



PhD in ARCHITECTURAL URBAN INTERIOR DESIGN - 40th cycle

**PNRR 630 Research Field: PUBLIC SPACE ARCHITECTURE: TECHNICAL INNOVATION,
SUSTAINABILITY, AND DESIGN QUALITY**

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

The Ph.D. program of "Architectural Urban Interior Design" (A.U.I.D.) promotes research on architectural design, with studies and projects at different scales, contexts, and finalities. In AUID, research is based on the theories and practices that nourish contemporary architecture's cultural and technical debate at an international scale.

The research will be conducted and developed in cooperation with Mapei S.p.A and will study the relationships between architecture and materials, encouraging the experimentation of innovative design solutions that integrate aspects linked to environmental sustainability and architectural quality. In particular, the research will focus on the study of innovative materials to be used in the design, recovery, and transformation of public places (such as squares and collective spaces) in historic centers in the European context, encouraging both the study and recovery of existing materials and the integration or infill of new elements.

The collaboration with Mapei S.p.A will include, thanks to the internship activity developed in the company, the study and experimentation of design techniques aimed at the introduction of innovative materials in projects for the recovery of spaces of architectural and cultural value. The research focus will be on the transformation of public spaces in historical centers in Europe and Italy. To this end, the company's industrial capabilities will be applied to produce methods relating to material testing, prototyping,



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| | <p>and the productive development of the research results. The research will be developed in the frame of the PNRR (Piano Nazionale di Ripresa e resilienza), focusing especially on "Energy Efficiency and Building Refurbishment." The research will also address the sustainability of innovative materials in the design processes, trying to achieve the ecological transition at the core of the PNRR agenda.</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 the Polimi Ph.D. School courses. The research will focus on architectural design, and it is organized into different phases, which will proceed in an order that is not necessarily chronological but, as in any project, with constant references from one phase to another.</p> <p>The methodology will always relate the topic of technological innovation with the architectural quality of public spaces.</p> <p>These are the different phases of the research, which, as mentioned, will often proceed in parallel:</p> <ul style="list-style-type: none"> - acquisition of the technical knowledge necessary to intervene in the design of paving systems and the choice of materials; - selection and analysis of case studies of high-quality urban space renovation projects; - Research and choice of places / and sites on which to apply the design exercise;- Develop one or more project proposals for redeveloping public spaces. <p>The cooperation and the internship at Mapei S.p.A will specifically focus on studying techniques and innovative materials to be tested in the renovation or updating of public spaces. The internship is compulsory, from 6 up to 18 months. Additionally, the Ph.D. candidate must spend at least 6 months in a university or research center abroad.</p> |
| <p>Educational objectives</p> | <p>The training of the candidates aims to give a strong</p> |



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| | <p>capacity of orientation in the field of architecture, of choosing and elaborating a selected theme, of organizing appropriate methodologies of investigation and dissemination, of producing texts, drawings, and artifacts that match the requested character of scientific research: originality, relevance, and rigor, as defined in the "Charter on Architectural Research" by EAEE.</p> <p>The faculty's primary educational goal is to drive the candidate to develop research using a well-organized method by conducting a comprehensive survey of the chosen question, which leads to an original track and output.</p> <p>The candidate is helped to acquire the skills to organize a consistent analysis of case studies, formulate a clear proposal for an original approach to a question, and elaborate innovative strategies and research methods. The supervisor and the board will support the candidate in delivering 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 the Ph.D. Program; - Researchers with an excellent scientific profile in complex architectural developments and interventions for recovery and transformation; - Independent professionals qualified to manage highly complex design processes; - Designers with tasks of high responsibility in institutions and professional structures and leading manufacturers engaged in traditional residential and special utilities, cultural institutions (museums, libraries, universities, schools, cultural centers), public and private services, commercial networks, accommodation, and leisure. |



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| Composition of the research group | 0 Full Professors 0 Associated Professors 1 Assistant Professors 1 PhD Students |
| Name of the research directors | Giulia Setti |

| Contacts | |
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| Ph.D. Head | prof. dr. Alessandro Rocca Alessandro.Rocca@polimi.it |
| Research director: | prof. dr. Giulia Setti giulia.setti@polimi.it |
| Departmental Ph.D. Office | Marina Bonaventura marina.bonaventura@polimi.it; phd-aid@polimi.it phone +39/02/2399.5165 |
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| Further information is available at: http://www.aid.polimi.it | |

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

| Scholarship Increase for a period abroad | |
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| Amount monthly | 650.0 € |
| By number of months | 6 |

| National Operational Program for Research and Innovation | |
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| Company where the candidate will attend the stage (name and brief description) | MAPEI S.P.A. |
| By number of months at the company | 6 |
| Institution or company where the candidate will spend the period abroad (name and brief description) | Universidad Politecnica de Madrid - Escuela Técnica Superior de Arquitectura de Madrid |
| By number of months abroad | 6 |



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

Some of the universities that are cooperating in the research:

- Katholieke Universiteit Leuven
- Aarhus School of Architecture
- TU Delft, School of Architecture
- TU Berlin, Institute for Architecture
- University of Ljubljana

Research Budget: purchase of study books and material, funding for course participation, summer schools, workshops, and conferences).

The Candidate can count on financial aid with a total amount of **5.300,25 euros**:

1st year: max 1.766,75 euro;

2nd year: max 1.766,75 euro;

3rd year: max 1.766,75 euro.

Teaching assistantship: (availability of funding in recognition of supporting teaching activities by the PhD student).

There are various forms of financial aid supporting the teaching practice. The PhD candidate is encouraged to participate in these activities within the limits of the Polimi and AUID regulations.

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).