



PhD in DESIGN - 40th cycle

Number of scholarship offered	6
Department	DIPARTIMENTO DI DESIGN

Description of the PhD Programme

General descriptionDescription of the PhD Programme

Detailed information on research proposals to be developed for Ph.D application is available at: <http://phd.design.polimi.it/>

The PhD Program in Design prepares designer-researchers who, addressing the problems and opportunities of contemporary society, are able to apply research methods to produce original design knowledge. The curriculum lasts three years, during which both training and research activities are provided. The Program develops analytical and design abilities and promotes a collaborative disposition.

The complete list of research proposals is available at <http://phd.design.polimi.it/>.

Once enrolled, each candidate becomes an effective member of a research group, within which she/he develops an original research project. This research activity is the fundamental core of the learning process. Parallel to this, each candidate is involved in other educational activities.

Proposing department: Department of Design.

Other involved departments: Department of Mechanical Engineering; Department of Chemistry, Materials and Chemical Engineering.

Scholarships: More details on the scholarships offered by the PhD Program in Design are available on page 2 of this document. The specific research subject will be assigned to each candidate within the first months of the PhD activity, with the agreement of both the candidate and the Board of Professors of the PhD Program. The number of available scholarships may be increased up to completion of the evaluation process.



PhD in DESIGN - 40th cycle

THEMATIC Research Field: ADVANCED TECHNOLOGIES APPLIED TO CULTURAL HERITAGE USER EXPERIENCE ENHANCEMENT

Monthly net income of PhDscholarship (max 36 months)
€ 1300.0
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>In recent years, the integration of advanced technologies such as Virtual Reality (VR) and Augmented Reality (AR) has revolutionized the way we experience and interact with cultural heritage sites and artifacts. These cutting-edge technologies offer immersive and engaging elements with great potential for enhancing users' experience and perception of cultural heritage. In museums and cultural institutions, cultural sites, VR and AR are being leveraged to enhance traditional exhibits and presentations. Visitors can now engage with exhibits in new and meaningful ways, whether it's virtually restoring ancient artifacts to their original glory, augmenting ancient ruins with visiting information, or even restoring their structures with realistic 3D models, or embarking on interactive guided tours led by virtual guides. However, while VR and AR hold great promise for cultural heritage, challenges remain in defining how these technologies could be integrated into the design process of the cultural heritage artifact experience. Enhancing visitors' experiences through advanced technologies in cultural contexts requires following guidelines capable of understanding the potential of these technologies firsthand. Collection and analysis of significant case studies will be essential in defining the correct process to enhance user experience through these technologies in the cultural field. A strong and fruitful collaboration with external sites, studios, and companies working on the creation of these experiences will be fundamental to conduct specific case studies in the field and gain</p>



	<p>a comprehensive understanding of the real application of advanced technology methodologies currently used in the cultural sector.</p> <p>The objectives of the research activity are to study the enhancement provided by the introduction of advanced technologies (such as AR and VR) into cultural heritage experiences and to map the key interaction points that could be recognized as fundamental in the design process of a new cultural heritage experience. The methodologies defined for applying these technologies to cultural heritage fruition experiences will be tested in a case study applications to observe the results of the experimentation.</p>
Methods and techniques that will be developed and used to carry out the research	<p>The PhD research will adopt an Action Research approach to explore the impact of advanced technologies on the fruition of cultural heritage from the perspective of visitors. This involves a deep examination of research-related case studies, and the direct engagement with the design process methodologies. The researcher will gain insights into these creation processes and will facilitate the integration of advanced technologies into them. Through the analysis of operational aspects, the PhD student will focus on developing methodology guidelines to inform the design process of cultural heritage experiences, with the aim of enhancing user engagement with these artifacts and sites.</p>
Educational objectives	<p>The PhD scholarship is finalized to form research figures able to manage these cutting-edge technologies especially into cultural heritage environments, providing new guidelines in the design process of experience related to cultural heritage field. This competence will be integrated by elements from other sectors such as design, art and cultural field, main processes into cultural heritage experiences creation and research method applied during the program.</p>
Job opportunities	<p>The PhD student will be prepared to take on roles in academia and in the cultural heritage sector to perform activities such as:</p>



	<ul style="list-style-type: none"> •Understanding the nature and application of advanced technologies into cultural heritage experiences. •Enhancing the experiences of the cultural heritage artifacts and sites through the application of methodologies related to the use of advanced technologies. •Managing the design process of a cultural heritage experience, and understanding the stakeholders and competencies involved. •Caring the interaction elements between user and the cultural touchpoints, focusing on the user experience to enhance the engagement of the cultural heritage artifacts or sites.
Composition of the research group	1 Full Professors 1 Associated Professors 0 Assistant Professors 2 PhD Students
Name of the research directors	Mauro Ceconello, Davide Spallazzo

Contacts
email: mauro.ceconello@polimi.it, davide.spallazzo@polimi.it, tel. 02 2399 7809

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	650.0 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
<p>Educational activities (purchase of study books and material, funding for participation in courses, summer schools, workshops and conferences):</p> <p>financial aid per PhD student per year</p> <p>max 5.300,25 euros per student (total for 3 years)</p>



Teaching assistanship: availability of funding in recognition of supporting teaching activities by the PhD student there are various forms of financial aid both for research and teaching activities. The PhD student is encouraged to take part in these activities, within the limits allowed by the regulations.

Computer availability: 1st year, 2nd year and 3rd year: Each research group will supply PhD student with a computer, if necessary.

Desk availability: 1st year, 2nd year and 3rd year: Each research group will supply phd student with a desk.



PhD in DESIGN - 40th cycle

OPEN SUBJECT Research Field: DESIGN

Monthly net income of PhDscholarship (max 36 months)
€ 1300.0
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>Research in the field of design is aimed at improving design processes and practices, with the final aim of developing domain-specific knowledge.</p> <p>It includes several forms of research, like research-based design practice, research through design, and research into design. It allows investigating new phenomena and technologies connected to emerging user behaviors and sociocultural models, in order to anticipate future scenarios.</p> <p>The overall goal is exploring research fields where design is applied at different scales and complexity degrees to people, organizations, communities and social entities.</p> <p>For a list of research topics proposed by the Design Department Faculty members, please visit: http://phd.design.polimi.it/</p>
Methods and techniques that will be developed and used to carry out the research	<p>Different methods and approaches (e.g. historical research, experimental approach; actionresearch; meta- design; critical analysis; case study and scenario design) are being used to carry out research in the various fields of design.</p> <p>A multidisciplinary integration and humancentered and participated design processes will be encouraged.</p>
Educational objectives	<p>The learning process is based on theoretical studies linked with practical activities to enhance the skills necessary to act also as a design practitioner.</p> <p>The overall aim is educating design researchers with a specific attitude in exploring and devising forms of innovation able to generate value for the society, the</p>



	economy and the environment.
Job opportunities	The main request will come from companies, institutions, social and public bodies, NGOs and design firms looking for a design researcher able to interact with other professionals in research and innovation.
Composition of the research group	6 Full Professors 15 Associated Professors 7 Assistant Professors 87 PhD Students
Name of the research directors	Lucia Rosa Elena Rampino

Contacts
E-mail address: segreteriaadottorato-design@polimi.it http://phd.design.polimi.it/

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	650.0 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
<p>Educational activities (purchase of study books and material, funding for participation in courses, summer schools, workshops and conferences): financial aid per PhD student per year max 5.300,25 euros per student (total for 3 years)</p> <p>Teaching assistantship: availability of funding in recognition of supporting teaching activities by the PhD student there are various forms of financial aid both for research and teaching activities. The PhD student is encouraged to take part in these activities, within the limits allowed by the regulations.</p> <p>Computer availability: 1st year, 2nd year and 3rd year: Each research group will supply PhD student with a computer, if necessary.</p> <p>Desk availability: 1st year, 2nd year and 3rd year: Each research group will supply PhD student with a desk.</p>



PhD in DESIGN - 40th cycle

**THEMATIC Research Field: THE PERSPECTIVES OF PRODUCT DESIGN LANGUAGE IN A
TRANSITIONING WORLD TOWARD MORE SUSTAINABLE SOLUTIONS.**

Monthly net income of PhDscholarship (max 36 months)
€ 1300.0
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 evolution of industrial design has experienced various shifts over time. Initially focused on balancing form and function for massproduced items, designers were primarily concerned with innovation and progress. However, as industrial design gained global recognition for enhancing business success, designers expanded their focus to encompass social impact, sustainability, and community involvement (Rampino, 2022). This led to a broader perspective on the meaning and influence of their work. In this context, the development of Product Design Language (Ferraris et al., 2017) becomes crucial for interpreting contemporary challenges as products communicate identity and reflect the values of their environment. In 2006, with The Semantic Turn: A New Foundation for Design, Krippendorff proposed a systematic analysis of how humans attribute meanings to and interact with artefacts, also raming a vocabulary for designing artefacts concerning the meanings they could acquire for stakeholders (Krippendorff, 2006). Based on that foundational work, it urges expanding that vocabulary and understanding emerging ways meaning is attributed to artefacts. Recognising the role of product language can guide us toward more socially, environmentally, and culturally just design practices. A widespread language sensitivity culture can be crucial for dismantling prevailing biases in design education and practice (A. G. C. Van Boeijen, 2022). However, the debate is still widely unexplored.</p>



	<p>The growing attention to diversity and inclusion in organisations worldwide can be interpreted as a signal of change, but how this preferred transition is shaping or will shape the language of products is yet to be understood.</p> <p>This knowledge gap creates an opportunity for a transversal exploration of product materiality to interpret embedded meanings in the context of environmental and social sustainability goals.</p> <p>On the other hand, there is a lack of a broader understanding of how the language of products continues to perpetuate past and present logic related to social, cultural, and environmental injustice phenomena.</p> <p>The research aims to explore and experiment with Product Design Language to frame its role in transforming industrial design practices and an aware and sensitive education around product language.</p>
<p>Methods and techniques that will be developed and used to carry out the research</p>	<p>The PhD candidate is expected to develop a systematic literature review to explore the academic debate and narrow down the PhD topic, on one hand, providing a solid foundation of knowledge on which to build the research study and, on the other hand, identifying more specific research gaps in the literature. The literature review will also be enriched and supported by a contextual review of existing products and practices related to emerging products' language, which will serve as a preliminary data collection and analysis to ground the research.</p> <p>Then, once the research scope and question are clarified in light of the literature and contextual review, a range of qualitative research methods are expected to be employed to collect and interpret data. The aim is to uncover the emotional perceptions generated by products' form and aesthetic traits that shape their character, drawing connections on cultural, social and ecological global implications. Among others, Research Through Design (Stappers & Giaccardi, 2016) is expected to be a crucial method to explore how people assign and interpret sustainability-related meaning to artefacts. In addition, the candidate is expected to study how new vocabulary shapes the emerging product language and</p>



	promotes the adoption of sustainability patterns and behaviours.
Educational objectives	<p>Product language and aesthetics are crucial educational objectives in product design courses, but the teaching of product language is often limited to historical accounts of past styles. The research is aimed at broadening that understanding through the analysis of the past, present and preferred future languages, given the transformation that the field of manufactured goods is undergoing altogether with our ever-evolving society. Establishing a more aware design practice around how product language should reflect social, cultural and environmental justice is of significant interest in product design education at undergraduate and graduate levels. Developing a collectively shared, sensitive design language can create a safer environment within educational and public communities for a broader spectrum in terms of socio-demographic factor.</p>
Job opportunities	<p>People with a good understanding of research on the evolution of industrial design, particularly the language of product design and its social implications, can find a variety of career paths. Opportunities include academic roles as professors or researchers in design studios, design consultancies focusing on sustainable strategies, corporate positions as design managers integrating social and environmental considerations, and non-profit roles as sustainability consultants. Educational institutions related to design, art or architecture may seek experts for curriculum development with know-how on sustainability issues and aesthetics. Also, governmental agencies or international bodies might seek the support of an expert to shape future policy around manufactured goods or to frame competence frameworks.</p> <p>Overall, the person will be able to shape design practices with a critical mindset, influence education, and advocate for socially, environmentally, and culturally just design in various sectors.</p>
Composition of the research group	<p>1 Full Professors 3 Associated Professors</p>



	1 Assistant Professors 4 PhD Students
Name of the research directors	Silvia Ferraris

Contacts
mail: silvia.ferraris@polimi.it

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	650.0 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
<p>Educational activities (purchase of study books and material, funding for participation in courses, summer schools, workshops and conferences):</p> <p>financial aid per PhD student per year max 5.300,25 euros per student (total for 3 years)</p> <p>Teaching assistantship: availability of funding in recognition of supporting teaching activities by the PhD student there are various forms of financial aid both for research and teaching activities. The PhD student is encouraged to take part in these activities, within the limits allowed by the regulations.</p> <p>Computer availability: 1st year, 2nd year and 3rd year: Each research group will supply PhD student with a computer, if necessary.</p> <p>Desk availability: 1st year, 2nd year and 3rd year: Each research group will supply phd student with a desk.</p>