



PhD in ARCHITECTURAL URBAN INTERIOR DESIGN - 39th cycle

PNRR 118 INTERDISC Research Field: URBAN AIR MOBILITY DESIGN. TYPOLOGIES AND CHALLENGES OF THE CONTEMPORARY CONDITION

Monthly net income of PhDscholarship (max 36 months)
€ 1195.5
In case of a change of the welfare rates during the three-year period, the amount could be modified.

Context of the research activity	
<p>Motivation and objectives of the research in this field</p>	<p>Interdisciplinary Ph.D. Grant.</p> <p>The Ph.D. research will be carried out in collaboration with research groups of the Ph.D. program in AEROSPACE ENGINEERING.</p> <p>The Architectural Urban Interior Design (AUID) Ph.D. program promotes research on architectural design, with studies and projects aiming at different scales, contexts, and finalities. In AUID, research is based on the theories and practices which nourish contemporary architecture's cultural and technical debate at an international scale. Research activities highlight the critical analysis and development of design processes and techniques. Constant attention is given to the dynamic relationships with the urgent questions related to the environment and the design of green, blue, and grey infrastructure.</p> <p>This research finds a direct link with the RRP (RECOVERY AND RESILIENCE PLAN) contents in reference to the goals indicated in Chapter 3. INFRASTRUCTURE FOR SUSTAINABLE MOBILITY, particularly to the goal <i>Creating a modern, digitised and environmentally sustainable infrastructure system for mobility</i>, goal applied to air mobility.</p> <p>The research topic focuses on the development of <i>Urban Air Mobility</i> in Italy and Europe through case studies analysis, experimental design, and prototypes aiming at testing its possibilities, opportunities, and challenges in</p>



	<p>the ongoing expansion of these projects.</p> <p>The central nucleus of investigation revolves around the typological innovation of emerging infrastructural forms linked to the development of vertical mobility - such as vertiports, logistics infrastructure for goods distribution with drones, and passenger transport services - and their impact on cities and citizens. Indeed, these new infrastructures represent a territorial and logistical challenge at the National and European levels (EASA, <i>Study on the societal acceptance of Urban Air Mobility in Europe</i>, 2021).</p> <p>It is also the phenomenon of vital interest concerning developing more sustainable and innovative services at the urban scale, whose nodal centers are imagined as highly diversified hubs (SDG 11. <i>Make cities and human settlement inclusive, safe, resilient and sustainable</i>).</p> <p>The research proposal arises from the ongoing cooperation between the Department of Architecture and Urban Studies (DAStU) and the Department of Aerospace Science and Technology (DAER). Both are involved in the National Center for Sustainable Mobility (MOST) research activities in the context of the RRP programs, i.e., the Spoke 1 <i>Air Mobility</i> in which the DAER is the leader. Since 2021, joint research activities have been pursued on national case studies. In this framework, the activation of a research grant aims to deepen a new interdisciplinary and integrated approach to the current infrastructural and logistic transitions with a lens on European and national urban design practices and policies.</p>
<p>Methods and techniques that will be developed and used to carry out the research</p>	<p>The Candidate will develop a research methodology starting from the lectures and assignments of the AUID courses and those offered by the PoliMi Ph.D. School. The candidate will profile a personal methodology, scientifically grounded, considering the specificity of the selected topic, the target, and the attended results. Within the AUID Ph.D. program, design-driven research methodology and techniques are highly recommended, considering them necessary for building research theories and reflexive practices within the architectural, urban, and interior design disciplines.</p> <p>This research will be conducted within the AUID Ph.D.</p>



	<p>Program in cooperation with the one in Aerospace Engineering. This synergy will make it possible to integrate the technical and engineering aspects with those related to architectural and urban design. The applied research will consider innovative solutions and design prototypes of vertiports on national territory, exploring images, structures, and forms of contemporary air mobility. Specifically, the research methodology will ground on typological analysis and design, underlying the crucial question about the architectural qualities and spatial impact of these new infrastructure nodes within urban conditions. Joint activities will be promoted between the two doctorates for the verification and progress of research to test design strategies, and actions proposed both from an architectural and engineering point of view. The cooperation also consists in organizing and structuring joint seminars with a solid link to international research groups. About the general framework of research activities and quality assessment, the Ph.D. program refers to the "Charter on Architectural Research" by the European Association of Architectural Education (EAAE), the "Principles for Innovative Doctoral Training" by the Directorate-General for Research & Innovation of the European Commission (2011) and the Regulations of the PoliMi Ph.D. School.</p>
<p>Educational objectives</p>	<p>In the AUID program, the training of the Candidates aims to give a strong capacity of orientation in the field of architectural and design culture, choosing and elaborating a selected theme, organizing appropriate methodologies of investigation and dissemination, producing texts, drawings, and artifacts which match the requested character of scientific research: originality, relevance, and rigor, as defined in the "Charter on Architectural Research" by EAAE.</p> <p>The educational mission of the AUID program is to drive the Candidate to develop research in a well-organized method through making a comprehensive survey of the chosen topic, which leads to an original track and output. The Candidate will acquire the skill to organize a consistent case studies analysis, formulate a clear proposal for an original approach, and elaborate</p>



	<p>innovative strategies and research methods. The Candidate will be supported to deliver autonomous and innovative scientific products disseminated through seminars, publications, and conferences.</p>
<p>Job opportunities</p>	<p>The Program aims to train highly qualified researchers and professionals who will work in academic institutions, research centers, and public administration, as well as in the private sector, in the fields of architectural, urban, and interior design:</p> <ul style="list-style-type: none"> •University researchers and lecturers in the scientific fields of Ph.D. Program. •Researchers with an excellent scientific profile in complex architectural developments and interventions of recovery and transformation. •Curators of archives, exhibitions, and cultural activities. •Independent professionals qualified in the management of highly complex design processes. •Designers with tasks of high responsibility in public institutions and professional structures and leading manufacturers engaged in residential and special utilities, cultural institutions (museums, libraries, universities, schools, cultural centers), public and private services, commercial networks, accommodation, and leisure.
<p>Composition of the research group</p>	<p>1 Full Professors 1 Associated Professors 1 Assistant Professors 1 PhD Students</p>
<p>Name of the research directors</p>	<p>Prof. F. Berlingieri, prof. G. Quaranta</p>

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Further information is available at: <http://www.auid.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	597.76 €
By number of months	6

National Operational Program for Research and Innovation	
Company where the candidate will attend the stage (name and brief description)	
By number of months at the company	0
Institution or company where the candidate will spend the period abroad (name and brief description)	To be defined
By number of months abroad	6

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

Complete information on the enrolment and general regulations at:

<https://www.dottorato.polimi.it/en/phd-programmes/architecture/architectural-urban-and-interior-design>.

Teaching Assistantship

It is allowed to be appointed at one assistantship per academic year.

Personal Budget

(funding for participation in conferences, courses, summer schools, workshops, and purchase of study books and material)

1st year: max 1.603,64 euro

2nd year: max 1.603,64 euro



3rd year: max 1.603,64 euro

Workspace: In the AUID hall, on the 4th floor of Bldg 12 in Leonardo Campus, are available workstations for shared use. All the Ph.D. students can use their laptops with a wireless connection.

Workstations and other equipment are available in the various departmental laboratories (Dastu) linked with the doctoral Program.