioni V, Favia G.

In presence participation to VectorBase Workshop. University of Notre Dame, Notre Dame, IN, USA. 5-9 June 2022.

1st PhD workshop Life and Health sciences. University of Camerino, Camerino, MC, IT. 25 November 2022.

Virtual participation to VEuPathDB workshop. University of Georgia, Athens GA, USA. 7-10 June 2021.
