PhD Programme in

Urban Planning Design and Policy

39th Cycle

5 Thematic Scholarships funded with resources of the National Recovery and Resilience Plan (PNRR)

OPEN CALL | Deadline: 29th June 2023
DAStU - Politecnico di Milano
PhD programme in Urban Planning, Design and Policy

Additional call for applications 2023 now open!

The PhD programme in Urban Planning, Design and Policy grants five PhD positions funded with resources of the National Recovery and Resilience Plan (PNRR) to start in September or November 2023.

► All positions are fully funded with scholarships and other benefits.
► All positions are based on predefined research topics as follows:

1. Cultural heritage and landscape education in the European perspective: new methodologies and digital technologies for accessibility and participation
   Supervisors: Prof. Rossella Salerno (rossella.salerno@polimi.it) and Prof. Camilla Casonato (camilla.casonato@polimi.it).

2. Exploring innovative last-mile and city logistics solutions to reduce emissions and improve citizens' quality of life
   Supervisor: Prof. Ilaria Mariotti (ilaria.mariotti@polimi.it)

3. New methods of analysis and representation of transnational projects in heritage-rich areas
   Supervisor: Prof. Davide Ponzini (davide.ponzini@polimi.it)

4. Productive territories and metropolitan areas: spatial patterns, economic change, and policy tools
   Supervisor: Prof. Simonetta Armondi (simonetta.armondi@polimi.it)

5. The impact of new digital technologies on urban spaces: privacy issues in an ethical and policy perspective
   Supervisors: Prof. Stefano Moroni (stefano.moroni@polimi.it) and Prof. Viola Schiaffonati (viola.schiaffonati@polimi.it)

How to Apply

The official call for applications, along with procedures and requirements, is available on: https://www.dottorato.polimi.it/en/prospective-phd-candidates/calls-and-regulations/39-cycle/1st-additional-call-2023-24

► Deadline: 29th June 2023

► For administrative inquiries, contact:
  Mrs. Marina Bonaventura (marina.bonaventura@polimi.it)

► Information about the PhD programme in Urban Planning, Design and Policy is available on: www.dottorato.polimi.it/en/phd-programmes/architecture/urban-planning-design-and-policy
Motivation and objectives of the research

European policies consider cultural heritage and landscape education crucial for training new generations to be active and responsible citizens, to appreciate cultural diversity and the intersection of generations, and to adopt sustainable lifestyles.

The increasing attention paid to the relationships between assets and territories, heritage and culture, has led to a broadening concept of cultural heritage and to the attempt to construct a common European policy on heritage education. In this regard, the 1998 Recommendation of the Committee of Ministers – followed in Italy by the Piano Nazionale per l’Educazione al Patrimonio (2015) – represented a crucial step forward. In 2000 the European Landscape Convention (ELC) proposed a new approach to the concept of landscape focussed on physical and cultural interaction between communities and a variety of territories, including ordinary landscapes and fragile contexts.

Moreover, the importance of involving the public in landscape interpretation, monitoring and formulation of objectives related to heritage preservation and landscape quality, emerges from the debate concerning the ELC’s application, while new questions are arising on the contribution of heritage education in achieving the goals set by Agenda 2030. The Piano nazionale per la scuola digitale (2015) promotes use of ICTs in education to produce and share digital content and architectures, furthermore digitization offers relevant opportunities to create a larger accessibility to heritage and to foster participation.

According to the European framework for action on cultural heritage (2019) and in line with the goals of the PNRR of the Ministero della Cultura in terms of digital transformation, inclusion and participation, the aim of the research is to explore the potential of digital technologies for expanding accessibility to cultural heritage, particularly in the context of educational processes that involve (young) citizens through participatory processes and through bottom-up initiatives. Also, the research will present an opportunity to carry out, 25 years after publication, a survey of the initiatives in implementation of the Recommendation and make a reflection on its ability to generate spillovers to the field.

Based on existing literature and consultation of European portals, the candidate, supported by DASiU Research Structure CLIP Lab (Cultural Landscapes Information and Planning), will outline the framework of current practices and analyze European directions in heritage education, particularly about policies and methodologies for heritage accessibility, participation, and the potential offered by digital technologies.

The candidate will select relevant case studies analyzing methodologies and practices involving communities in educational processes, the communication and consultation processes underlying the actions, the stakeholders involved and their role and consider the effectiveness of actions, policies, and tools with the goals of expanding accessibility and participation.

This research program includes a 6-month internship at Ministero della Cultura, Direzione generale Educazione, Ricerca e Istituti Culturali.

For further information:
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Partnership:
Ministero della Cultura, Direzione generale Educazione, Ricerca e Istituti Culturali - www.dgeric.cultura.gov.it
Starting date: 1st November 2023
Exploring innovative last-mile and city logistics solutions to reduce emissions and improve citizens’ quality of life

Motivation and objectives of the research

Logistics and freight transport involve more than 70,000 companies in Italy, for a turnover of about 80 B€. Business growth is constant, despite the pandemic crisis. Unprecedented opportunities for a technological revolution and a complete digitalisation of logistics and freight transport are available, enabling new services and business paradigms, including Industry/Logistics 4.0. At the same time, the sector is under pressure due to energy tensions, global disruption phenomena, growing fragmentation of shipments and increasingly challenging level-of-service requirements related primarily to e-commerce, globalization vs. reshoring, volatility/dynamicity of freight flows, unsustainable labour conditions, scarce attention to externalities and collective diseconomies in the optimisation of single distribution chains. Also, the sector has a high carbon footprint and the challenging objectives set by the EU for reducing emissions are imposing a radical change of logistics and transport operations, especially in cities. In this context, the opportunities of the circular economy and the synchro-modality are not yet fully exploited, as well as the potential of nudging policies to business establishments and final customers.

In any case, unprecedented data availability and sensing capabilities on logistics and transport networks enable complex real-time optimisation allowing the development of innovative solutions related to the Logistics 4.0 paradigm for data-driven decision-making with evident potential economies of scale, cost savings and better environmental performance. Finally, from a public perspective, current system-wide monitoring and knowledge of logistics and freight transport is very limited, preventing effective infrastructural development, assessment of policymaking, design of optimised incentives.

The aim of the research, focused on the last mile delivery and urban logistics in Lombardy region and specifically the city of Milan, is to develop innovative solutions for last mile delivery and urban logistics through the integration of new technologies and models to ensure environmental sustainability, and the improvement of quality of life, traffic, public health, accessibility/inclusiveness, safety and management of public spaces.

This study will (i) investigate theoretical knowledge on urban logistics and last mile delivery; (ii) explore the cases of innovative solutions for last mile delivery and urban logistics through the integration of new technologies and models; (iii) implement tools for mapping and quantifying the impact of last mile delivery on the quality of life, traffic, public health, accessibility/inclusiveness, safety and management of public spaces. It should be developed a roadmap to increase the sustainability of the sector: transportation mode rebalancing, supporting the synchro-modality and rebalancing unsustainable road transport by means of integration platforms, organizational solutions, and new technologies; reducing carbon footprint.

The following methodologies will be adopted: systematic literature review, spatial analysis through GIS, descriptive statistics.

This project relies on the collaboration with MAUD Lab of DASTU.

For further information:

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Prof. Ilaria Mariotti, DASTU, Politecnico di Milano.
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Starting date: 12th September 2023
New methods of analysis and representation of transnational projects in heritage-rich areas

Motivation and objectives of the research

Cultural built heritage has become a key asset to enhance the image, tourist attractiveness, and retail appeal of an area or an entire city. Key projects target heritage buildings and complexes and adapt their forms and functioning to generate and extract economic value from places, their uses, and cultural meanings. While promising the physical conservation or restoration of built heritage, broader urban transformation processes sometimes become problematic for local communities. A certain level of disconnect may derive from the high-level technical expertise (e.g., UNESCO and transnational architectural firms) and public interventions. Recent research demonstrated that in the last thirty years more than 400 projects by transnational firms were completed in UNESCO World Heritage Sites and their buffer zones. Italy, the country with the highest number of UNESCO World Heritage Sites in the world (53 Cultural sites and 5 Natural sites) now has substantial investments at stake, from the national recovery plan (PNRR) to dedicated lines in local and regional governments’ schemes.

While recent years have brought some general assessment regarding star architecture projects and started problematizing their relation to historic city centers, specific in-depth analysis and representations regarding transnational projects and agency is still missing in the international debate. In particular, the complexity of multi-scalar projects that are generated by transnational networks of actors and international organization often emerge in terms of limited contextualization of interventions, disruption of heritage places, and long-term negative effects for local communities.

Based on existing data bases and experimentation carried out the Politecnico di Milano TAU-Lab, this project aims at developing and testing new methodologies (e.g., GIS, dynamic visualization techniques, multi-media and AR/VR, digital models) for analyzing and representing potential opportunities and risks associated with the key heritage projects and the related urban transformations.

The project will include the following steps:

1. Critical literature and methodological review regarding the transnational projects in heritage-rich cities and the existing methods for analyzing and representing them.
3. Identification of best techniques of analysis and representation for the case studies, as well as a broader set of example in literature.
4. Development of presentation of intermediate findings to a specialized audience.
5. Dissemination of results at the national and international levels through publications, academic and public events.

This research program includes a 6-month internship at Propp Srl, a leading firm specialized in mapping, representation, and communication, with extensive cooperation with cultural and heritage actors in Italy.

For further information:
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Partnership:
Propp srl - www.propp.it
Starting date: 12th September 2023
Motivation and objectives of the research

From the background of the DASTU research focused on operational geographies in Northern Italy (www.operationalgeographies.polimi.it), this research proposal will investigate productive territories, mainly manufacturing and logistics sectors in Milan Metropolitan City and the major European urban regions undergoing paradigmatic restructuring dynamics of their economies, resulting in very different processes: growth, ageing, decline, fragilisation, and experimentation. These processes have several spatial, social, economic, and ecological consequences representing a challenge for researchers and policymakers which have yet to be studied.

The de-industrialisation phenomena in Global North countries were particularly evident in both urban areas and metropolitan territories as side effects of a structural shift towards a post-industrial, service-oriented, and knowledge-based economy. More recently the discourse on this topic changed because of the multifaceted response of industrial and logistics regions to the global crisis of 2007-08 and the vulnerability of global supply chains for goods and raw materials uncovered by the COVID-19 crisis and the Russian invasion of Ukraine. Consequently, industrial and logistics policy in metropolitan territories and urban regions is broadly debated, even if in a sectoral approach and needs more spatial analysis, based on the view that its characteristics render it particularly important on the growth path, enabling the environmental, and socio-economic transformation European countries have embarked upon, with the new National Recovery Plans.

Through this study, the candidate applying mixed-research methods (i.e. quantitative analysis of statistical data, and qualitative analysis of plans, policies, case studies) will develop analytical and interpretative tools and research/planning/policy methodologies to further advance urban and metropolitan policy tools and governance, focusing on understanding and integrating the productive territories issues in the planning and policy-making of the metropolitan cities.

The Candidate will do an 18-month internship at the Città Metropolitana di Milano (Direzione Pianificazione territoriale generale e Rigenerazione urbana) and spend six months at the Université Gustave Eiffel in Paris (Laboratoire Ville Mobilité Transport).

Good command of the Italian language is recommended for the specific nature of the applied research.

For further information:
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Partnership:
Città Metropolitana di Milano - www.cittametropolitana.mi.it

Starting date: 12th September 2023
The impact of digital technologies on urban spaces: privacy issues in an ethical and policy perspective

Motivation and objectives of the research

Due especially to new digital technologies, the issue of privacy arises today not only in the case of “private spaces”, but also (and often above all) in that of “public spaces”. Two crucial privacy issues related to public spaces raised by new technologies are the following.

Firstly, the possibility of detecting and controlling access and activities by individuals in urban spaces (for example, via cameras; the use of technologies based on Artificial Intelligence techniques, such as facial recognition, makes the problem even more disruptive).

Secondly, the possibility of collecting data on the location and movements of individuals (for example, as a consequence of the use of digital mobile devices).

New digital technologies therefore create problems for the issue of privacy which also involve risks of unfairness and discrimination. These issues require a critically rethinking of the application of new digital technologies in urban contexts that goes beyond the rhetoric of “smart cities” that has influenced the public debate so much in recent years.

All this raises new problems, particularly regarding (i) the regulation of the use of new technologies, (ii) the responsibilities of those who can collect and manage data (both private and public subjects) and (iii) the policy and planning choices concerning the organization of public spaces. In this context, many of the traditional tools used to manage these problems are no longer applicable: think, for example, of informed consent and its inapplicability in the context of surveillance in urban spaces.

New approaches in the direction of so-called “post-consensual privacy”, typical of “Internet of Things” applications, need to be conceived.

The research is expected to be developed through systematic literature review; conceptual analysis; qualitative empirical research.

For further information:

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