DOCTORAL PROGRAMME
IN
AGRICULTURAL AND ENVIRONMENTAL SCIENCES

Director prof. Carlo Viti

XLII cycle – academic year 2026/2027

TECHNOLOGICAL AREA	
ADMINISTRATIVE OFFICE	Department of Agriculture, Food, Environment and Forestry (DAGRI)
WEB	www.dottoratoscienzeagrarieambientali.unifi.it
	POSITIONS AVAILABLE: 8 Positions with Scholarship: 8 Positions without Scholarship: *not available*
RANKING LIST FOR STANDARD POSITIONS SCHOLARSHIPS AVAILABLE: 6	University of Florence
RANKING LIST FOR POSITIONS WITH SPECIFIC RESEARCH TOPIC SCHOLARSHIPS AVAILABLE:2	**1**- Department of Agriculture, Food, Environment and Forestry The scholarship is funded under the project: Ortonutraceutica - Contratto di Filiera "ORTONUTRACEUTICA" PNRR M2C1I3.4 - Finanziato dall'Unioneeuropea – Next Generation EU - CUP B59I21000640001 **Thematic:** "Integrated -omic characterization of spontaneous plant species with nutraceutical value" The PhD project will focus on the characterization of spontaneous plant species through transcriptomic, metabolomic, and microbiome analyses under different cultivation conditions, with the aim of identifying the optimal conditions to enhance valuable nutraceutical properties. Furthermore, the integration of -omics sciences will enable the identification of genes involved in key metabolic pathways and help elucidate how plant-associated microorganisms contribute to the production of these compounds. Ultimately, the goal is to translate multi-omics insights into optimized cultivation strategies that

	enhance the production of target nutraceutical compounds in a sustainable and reproducible way. **1-** Institute of Bioeconomy (CNR-IBE), project funded by National Research Council **Thematic:** "Assessment of ecophysiological dynamics and greenhouse gases and energy exchanges in agroecosystems using ground-based measurements and modeling approaches" The Doctoral project will focus on the integrated analysis of carbon, mass, and energy flux dynamics in agroecosystems, combining direct measurements, remote sensing, and modeling approaches. The research activities will include: ● Continuous acquisition of carbon (CO_2), methane (CH4), Nitrous dioxide (N2O) and energy, and water fluxes using eddy covariance systems in two contrasting agroecosystems (olive grove and crop rotation system) ● Analysis of diurnal, seasonal, and interannual variability of fluxes and their relationships with climatic drivers and soil conditions ● Quantification of the impact of agronomic management practices (e.g., tillage, irrigation, fertilization) on greenhouse gas emissions and carbon sequestration ● Calibration and validation of RS and biogeochemical models using observed flux data ● Assessment of carbon sink/source dynamics and overall GHG and energy budgets in the studied systems ● Evaluation of the role of agroecosystems in climate change mitigation under different environmental and management scenarios
STUDY/RESEARCH PERIODS ABROAD	3 months
DOCUMENTS REQUIRED FOR THE ADMISSION	● Copy of the Identification Document ● **Self-certification** for qualifications obtained in Italy (laurea triennale, specialistica o magistrale o ciclo unico) with list of exams taken, credits and related grade, title of the thesis and graduation mark (using this **template** or similar forms containing the required information) ● Qualifications obtained abroad (Bachelor's and Master Degrees or combined cycle Degree) with a list of all exams taken, credits and related grade, rating scale, title of the thesis and graduation mark *The same documentation except for the final mark must be submitted by those who will graduate within the 31/10/2026*
DOCUMENTS REQUIRED FOR THE EVALUATION	**MANDATORY** ● Curriculum vitae (European format) ● Research Project **OPTIONAL** ● Publications ● Any other scientific qualification document

<table>
<tr><td>RESEARCH PROJECT</td><td>The research project has to be prepared in English in no more than 12.000 characters including spacing, and structured in introduction, state of the art, objectives, materials and methods with temporal distribution of the phases, expected results. For the 42° cycle, several priorities of interest have been selected. The project must relate, and should make specific reference, to one of them listed in the section below: “Thematics”.
The research project should be attached to the application form and it should be made as the project pattern uploaded into the following departmental webpage: www.dottoratoscienzeagrarieambientali.unifi.it/sudents admission to doctorate
The research project should be focused on a possible research activity, which the applicant will be going to execute during the three-year doctoral program. The candidate may apply for more than one ranking by attaching a separate project for each one and clearly indicating the reference to the chosen scholarship.</td></tr>
<tr><td>INTERVIEW MODE</td><td>Remotely (Videocall)</td></tr>
<tr><td>FURTHER INFORMATION</td><td>The interview can be conducted in Italian or in the English language; if it is conducted in Italian, English skills will be tested during the interview.</td></tr>
<tr><td>EVALUATION MARKS</td><td>
<table>
<tr><th>Parameter</th><th>minimum score</th><th>maximum score</th></tr>
<tr><td>Curriculum vitae, scientific qualification documents</td><td>5/120</td><td>15/120</td></tr>
<tr><td>Research Project redaction</td><td>25/120</td><td>40/120</td></tr>
<tr><td colspan="3">Applicants who obtain a mark of at least 30/120 according to the minimum score for each parameter will be admitted to the interview</td></tr>
<tr><td>Interview: discussion of the research project and any other qualification document</td><td>40/120</td><td>65/120</td></tr>
<tr><td colspan="3">Eligibility is achieved with a minimum score of 70/120</td></tr>
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<tr><td>THEMATICS</td><td>

Integrated control and symbionts: new strategies for the protection of agricultural crops against insect pests
Cultivation of wild edible plant species for the development of fresh-cut salads
Biotechnological approaches to understanding processes that enhance yields, preserve, improve, and restore soil fertility
Ecophysiological and productive dynamics of ornamental and fruit species in relation to the use of amendments
Sustainable innovation in aquaculture: integrated solutions to improve productivity, animal welfare and product quality
Innovative technologies for agronomy and for the sustainable management of herbaceous crops

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EXAMINATION SCHEDULE		
	DATE	**TIME**
INTERVIEW	July 16th-17th 2026	09:30 a.m.
The list of the candidates admitted to the interview and the final ranking will be published at the page **PhD courses**		

ENROLLMENT ROUNDS

Enrollment must be completed within the specified mandatory deadlines, under penalty of exclusion
(as per Art. 12 of the Call for Applications - Annex 1)

	Opening Date	**Deadline for Enrollment**
Enrollment (successful candidates)	Ranking's publication date (by July 31, 2026)	by **11.59 pm** (CEST) on **August 25th 2026***
1st round (eligible candidates)	from **31st August 2026**	by **11.59 pm** (CEST) on **September 7th 2026**
2nd round (eligible candidates)	from **10th September 2026**	by **11.59 pm** (CEST) on **September 17th 2026**

** Please note that the University will be closed from August 8th to August 23th, 2026.*

Subsequent reassignment of vacant positions:
The reassignment of any residual positions after the first two rounds will be activated on **every Tuesday until October 27th**, with a mandatory enrollment deadline set for the following Friday (11:59 PM CEST). It is the sole responsibility of the candidate to check their personal reserved area
No personal communications will be sent to candidates.
Technical instructions for enrollment can be found **here**