

Engineering Sciences	
Cycle	39°
Director	Prof. Stefano Trillo (stefano.trillo@unife.it) Engineering Department
Duration	3 years
Course Type:	Industrial Doctorate in association with: <i>Haier Europe s.r.l.,</i> <i>MechVib Engineering S.r.l.,</i> <i>ZF Automotive Italia S.r.l.</i>
Curriculum	1. Civil Engineering 2. Industrial Engineering 3. Information Engineering
Research Topics	https://www.unife.it/studenti/dottorato/it/corsi/riforma/engineering
Qualification required for admission	LM-4, LM 4 CU; LM-17, LM-18, LM-19, LM-20, LM-21, LM-22, LM-23, LM-24, LM-25, LM-26, LM-27, LM-28, LM-29, LM-30, LM-31, LM-32, LM-33, LM-34, LM-35, LM-40, LM-43, LM-44, LM-48, LM-53, LM-54, LM-66, LM-69, LM-71, 20/S, 23/S, 25/S, 26/S, 27/S, 28/S, 29/S, 30/S, 31/S, 32/S, 33/S, 34/S, 35/S, 36/S, 37/S, 38/S, 45/S, 50/S, 54/S, 61/S, 62/S, 81/S, 82/S, equivalent Italian degree Lauree V.O. in Engineering, Physics and Information Technology or an equivalent foreign academic qualification awarded abroad.

Assessment Criteria		
Evaluation of qualification: maximum score 50 points. Minimum score required to be admitted to the interview 35/50		
Interview: maximum score 30 points		
Minimum final score required: 60/80		
During the interview, the applicant's knowledge of the following languages will be tested:	English	
List of assessable credentials		
Curriculum vitae et studiorum	<p>Mandatory documents: Full academic career information (Bachelor and Master degree), a list of examinations and grades and final mark, for Bachelor and Masters degrees, and post degree experience. Thesis abstract (max length 2 pages), with the following structure: motivation, research methodology, obtained or expected results and bibliography. Only for undergraduates students the abstract must be signed by the supervisor.</p>	Up to 20 points
Research Project	<p>Maximum length: 3 pages - in English or in Italian which must contain an original proposal for a research project, with the following structure: introduction to the scientific international context, relevance of the topic, expected results, argumentation. <i>The mentioned project is not binding regarding the subsequent choice of the doctoral thesis, except for the positions with defined themes.</i> <i>If applying for scholarships with a specific theme, the coherence of the research project with the theme is a requirement for evaluation.</i></p>	Up to 20 points

	<p><i>Therefore, the research project must necessarily relate to the topic of interest, or else the application will be excluded.</i></p> <p><i>If admitted to the doctoral program, the candidate will pursue research training and the thesis consistently with the reported theme.</i></p> <p><i>It is possible to apply for a maximum of 2 scholarships with defined themes by submitting 2 distinct research projects as a mandatory requirement.</i></p>	
Scientific publications	<p>Full copy of publications, including abstracts and/or papers presented to meetings or congresses</p> <p style="text-align: center;">OR</p> <p>File containing the full list of the publications with associated link.</p>	Up to 5 points
Statement of research interest	Short text - maximum length: 1 page - in English or in Italian, which must contain the motivations to attend the Ph.D. programme and the candidate's specific research interests.	Up to 3 points
Other professional/academic qualifications	Academic, professional qualifications; language certificates.	Up to 2 points
Interview agenda/program		
Presentation of the proposed research project and the Candidate's linguistic skills will be verified.		
Examination Timetable		
<p>Evaluation of qualifications and interview will take place within the 19th of September 2023. Evaluations' results, the beginning date for consulting the evaluations' results and the interview schedule will be available within the present call deadline at the following page:</p> <p>https://www.unife.it/studenti/dottorato/it/concorsi/esiti-prove-concorso-di-dottorato-per-il-ciclo-39deg</p>		

TOTAL AVAILABLE POSITIONS	19
With scholarship	16
Industrial PhD reserved for employees of Haier Europe S.r.l. (with salary retention)	1
Positions reserved for foreign scholarship holders and/or scholarship holders of specific international mobility programs	2

Regular positions with scholarship		
N°	<i>Funding institution</i>	<i>Research topic or area (if applicable)</i>
5	Università degli Studi di Ferrara	
1	Dipartimento di Ingegneria	Sensing and communication in classical and quantum domains

1	Università degli Studi di Ferrara – <i>Special program for highly qualified research doctorates in the field of public procurement contracts</i>	Architectural and engineering services for design, verification and validation of refurbishment interventions on University's architectural heritage: methodological, technical and theoretical features of structural strengthening and seismic retrofitting
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Positions funded under Ministerial Decree No. 118/2023

N°	Area of interest	Research topic
1	Digital and environmental transitions - M4C1 I. 3.4 CUP: F73C23000730006	Development of diagnostic/prognostic systems based on artificial intelligence for the retrofitting of machinery without Industry 4.0 technology
1	Digital and environmental transitions - M4C1 I. 3.4 CUP: F73C23000730006	Development and characterisation of protective coatings derived from waste biomass to prevent corrosion of metal substrates.
1	PNRR PhD Programmes - M4C1 I. 4.1 CUP: F73C23000500006	Development of miniaturized and sensorized systems for providing smart characteristics to mechanical and automatic products

Positions funded under Ministerial Decree No. 117/2023

Innovative PhDs for Enterprises - M4C2 I. 3.3

CUP: F73C23000590006

N°	Funding company	Research topic
1	Co-fundend by SICA SPA	PVC-U pipes socketing
1	Co-fundend by ZF AUTOMOTIVE ITALIA SRL	Robust design methodologies for performance prediction of automotive positive-displacement pumps using a numerical approach
1	Co-fundend by MechVib	Development of "zero-defect manufacturing" methodologies for the quality control of processes and products and to eliminate waste
1	Co-fundend by Haier Group S.r.l	Implementation of neural network algorithms for remote control of wasing and drying machine cycles.
1	Co-fundend by Haier Group S.r.l	Washing machine filter design for wastewater treatment and reuse for rinse and washing
1	Co-fundend by PROMETHEUS SRL	Development of a pick and place machine with integrated vision system applied to medical device assembly