







Annex 1 (integral part of the call for admission to the PhD course Architecture and Arts - PhD School luav a.y. 2023/2024). Scholarships co-funded by the NRRP Ministerial Decree no.117/2023









enhancement of research results and intellectual property rights;

- d) providing for the implementation of educational activities for linguistic and IT improvement, for research management and knowledge of the European and international research systems, for the enhancement of research results and intellectual property rights;
- e) promoting, with due respect for intellectual property, the enhancement of research results through an adequate circulation of the results pursued, according to the principles "Open science" and "FAIR Data".
- f) ensuring the respect of the horizontal principles of the RRP (environmental sustainability; sustainable development; equal opportunities and non-discrimination; accessibility for people with disabilities).

At the end of the selection process, the Italian Ministry for University and Research (MUR) will verify the eligibility of the projects and the Italian National Agency for the Evaluation of Universities and Research Institutes (ANVUR) will verify the compliance with the requirements of Ministerial Decree no. 117/2023. Whether these checks are positively completed, MUR allocates the funding to the University. The assignment of scholarships referred to in this project is therefore to be considered "with condition" of the positive evaluation of both consistency and eligibility and the allocation of ministerial funds.

The revocation of the scholarship applies in the following cases:

- a) the Ph.D. programme is realised in a different way from the project admitted to funding, if the necessary authorisation from the MUR has not been requested beforehand and subsequently granted;
- b) failure to complete the Ph.D. course (three-year duration) with reference to the minimum period of study and research at the company or abroad.

Specific obligations of Ph.D. candidates

In addition to the requirements established in the Regulations of the Doctoral School of Università luav applicable to all Ph.D. candidates, and in compliance with the rules of Ministerial Decree no. 117/2023, Ph.D. candidates in the framework of the present call must also undertake to:

- submit a report on a six-month basis with the timesheet of their activities (organized by month spent at the company, the research centre, at a Public Administration, abroad) and a summary of the most important tasks, also stating that these tasks are in compliance with the principle of "Do no significant harm". The reporting will be performed through an online platform using the template provided;
- complete the required mandatory periods of study and research at the company and abroad as in the table above;
- guarantee the respect of the obligations in terms of communication and information as provided by the art. 34 of Regulation (EU) 2021/241, indicating in all the documents that the Programme is funded in the frame of the RRP, with explicit reference to the funding by the European Union and the NextGenerationEU initiative, including in the papers the EU logo, and also suitably share and promote the Programme online and on social media in line with what provided by the Communication Strategy of the RRP.
- respect the principle of not doing significant harm (DNSH) to environment, in accordance with Article 17 of Regulation (EU) 2020/852.

ENTERPRISES ADHERING TO THE PROGRAMME AND RESEARCH THEMES PROPOSED

Associazione Confesercenti di Torino e Provincia (Turin)

District of Commerce and proximity economies for urban and territorial regeneration

Proximity is the more effective dimension to reconsider the urban and territorial regeneration investments included in the National Recovery and Resilience Plan, but also in ordinary national, regional or European policies. It is the arena in which to experiment new governance and management models that can make active policies in support of proximity services more successful and sustainable, through the establishment of public-private partnerships. Social cohesion, local development and environmental sustainability are also the main pillars in defining the development strategies of the Districts of Commerce (Business Improvement Districts), which are now well-established nationwide tools to deal with the rapid transformation of cities and territories due to the impacts of digitalization and the emergence of the digital networks and platforms capitalism, as the main players in tertiary economies.

Starting from the analysis of district policies in Piedmont, Lombardy and the Veneto Region, the research will focus on the main emerging themes (commercial desertification, use of public space, impacts and governance of logistics, retail as a social infrastructure, etc.), investigating some of the solutions provided









at a national and international level – within the fields of management and urban planning – to define guidelines to support the transition of the Districts of Commerce towards the "Districts of the local economies".

Studio S.r.l. Società benefit (Riese Pio X, Treviso) and Provincia congregazione F.S.C – Istituti Filippin (Rome)

The socio-urban role of architectural complexes headed by religious bodies in the implementation of sustainable and resilient urban welfare processes in the Italian territory.

The Italian territory, in the numerous urban and landscape contexts which it is composed, has found throughout history a dynamic balance with the articulation of various categories of stakeholders, whom have concretely defined their presence and influence through the construction of architectural manufacts. A distinctive role has been played by the religious orders, the congregations, the communities involved in the network of subjects that belong to the denominations of Christian-Catholic matrix. Convents, hermitages, monastic complexes, but also oratories, cultural centers, multifunctional spaces, as well as places of worship: countless objects, often in places crucial from the urban-territorial point of view, of relevant dimensions in relation to the surrounding fabric, built-in with the precise purpose of acting as attractors both for a pastoral message and for a social and socio-urban project. This dynamic, which up to the impulse of the Second Vatican Council has expanded its scope and its work, is experiencing in recent decades an unstoppable crisis that affects it on every aspect. Religious bodies do not have the instruments of control of the goods that they are responsible for, both in terms of managing the growing administrative and technical complexity necessary to ensure usability and economic sustainability, relating to drastic reduction of the dynamics of active participation in religious, cultural and social proposals by local communities (primary factor in terms of confessional). This phenomenon can be traced back to an increasingly changeable and disintegrating horizon, whose identity is increasingly difficult to orientate towards common factors of aggregation and identification of individuals under every level: cultural, political, value, religious. One wonders, therefore, whether in this context it is possible to identify a set of components that have particularly created distress among religious bodies in the socio-urban management of their real estate, around which communities have historically recognized and which served as a coefficient of development of the same in every relational, civil and clearly confessional. Once identified, can these factors lay the foundation for a new point of view able to indicate directions of collaboration between the public and confessional spheres in the shared, participatory, sustainable enhancement of their property assets? What is the role for local communities of reference in a horizon like the one described above?

FERCAM spa (Bozen, South Tyrol)

Scenarios for goods in motion. A study to promote reuse and recycling processes in transport supply chains.

Since 2020, after a long crisis, Italy has been exporting more than it imports: in 2021, goods and services were exchanged with the rest of the world for a total value of over 1,100 billion. For companies, the system of infrastructures, standards, artefacts, and services related to transport is one of the pillars of development. And the way this system is conceived and organized has a significant impact on the environment and the territory in general and the economy of companies. The research aims to study the freight transport system as an exemplary case history, to improve efficiency and environmental impact as well as to optimize processes and services also through recycling and reuse of materials, proposing scenarios that can bring a contribution to innovation in freight transport processes and services through regenerated materials and artefacts. The research area covers the fields of systemic design, service, and process design, focusing on the materials used and the possibilities of optimizing these processes. The research activities will concern analysis, mapping, as well as practical experimentation to propose sustainable innovation trajectories for the supply chain.

Fondazione Eni Enrico Mattei – FEEM (Milan) Adaptation of coastal areas to climate change

The research project is calibrated to the current challenges of post-sustainability and climate change, current conditions are the result of factors, impacts and pressures that determine such a high and difficult to read complexity that studies of traditional mono-disciplines are no longer sufficient to control, plan and manage unexpected new situations and conditions. The need therefore strongly emerges for a new









systemic, over-disciplinary, project-oriented approach, based on the mingling of knowledge, a form of new polytechnic knowledge suitable for the era of great choices, that of post-sustainability.

The perspective in which to insert the research is that of reconsidering the blue planet, of a new image of Blue Marble, within the Blue Century, placing Italy in a vanguard position in the Race to the Sea, considering the great open prospects of Blue Growth, of the Sustainable Blue Economy. Coastal areas and the sea today have enormous strategic importance: the current value of maritime space is linked to its commercial functionality and its nature as a provider of resources. The research project aims to think and design maritime space as the "prime mover" of everything that happens in terrestrial space and in the land-sea contact point. It is a question of building an application model in which characteristics, potential and vulnerabilities of one and the other overlap and interpenetrate. The Sea is seen as the last "global common" of Humanity and, precisely for this reason, as a space to be protected and organized to prevent it from becoming the site of global competition.

IMQ e Ambiente srl (Venice)

1. Product sustainability

The PhD research may be developed on the product's life cycle analysis for some production chains, in order to assess the impact of Critical Materials and more sustainable eco-design processes. In the current scenario, manufacturing companies in all supply chains must report on their energy performance, climate-changing gas emissions and raw materials availability. It is therefore essential to analyse the total production process system from the supply phase, through the industrial process to packaging and distribution, sometimes even including upcycle at the end of the product's life. Europe has issued various directives in specialised sectors, which guide production choices. Furthermore, finance itself today demands specific data on the production chain when granting credit or acquiring company shares.

The interest, therefore, is to develop alternative but more sustainable choices already at the planning stage. In such a course of study, the data becomes the fundamental part of the process, whereby the digitisation and transparency of the same make it possible to analyse scenarios and make concrete eco-design proposals. The doctorate wants to investigate the opportunities for methods that can go beyond the current LCA assessment models of specific supply chains, with punctual applications that lead to effective improvements for the product.

2. Sustainability of the territory

The research will aim to develop a methodology for analyzing different intervention scenarios capable of improving respect for the environmental and natural context and for the European Taxonomy, which today promotes objectives useful for reducing climate-altering gases by 55% by 2030. Real projects of interventions in the building design and planning field will be used as case studies. In addition to the detailed analysis of environmental and energy performance, it will also be interesting to use spatial and satellite data. In this way, the PhD student will acquire skills in the use of tools for energy simulation and three-dimensional modeling, as well as in the application of life cycle assessment (LCA) methods, sustainable design techniques and DNSH assessment (do not significant harm).

NOT-Architecture S.t.p. S.r.l. (Conegliano, Treviso)

Generative design and AI

Generative design uses algorithms and models to produce optimal design solutions. It allows the exploration of a wide range of possibilities and saves time. It ensures that product or system standards are met and that requirements and constraints are respected. Therefore, generative design offers many possibilities for development and innovation in the technological design of architecture, production and management of the built environment.

The Ph.D. focuses on generative design processes set on an iterative cycle: the use of Visual Programming Language (V.P.L.), the definition of design parameters, system requirements and constraints, and then the feeding of generation algorithms and the exploration of possible configurations. A.I. for topological optimisation, machine learning and guided evolution. Analysis and evaluation of design solutions. Modification of design parameters and/or requirements and iteration of the generation process. The Ph.D. will develop this generative design process for managing the sustainability, resilience and safety of the built heritage.

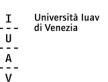
Pilkington Italia s.p.a. (San Salvo, Chieti)

1. Circular economy and sustainability of flat glass









The circular economy of glass is based on the concepts of recycling, reuse and waste reduction in order to maximise efficiency and reduce the environmental impact related to its life cycle. Glass is an inert and infinitely recyclable material, but there is no single type of glass. Therefore, recovering, recognising types of glass and directing them towards supply chains that exclude downcycling is far from simple.

As it traverses the paths of the circular economy, glass risks losing quality and being contaminated by other materials with which it shares part of the life cycle. Glass, which is used increasingly pervasively in various fields, lacks systematic solutions for its valorisation.

The PhD will describe the circular economy of flat glass, especially with reference to Pilkington Italia's production. Good practices, case studies, current legislation and its limitations, and ongoing experiments to maximise the efficiency of circular economy schemes will be identified and studied. The doctoral student will have to develop an analytical framework of standards useful for the valorisation of the circular economy objectives of flat glass.

The PhD student will also examine the reduction of energy consumption and CO2 emission of production processes. The study will describe and valorise the supply chains, methods and techniques for managing production and transformation processes. The flat glass will be described in terms of the circular economy.

2. Design and development of glass radiant panels for indoor and outdoor use

The research will investigate the possibility of replacing heating systems that use fossil energy with glass radiant systems powered by energy from renewable sources. These systems will be designed for the residential sector and can be used both indoors and outdoors. In particular, the research will analyse the use of these systems in active glazing (integrated in windows and doors) and in indoor radiant panels.

The characteristics and technical performance as well as the design of the component (screen printing, digital printing, bending or surface treatments) will be studied. The entire production and use chain of the proposed innovative system will be analysed, taking into account the different actors involved: glassmaker, architectural designer, thermo-technical designer, window and door fitter, installer.

The technical-administrative implications of marketing, electrical safety, CE marking will be considered. In addition, an economic cost-benefit assessment will be carried out, under various usage scenarios. The compatibility of the proposed system with building envelope systems according to building regulations and current legislation as well as its durability and environmental impacts related to its production and use will be assessed.

Regione del Veneto ULSS3 (Venice)

1. Customisation and automation of spatial and functional design processes and procedures in ULSS 3 hospitals

The use of A.I. to automate spatial-functional design processes and procedures offers numerous advantages. Using these tools for hospital design is as important as the design object is complex. Methods and techniques for process, strategy and project management contribute to more effective, efficient and patient-centred care environments. With reference to the needs of ULSS 3, the Ph.D. will integrate digital methods and technologies for the customisation and automation of spatial and functional design processes and procedures of hospital facilities.

The use of advanced algorithms will help optimise the use of space: this may include the layout of clinical rooms, corridor design, allocation of wards and offices (and so on). This will aim to improve the efficiency and usability of the built space, while reducing travel distances for staff and improving accessibility for patients.

The Ph.D. will develop and describe the benefits of this methodology by focusing on customised design, space optimisation and operational efficiency. The Ph.D. will provide elements for the design of an improved patient experience, improved safety and regulatory compliance.

2. Customisation and automation of physical technical and environmental design processes and procedures of ULSS 3 hospitals

The use of BIM and advanced calculation algorithms for the automation of environmental physical design processes and procedures offers numerous advantages. The use of these tools and the development of virtual models of the systems make it possible: to design and visualise the interconnection of the various systems; to assess energy efficiency, air distribution, lighting, climate control; and the advanced monitoring and control of hospital plant equipment.

With reference to the needs of ULSS 3, the PhD will integrate digital methods and technologies for the design and management of plant engineering in hospitals. The activity will refer to the entire building life cycle, from design to decommissioning, providing examples and guidelines for design and design









verification, as well as for energy simulation and plant management, and for plant maintenance and energy upgrading through BIM tools.

The PhD will develop the integration of digital methods and technologies to make the plant engineering equipment of hospitals more sustainable and with less environmental impact. To do this, the PhD will describe sustainability focusing on the quality over time of plant structures and focusing on the relationship between use and maintenance costs.

WayPoint s.r.l. (Verona) Dalla Mora Tiziano

Lighting technology (and lighting) between challenges and opportunities towards an ecological and digital transition

The research project is part of the current context between challenges and opportunities toward an environmental and digital transition, and proposes a curriculum in the field of lighting design, based on a close integration between the skills of the engineer, architect and designer. The intended scope ranges from lighting, luminaire design, management aimed at energy and emission saving, visual perception and comfort in indoor spaces.

The research is focused on defining a lighting system for domestic (or medical) applications that meets the criteria of energy conservation, minimal maintenance, improved visual comfort of users, and customization of the lighting mood.

The availability of new technologies for surveying and processing environmental information, together with the development of new communication technologies and, more generally, the Internet of Things (IoT), offers the possibility of investigating new approaches and technical solutions for lighting control in order to provide, both temporally and locally, the expected quantity and quality of light, while reducing the energy consumption of buildings for lighting.

Two areas of work with related objectives can be outlined. A first objective is to design, construct, and monitor lighting systems whose production and use cycle results in low carbon emissions, and then to integrate these devices into comfortable indoor environments, with emphasis on the interface between natural and artificial lighting.

A second goal is to devise and to study new strategies of lighting and control that focus on the central role of the user and take into account visual and nonvisual needs. Lighting and control solutions must also be optimized in terms of the building \$\pmu 39\$; energy performance.

The aim, then, is to approach lighting technology in an integrated way with design and environmental comfort strategies - referring to the visual and nonvisual needs of users - in the context of the progressive digitization of lighting.

Research may focus on natural light and artificial lighting, and in each case will consider their interaction. Research will be based on both numerical simulation and experimental and prototype activities. Activities will include laboratory tests, experiments conducted in real environments, and simulations with numerical models

YUPPIES SERVICES SRL (Modena)

Materials and Techniques in Conservation. Theoretical horizons and operational practices for Cultural Heritage.

The preservation project for Cultural Heritage places at the centre the problems related to the relationship between the effectiveness of the intervention - also in relation to performance coefficients, be they static or energetic or inherent to the themes of inclusivity and accessibility - and the compatibility of the latter with the cultural values (tangible and intangible) for which the asset is declared to be of notable cultural interest.

This polarity - at times conflicting - represents an important knot, as well as a challenge, in the operational practice and exploration of restoration and conservation theories by placing the relationship between constructive and theoretical knowledge at the centre.

The constant confrontation with the Enterprise during the research will be the central point as it will lead to formalising an operational synthesis of the concept of conservation, as expressed in the Code of Cultural Heritage in Art. 29 as "coherent, coordinated and planned activities of study, prevention, maintenance and restoration" and applying it on case studies selected by the company itself.

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Requirements	Degree obtained according to the old regulations; specialised/master's degree; second level AFAM degrees; degree obtained at foreign universities deemed suitable by the selection board. Please refer to Article 2 of the call for applications. Certification of knowledge of a foreign language at a minimum level of B2. Please refer to Article 6 of the call.	
Application Deadline	Tuesday 29th August 2023, 1.00 p.m. CEST	
Documentation to be uploaded via online procedure	Tuesday 29th August 2023, 1.00 p.m. CEST Compulsory documents under PENALTY OF EXCLUSION a) Annex 2: duly completed and signed application form b) double-sided photocopy of a valid identity or identification document; c) certification/attestation of knowledge of a foreign language at a minimum level of B2, a fo language at a minimum level of B2 or annex 3: a substitute declaration (please note that any false or misleading declarations made the substitute declaration of certification are subject to the penal sanctions provided for in a of Italian Presidential Decree no.445 of 28 December 2000. It is therefore advisable to com the form with the utmost care. The form cannot be replaced once the deadline for submittin application has expired); d) CV in A4 format including a list of any scientific publications; e) Annex 4: text relating to a research project coherent with the abovementioned research the using the form proposed in Annex 4 to this call, of which it forms an integral part; f) self-presentation video in mp4 format lasting no longer than three minutes where candid describe their research interests and the reasons why they apply for the Architecture and programme; g) (only for undergraduates who will obtain their degree at an Italian university by the deadlinenolment in the course referred to in Article 8 of the call) self-certification of the examinations taken including date and grade obtained; h) (only for candidates with a degree obtained abroad) degree diploma in the original language and its translation into Italian or English by the candidate; Optional, but highly recommended documents (FOR ALL CANDIDATES) a) dissertation with abstract of max. 1,000 characters (including spaces); b) portfolio (max.12 pages/folders); c) letter(s) of presentation drafted by university professors, scholars or renowned professional (max 2); d) any scientific publications (max. 5); e) any documentation deemed useful for assessing the eligibility of the qualification obtained at (e.g. course programmes, diploma supple	
Admission	Evaluation of qualifications, interview	









Evaluation Criteria

Evaluation of qualifications: max. 40 points

Evaluation indicators:

- relevance of the candidates' qualifications to the profiles characterising doctoral research as described in this annex: max. 10 points;
- relevance of the candidates' previous work and/or research experience to the profiles characterising doctoral research as described in this annex: max. 10 points;
- relevance of the proposed research projecy to the profiles characterising doctoral research as described in this annex: max. 20 points.

Candidates with a score of 22/40 are admitted to the interview.

Interview: max. 60 points

Evaluation indicators:

- demonstration of scientific preparation in the disciplines of the course, in particular in the research project pursuant to Article 4 paragraph 1 point e) of the call: max. 30 points
- promptness and dialectical and critical ability in answering questions: max. 30 points.

Applicants with a final overall score of 60/100 are eligible for admission to the course.