



PhD in CONSERVAZIONE DEI BENI ARCHITETTONICI / PRESERVATION OF THE ARCHITECTURAL HERITAGE - 38th cycle

Number of scholarship offered	5
Department	DIPARTIMENTO DI ARCHITETTURA E STUDI URBANI

Description of the PhD Programme

The Doctorate Program in Preservation of the Architectural Heritage was first held at Milan-based Politecnico back in 1983. The PhD program focuses its attention to some currently crucial themes for the preservation, conservation, management and valorization of Architectural Heritage. Starting from the fundamental topics of knowledge, preservation, design and intervention, the PhD program takes care also of the most important and urgent problems affecting the built Heritage and Cultural Landscapes: the fragility and the abandonment of historic marginal areas; the climate change and its effects on the built environment; the improper pressure of mass tourism on our historic settlements and sites of cultural interest, the needs for a wider social involvement in the field also through appropriate ICT mediums, the management and the use of architectural Heritage.

The conservation of Architectural Heritage is, in fact, a strategic field as well as one of the main important resources for worldwide economy and for a sustainable future in different areas of the world. The team of professors, promoting and participating in the debate about these matters on a national and international scale, will thus deal with a broad range of issues requiring strong and real multi-disciplinary approach and all the many competences present in the PhD Board but also others outside it, for specific topics. On the strength of a solid, long-standing research tradition, the themes addressed and the methodologies adopted are meant to update contents and tools, the approach to the modern contemporary themes of cultural heritage protection and enhancement. Therefore, the development of pioneering themes and innovative research processes will be encouraged, such as the investigation of the territorial fragilities, in abandoned settlements, in archaeological sites, in towns and cities damaged by earthquakes or in conflict areas. The Course reflects one of the main research line carried out within the Department of Architecture and Urban Studies, regarded as excellent in research assessment by Italian Ministry of Education, University and Research (MIUR) for the quality of its research programs.

The PhD programme is meant as the place where theorization, methodology, investigation into the most significant chapters of the protection of historic architectural heritage and historic landscapes are connected to complex, challenging operating research themes, on-site and lab experimentation of analytical and diagnostic stages.



The PhD programme, lasting three years, calls for the acquisition of minimum 25 credits, acquired through the attendance of courses and the passing of the relative exams, concentrated in the first year of PhD programme.

In particular:

- 15 credits are offered and organized by the PhD programme in Preservation of the Architectural Heritage;
- 10 credits by the PhD School (soft and transferable skills courses).

Further additional credits are aimed at personal study and research for the PhD thesis.

The activities undertaken, in particular during the second and third year, also include attendance of workshops, seminars, national and international conferences related to individual research, with great attention to conferences wherein PhD candidates present the results, even partial, of their research theses. To the aim of their thesis research, PhD candidates have the opportunity to rely on facilities and laboratories, both inside and outside the University.

The breadth and width of those provides them with a crucial support to the purpose of acquiring 'competence for highly qualified research activities' in the domain of architectural heritage protection, such as advanced methods of investigation; knowledge management and preservation processes.



PhD in CONSERVAZIONE DEI BENI ARCHITETTONICI / PRESERVATION OF THE ARCHITECTURAL HERITAGE - 38th cycle

INTERDISCIPLINARY Research Field: INTEGRATED HISTORIC BIM-GIS: DEFINITION OF AN INNOVATIVE MULTI-INFORMATION AND MULTI-SCALE DIGITAL ENVIRONMENT FOR THE CONSERVATION AND ENHANCEMENT OF HISTORIC SETTLEMENTS IN INNER AREAS

Monthly net income of PhDscholarship (max 36 months)

€ 1195.0

In case of a change of the welfare rates or of changes of the scholarship minimum amount from the Ministry of University and Research, 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>Interdisciplinary PhD Grant</p> <p>The PhD research will be carried out in collaboration with research groups of the PhD programme in "ARCHITECTURE, BUILT ENVIRONMENT AND CONSTRUCTION ENGINEERING".</p> <p>See https://www.dottorato.polimi.it/?id=422&L=1 for further information.</p>
Methods and techniques that will be developed and used to carry out the research	<p>The research aims at defining a method for revamping settlements in inner areas. The method must link architectural and urban heritage physical features with its potentiality of reuse and enhancement in the wider economic and social strategies for repopulation and revamping of a specific area. A novel strategy will be developed to collect information normally provided in BIM using a single geospatial and multi-scale environment typically offered by GIS.</p> <p>The process should include both information at an architectural scale (the single building and its constructive elements) and a territorial scale (main settlement and minor related settlements), also including connections and environment (mobility, accessibility, landscape, and so on).</p> <p>One of the main purposes is merging both the I</p>



	<p>(information) in both acronyms BIM and GIS.</p> <p>The research will consider a new digital environment to develop an integrated BIM-GIS model. On the other hand, the rigid structure of such new platforms and their limitations must be taken into consideration, especially for managing the complexity and the stratification of historical settlements. This will require the development of procedures and strategies to handle complex information related to cultural heritage, hence the coined term Historic BIM-GIS.</p> <p>The second purpose of the research is to integrate a significant variety of data in a single environment where information on economic and productive values of the given territory is gathered together with BIM models and GIS data. The system should harmonize different levels of information through a dialogue between existing geospatial data and new information provided by digital surveys based on innovative techniques such as LIDAR and multi-platform digital photogrammetry.</p>
Educational objectives	<p>In recent years, many research activities concentrated on the possibility of defining parametric models to support strategies for cultural heritage preservation.</p> <p>In the field of historical city center conservation, such kind of application is not uncommon. However, the results reveal the difficulty in managing tools and interpreting data.</p> <p>This problem is probably due to a lack of communication between the experts in the two sectors: digital modeling and cultural heritage preservation.</p> <p>The research's main educational purpose is to establish an essential dialogue and train a researcher who should define a new methodological approach that mediates the two different points of view for a common goal, i.e., the definition and management of multi-scale digital data organized and accessible in a single environment.</p> <p>Furthermore, such a kind of approach could be also extended to other issues strictly connected to historical settlements and scattered architectural heritage, such as unregulated activities, seismic and hydro-geologic risks, and so on.</p>



Job opportunities	<p>Graduates of the PhD programme have often found employment in public sector and conservation institutions, as well as in professional practices and in the business world, in specific specialized fields. PhD candidates from abroad find job in their native countries at University or in Cultural Heritage Institutions.</p> <p>As regards Italy, the relationship with Italian Ministry of Cultural Heritage (Mibact), has been definitely fruitful, especially when we consider that many among the best PhDs in Preservation of Architectural Heritage have been hired as officers and executives to the above ministry: recently many PhD from this Programme won the competitive exam to become public officers in the Ministry of Cultural Heritage and most of them are now responsible in prestigious seats.</p>
Composition of the research group	<p>11 Full Professors 13 Associated Professors 0 Assistant Professors 48 PhD Students</p>
Name of the research directors	Annunziata Maria Oteri; Luigi Barazzetti

Contacts	
<p>Contact of the phd coordinator: Mariacristina Giambruno e-mail: mariacristina.giambruno@polimi.it; tel. +39 02.2399.5645</p> <p>Research directors Annunziata Maria Oteri annunziatamaria.oteri@polimi.it</p> <p>Luigi Barazzetti luigi.barazzetti@polimi.it</p> <p>Contact in the PhD Office at DASTU: <i>dr. Marina Bonaventura</i> E-mail: marina.bonaventura@polimi.it; tel. +39/02/2399.5165</p> <p><i>Marilena Mastalli</i> e-mail: marilena.mastalli@polimi.it; tel. +39/02/2399.9395</p>	



Website: <http://www.dastu.polimi.it/index.php?id=148>

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	597.5 €
By number of months	6

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

List of Universities, Companies, Agencies and/or National or International Institutions that are cooperating in the research:

- 1.National Technical University of Athens (N.T.U.A.), Greece
- 2.Departamento de Historia del Arte, Universitat de València, Spain
- 3.Department of Architectural Composition, Universidad de Castilla-La Mancha
- 4.École Nationale supérieure d'architecture de Paris-La Villette (ENSAPLV), France
- 5.Faculdade de Arquitectura da Universidade do Porto, Portugal
- 6.Université Paris I - Pantheon - Sorbonne, Parigi, France
- 7.Universidad de Sevilla, Departamento de Historia de América, Spain
- 8.ISPC-CNR Istituto di Scienza del Patrimonio Culturale (Italy)
- 9.ISCR Istituto Superiore per la conservazione e il restauro (già ICR), Roma

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 ("DOTE"):

1st year: max **1.624,30 euro**

2nd year: max **1.624,30 euro**

3rd year: max **1.624,30 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 take part in these activities, within the limits allowed by the regulations.

Computer availability:

In the PhD candidates room are available workstations for shared use, connected with the printer



.

All the PhD students can use their own laptop with the wireless connection.

Workstations and other equipment are available in the various laboratories linked with the doctoral programme.



PhD in CONSERVAZIONE DEI BENI ARCHITETTONICI / PRESERVATION OF THE ARCHITECTURAL HERITAGE - 38th cycle

OPEN SUBJECT Research Field: PRESERVATION OF THE ARCHITECTURAL HERITAGE

Monthly net income of PhDscholarship (max 36 months)
€ 1195.0
In case of a change of the welfare rates or of changes of the scholarship minimum amount from the Ministry of University and Research, 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 PhD program focuses its attention to some currently crucial themes for the preservation, conservation, management and valorization of Architectural Heritage. Starting from the fundamental topics of knowledge, preservation, design and intervention, the PhD program takes care of the most important and urgent problems affecting the built Heritage and Cultural Landscapes: the fragility and the abandonment of historic marginal areas; the climate change and its effects on the built environment; the improper pressure of mass tourism on our historic settlements and sites of cultural interest, the needs for a wider social involvement in the field also through appropriate ICT mediums, the management and the use of architectural Heritage. The conservation of Architectural Heritage is, in fact, a strategic field as well as one of the main important resources for worldwide economy and for a sustainable future in different areas of the world.</p> <p>The team of professors, promoting and participating in the debate about these matters on a national and international scale, will thus deal with a broad range of issues requiring strong and real multidisciplinary approach and all the many competences present in the PhD Board but also others outside it, for specific topics. On the strength of a solid, long-standing research tradition, the themes addressed and the methodologies adopted are meant to update contents and tools, the approach to the</p>



	<p>modern contemporary themes of cultural heritage protection and enhancement.</p> <p>The PhD programme is meant as the place where theorization, methodology, investigation into the most significant chapters of the protection of historic architectural heritage and historic landscapes are connected to complex, challenging operating research themes, on-site and lab experimentation of analytical and diagnostic stages. To the aim of their thesis research, PhD candidates have the opportunity to rely on facilities and laboratories, both inside and outside the University. The breadth and width of those provides them with a crucial support to the purpose of acquiring competence for highly qualified research activities. in the domain of architectural heritage protection, such as advanced methods of investigation; knowledge management and preservation processes.</p> <p>The multidisciplinary skills of the Faculty Board coverage a series of themes, which PhD students might take up in their thesis work, not in themselves alone but as transversal topics and issues that can lead to very different research paths that should nevertheless be deeply integrated (see Regulations of the PhD Programme in Preservation of the Architectural Heritage to know the list of research topics).</p>
<p>Methods and techniques that will be developed and used to carry out the research</p>	<p>The PhD programme, lasting three years, calls for the acquisition of minimum 25 credits divided as follow:</p> <p>15 credits (minimum) offered by PhD courses organized by the PhD programme in Preservation of the Architectural Heritage;</p> <p>10 credits offered by the PhD School (transferable and soft skills).</p> <p>In support of research carried out for their thesis, students will benefit from several laboratories both inside and outside the University. The activities undertaken during the second and third year also include attendance of workshops, seminars, national and international conferences related to individual research, with great attention to conferences wherein PhD candidates present</p>



	<p>the results, even partial, of their research theses. Periods of study at foreign university and research centers are also provided.</p> <p>Educational activities are related to research either underway or at an early stage of development, some of which addresses major monumental structures and some of the most renowned sites of the world. To the aim of their thesis research, PhD candidates have the opportunity to rely on facilities and laboratories, both inside and outside the University, the breadth and width of which provides them with a crucial support to the aim of acquiring competence for highly qualified research activities in the domain of cultural heritage protection.</p> <p>As for the thesis research, candidates thus have the opportunity to address and investigate in-depth the wide-ranging themes connected to heritage knowledge and preservation broadly meant, such as advanced methods of investigation; knowledge management and preservation processes applied to historic traditional buildings, as the ones related to the archaeological sites and remains or to twentieth-century heritage and cultural landscapes. This aspect increases the technical characteristics, and will make PhD immediately competitive at the European level.</p>
Educational objectives	<p>Aim of PhD course is providing the PhD candidates with a unique training experience in the Italian panorama, so far unparalleled also in domains other than the preservation of the architectural heritage. The program of study leading to the doctoral degree is organized in such a way that the students can get ready to contribute to enhance knowledge in the field of Preservation of the Built Heritage and Cultural Landscapes; to enable to engage in advanced study and research; to integrate their professional education and experience with the larger problems of the research around the field.</p> <p>To reach these objectives, students in the doctoral program work closely with one or more faculty members of the school and from their related fields of study. Members of the field and invited experts will also play important roles in a students academic progress and PhD</p>



	<p>candidates will be prepared to fill faculty and researcher positions or secure positions at research institutes and centers.</p> <p>Upon successful program completion, we expect that they will:</p> <ul style="list-style-type: none"> • Be prepared for employment in research/faculty positions at high-level research institutions • Engage in and promote evidence-based practices through the application of rigorous methodology • Provide leadership in the field by developing an independent line of ethical and culturally responsive research • Contribute to development of the next generation of scholars.
Job opportunities	<p>Graduates of the PhD programme have often found employment in public sector and conservation institutions, as well as in professional practices and in the business world, in specific specialized fields. PhD candidates from abroad find job in their native countries at University or in Cultural Heritage Institutions.</p> <p>As regards Italy, the relationship with Italian Ministry of Cultural Heritage (Mibact), has been definitely fruitful, especially when we consider that many among the best PhDs in Preservation of Architectural Heritage have been hired as officers and executives to the above ministry: recently many PhD from this Programme won the competitive exam to become public officers in the Ministry of Cultural Heritage and most of them are now responsible in prestigious seats.</p>
Composition of the research group	<p>11 Full Professors 13 Associated Professors 0 Assistant Professors 48 PhD Students</p>
Name of the research directors	All phd board members

Contacts

Contact of the phd coordinator:

Mariacristina Giambruno

e-mail: mariacristina.giambruno@polimi.it;



tel. +39 02.2399.5645

Contact in the PhD Office at DASTU:

dr. Marina Bonaventura

E-mail: marina.bonaventura@polimi.it;

tel. +39/02/2399.5165

Marilena Mastalli

e-mail: marilena.mastalli@polimi.it;

tel. +39/02/2399.9395

Website: <http://www.dastu.polimi.it/index.php?id=148>

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	597.5 €
By number of months	6

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

List of Universities, Companies, Agencies and/or National or International Institutions that are cooperating in the research:

1. National Technical University of Athens (N.T.U.A.), Greece
2. Departamento de Historia del Arte, Universitat de València, Spain
3. Department of Architectural Composition, Universidad de Castilla-La Mancha
4. École Nationale supérieure d'architecture de Paris-La Villette (ENSAPLV), France
5. Faculdade de Arquitectura da Universidade do Porto, Portugal
6. Université Paris I - Pantheon - Sorbonne, Parigi, France
7. Universidad de Sevilla, Departamento de Historia de América, Spain
8. ISPC-CNR Istituto di Scienza del Patrimonio Culturale (Italy)
9. ISCR Istituto Superiore per la conservazione e il restauro (già ICR), Roma

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 ("DOTE"):

1st year: max **1.624,30 euro**



2nd year: max 1.624,30 euro

3rd year: max 1.624,30 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 take part in these activities, within the limits allowed by the regulations.

Computer availability:

In the PhD candidates room are available workstations for shared use, connected with the printer .

All the PhD students can use their own laptop with the wireless connection.

Workstations and other equipment are available in the various laboratories linked with the doctoral programme.



PhD in CONSERVAZIONE DEI BENI ARCHITETTONICI / PRESERVATION OF THE ARCHITECTURAL HERITAGE - 38th cycle

**INTERDISCIPLINARY Research Field: TRANSFORMATIVE PROCESSES IN CULTURAL
COMMON GOODS THROUGH PUBLIC- PRIVATE PARTNERSHIPS, IMPACT INVESTING,
SOCIAL ENTREPRENEURSHIP, AND IMPACT ASSESSMENT**

Monthly net income of PhDscholarship (max 36 months)

€ 1195.0

In case of a change of the welfare rates or of changes of the scholarship minimum amount from the Ministry of University and Research, during the three-year period, the amount could be modified.

Context of the research activity

Motivation and objectives of the research in this field

Interdisciplinary PhD Grant

The PhD research will be carried out in collaboration with research groups of the PhD programme in **"MANAGEMENT ENGINEERING"**.

See <https://www.dottorato.polimi.it/?id=422&L=1> for further information.

This proposal sets out to investigate initiatives driven by new public-private partnerships (PPPs) and addressed to promote sustainable cultural heritage regeneration processes. Since physical spaces and assets, and particularly cultural heritage, are often left behind or even abandoned due to a lack of public resources that can foster their intrinsic cultural, social and economic value, a special attention will be paid to those initiatives characterized by an entrepreneurial attitude, supported by impact investing actors and equipped with impact measurement and management infrastructures. The research will focus on cultural collective goods, namely physical assets that trigger ecosystems of social entrepreneurial, innovative partnerships and impact investing that can meet long-lasting and/or emerging social and collective needs.



<p>Methods and techniques that will be developed and used to carry out the research</p>	<p>According to the objectives of investigating the challenges faced by investors interested in cultural collective goods and on financial instruments that are suitable to face trade-offs between financial return and cultural and social impact, the project will integrate qualitative and quantitative approaches.</p> <p>Different methodologies coherent with their objectives will be applied.</p> <p>The overall output of the research will be a framework that will:</p> <ul style="list-style-type: none"> (a) support the development of multi-stakeholder partnerships enhancing the value of CCG; (b) provide guidelines on the role financial resources, business models, PPPs and impacts evaluation processes; (c) enable the potential of left-behind cultural heritage to generate positive effects on society; (d) catalyze private resources, as complements to public funding, towards CCG; (e) provide instruments and solutions that not only support the reinvention of CCG, but also enhance economic growth and scale its social impact in the long term.
<p>Educational objectives</p>	<p>The educational objective is to provide the candidate with a perspective on the purpose-driven economy.</p> <p>Given the importance of preserving impact integrity, as key factor to unleashing the impact economy's transformative power, a special attention will be paid to strengthen the awareness about the enabling role technology and proximity can play.</p> <p>Furthermore, the knowledge generated and the framework developed will contribute to knowledge, practice and policy-making in two ways: (a) by offering a set of interdisciplinary instruments and guidance for designing transformative CCG that are left-behind; (b) by identifying best practices for managing CCG, particularly in the delicate phase of post Covid-19 recovery.</p>
<p>Job opportunities</p>	<p>Advisory activities for corporations, financial institutions and policy makers.</p>



Composition of the research group	11 Full Professors 13 Associated Professors 0 Assistant Professors 48 PhD Students
Name of the research directors	Alessandra Oppio; Mario Calderini

Contacts
<p>Contact of the phd coordinator: prof. Mariacristina Giambruno e-mail: mariacristina.giambruno@polimi.it; tel. +39 02.2399.5645</p> <p>Research directors prof. Alessandra Oppio e-mail: alessandra.oppio@polimi.it prof. Mario Calderini e-mail: Mario.calderini@polimi.it</p> <p>Contact in the PhD Office at DASTU: <i>dr. Marina Bonaventura</i> E-mail: marina.bonaventura@polimi.it; tel. +39/02/2399.5165</p> <p><i>Marilena Mastalli</i> e-mail: marilena.mastalli@polimi.it; tel. +39/02/2399.9395</p>

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	597.5 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
<p>List of Universities, Companies, Agencies and/or National or International Institutions that are cooperating in the research:</p> <ol style="list-style-type: none"> 1.National Technical University of Athens (N.T.U.A.), Greece 2.Departamento de Historia del Arte, Universitat de València, Spain 3.Department of Architectural Composition, Universidad de Castilla-La Mancha 4.École Nationale supérieure d'architecture de Paris-La Villette (ENSAPLV), France



5.Faculdade de Arquitectura da Universidade do Porto, Portugal

6.Université Paris I - Pantheon - Sorbonne, Parigi, France

7.Universidad de Sevilla, Departamento de Historia de América, Spain

8.ISPC-CNR Istituto di Scienza del Patrimonio Culturale (Italy)

9.ISCR Istituto Superiore per la conservazione e il restauro (già ICR), Roma

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 ("DOTE"):

1st year: max **1.624,30 euro**

2nd year: max **1.624,30 euro**

3rd year: max **1.624,30 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 take part in these activities, within the limits allowed by the regulations.

Computer availability:

In the PhD candidates room are available workstations for shared use, connected with the printer

All the PhD students can use their own laptop with the wireless connection.

Workstations and other equipment are available in the various laboratories linked with the doctoral programme.