



FOOD SCIENCE	
CYCLE	XLI
COORDINATOR	Prof. Massimiliano RINALDI email: massimiliano.rinaldi@unipr.it Food and Drug Department
DURATION	3 years
STARTING DATE OF THE PHD PROGRAM	01/11/2025
CURRICULA	1. Food Science 2. Products for the food and health markets
POSITIONS PUT OUT TO COMPETITION	13
ADMISSION PROCEDURES	Assessment of QUALIFICATIONS and Research Project Oral Exam in PRESENCE or REMOTELY
ADMISSION REQUIREMENTS	Regardless of age and citizenship, applicants holding at least one of the following academic qualifications can apply for admission: <ul style="list-style-type: none"> – Laurea specialistica or Laurea magistrale (second cycle master's degree) – Laurea Vecchio Ordinamento (degree obtained under the previous Italian regulations); – Second cycle Master's degree obtained abroad, equivalent to the above mentioned Italian degrees and recognized as suitable for the admission to doctoral program Undergraduates can also apply for admission to the selection, with the obligation to obtain the degree by 31.10.2025
TRAINING OBJECTIVES	
<p>The PhD course in Food Science aims to train highly skilled professionals, able to face current and future challenges in the agri-food sector. The training plan is designed in alignment with the Next Generation EU strategy. The high-level training courses are accompanied by a dedicated program in the following areas:</p> <ul style="list-style-type: none"> • Circular bioeconomy; • Sustainable and precision agriculture; • Innovative and sustainable production; • Sustainability from a nutritional perspective; • valorization and upcycling of by-products. <p>These areas of study are complemented by cross-cutting expertise essential to support innovation, including the use of big data and artificial intelligence methodologies.</p> <p>Throughout the doctoral cycle, candidates also participate in high-level courses dedicated to entrepreneurship and exploitation of inventions, thanks to the collaboration with the regional ART-ER structure.</p> <p>The program places strong emphasis on skill integration, multi-, inter- and transdisciplinary training and internationalization, through PhD students participation in international research projects and interaction with leading foreign experts by dedicated seminars and meetings.</p> <p>Additionally, PhD students are encouraged to take part in public engagement initiatives and interaction with the territory, to develop skills of knowledge transfer and dialogue with all stakeholders in the food system.</p>	





RESEARCH AREAS

1. AGRICULTURAL AND FOOD ECONOMICS: Understanding which factors influence consumers food preferences integrating behavioral and sensory science with digital technology
2. HUMAN NUTRITION: Evaluation of the *in situ* distribution of dietary bioactive metabolites using innovative and traditional approaches)
3. FOOD CHEMISTRY: Advanced modeling of food contaminants and constituents: computational approaches to unveil the molecular underpinnings of their action)
4. HUMAN NUTRITION: Precision nutrition for lung cancer patients: evaluating personalized dietary recommendations on nutritional and metabolic outcomes)
5. HUMAN NUTRITION: Characterizing circulating bioactive compounds and gut microbiota-host interactions through LC-MS metabolomics in lung cancer patients)
6. ORGANIC CHEMISTRY: Study of the allergenic risk in new protein sources by applying molecular approaches)
7. FOOD TECHNOLOGY: Unlocking Flavor, Aroma, and Texture in Plant-Based products Through Microbial Fermentation)
8. INSPECTION OF FOODS OF ANIMAL ORIGIN: Evaluation of the occurrence of inorganic and organic food chemical contaminants and risk assessment)
9. FOOD TECHNOLOGY: Utilization of innovative technologies for controlled structural modification in foods)
10. FOOD TECHNOLOGY: Application of pulsed electric fields to the dairy sector and to plant-based alternatives)
11. FOOD CHEMISTRY: Study of the impact of micro-nanoplastics in strategic food chains)







Position with Scholarship

N°	Funding entity	Research Topic or Areas
2	Scholarship funded by University of Parma (Ministerial funds)	<ul style="list-style-type: none"> • Agricultural and Food Economics • Human nutrition
1	Scholarship co-funded by Fondazione Cariparma	<ul style="list-style-type: none"> • Food Chemistry

Position with Scholarship LINKED TO SPECIFIC TOPICS (art. 6 of the Competition notice)

N°	Funding entity	BOUND RESEARCH TOPIC
1	<p>Scholarship funded by Interdepartmental Microbiome Research Center "Microbiome Research Hub" (funds Project HE EIC Pathfinder Precision Nutrition: MENTORING: "assessing malnutrition and metabolic health in non-communicable diseases through precision Nutrition: impact in quality of life and prognosis of lung cancer patients" G.A. no. 101162297 CUP D97G24000120006)</p>   Mentoring for Health	Precision nutrition for lung cancer patients: evaluating personalized dietary recommendations on nutritional and metabolic outcomes)
1	<p>Scholarship funded by Interdepartmental Microbiome Research Center "Microbiome Research Hub" (funds Project HE EIC Pathfinder Precision Nutrition: MENTORING: "assessing malnutrition and metabolic health in non-communicable diseases through precision Nutrition: impact in quality of life and prognosis of lung cancer patients" G.A. no. 101162297 CUP D97G24000120006)</p>   Mentoring for Health	Characterizing circulating bioactive compounds and gut microbiota-host interactions through LC-MS metabolomics in lung cancer patients)
1	Scholarship partly financed with UNIVERSITY funds and co-financed by Food and Drug Department	Study of the allergenic risk in new protein sources by applying molecular approaches



1	Scholarship partly financed with UNIVERSITY funds and co-financed by "Fondazione Edmund Mach"	Unlocking flavor, aroma, and texture in plant-based products through microbial fermentation
1	Scholarship partly financed with MINISTERIAL funds and co-financed by Food and Drug Department	Evaluation of the occurrence of inorganic and organic food chemical contaminants and risk assessment
1	Scholarship partly financed with MINISTERIAL funds and co-financed by Food and Drug Department	Utilization of innovative technologies for controlled structural modification in foods
1	Scholarship funded by the Company Barilla G. e R. F.lli S.p.A. and co-financed by Food and Drug Department (funds Project FOOD-ER CUP E97G22000210002) 	Study of the impact of micro-nanoplastics in strategic food chains
1	Scholarship funded by EMILIA ROMAGNA REGION (PR.FSE + 2021/2027 – DGR n. 344 del 10/03/2025) - CUP D92J25000110002     	Pulsed low-intensity electric fields for the metabolic stimulation of lactic acid bacteria: development of innovative solutions in the dairy sector and alternative products.

POSITION RESERVED

Reserved for **EMPLOYEES of Company CORBION-PURAC B.V. (with salary maintenance)**

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ADMISSION PROCEDURES

Assessment of QUALIFICATIONS: up to 50 points
(a minimum score of 30 points shall be required to be admitted to the Oral Exam)
ORAL EXAM: up to 70 points
Minimum score for ELIGIBILITY: 70/120

ORAL EXAM PROGRAM

THE ORAL EXAM TAKES IN THE PRESENCE and with the possibility of carrying out the interview **REMOTELY** for candidates residing abroad or temporarily abroad for study / work reasons. To this end, candidates must submit **a motivated REQUEST** as per the model attached to the competition announcement)

The ORAL test involves the presentation and discussion of the research project by the candidate without the aid of any Powerpoint presentation or other applications, and is aimed at verifying the candidate's aptitude for scientific research and his/her general preparation on topics relating to research topics of the doctoral course.

Foreign Language

the fluency of which shall be assessed during the Oral Exam

ENGLISH

The evaluation of the knowledge of this language will be oral and will consist in reading and translating of a scientific test.
For foreign candidates, basic knowledge of **ITALIAN LANGUAGE** will also be assessed.

SCHEDULE OF THE ADMISSION EXAMS



ASSESSMENT OF QUALIFICATIONS		It is the candidate's responsibility to verify the outcome of the evaluation of qualifications, which can be consulted in their reserved area by connecting to the page http://unipr.esse3.cineca.it/Home.do in the days preceding the date of the Oral Exam
ORAL EXAM	DATE	2 nd September 2025 (with possible extension to 3 rd September 2025)
	TIME	10:00 am (Italian Time)
	PLACE	Food and Drug Department Parma Area della Scienze, 27/A - Campus 43124 PARMA - ITALY
FURTHER INFORMATION		The choice of the Research Topic to be expressed in Annex A is not binding on the assignment of the research project, and it is intended to assess candidates skills during the admission exam. The PhD research topic will be assigned by the Academic Board.
		<div> THE INTERVIEW MAY BE HELD ALSO IN ENGLISH </div> <div>For foreign candidates it is possible to carry out the admission examination exclusively in English. For Italian candidates it will be possible to take the admission examination in Italian or in English at the candidate's choice</div>

LIST OF QUALIFICATIONS TO BE SUBMITTED AND THEIR ASSESSMENT	
MANDATORY DOCUMENTS TO BE ATTACHED TO THE ON-LINE APPLICATION	
ANNEX A	(art. 3.2 of the Competition notice)
Identification Document	Scanned Copy of a valid identity document with photo (i.e. identity card, passport)
Curriculum Vitae et studiorum	No specific CV format is required (see art. 3.2 of the Competition notice)
Abstract of degree thesis	Abstract of the second cycle master's degree thesis. Undergraduate applicants must submit the draft of the thesis approved by their supervisor (abstract/draft of the thesis: 10.000 characters including spaces)
Academic Qualifications	Certificates and academic transcript of records for both Bachelor' and Master' degrees containing the following details for each degree held: (art. 3.2 of the Competition notice): University that granted the degree - Type of degree (first cycle/second cycle/single cycle) Name of the degree program - Date of graduation - Final mark - List of exams and corresponding scores (academic transcript of records) - Translation into Italian or English (only for degrees issued in languages other than Italian or English).
Research Project	The research project shall consist of a maximum of 2 pages, be written in English, according to the format attached to the competition notice. It will have to focus on an original research topic (unpublished, developed personally by the candidate, PENALTY NOT EVALUATION. It should be noted that the Examination Board can use of IT tools useful for verifying the originality of the submitted Project), concerning one of the specific topic indicated in this notice and it shall be structured as follows: introduction of the problem in the scientific context, significance of the problem, expected results, argumentation. <u>It does not represent a constraint with respect to the following choice of the doctoral thesis, which will be assigned by the Academic Board</u>
LIST OF EVALUABLE QUALIFICATIONS	
(only qualifications attested by a document drawn up in Italian or in English)	



Curriculum Vitae et studiorum	Including academic career and postgraduate experience, accompanied by a statutory declaration in lieu of the certification of the exams passed with the relevant marks, as well as the final graduation mark. The marks of the exams and the graduation mark will be the most relevant element of the evaluation.	Up to 20 points
Research Project	Points relating to the research project shall be allocated on the basis of the following criteria: <ul style="list-style-type: none"> ○ Scientific value and or originality of the proposal: max 10 points ○ description and structure of the proposal: max 5 points ○ proposal feasibility: max 5 points 	Up to 20 points
Statement of Research Interest	Short text – maximum 1 page – in Italian or in English, aimed at explaining the candidate's reasons to attend the PhD program and at describing her/his specific research interests	Up to 2 points
Scientific Publications	Articles and/or reviews in scientific journals with peer reviewing, scientific book chapters with national or international circulation. The explicit indication of the candidate's contribution to the works presented for evaluation is a necessary requirement. International peer-reviewed papers: up to 2 points National peer-reviewed papers: up to 1 point	Up to 3 points
Other Academic qualifications	First or second level Master's degree obtained in Italy and/or specialization degree in subjects consistent with the research topics of this PhD program	Up to 2 points
Other experiences (training, work, research, teaching, etc.)	<ul style="list-style-type: none"> – Research activity (basic, applied, translational, etc.) carried out in any capacity, including when covered by research grant, and as a staff member of research units – Working activity – Professional and/or training internship – Language proficiency certificates – Periods of study abroad, outside the country of origin (e.g. Erasmus programme or other similar mobility programmes) – Other qualifications attesting the suitability of the applicants (scholarships, awards, etc.) 	Up to 3 points
EVALUATION ORAL EXAM		
Interview Program	Evaluation CRITERIA	POINTS
The ORAL EXAM includes the presentation of the research project and is intended to assess the suitability of the applicant to pursue scientific research as well as the general knowledge of issues connected to the PhD course	<ul style="list-style-type: none"> ○ English reading and speaking and for foreign candidates also Italian language: up to 10 points ○ research project presentation: max 40 points ○ general knowledge of issues connected to the PhD course: max 20 points 	Up to 70 points