

## Research options available for topic B

Research topics a) and b) offered by every Doctoral Course involved in UNIPhD are frameworks within which every applicant has to present an original research project in collaboration with a Supervisor at the University of Padua.

Potential Supervisors at Unipd have proposed the following detailed research options, which are related to the research topic. They are offered as a guideline and should facilitate your contact with potential Supervisors. Supervisors' e-mail is specified in every research option table. You are welcome to contact them directly.

Note that this research option list is not at all exhaustive and, within the topic you have chosen, you are free to propose a different research project.

<b>Doctoral Course</b>	<b>CROP SCIENCE</b>
<b>Macro-area</b>	Life Sciences
<b>Department name</b>	Department of Agronomy, Food, Natural Resources, Animals and Environment
<b>Webpage</b>	<a href="https://www.sciproveg.com/spv/?lang=en">https://www.sciproveg.com/spv/?lang=en</a>
<b>Research topic B</b>	<p><b>Global change and trophic interactions in agricultural and forest systems</b></p> <p>Climate change and global trade are causing a modification in the population dynamics of pests and a shift of species (throughout the introduction of non-native species) that can affect the success of crops cultivation. The objective of this Research Topic is to investigate the effect of climate change on tri-trophic interactions involving plants, pests and their natural enemies in agricultural and forest systems.</p>
<b>Link to the UNIPhD Call (Academic Year 2022/2023)</b>	<a href="https://www.unipd.it/en/uniphd">https://www.unipd.it/en/uniphd</a>
<b>Latest Update</b>	12.01.2022
<b>#Number of available Research Options</b>	2 <i>Scroll down to see all the Research Options</i>

**#1 Research Option Description**

<b>Doctoral Course</b>	<b>Crop Science</b>
<b>Department name</b>	Department of Agronomy, Food, Natural resources, Animals and Environment
<b>Research topic B</b>	Global change and trophic interactions in agricultural and forest systems
<b>Research option</b>	Impact of global change on plant, pests, and their natural enemies, from individuals to communities in agricultural systems
<b>Supervisor</b>	Alberto POZZEBON <a href="mailto:alberto.pozzebon@unipd.it">alberto.pozzebon@unipd.it</a> Co-supervisor: Andrea BATTISTI <a href="mailto:andrea.battisti@unipd.it">andrea.battisti@unipd.it</a>
<b>Webpage</b>	<a href="https://www.dafnae.unipd.it/category/ruoli/personale-docente?key=09A01BCFF036D29ACD532F90B336947F">https://www.dafnae.unipd.it/category/ruoli/personale-docente?key=09A01BCFF036D29ACD532F90B336947F</a> <a href="https://www.dafnae.unipd.it/category/ruoli/personale-docente?key=983BAC3D47C542BFB8CF54734D582C1C">https://www.dafnae.unipd.it/category/ruoli/personale-docente?key=983BAC3D47C542BFB8CF54734D582C1C</a>
<b>Context of the research activity and objectives</b>	The research will investigate the effect of climate change on tritrophic interactions involving plants, pests and their natural enemies in agricultural systems. The aim is to elucidate the impact of climatic factors on these interactions and predict how changing climate will shape them. The research activities will be performed to understand the impact of climate change from individuals to communities by using laboratory, semi-field, and field experiments. These experiments will be aimed at understanding the effect of changing climate on biological and physiological parameters as well as interspecific interactions involving arthropods pests and biological control agents of importance in agricultural systems.
<b>Infrastructures</b>	Plant-insect laboratory, Molecular laboratory, greenhouse.
<b>Skills and competencies for the development of the activity</b>	Potential candidate should have Master degree in entomology, biology, ecology, agricultural science or other closely related field. Desired skills and competencies include: excellent oral and written communication skills, background in entomology, experience in insect rearing and identification, field research experience, quantitative/statistical skills, and interest in ecologically-based pest management and plant production. Highly desirable qualities include the ability to work independently and as part of a team, attention to detail, organizational skills, and motivation to troubleshoot issues. The candidate must possess a EU valid driver license or be willing and able to obtain one.
<b>Training offer</b>	1. Advanced statistics with R: experimental design in lab and field, 16h 2. Ecosystem services and products from ideas to business, 24h
<b>Possible Secondments</b>	Univ. of Queensland (AUS), Wageningen Univ. & Research (NL), Oregon State Univ. (USA), Swedish University of Agricultural Sciences (SWE), INRAE (FRA), Gruppo Padana (I), British Natural History

Museum (UK), Australian National Insect Collection Canberra (AUS),  
AGREA (I).

## #2 Research Option Description

<b>Doctoral Course</b>	<b>Crop Science</b>
<b>Department name</b>	Department of Agronomy, Food, Natural resources, Animals and Environment
<b>Research topic B</b>	Global change and trophic interactions in agricultural and forest systems
<b>Research option</b>	Impact of global change on plant, pests, and their natural enemies, from individuals to communities in forest systems
<b>Supervisor</b>	Andrea BATTISTI <a href="mailto:andrea.battisti@unipd.it">andrea.battisti@unipd.it</a> Co supervisor: Alberto POZZEBON <a href="mailto:alberto.pozzebon@unipd.it">alberto.pozzebon@unipd.it</a>
<b>Webpage</b>	<a href="https://www.dafnae.unipd.it/category/ruoli/personale-docente?key=09A01BCFF036D29ACD532F90B336947F">https://www.dafnae.unipd.it/category/ruoli/personale-docente?key=09A01BCFF036D29ACD532F90B336947F</a> <a href="https://www.dafnae.unipd.it/category/ruoli/personale-docente?key=983BAC3D47C542BFB8CF54734D582C1C">https://www.dafnae.unipd.it/category/ruoli/personale-docente?key=983BAC3D47C542BFB8CF54734D582C1C</a>
<b>Context of the research activity and objectives</b>	The research will investigate the effect of climate change on tritrophic interactions involving plants, pests and their natural enemies in forest systems. The aim is to elucidate the impact of climatic factors on these interactions and predict how changing climate will shape them. The research activities will be performed to understand the impact of climate change from individuals to communities by using laboratory, semi-field, and field experiments. These experiments will be aimed at understanding the effect of changing climate on biological and physiological parameters as well as interspecific interactions involving arthropods pests and biological control agents of importance in forest systems.
<b>Infrastructures</b>	Plant-insect laboratory, Molecular laboratory, greenhouse.
<b>Skills and competencies for the development of the activity</b>	Potential candidate should have Master degree in entomology, biology, ecology, forest science or other closely related field. Desired skills and competencies include: excellent oral and written communication skills, background in entomology, experience in insect rearing and identification, field research experience, quantitative/statistical skills, and interest in ecologically-based pest management and plant production. Highly desirable qualities include the ability to work independently and as part of a team, attention to detail, organizational skills, and motivation to troubleshoot issues. The candidate must possess a EU valid driver license or be willing and able to obtain one.
<b>Training offer</b>	1. Advanced statistics with R: experimental design in lab and field, 16h 2. Ecosystem services and products from ideas to business, 24h
<b>Possible Secondments</b>	Univ. of Queensland (AUS), Wageningen Univ. & Research (NL), Oregon State Univ. (USA), Swedish University of Agricultural Sciences (SWE), INRAE (FRA), Gruppo Padana (I), British Natural History Museum (UK), Australian National Insect Collection Canberra (AUS), AGREA (I).

