

CURRICULUM VITAE

Candian Valentina

PERSONAL INFORMATION

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Web of Science Researcher ID: GQR-0005-2022

ACADEMIC CAREER AND POSITION TO DATE

11/2019–present: Research grant, Dep. of Agriculture, Forest and Food Sciences (DISAFA), University of Torino (IT). Title: “Study of insects immune responses”.

8/2019-10/2019: Postdoctoral researcher, Dep. of Agriculture, Forest and Food Sciences (DISAFA), University of Torino (IT). Title: “Evaluation of the efficacy of aerosol formulations against *Musca domestica* and evaluation of different formulation for mass trapping”.

12/2018-8/2019: Postdoctoral researcher, Dep. of Agriculture, Forest and Food Sciences (DISAFA), University of Torino (IT). Title: “Evaluation of *Hermetia illucens* immune system”.

11/2017-11/2018: Postdoctoral researcher, Dep. of Agriculture, Forest and Food Sciences (DISAFA), University of Torino (IT). Title: “Pest detection and management in Northern Italy crops”.

EDUCATION

2014-2018: PhD in Agricultural, Forest and Food Sciences, Dep. of Agriculture, Forest and Food Sciences (DISAFA), University of Torino (IT). Thesis title: “Innovative pest control strategies in IPM orchards”. Supervisor: Prof. Rosemarie Tedeschi.

2017-2017: PhD Visiting Scholar at the University of Florida, IRREC (USA). UF Supervisor: Prof. Liliana Maria Cano.

2012-2014: M.S. Agricultural Science, Dep. of Agriculture, Forest and Food Sciences, University of Torino (IT). Thesis title: “Behavior of the exotic moth *Tuta absoluta* (Meyrick) and its indigenous predator *Dicyphus errans* (Wolff) on plants growing in the vegetable agro-ecosystem in NW Italy”. Final degree mark: 110/110 cum laude.

2009-2012: B.S. in Agricultural Science and Technology, Dep. of Agriculture, Forest and Food Sciences, University of Torino (IT). Thesis title: “Post-harvest management to prevent chilling injury in peaches during the storage”. Final degree mark: 103/110.

2004-2009: High School Diploma in Agriculture – IIS Vaglio Rubens, Biella (IT). School-leaving examination mark: 100/100.

PERSONAL SKILLS

Language skills: Italian: native, English: proficient.

RESEARCH TOPICS

- rearing and identification of insects of agricultural, food and synanthropic interest;
- monitoring of useful pests and useful arthropods in orchards;
- diagnosis of plant pathogens in insect vectors and host plants by DNA extraction and DNA amplification (PCR, Real Time PCR), sequencing;
- evaluation of the insect immune system;
- assays with RNA interference technology;
- evaluation of biological control techniques in the field and in laboratory condition;
- insect mortality assays with entomopathogenic fungi and bacteria;
- evaluation assays on the efficacy of insecticide treatments;
- behavioural studies on tritrophic complexes through olfactometer assays and through multiple-choice bioassays.

Experimental trials conducted with: *Tuta absoluta* (Meyrick), *Dicyphus errans* (Wolff), *Halyomorpha halys* (Stål), *Drosophila suzukii* Matsumura, *Cydia pomonella* L., *Grapholita molesta* (Busck), *Anarsia lineatella* Zeller, *Cacopsylla melanoneura* (Foerster), *Cacopsylla pyri* L., *Cacopsylla pyricola* (Foerster), *Diaphorina citri* Kuwayama, *Hermetia illucens* L., *Musca domestica* L., *Blattella germanica* L., *Periplaneta americana* L., *Tenebrio molitor* L., *Scaphoideus titanus* Ball, *Plodia interpunctella* (Hübner), *Sitophilus zeamais* (L.), *Tribolium castaneum* (Herbst).

CAREER BREAKS: None

STUDENT MENTORING

1 First level Degree thesis and 6 Master Degree thesis:

2022 Co-supervisor of the Master Degree thesis, title: Bioconversion of cereals contaminated with deoxynivalenol by means of *Tenebrio molitor* (Coleoptera, Tenebrionidae) larvae.

- 2021 Co-supervisor of the Master Degree thesis, title: Impact of probiotics on the immune system and mortality of *Tenebrio molitor* larvae infected by entomopathogens.
- 2021 Co-supervisor of the Master Degree thesis, title: Impact of the diet on the mortality and on gene expression of the antimicrobial peptide Tenecin 3 in *Tenebrio molitor* larvae infected by *Beauveria bassiana*.
- 2020 Co-supervisor of the Master Degree thesis, title: Impact of the diet on the antimicrobial peptide genes expression in *Tenebrio molitor* (Coleoptera, Tenebrionidae).
- 2020 Co-supervisor of the Master Degree thesis, title: Study of the immune system of *Hermetia illucens* (Diptera: Stratiomyidae) reared on catering waste.
- 2020 Co-supervisor of the Bachelor Degree thesis, title: Use of insects as method of bioremediation.
- 2019 Co-supervisor of the Master Degree thesis, title: Impact of the diet on the expression of antimicrobial peptide genes in *Hermetia illucens* (Diptera: Stratiomyidae).

TEACHING ACTIVITIES

Teaching Assistant of:

- "Traditional and novel food of animal origin" (16 July 2020 - 16 July 2023);
- "Diagnostic methods applied to plant pathogens and insects" (23 November 2023 – 22 November 2025).

Owner of the fellowship for the teaching support in:

- "Protection of foodstuff by pests" course (academic year 2021/2022 and 2022/2023, 30 hours for each academic year) at the Department of Agricultural, Forest and Food Sciences, University of Torino (IT).

Teaching support activity (without fellowship) for the Department of Agricultural, Forestry and Food Sciences of the University of Torino (IT) as part of the courses:

- "Grapevine entomology" (owner Prof. Alberto Alma) Degree in Viticulture and Enology (academic year 2018/2019: 16 hours; academic year 2021/2022: 16 hours).
- "Integrated laboratory techniques - Molecular diagnosis techniques" (owner Prof.ssa Rosemarie Tedeschi) Degree in Agricultural Science and Technology (academic year 2018/2019: 16 hours).
- "Diagnostic methods applied to plant pathogens and insects" (owner Prof.ssa Rosemarie Tedeschi) Degree in Agricultural Science and Technology (academic year 2019/2020: 9 hours; academic year 2020/2021: 9 hours; academic year 2021/2022: 10 hours).
- "Protection of Foodstuffs from pests" (owner Prof.ssa Rosemarie Tedeschi) Degree in Food Science and Technology (academic year 2020/2021: 14 hours).

PUBLICATIONS IN ISI/SCOPUS JOURNAL

- **V. Candian**, M. Meneguz, R. Tedeschi (2023). Immune responses of the black soldier fly *Hermetia illucens* (L.) (Diptera: Stratiomyidae) reared on catering waste. *Life*, 13, 213.
- **V. Candian**, C. Savio, M. Meneguz, L. Gasco, R. Tedeschi (2023). Effect of the rearing diet on gene expression of antimicrobial peptides in *Hermetia illucens* (Diptera: Stratiomyidae). *Insect Science*, 0, 1-14.
- S. Matić, **V. Candian**, C. D'Errico, R. Pierro, S. Panno, S. Davino, E. Noris, R. Tedeschi (2022). In-Field LAMP Detection of Flavescence Dorée Phytoplasma in Crude Extracts of the *Scaphoideus titanus* Vector. *Agronomy*, 12(7), 1645.
- D.G. Cerritos-Garcia, P.B. Avery, X. Martini, **V. Candian**, L.M. Cano, R.D. Cave (2021). In vitro effects of leaf extracts from brassica rapa on the growth of two entomopathogenic fungi. *Journal of Fungi*, 7(9): 779. doi.org/10.3390/jof7090779
- **V. Candian**, M.G. Pansa, K. Santoro, D. Spadaro, R. Briano, C. Peano, L. Tavella, R. Tedeschi (2021). First multi-target application of exclusion net in nectarine orchards: effectiveness against pests and impact on beneficial arthropods, postharvest rots and fruit quality. *Insects*, 12(3), 210. doi.org/10.3390/insects12030210
- **V. Candian**, M. Monti, R. Tedeschi (2020). Temporal dynamics of 'Ca. Phytoplasma mali' load in the insect vector *Cacopsylla melanoneura*. *Insects*, 11(9): 592. doi.org/10.3390/insects11090592
- **V. Candian**, M.G. Pansa, K. Santoro, D. Spadaro, L. Tavella, R. Tedeschi (2020). Photosensitive exclusion netting in apple orchards: effectiveness against pests and impact on beneficial arthropods, fungal diseases and fruit quality. *Pest Management Science*, 76: 179-187. doi.org/10.1002/ps.5491
- **V. Candian**, M.G. Pansa, R. Briano, C. Peano, R. Tedeschi, L. Tavella (2018). Exclusion nets: a promising tool to prevent *Halyomorpha halys* from damaging nectarines and apples in NW Italy - *Bulletin of Insectology*, 71: 21–30.
- B.L. Ingegno, **V. Candian**, I. Psomadellis, N. Bodino, L. Tavella (2017). The potential of host plants for biological control of the *Tuta absoluta* by the predator *Dicyphus errans*. *Bulletin of Entomological Research*, 107: 340–348.
- B.L. Ingegno, **V. Candian** and L. Tavella (2017). Behavioural study on host plants shared by the predator *Dicyphus errans* and the prey *Tuta absoluta*. *Acta Horticulturae*, 1164: 377–382.

PARTICIPATION IN EXHIBITIONS

- **V. Candian**, M. Dho, R. Tedeschi (2021). "Impact of the diet on the expression of antimicrobial peptide genes in *Tenebrio molitor* (Coleoptera: Tenebrionidae)". European PhD Network in "Insect Science" XII Annual Meeting, Firenze, 17 – 19 November 2021. Scientific Program & Book of Abstracts: pp. 14. **Oral presentation.**

- **V. Candian**, M. Monti, R. Tedeschi (2021). “New insight into seasonal vector competence of *Cacopsylla melanoneura* in Northwest Italy”. VIII Incontro Nazionale sui Fitoplasmi e le Malattie da Fitoplasmi, INFitoplasmi 2021; Catania, Italy; 14 – 15 October 2021. Book of Abstracts: pp. 37. **Oral presentation.**
- **V. Candian**, C. Savio, M. Meneguz, L. Gasco, R. Tedeschi (2021). “Impact of the diet on the gene expression of antimicrobial peptides in *Hermetia illucens* (Diptera: Stratiomyidae)”. XXVI Italian National Congress of Entomology (Italy), 7 – 11 June 2021. Book of Abstracts: p. 209. **Poster.**
- **V. Candian**, M.G. Pansa, L. Tavella, R. Tedeschi (2021). “First multi-target application of exclusion net in nectarine orchards: effectiveness against pests and impact on beneficial arthropods”. XXVI Italian National Congress of Entomology (Italy), 7 – 11 June 2021. Book of Abstracts: p. 289. **Oral presentation.**
- M. Pitino, Q. Zheng, **V. Candian**, Q. Shi, C. Liu, S. Saha, P.S. Hosmani, D.G. Hall, R. Tedeschi, P.B. Avery, R.D. Cave, E. Stover, R.G. Shatters, L.M. Cano (2019). “Entomopathogenic fungus *Isaria fumosorosea*, deploy an array of effector proteins during infection of *Candidatus Liberibacter asiaticus* infected-*Diaphorina citri*”. 6th International Research Conference on Huanglongbing (IRCHLB), Riverside, California (USA) 10 – 15 March 2019. 2019 Joint IOCV & IRCHLB Abstracts, pp. 146 – 147. **Poster.**
- D. Cerritos, P. Avery, X. Martini, **V. Candian**, L. Cano, R. Cave (2018). Effect of leaf extracts from two *Brassica rapa* subspecies on *in vitro* growth of entomopathogenic fungi. 2018 ESA, ESC, and ESBC Joint Annual Meeting, Vancouver, BC, Canada 11–14 November 2018. **Poster.**
- R. Tedeschi, **V. Candian**, M.G. Pansa, L. Tavella (2018). “The use of exclusion nets for pest management in fruit orchards in NW Italy”. XI European Congress of Entomology (ECE), Naples (Italy) 2 – 6 July 2018. Book of Abstracts: p. 16. **Oral presentation.**
- **V. Candian**, L. Cano, D. Oppelaar (2017). Effector repertoire of the citrus fungal pathogen *Colletotrichum acutatum*. American Phytopathological Society Annual Meeting, Sant’Antonio, Texas (USA) 5–9 August 2017. Program Book: p. 70, poster.
- **V. Candian**, M. G. Pansa, L. Tavella, R. Tedeschi (2016) The LIFE + SU.SA.FRUIT project – Use of exclusion insect nets for sustainable fruit production: the experience in Piedmont. Proceedings of the XXV Italian National Congress of Entomology, Padova, 20–24 June 2016: p. 169. **Poster.**
- **V. Candian**, M. G. Pansa, L. Tavella, R. Tedeschi (2016). Exclusion nets for the control of fruit pests in NW Italy. International symposium on sustainable fruit production, Donja Stubica March 21–24 2016, Programme and book of Abstracts: p. 60. **Oral presentation.**
- **V. Candian**, M. G. Pansa, L. Tavella (2015). Exclusion nets for the control of fruit pests in NW Italy. European PhD Network in “Insect Science” 6th Annual Meeting, Firenze, 11 – 13 November 2015. Book of Abstracts: pp. 3-4. **Poster.**

WORKSHOPS

- “Insect and microalgae as novel feed for a sustainable livestock production”. Digital Edition, February 15th, 23rd and 24th 2022. International Winter School, Smart Feed and Cariplo Foundation.
- “Course on informatics and Statistical analysis of biological data”. Torino, 6 - 8 July 2016 – PhD Course in Biology and applied Biotechnologies, Department of Life Science and Systems Biology – University of Torino.
- “Current advanced in climate change”. Bardonecchia, 16 – 17 June 2016 – Doctoral School of Sciences and Innovative Technologies.
- “Corso di statistica con R: analisi esplorative dei dati, modelli lineari, GLM e GAM applicati ai dati biologici”. Asti, 15 – 19 February, 2016 – Scuola di biodiversità Villa Paolina.
- “Managing water quality for public health”. Torino, 14 October 2015 – Technion Institute of technology, University of Torino.
- “Metodologia statistica per le Scienze Agrarie. Modelli statistici e gestione dell’errore”. Grugliasco, 9 – 11 February 2015 – Società Italiana di Agronomia.

NAMES AND INSTITUTIONS OF KEY COOPERATION PARTNERS IN THE LAST 5 YEARS

- **Prof. Tomislav Jemrić**, Faculty of Agriculture, University of Zagreb, Croatia;
- **Prof. Liliana M. Cano**, Department of Plant Pathology, University of Florida, Indian River Research and Education Center (IRREC), Fort Pierce, FL, USA;
- **Dr Wayne Hunter**, USDA/ARS, Fort Pierce, Florida, USA;
- **Dr. Pasco Avery**, Entomopathogenic Fungi Research Laboratory, University of Florida, Indian River Research and Education Center (IRREC), Fort Pierce, FL, USA;
- **Prof. Hannes Schuler**, Faculty of Science and Technology, Free University of Bozen, Bolzano, Italy;
- **Dr. Slaviza Matic**, Institute for Sustainable Plant Protection (IPSP), National Research Council of Italy (CNR), Torino, Italy.

MEMBERSHIPS: Italian Society of Entomology