



PhD in INGEGNERIA MECCANICA / MECHANICAL ENGINEERING - 39th cycle

THEMATIC Research Field: DIGITAL TRANSFORMATION IN INDUSTRIAL ENGINEERING

Monthly net income of PhDscholarship (max 36 months)
€ 1400.0
In case of a change of the welfare rates during the three-year period, the amount could be modified.

Context of the research activity	
Motivation and objectives of the research in this field	<p>The digital transformation is radically changing the way data and information related to products and industrial processes are generated, acquired, and elaborated. Digital technologies can be used to create smart products and processes, train operators, support, and guide maintenance activities. The goal is to speed up and optimize processes and exploit digital technologies as drivers toward sustainable development and innovation. This research field concerns the methods and tools to properly exploit the implementation of digital solutions within industrial contexts, with the overall goal of developing effective and innovative solutions. The specific research objective of the thesis will concern at least one of the following topics: Virtual, eXtended, and Augmented Reality applications, Metaverse, Digital Human Modeling, Artificial Intelligence (AI) for Design, and Digital Twin.</p>
Methods and techniques that will be developed and used to carry out the research	<p>The research will be developed by referring to both emerging and established methodologies and technologies such as: Virtual, eXtended and Augmented Reality, Reverse Engineering, Artificial Intelligence, Multi-objective Optimization, Digital Twin, Digital Data Management, Human-Computer and Human-Machine Interaction</p>
Educational objectives	<p>Operational competencies on up-to-date methodologies and technologies for developing innovative digital solutions and applications. Capability to interpret</p>



	technology evolution and the dynamics of technological and digital transformations. R&D skills for scientific and industrial applications. Soft skills in the delivery of scientific talks, drafting project reports and scientific papers, and delivery of presentations to industry.
Job opportunities	Our last survey on MeccPhD Doctorates highlighted a 100% employment rate within the first year and a 35% higher salary , compared to Master of Science holders in the same field.
Composition of the research group	3 Full Professors 8 Associated Professors 4 Assistant Professors 16 PhD Students
Name of the research directors	Prof. Colombo, Cascini, Bordegoni, Ferrise

Contacts	
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<p>For questions about scholarship/support phd-dmec@polimi.it</p>	

Additional support - Financial aid per PhD student per year (gross amount)	
Housing - Foreign Students	--
Housing - Out-of-town residents (more than 80Km out of Milano)	--

Scholarship Increase for a period abroad	
Amount monthly	700.0 €
By number of months	6



Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information

Financial aid is available for all PhD candidates (purchase of study books and materials, funding for participation in courses, summer schools, workshops and conferences) for a total amount of euro 5.707,13.

Our candidates are strongly encouraged to spend a research period abroad, joining high-level research groups in the specific PhD research topic, selected in agreement with the Supervisor. An increase in the scholarship will be applied for periods up to 6 months (approx. 700 euro/month - net amount).

Teaching assistantship: availability of funding in recognition of supporting teaching activities by the PhD candidate. There are various forms of financial aid for activities of support to the teaching practice. The PhD student is encouraged to take part in these activities, within the limits allowed by the regulations.