



DOCTORAL PROGRAMME IN INDUSTRIAL ENGINEERING

Director prof. Giovanni Ferrara

XL cycle – academic year 2024/2025

TECHNOLOGICAL AREA	
ADMINISTRATIVE OFFICE	Department of Industrial Engineering Florence (DIEF)
WEB	www.phdingind.unifi.it
CURRICULA	<ol style="list-style-type: none">1. Energy and Innovative Industrial and Environmental Technologies2. Design and Development of Industrial Products and Processes3. Industrial Engineering and Reliability4. Science and Engineering of Materials
POSITIONS AVAILABLE: 16 Positions with scholarship: 14 Positions without Scholarship: 2* <i>* standard ranking only</i>	
Gross Annual amount of the scholarship € 21,000.00 (gross value) The increase of the scholarship is funded by Department of Industrial Engineering	
RANKING LIST FOR STANDARD POSITIONS SCHOLARSHIPS AVAILABLE: 1	University of Florence
RANKING LISTS FOR POSITIONS WITH SPECIFIC RESEARCH TOPICS SCHOLARSHIPS AVAILABLE: 13	<p>5 - University of Florence 8 - Department of Industrial Engineering</p> <p>Thematics:</p> <ol style="list-style-type: none">1. Artificial intelligence techniques for advanced robotics2. Development of robotic manipulation systems3. Development of contact models and damage models for railway applications4. Development, Optimization, and Validation of an Innovative Solution for Renal Perfusion: In-vitro Analysis and Ex-vivo Experiments with Replicated Organs by Bioprinting Techniques5. Aeroelastic design of innovative floating offshore wind turbines for the Mediterranean Sea6. In-depth experimental analysis of flow behaviour in turbine stator-rotor cavities

	<p>7. Investigations by CFD modelling of windage and churning losses in bevel gears for aeroengine applications</p> <p>8. Advanced modeling of thermal energy storage</p> <p>9. Advanced modeling of heat pumps</p> <p>10. Numerical modeling of two-phase flows</p> <p>11. Neurorobotic behavioral models for advanced human-robot interaction in biomedical applications</p> <p>12. Innovative Systems for Hydrogen Liquefaction</p> <p>13. Analysis, simulation and optimization of manufacturing processes</p>												
STUDY/RESEARCH PERIODS ABROAD	3 months												
DOCUMENTS REQUIRED FOR THE ADMISSION (under penalty of exclusion)	<ul style="list-style-type: none"> • Copy of the Identification Document • Self-declaration for qualifications obtained in Italy (laurea Triennale, Specialistica o Magistrale o ciclo unico) with a list of all exams taken and their marks, title of the thesis and graduation mark (download the form here, make sure you fill in all the fields) • Qualifications obtained abroad (Bachelor’s and Master Degrees or combined cycle Degree) with a list of all exams taken and their marks, title of the thesis and graduation mark. <p><i>The same documentation except for the final mark must be submitted by those who will graduate within the 31/10/2024</i></p>												
DOCUMENTS REQUIRED FOR THE EVALUATION	<p>MANDATORY</p> <ul style="list-style-type: none"> • Curriculum Vitae • Research project <p>OPTIONAL</p> <ul style="list-style-type: none"> • Abstract of the MSc degree Thesis • Scientific publications • Any other additional qualification document 												
RESEARCH PROJECT	<p>The research project must be written in Italian or English in NO MORE than 12,000 characters including spacing, abstract, introduction and references. The candidate can apply for several rankings by submitting a specific research project for each ranking (clearly state the reference to the chosen thematic). Candidates who apply for standard ranking need to submit a project related to one of the thematics listed at www.phdingind.unifi.it/topics</p>												
INTERVIEW MODE	<p>Remotely (Videocall)</p> <p>The interview can be conducted in English language</p>												
EVALUATION MARKS	<table border="1"> <thead> <tr> <th>parameter</th> <th>minimum score</th> <th>maximum score</th> </tr> </thead> <tbody> <tr> <td>Curriculum vitae; publications, other qualification documents</td> <td>10/120</td> <td>15/120</td> </tr> <tr> <td>Evaluation of the research project</td> <td>50/120</td> <td>65/120</td> </tr> <tr> <td colspan="3">Applicants who obtain a mark of at least 60/120 according to the minimum score for each parameter will be admitted to the interview.</td> </tr> </tbody> </table>	parameter	minimum score	maximum score	Curriculum vitae; publications, other qualification documents	10/120	15/120	Evaluation of the research project	50/120	65/120	Applicants who obtain a mark of at least 60/120 according to the minimum score for each parameter will be admitted to the interview.		
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	Interview: discussion of the research project and publications (if any)	20/120	40/120
Eligibility is achieved with a minimum score of 80/120			

EXAMINATION SCHEDULE		
	DATE	TIME
INTERVIEW	July 17 th , 2024	09:00 a.m.
The list of candidates admitted to the interview and the final ranking will be published at the following web page: https://www.unifi.it/p12593		