

**FORMATO EUROPEO  
PER IL CURRICULUM  
VITAE**



## **Luca Finetti**

### **WORK EXPERIENCE**

|                              |   |
|------------------------------|---|
| Date (from – to)             | March 1 <sup>st</sup> , 2024 – present  |
| Name and address of employer | <b>Fondazione Regionale per la Ricerca Biomedica</b><br>Piazza Città di Lombardia 1, 20124 Milan, Italy   |
| Type of employment           | Scientific officer  |
| Main responsibilities        | Management of project proposal peer-review steps, including Consensus Meetings; national and international experts management involved in the review process; strategic documents, sector policies and position papers development support, contributing to identify and develop the most relevant scientific contents for the regional calls; participation in the drafting of the scientific contents for regional calls and the evaluation criteria for project proposals; support in preparing scientific contents of the regional calls. |
| Date (from – to)             | June 15 <sup>th</sup> , 2023 – february 15 <sup>th</sup> , 2024   |
| Name and address of employer | <b>Johns Hopkins University – Department of Neuroscience</b><br>3400 N. Charles Street, 21218, Baltimore, Maryland, USA   |
| Type of employment           | Post-doctoral fellow (PI: Dr. Christopher Potter)   |
| Main responsibilities        | Immunofluorescence techniques on mosquito organs and tissues, image acquisition via Zeiss confocal and analysis with Imaris and ImageJ, ELISA and RT-qPCR to study gene expression and protein synthesis, behavioral assays on adult mosquitoes using CO <sub>2</sub> stimulation.  |
| Date (from – to)             | September 1 <sup>st</sup> , 2021 – may 31 <sup>th</sup> , 2023  |
| Name and address of employer | <b>University of Toronto – Mississauga – Department of Biology</b><br>3359 Mississauga Rd, Mississauga, ON L5L 1C6, Canada  |
| Type of employment           | Post-doctoral fellow (PI: Dr. Angela Lange)   |
| Main responsibilities        | Immunofluorescence techniques on invertebrate organs, image acquisition via Zeiss confocal and analysis with Imaris and ImageJ, ELISA, western blot, RT-qPCR to study gene expression and protein synthesis, cloning and bioinformatic characterization of gene sequences, gene silencing through RNA interference, pharmacological manipulation of mammalian cell cultures expressing insect receptors.  |
| Date (from – to)             | January 16 <sup>th</sup> , 2021 – april 16 <sup>th</sup> , 2021   |
| Name and address of employer | <b>University of Ferrara- Department of Life Science and Biotechnology</b><br>Via Guglielmo degli Adelardi, 33, 44121, Ferrara, Italy   |
| Type of employment           | Post-doctoral fellow (PI: Dott. Giovanni Bernacchia)  |
| Main responsibilities        | Research title: Low impact strategies and techniques, based on gene silencing, to protect orchards from <i>Halyomorpha halys</i> attacks: ALIEN.STOP project.   |

Date (from – to) February 1<sup>st</sup>, 2017 – July 31<sup>th</sup>, 2017  
Name and address of employer **University of Ferrara- Department of Life Science and Biotechnology**  
Via Guglielmo degli Adelardi, 33, 44121, Ferrara, Italy  
Type of employment Post-degree fellow (PI: Dott. Giovanni Bernacchia)  
Main responsibilities Research title: Control of pear psylla with high frequency vibrations: a potential innovative and sustainable strategy for periculture in the Ferrara area.

Date (from – to) July 2015 – October 2015 and July 2016 - October 2016  
Name and address of employer **OPOE Gruppo alimentare Cavicchi**  
Via Valentino Govoni 9, 44042, XII Morelli, Italy  
Type of employment Food quality control laboratory  
Main responsibilities Management of quality control laboratory, Brix degrees quantification by digital and analogue refractometer, total sugar quantification by Fehling method, total acidity quantification by sodium hydroxide, total salinity quantification by silver chloride and nitric acid.

## EDUCATION

### **PhD in Evolutionary Biology and Ecology.**

April 16<sup>th</sup>, 2021 - University of Ferrara, Italy.

PhD thesis title: Tyraminerbic signaling in phytophagous insects: from physiology to pest control. PIs: Dr. Giovanni Bernacchia, Dr. Girolamo Calò.

Skills acquired: cell culture manipulation (HEK293, CHO, SH-SY5Y), cell biology techniques (Dynamic Mass Redistribution, Calcium mobilization assay by Flex Station II, BRET), synthesis of dsRNA for RNA interference and gene silencing, of plasmid vector manipulation, cloning process, and expression of recombinant proteins in bacteria and cell lines.

### **Visiting PhD student.**

October 2018 - December 2018 and April 2019 - June 2019 - Molecular Physiology laboratory of Prof. Thomas Roeder, University of Kiel, Germany.

Skills acquired: main experimental techniques for investigating the behavior of mutant *Drosophila* strains, as well as innovative microscopy technologies, such as Trans-TANGO.

### **II level University Master's Degree in Food Quality and Safety.**

December 22<sup>nd</sup>, 2016 - University of Padua, Italy.

Mandatory internship at Pastificio Andalini S.p.A, Piazzale Arrigo Andalini, 1, 44042 Cento, Italy.

Skills acquired: quality controls of raw materials (wheat, eggs) and food products (durum wheat pasta and egg pasta) performed by standard laboratory techniques (colorimeter, heating in a stove for humidity, heating in an ash muffle) and with NIR spectrometry. Supporting the company's quality control manager during certification processes (ISO 9001, 22005, BRC and IFS standards) and the HACCP manual.

### **Qualification to practice as Biologist.**

Biologist exam at the University of Ferrara (Italy), November 2015.

### **Master's Degree in Biomolecular and Cellular Sciences.**

July 16<sup>th</sup>, 2014 - University of Ferrara, Italy.

Score: 109/110. Thesis title: Cloning and expression of recombinant acetoin:2,6-dichlorophenolindophenol oxidoreductase and biocatalytic application. PIs: Dr. Giovanni Bernacchia, Dr. Pierpaolo Giovannini.

### **Bachelor's Degree in Biological Science.**

June 19<sup>th</sup>, 2012 - University of Ferrara, Italy.

Score: 98/110. Thesis title: Potassium inward rectifier current (Kir) in dopaminergic neurons of the olfactory bulb: kinetics and modulation. PI: Dr. Ottorino Belluzzi.

## **TEACHING**

Plant Molecular Biology teacher (12 hours), University of Ferrara (Italy), during the 2019/2020 academic year.

Histology laboratory assistant (20 hours), University of Ferrara (Italy), during the 2017/2018 academic year.

Two hours lesson entitled "Real Time PCR (qPCR): RNA extraction and cDNA synthesis, Sybr Green, TaqMan probes and relative quantification; interpretation of the results", University of Ferrara (Italy), on June 6<sup>th</sup>, 2018.

Two hours lesson entitled "Cloning, PCR and clone identification, applications in humans and plants", University of Ferrara (Italy), on March 11<sup>th</sup>, 2019.

## **CONGRESS AND WORKSHOPS**

2022 (November) Entomological Society of America Symposium - Vancouver (Canada). Contribution with an oral presentation: "Tyraminergetic signalling pathway is involved in regulating egg production in the Chagas disease vector *Rhodnius prolixus*"

2022 (June) Insect Biotech Conference - Niagara on the Lake (Canada). Contribution with an oral presentation: "Octopamine and tyramine receptors in the Dengue vector, *Aedes aegypti*."

2019 (December) European PhD network "Insect Science", X annual meeting – Genova (Italy). Contribution with an oral presentation: "Molecular characterization and pharmacological profile of type 1 tyramine receptor (TAR1) of the phytophagous insect *Halyomorpha halys*."

2019 (July) International Symposium on Molecular Insect Science - Sigtes (Spain). Contribution with two posters:

“Monoterpenes can modulate type 1 tyramine receptor in *Drosophila suzukii* (DsTAR1): molecular and pharmacological aspects of new possible biopesticides.”

“Type 1 tyramine receptor (TAR1) from the brown marmorated stink bug *Halyomorpha halys*: characterization of a possible new target for biopesticides.”

2018 (July) European Congress of Entomology (ECE 2018) - Napoli (Italy).  
Contribution with three posters:

“Cloning, molecular characterization and tissue expression of an octopamine/tyramine receptor from Spotted Wing *Drosophila suzukii*.”

“Mining genes involved in indoxacarb resistance of *Lobesia botrana* (Denis and Schiffermüller) by de novo transcriptome assembly and differential expression analysis.”

“Mating behaviour and dual mode communication of pear Psylla *Cacopsylla pyri*.”

## PUBLICATIONS

- **Finetti, L.**, Leyria, J., Orchard, I., Lange, A. (2023). Tyraminerpic control of vitellogenin production and release in the blood-feeding insect, *Rhodnius prolixus*. *Insect Biochemistry and Molecular Biology*, 156, 103948.
- **Finetti, L.**, Orchard, I. & Lange, A. (2023). The octopamine receptor O $\alpha$ 1 influences oogenesis and reproductive performance in *Rhodnius prolixus*. *Plos ONE*, 18(12): e0296463.
- **Finetti, L.**, Paluzzi J-P, Orchard, I., Lange, A. (2023). Octopamine and tyramine signaling in *Aedes aegypti*: characterization, distribution, and potential role in the Dengue vector development and physiology. *Plos ONE*, 18 (2), e0281917.
- **Finetti, L.**, Benetti, L., Leyria, J., Bernacchia, G. (2022). Topical delivery of dsRNA in two hemipteran species: evaluation of RNAi specificity and non-target effects. *Pesticide Biochemistry and Physiology*, 189, 105295.
- **Finetti, L.**, Civolani, S., Mirandola, D., Benetti, L., Francati, S., Albanese, F., Menicucci, F., Michelozzi, M., Bellardi, M.G., Dindo, M.L., Bernacchia, G. (2022). *Monarda didyma* hydrolate affects the survival and the behaviour of *Drosophila suzukii*. *Insects*, 13, 280.
- Civolani, S., Mirandola, D., Benetti, L., **Finetti, L.**, Pezzi, M., Bernacchia G. (2022). Effects of acibenzolar-S-methyl on the probing behaviour and mortality of *Cacopsylla pyri* on pear plants. *Insects*, 13(6).
- **Finetti, L.**, Roeder, T., Calò, G. Bernacchia, G. (2021) The insect type 1 tyramine receptors: from structure to behavior. *Insects*, 12(4).
- **Finetti, L.**, Civolani, S. & Bernacchia, G. (2021). Monoterpenes-induced toxicity in nymphal stages of *Halyomorpha halys*. *Journal of Plant Diseases and Protection*, 128, 1371–1375.
- **Finetti, L.**, Pezzi, M., Civolani, S., Calò, G., Scapoli, C. & Bernacchia, G. (2021).

Characterization of *Halyomorpha halys* TAR1 reveals its involvement in (E)-2-decenal pheromone perception. *Journal of Experimental Biology*, 224 (8).

- Albanese, F., Mercatelli, D., **Finetti, L.**, Lamonaca, G., Pizzi, S., Shimshek, D., Bernacchia, G. & Morari, M. (2021). Constitutive silencing of LRRK2 kinase activity leads to early glucocerebrosidase deregulation and late impairment of autophagy in vivo. *Neurobiology of Disease*, 159, 105487.
- **Finetti, L.**, Tiedemann, L., Zhang, X., Civolani, S., Bernacchia, G. & Roeder, T. (2021). Monoterpenes alter TAR1-driven physiology in *Drosophila* species. *Journal of Experimental Biology*, 224 (1).
- Civolani, S., Vaccari, S., Caruso, S., **Finetti, L.**, Bernacchia, G., Chicca, M. & Cassanelli, S. (2021). Evaluation of insecticide efficacy and insecticide adaptive response in Italian populations of *Drosophila suzukii*. *Bulletin of Insectology*.
- **Finetti, L.**, Ferrari, F., Caló, G., Cassanelli, S., De Bastiani, M., Civolani, S. & Bernacchia, G. (2020). Modulation of *Drosophila suzukii* type 1 tyramine receptor (DsTAR1) by monoterpenes: a potential new target for next generation biopesticides. *Pesticide Biochemistry and Physiology*, 165:104549.
- Holanda, V. A. D., Pacifico, S., Neto, J. A., **Finetti, L.**, Lobao-Soares, B., Caló, G., Gavioli, E. C. & Ruzza, C. (2019). Modulation of the NOP receptor signalling affects resilience to acute stress. *Journal of Psychopharmacology*, 1-10.
- Costa, G., **Finetti, L.**, Civolani, S. & Bernacchia, G. (2018). Evaluation of Brevis as a thinning agent for “Fuji”. *Acta Horticulturae*, 1221 (1221): 37-38.

## FELLOWSHIP/GRANTS

Travel grant, Consorzio Interuniversitario di Biotecnologie (CIB), 2018.  
Used to join Dr. Thomas Roeder lab, University of Kiel (Germany).

Travel grant, IUSS Ferrara 1391, 2019.  
Used to join Dr. Thomas Roeder lab, University of Kiel (Germany).

## STUDENT SUPERVISION

Eight total theses as supervisor: Four bachelor's theses (University of Ferrara – two; University of Toronto - two)

Four master's theses (University of Ferrara - four)

## PERSONAL SKILLS

Language skills Italian: Mother tongue  
English: C1

Technical skills Windows 8/10, OFFICE: excellent knowledges (word, power point, excel),

high skilled in scientific platforms NCBI, SCOPUS, Scival e PubMed, high skilled in specific scientific software BLAST, Primer3plus, GraphPad Prism 6-9, ImageJ, CFX Manager, AxioVision, Zeiss Zen 2.6, Photoshop, Imaris, MEGA XI.

Interpersonal skills

During my years abroad I acquired a rapid ability to adapt to different contexts. This translates into a natural propensity to work in a team. I also have strong management and problem-solving skills, derived from the independent management of research projects supervised during my post-doctoral experiences. Furthermore, I have developed mentoring skills towards university students, both theoretical and practical. Autonomy in writing scientific articles and documents in English.

## **VARIOUS TASKS**

Reviewer for international journals: Insects, Journal of Pest Science, Insect Biochemistry and Molecular Biology, Frontiers in Physiology.

**I hereby authorize the processing of my personal data in accordance with Legislative Decree 196 of June 30, 2003 and Art. 13 GDPR.**

Milan, July 2<sup>nd</sup>, 2024