

# Michela Vumbaca

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## Personal data

Name: Michela Vumbaca

Date and place of birth: 28/03/2000, Melito di Porto Salvo (RC)

Citizenship: Italian

Email: [michela.vumbaca01@universitadipavia.it](mailto:michela.vumbaca01@universitadipavia.it); michela.vumbaca@gmail.com

## Education

- 27/10/2024: Master degree (cum laude) in Molecular Biology and Genetics (University of Pavia)  
Supervisor: Prof. Davide Sassera  
Thesis: Genomics and evolutionary trends behind the global dissemination of *Klebsiella pneumoniae* high risk clones.
- 21/10/2021: Bachelor degree (110/110) in Biological Science, University La Sapienza, Rome  
Supervisor: Prof. Paola Vittorioso  
Thesis: La tecnologia dell'editing genomico nel mondo vegetale: studio della sinergia tra gli ormoni acido abscissico e brassinosteroidi nello sviluppo delle piante.
- 7/7/2018: High school diploma (86/100), Liceo Scientifico di Locri (RC)

## Research experience

- April 2024 – September 2024: Research fellowship at the Laboratory of Parasitology, Department of Biology and Biotechnology L. Spallanzani, University of Pavia  
Research topic: -omics and bioinformatics approaches for the study of arthropod vectors: characterization of ticks and their associated microorganisms  
Supervisor: Prof. Davide Sassera
- December 2023 – March 2024: Fellowship for research activities at the Laboratory of Parasitology, Department of Biology and Biotechnology L. Spallanzani, University of Pavia  
Research topic: Vectors and vector-borne diseases: -omics analysis on ticks and associated microorganisms  
Supervisor: Prof. Davide Sassera
- February 2022 - July 2022  
Internship at University of Pavia, Laboratory of General Biology and Medical Genetics, Department of Molecular Medicine. Supervisor: Prof. Enza Maria Valente

## Competence

### BIOINFORMATICS

- DNA database management and analysis through scripts in Python, Bash and R
- Analysis of Illumina and Oxford Nanopore sequencing data (short and long reads mapping, assembly, gene and SNP calling)
- Phylogenetic analyses
- Use of genomic software
- Programming in Bash, Python and R (intermediate)
- Using Linux (Ubuntu), MacOS operating systems

### LABORATORY SKILLS

- PCR, bacterial cultures, DNA extractions, sequencing (Sanger)

## Posters presented at conferences

- Vumbaca M, Biffignandi GB, Bellinzona G, Petazzoni G, Gaiarsa S, Corbella M, Cavanna C, Sassera D. Cinque anni di sorveglianza genomica di isolati di Candida da infezioni ematiche in un grande ospedale. Società Italiana di Microbiologia (SIM) 2024, Pavia, Italia, 8-11 settembre 2024.
- Bellinzona G, Vumbaca M, Castelli M, Sassera D. In silico structural biology to shed light on host-symbiont interactions: the case of *Mitochondria*. Microbiology 2023: from single cell to microbiome and host, Würzburg, Germany, 20-22 September 2023.

## PhD informations

Supervisor: Prof. Davide Sassera

Reviewer: Dott.ssa Mariangela Santorsola

Title project: Integrated omics approaches for the study and monitoring of pathogenic microorganisms.