CURRICULUM VITAE – CAROLINA FLACCHI

PhD Student in Genetics, Molecular and Cellular Biology, *University of Pavia*, Italy
Date of Birth: 31/08/2000 **Citizenship**: Italian
E-mail: carolina.flacchi01@universitadipavia.it
Languages: Italian, English, Spanish

EDUCATION

12/02/2024	**Master of Science – Bioscience, Technology and Public policy** *Department of Biology, University of Winnipeg, Winnipeg, Manitoba, Canada* **Thesis**: Divergence in seminal fluid gene expression and post-mating reproductive isolation between species. **Supervisor**: Dr. Alberto Civetta
22/07/2021	**Laurea Triennale in Biotecnologie** *Dipartimento di biologia e biotecnologie, Università di Pavia, Italy* **Thesis**: Synthesis of nucleoside analogues via nucleophilic substitution to sp2 carbons of tridimensional heterocycles aimed at antiviral synthesis. **Supervisor**: Dr. Paolo Quadrelli
27/06/2018	**High School Diploma**, Oak Park High School, Winnipeg, Canada

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SCHOLARSHIPS/AWARDS

2022 – 23: Bioscience Graduate Supervisory Scholarship - $12,500.00
2022 – 23: University of Winnipeg Tuition Scholarship - $12,500.00
2021 – 22: Bioscience Graduate Supervisory Scholarship - $7,600.00
2021 – 22: Teaching Assistantship - $3,400.00
2021 – 22: Faculty of Graduate Studies award - $10,000.00

LAB & RESEARCH SKILLS AND EXPERIENCE

Sep 2021- Feb 2024	**Master's Thesis** *University of Winnipeg, Winnipeg, Manitoba* **Project**: Divergence in seminal fluid gene expression and post-mating reproductive isolation between species. **Supervisor**: Dr. Alberto Civetta o Maintenance of *Drosophila* populations and cross breeding between *Drosophila* species.

- Techniques of genetic engineering (RNAi) and phenotypic assays
- Dissecting microscope and *Drosophila* dissections
- Gene expression
- DNA and RNA extraction techniques
- PCR
- qPCR
- NanoDrop
- Agarose Gel Electrophoresis
- Mutant identification
- Data processing and transcriptomic analysis of accessory gland transcriptome
- Statistical analysis

Nov 2020 – June 2021

Undergraduate Thesis
Università di Pavia, Italy
Project: Synthesis of nucleoside analogues via nucleophilic substitution to sp2 carbons of tridimensional heterocycles aimed at antiviral synthesis.
Supervisor: Dr. Paolo Quadrelli
- Column chromatography and crystallization techniques
- Purification methods
- NMR Spectroscopy
- Filtration techniques

TEACHING EXPERIENCE

Jan 2022 – Apr 2022
Evolution, Ecology, & Biodiversity – BIOL1116 (3) (University of Winnipeg)
Graduate Student Instructor

Sep 2021 – Dec 2021
Cells & Cell Process - BIOL-1115 (3) (University of Winnipeg)
Graduate Student Instructor

MENTORSHIP

Lab training and supervision
- Over the course of two years in Dr. Civetta's lab at the University of Winnipeg, I have trained a research assistant in the maintenance of *Drosophila* populations, techniques of fly dissections, RNA and DNA extractions, phenotypic assays, cross breeding experiments and other laboratory techniques.
- Below are individuals I spent extended time training and assisting with their summer projects.
  - Alex Mar (Current Undergraduate Student at University of Winnipeg)
  - Seonggeon Yun (Current Undergraduate Student at University of Winnipeg)

ADDITIONAL TRAINING

Oct 2020 Workplace Hazardous Materials Information System (WHIMIS) - *University of Winnipeg*

MEMBERSHIPS

2023 – Present Canadian Society for Ecology and Evolution (CSEE)

PUBLICATIONS

1. C. Flacchi, N. Capri, A. Civetta. (2024). The evolution of seminal fluid gene expression and postmating reproductive isolation in Drosophila, Evolution; qpae027, https://doi.org/10.1093/evolut/qpae027
2. Jose M. Ranz, Carolina Flacchi, Imtiyaz E. Hariyani, Alberto Civetta. (in press). Gene age shapes functional and evolutionary properties of the Drosophila seminal fluid proteome. Proceedings of National Academy of Sciences (PNAS).

ORAL PRESENTATION

Post-mating isolating barriers between Drosophila species and the role of seminal fluid gene expression. The Canadian Society for Ecology and Evolution (CSEE), June 14th, 2023.

POSTERS

Selection upon expression of reproductive genes and post-mating reproductive isolation in Drosophila. The Ferrara Society for Molecular Biology and Evolution, July 23-27th, 2023.

PhD INFORMATION:

Project's Title: Disease-specific signal transduction alterations in NER-defective disorders

Supervisors: Dr.ssa Donata Orioli, Prof. Davide Sassera

Reviewer: Prof. Sergio Comincini