

# Curriculum vitae

## Personal Information

First name and Family name	<b>Ayda Khorramnejad</b>	
e-mail	ayda.khorramnejad@unipv.it	
Researcher Codes	SCOPUS Author ID	57202999733
	ORCID	orcid.org/0000-0003-1110-5791
Address	Via Ferrata 9- 27100, Pavia, Italy	

## Education

<b>2016- 2018</b>	<b>PhD</b> in <i>Biomedicine and Biotechnology</i> Department of Genetics. University of Valencia, Valencia, Spain <u>Supervisors:</u> Dr. Baltasar Escriche Soler, Dr. Yolanda Bel Cortes My Ph.D. was the first international joint supervision of a Doctoral Thesis at the UT and the first double title between UV and an Iranian University. I graduated on 18.Nov.2018 with the highest qualification as a 1 <sup>st</sup> ranked student obtaining a 19.22 GPA out of 20 (UT) and excellent <i>cum laude</i> (UV).
<b>2013 - 2018</b>	<b>PhD</b> in <i>Agricultural Entomology – Biological Control</i> Department of Plant Protection, University of Tehran, Tehran, Iran <u>Supervisors:</u> Dr. Reza Talaei-Hassanloui, Dr. Vahid Hosseini-Naveh <u>Thesis:</u> Structural and functional diversity of <i>Bacillus thuringiensis</i> toxins on animal, plant and microbial cells.
<b>2010 - 2013</b>	<b>M.Sc.</b> in <i>Agricultural Entomology</i> Department of Plant Protection, University of Tehran, Tehran, Iran <u>Supervisor:</u> Dr. Reza Talaei-Hassanloui <u>Thesis:</u> Isolation and characterization of <i>Bacillus thuringiensis</i> isolates from host and different habitats and their virulence on diamondback moth, <i>Plutella xylostella</i> (Lep.: Plutellidae).
<b>2006 - 2010</b>	<b>B.Sc.</b> in <i>Plant Protection</i> Department of Plant Protection, University of Tehran, Tehran, Iran

## Academic positions

Date	Activity	Institute
01/03/2023- present	Ricercatore RTD-A	Laboratory of Genomics and Biotechnology of Insects of Agriculture & Medical Importance. Department of Biology and Biotechnology. University of Pavia, Italy.
01/07/2021- 28/02/2023	Postdoctoral researcher	Laboratory of Genomics and Biotechnology of Insects of Agriculture & Medical Importance. Department of Biology and Biotechnology. University of Pavia, Italy.
20/09/2019-30/06/2021	Postdoctoral researcher	Laboratory of Biological Control of Pests. Department of Genetics. University of Valencia, Valencia, Spain.
10/01/2018- 30/05/2019	Teaching assistant	Department of Plant Protection University of Tehran, Tehran, Iran
04/02/2016-20/12/2017	Pre-doctoral researcher	Laboratory of Biological Control of Pests. Department of Genetics. University of Valencia, Valencia, Spain.
01/09/2008-15/03/2009	Research assistant	Laboratory of Biological Control of Pests Department of Plant Protection University of Tehran, Tehran, Iran

### Teaching activity

Academic year	Course	Level	University
2018-2019	Biological Control of Pests	Master	University of Tehran
2018-2019	Insect Biotechnology	Master	University of Tehran
2018-2019	Insect Pathology	PhD	University of Tehran
2014-2015	Biological Control of Pests	Master	University of Tehran

### Co-supervisions of M.Sc. students

Master Student: Lucia Foresto

University: University of Pavia

Year: 2021-2022

Department: Biologia e Biotecnologie “L. Spallanzani”

Qualification: *cum laude*

Thesis title: “Comparison among sampling methods to assess non-indigenous species in ports and application of DNA barcoding to disentangle the identity of colonial ascidians”.

Master Student: Shiva Haraji

University: University of Tehran

Year: 2018-2019

Facultat: Agriculture and Natural Resources

Qualification: Maximum qualification

Thesis title: “Studying the anti-microbial peptides of *Ephestia kuehniella* (Lep.: Pyralidae) and *Zophobas morio* (Col.: Tenebrionidae) treated with *Beauveria bassiana* and *Bacillus thuringiensis*”.

### Current co-supervisions of M.Sc. students

Master Student: Romina Bahmrami

University: University of Pavia

Year: 2021-2023

Department: Biologia e Biotecnologie “L. Spallanzani”

Master degree of Molecular Biology and Genetics

Thesis title: “Effect of *Bacillus thuringiensis* subsp. *israelensis* on fitness, microbiota, immune system and susceptibility of *Aedes albopictus* to CFAV”.

### Participation in funded research projects and grants

1. Research project entitled “The behavioural and genetic basis of thermos-adaptation in mosquitoes”. Department of biology and biotechnology, University of Pavia, Italy. PI: Prof. Mariangela Bonizzoni. Duration of project: 2022-current. **Participation: Postdoctoral researcher.**
2. Research project ERC-Co NIRV\_HOST\_INT entitled “Population Genomics of coevolution between nonretroviral RNA viruses and their hosts”. Department of biology and biotechnology, University of Pavia, Italy. PI: Prof. Mariangela Bonizzoni. Duration of project: 2021-2022. **Participation: Postdoctoral researcher.**
3. **RTI2018-095204-B-C21.** Desarrollo de un innovador insecticida-Bt altamente efectivo contra *Spodoptera exigua* (Lep; Noctuidae) y *Helicoverpa armigera* (Lep; Heliothinae). Funding: Ministerio de Ciencia, Innovación y Universidades. PI: Dr. Juan Ferré Manzanero and Dr. Baltasar Escriche Soler (Universitat de València). Duration of project: 2019-2021, 166.000,00, **Participation: Researcher** (2020-2021)

4. **CIP 7809-608/3/2.1**; Sweet Potato Action for Security and Health in Africa (SASHA). Funding: Bill and Melinda Gates Foundation (BMGF). PI: Dr. Baltasar Escriche Soler (Universitat de València), 01/07/2009-30/06/2021. 310.000 €. *Participation: Researcher* (2019-2021).
5. **AGL2015-70584-C2-1-R**; Desarrollo y aplicación de metodologías para la obtención de nuevos bioinsecticidas basados en *Bacillus thuringiensis*. Funding: Ministerio de Economía y Competitividad. PI: Dr. Juan Ferré Manzanero and Dr. Baltasar Escriche Soler (Universitat de València). 01/01/2016-30/06/2019. 170.000 €. *Participation: Researcher* (2016-2018).
6. **11665920902001**; Isolation, characterization, and toxicity of native *Bacillus thuringiensis* isolates from different hosts and habitats in Iran. Funding: Islamic Azad University of Iran. PI: Dr. Reza Talaei-Hassanloui (Department of Plant Protection, College of Agriculture and Natural Resources, University of Tehran, Iran), 2013-2016, 30,000,000 IRR, *Participation: Researcher* (2013-2015).

### Congresses

1. **Khorramnejad A.**, Contreras C., Quaranta S., Gasmi L., Bonizzoni M. 2022. Investigating physiological differences between native and invasive strains of the arboviral vector *Aedes albopictus*. SIBE (Società Italiana di Biologia Evoluzionistica), 4-7 September 2022, Ancona, Italy (Invited speaker).
2. **Khorramnejad, A.**, Bel, Y., Talaei-Hassanloui, R., Escriche B. 2021. Is activation of *Bacillus thuringiensis* CryIIa proteins necessary for toxicity? The 53<sup>rd</sup> Meeting of the Society for Invertebrate Pathology, Virtual Meeting, 28<sup>th</sup> June – 2<sup>nd</sup> July 2021 (Invited speaker).
3. Andrés-Garrido, A., **Khorramnejad, A.**, González-Martínez, R.M., Escriche, B. Cadherin fragment from *Spodoptera exigua* enhances Cry1A toxicity to *Grapholita molesta*. The 53<sup>rd</sup> Meeting of the Society for Invertebrate Pathology, Virtual Meeting, 28<sup>th</sup> June – 2<sup>nd</sup> July 2021.
4. **Khorramnejad, A.**, Bel, Y., Talaei-Hassanloui, R., Escriche, B. Cloning, molecular characterization, and insecticidal and cytotoxic activity of *Bacillus thuringiensis* CryIIa38 wild type and mutant toxins. National Congress of Applied Entomology, 4-8 Nov. 2019, Madrid, Spain.
5. **Khorramnejad, A.**, Domínguez, M., Caballero, P., Escriche, B., Bel, Y. Is oligomerization an important step in toxicity of the *Bacillus thuringiensis* insecticidal protein CryIIa? The 52<sup>nd</sup> Meeting of the Society for Invertebrate Pathology, Valencia, Spain 28<sup>th</sup> July - 1<sup>st</sup> August 2019 (Invited speaker).
6. **Khorramnejad, A.**, Prentice, K., Vera-Velasco, N.M., Smaghe, G., Hernández-Martínez, P., Escriche, B. The *Bacillus thuringiensis* Cry37Aa protein is not necessary to mediate toxicity and binding of Cry23Aa protein on *Cylas puncticollis*. The 52<sup>nd</sup> Meeting of the Society for Invertebrate Pathology, Valencia, Spain 28<sup>th</sup> July - 1<sup>st</sup> August 2019.
7. **Khorramnejad, A.**, Talaei-Hassanloui, R., Hosseinaveh, V., Homayonzadeh, M., Escriche, B., Bel, Y. Insect toxicity, antifungal activity, plant response and endophytic potential of an Iranian *Bacillus thuringiensis* strain tested on tomato plants. The 9<sup>th</sup> National Conference on Biological Control, Hamedan, Iran, 10-11 July, 2019 (Invited speaker).
8. **Khorramnejad, A.**, Talaei-Hassanloui, R., Bel, Y. and Escriche, B. Susceptibility of lepidopteran cell lines to *Bacillus thuringiensis* toxins. National Congress of Applied Entomology, 16-20 Oct. 2017, Logrono, Spain (Invited speaker).
9. **Khorramnejad, A.**, Bel, Y., Hernández-Martínez, P., Talaei-Hassanloui, R. and Escriche, B. Insecticidal activity and cytotoxicity of *Bacillus thuringiensis* CryIIa protein. GMOs in

Integrated Plant Protection IOBC-WPRS meeting, 4-6 September 2017 in Ghent, Belgium (Invited speaker).

10. **Khorramnejad, A.**, Talaei-Hassanloui, R., Hosseinaveh, V., Bel Y. and Escriche, B. Characterization of newly isolated Iranian *Bacillus thuringiensis* strains based on gene content, proteomic analysis and insecticidal activity. The, 13-17 Aug. 2017, San Diego, California (Poster Presentation).
11. **Khorramnejad, A.**, Talaei-Hassanloui, R. and Ghasemi-Kahrizeh, A. 2015. Relatedness of protein profile and toxicity of some Iranian *Bacillus thuringiensis* isolates to diamondback moth, *Plutella xylostella* (Lep., Plutellidae). Fifth Entomopathogens and Microbial Control Congress, 9-11 Sep. 2015, Ankara, Turkey (Poster Presentation).
12. **Khorramnejad, A.** and Talaei-Hassanloui, R. The role of insect indigenous gut bacteria in pathogenicity of *Bacillus thuringiensis*: Indian meal moth, *Plodia interpunctella* larvae as a case study. Third National Meeting on Biological control in Agriculture and Natural Resources, 1-2 Feb. 2016, Ferdowsi University of Mashhad, Mashhad (Poster Presentation).
13. **Khorramnejad, A.**, Talaei-Hassanloui, R. and Bandani, A. 2013. Evaluating the virulence of *Bacillus thuringiensis* strains isolated from host and different habitats on diamondback moth, *Plutella xylostella* (Lep.: Plutellidae). Conference of Biological Control in Agriculture and Natural Resources, University of Tehran, Karaj, Iran. 27-28 Aug. 2013 (Poster Presentation).

### **Scientific Awards**

1. The First International Joint Supervision of Doctoral Thesis at the University of Tehran, Iran, (<https://utcan.ut.ac.ir/en/news/7508/the-first-ph.d.-student-at-the-university-of-tehran-and-the-university-of-valencia-was-graduated>), receiving excellent *cum laude* from both University of Tehran and University of Valencia (Nov. 2018).
2. Top student of Ph.D.: Rank 1, graduated 2018 obtaining 19.22 GPA out of 20, University of Tehran.
3. Student travel funding award for IOBC congress 2017, in Ghent, Belgium.
4. Receiving a scholarship from the Ministry of Science, Research and Technology in Iran for six months (2016) for sabbatical leave.
5. Best poster awards in Third National Meeting on Biological control in Agriculture and Natural Resources, 1-2 Feb. 2016, Ferdowsi University of Mashhad, Mashhad.
6. Top student of B.Sc.: Rank 1, graduated 2010, University of Tehran.
7. Top student of M.Sc.: Rank 1, graduated 2013, University of Tehran.

### **Other achievements and continuity**

**Scientific service.** Since the end of my PhD, I served as reviewer for different journals such as *Insects*, *Biological Control*, *Pest Management Science*, *Toxins* and *Medical and Veterinary Entomology*.

**Scientific Committee.** Main member of the poster assessment committee of the 9<sup>th</sup> National Conference on Biological Control, Hamedan, Iran, 10-11 July, 2019.

**Biotechnology Application.** Establishment of a Bt strain as a Bt-based insecticide to be mass-produced by Green Biotechnology Company in Iran with the commercial name of Rouin-2<sup>®</sup>.

## ***Workshops***

---

- 2019** R Workshop; Scientific Analysis at the University of Tehran, Iran.
- 2015** Workshop on human and animal cell cultures in Iranian biological resource center (IBRC).
- 2015** Workshop on insect life table presented by Prof. Chi in the University of Tehran, Iran.
- 2012** Workshop on writing and publishing a scientific paper in the Iranian biological resource center, (IBRC), Tehran, Iran.
- 2011** Workshop on Molecular biology techniques in the Iranian biological resource center, (IBRC).
- 

**Pavia, 3 March 2023**

**Ayda Khorramnejad**