

## PhD Programme in “Mechanical Engineering”

The PhD programme in “Mechanical Engineering” offers 31 positions (of which 24 fully funded with scholarships) for the 36<sup>th</sup> PhD cycle at Politecnico di Milano. All scholarships cover three years of study and research.

The table below summarizes the scholarships issued in the present call.

Please notice that, in order to be eligible for any of the scholarships, you must (in the registration process) declare that you intend to compete for a scholarship (see also sections 6.4 and 7.6 of the [Quickstart](#) manual).

For further information about the Topic scholarships please visit the [Topic Scholarships webpage](#)

For further information about the Interdisciplinary scholarships please visit the [Interdisciplinary Scholarships webpage](#)

#	Type	Research topic	Granting Institution
1	Generic	“Mechanical Engineering” Area 1: <i>Advanced Materials and Smart Structures</i>	Italian Ministry of University and Research Politecnico di Milano
2	Generic	“Mechanical Engineering” Area 2: <i>Sustainable Mobility</i>	Italian Ministry of University and Research Politecnico di Milano
3	Generic	“Mechanical Engineering” Area 3: <i>Engineering and Manufacturing for the Industry of the Future</i>	Italian Ministry of University and Research Politecnico di Milano
4	Generic	“Mechanical Engineering” – <i>MeccPhD International Track</i>	Department of Mechanical Engineering
5	Topic	“ <i>Fatigue and Fracture of AM Materials and Components</i> ” Area 1: <i>Advanced Materials and Smart Structures</i>	Department of Mechanical Engineering
6	Topic	“ <i>Diagnostic and prognostic system of a naval propulsion based on digital twin technology</i> ” Area 1: <i>Advanced Materials and Smart Structures</i>	Italian Ministry of University and Research Politecnico di Milano
7	Topic	“ <i>Multiaxial Crack Growth Criteria for Gears</i> ” Area 1: <i>Advanced Materials and Smart Structures</i>	EU Project IDERPLANE
8	Topic	“ <i>MetaMEMS: design of innovative MEMS based on metamaterials properties</i> ” Area 1: <i>Advanced Materials and Smart Structures</i>	STMicroelectronics
9	Topic	“ <i>Design of Smart Magnetic ceramic ink for 3D printing</i> ” Area 1: <i>Advanced Materials and Smart Structures</i>	STMicroelectronics
10	Topic	“ <i>Innovative Materials and advanced metallurgical processes</i> ” Area 1: <i>Advanced Materials and Smart Structures</i>	Italian Ministry of University and Research Politecnico di Milano



11	Topic	<i>"Design of Smart Materials for Metal Additive Manufacturing Processes"</i> Area 1: <i>Advanced Materials and Smart Structures</i>	Department of Mechanical Engineering
12	Topic	<i>"Shape-memory alloy Meta composites"</i> Area 1: <i>Advanced Materials and Smart Structures</i>	Department of Mechanical Engineering
13	Topic	<i>"Wind engineering and wind energy"</i> Area 1: <i>Advanced Materials and Smart Structures</i>	Italian Ministry of University and Research Politecnico di Milano
14	Topic	<i>"Fatigue modelling and testing of discontinuous fibre reinforced polymers"</i> Area 1: <i>Advanced Materials and Smart Structures</i>	Department of Mechanical Engineering
15	Topic	<i>"Bridge Structural Health Monitoring and Maintenance, Resilience and Lifecycle Design of Infrastructural Network"</i> Area 1: <i>Advance Materials and Smart Structures</i>	Department of Mechanical Engineering
16	Topic	<i>"Driving Dynamic Simulator"</i> Area 2: <i>Sustainable Mobility</i>	Italian Ministry of University and Research Politecnico di Milano
17	Topic	<i>"Mechatronic Solutions for Security Devices"</i> Area 3: <i>Design and Manufacturing for the Industry of the Future</i>	ISEO Serrature
18	Topic	<i>"3D dynamic image-based measurements in Industry 4.0"</i> Area 3: <i>Design and Manufacturing for the Industry of the Future</i>	Department of Mechanical Engineering
19	Topic	<i>"Development of Advanced Monitoring Systems"</i> Area 3: <i>Design and Manufacturing for the Industry of the Future</i>	Department of Mechanical Engineering
20	Topic	<i>"Advanced, smart and sustainable manufacturing"</i> Area 3: <i>Design and Manufacturing for the Industry of the Future</i>	Italian Ministry of University and Research Politecnico di Milano
21	Topic	<i>"Advanced, smart and sustainable manufacturing"</i> Area 3: <i>Design and Manufacturing for the Industry of the Future</i>	Italian Ministry of University and Research Politecnico di Milano
22	Topic	<i>"Smart 3D bioprinting of cardiac tissue. Mathematical modelling and engineering"</i> Area 3: <i>Design and Manufacturing for the Industry of the Future</i>	Department of Mechanical Engineering
23	Interdisciplinary	Health: <i>"Design of a wearable soft exoskeleton for arm training and assistance"</i> Area 1: <i>Advanced Materials and Smart Structures</i> In collaboration with the PhD programme in "BioEngineering"	Politecnico di Milano
24	Interdisciplinary	Industry 4.0: <i>"Machine Learning for Predictive Maintenance in Railway Systems"</i> Area 2: <i>Sustainable Mobility</i> In collaboration with the PhD programme in "Information Technology"	Politecnico di Milano