POLITECNICO DI MILANO

PhD in ARCHITETTURA, INGEGNERIA DELLE COSTRUZIONI E AMBIENTE COSTRUITO / ARCHITECTURE, BUILT ENVIRONMENT AND CONSTRUCTION ENGINEERING - 41st cycle

THEMATIC Research Field: ENHANCING STUDENT HOUSING ACCESSIBILITY AND AFFORDABILITY: A META-DESIGN TOOL

Monthly net income of PhDscholarship (max 36 months)
1400.0 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	In Europe, the affordability and accessibility of student housing are issues of current concern, to the extent that they have been designated as strategic goals of the European Commission. These goals are to promote affordable and environmentally sustainable buildings, create new jobs and improve quality of life. According to the European Student Living Monitor, nearly two-thirds of university students suffer from financial stress. This phenomenon is also confirmed by recent EU surveys, which show that more than 10 percent of young people between the ages of 15 and 29 allocate 40 percent or more of their income to housing expenses. The data indicates that the ability to secure housing that is both affordable and of a suitable quality is a matter of primary importance. Within the welfare state of many countries, affordability of student housing is a constitutional commitment related to the right to housing and the right to study. This issue is contextualized within a multifaceted framework that includes complex phenomena such as globalization, gentrification, economic recession, urbanization processes, etc. Defining affordability exclusively as a simple relationship between income and housing cost leads to the exclusion of many other indicators that contribute to the correct interpretation of

	this phenomenon. In the development of housing policies aimed at promoting affordability, various methodological approaches have been developed, mainly based on economic or political paradigms and variables, recognizing a relative importance to the role of housing construction costs. University residences, to become effective social and supportive infrastructures for temporary housing, must possess certain architectural and construction characteristics. These operations necessitate substantial investment, with the average construction cost having increased significantly in recent years. This increase cannot be fully attributed to rising prices of raw materials, energy, and soils. Given the limited availability of housing places and the strategic role that these institutions play in the context of third-level education, the research is intended to address the affordability and accessibility of student housing on the design level by investigating a plurality of levels, from those involving processes, such as urban policies, to those pertaining to the product, such as the nature and cost of the architectural intervention. The research aims to ascertain the extent to which architectural design can plan, manage and control criteria, paradigms and ways to achieve low-cost high-quality buildings. The ultimate objective of the research is to develop a multi-criteria tool to support meta-design, to direct these interventions toward solutions based on constructive affordability and easy accessibility.
Methods and techniques that will be developed and used to carry out the research	The research is grounded in an initial curiosity-driven phase, with the objective of providing a comprehensive state of the art on the topic of accessibility and affordability of Student Housing in the international arena. Subsequent phases of the research will involve a transition towards applied and experimental research methodologies. The research assumes, in its inception phase, the development of basic knowledge aimed at the formation of a cultural and scientific awareness of the topic being researched, aimed at governing the complexity of the transformation processes of the built environment, considering both the immaterial level (information and data management) and the material level

	(materials and construction solutions). Research and innovation activities must respond to and actively support the development of an evolving framework shaped by societal challenges, policy and regulatory drivers, and current technological and industry trends, taken as both challenges and opportunities. Specifically, the research activity aims to develop a digital meta-design prevalence tool to calibrate the level of accessibility and affordability of university housing. To "calibrate" such a tool, case studies will be selected, indicators and paradigms defined to be validated with professional firms (Kempe Thill, Lacaton &Vassal, Peris +Toral, etc.) and the Real Estate, Construction and Development Division of the Politecnico di Milano that have been working on the issue for years.
Educational objectives	The objective of this doctoral program is to facilitate the acquisition of interdisciplinary knowledge and skills in the scientific domain of architectural, technological, and environmental design. To this end, the candidate will be introduced to cooperative endeavors in a competitive environment (HOME_Lab) and invited to harness their creativity to achieve research goals, going beyond the limits of a scientific discipline, interacting and learning with researchers and colleagues. Consequently, they are compelled to identify and engage with potential stakeholders in their respective fields. The objective of the fellowship is to develop a profile that possesses the capacity to address the intricacies inherent in the theme of university residence within the context of an architectural project. This profile is expected to demonstrate proficiency in a range of disciplines, including economics, architecture, urban planning, and technology, thereby ensuring a comprehensive and multidisciplinary approach to the project. It follows that the subject must possess the capacity to navigate the manifold phenomena associated with this specific form of provisional habitation.
Job opportunities	The ABC-PhD program provides an opportunity to acquire advanced scientific knowledge, R&D management skills and global communication skills in English. Phd

	Candidates are highly qualified to hold positions in top international universities, research centers, architectural and engineering firms, and public institutions. ABC doctors are recognized for their proficiency in problem solving, their capacity to transform the built environment, their ability to design complex buildings, their aptitude for handling complex situations, and their commitment to applying critical thinking to provide reliable solutions. The program strategically aligns with the research and innovation goals announced by the European Commission, which aims to promote environmentally sustainable buildings, create jobs and improve quality of life. Today, the topic of university housing is constantly evolving, involving numerous investors. These support structures, frequently termed “incubators for education and culture”, are of paramount importance, despite the scarcity of available housing. In view of the considerable demand that such buildings will experience in the future, large real estate and investment funds have also expressed a heightened level of interest in this sector. The professional profile that emerges may facilitate straightforward employment within the hospitality industry.
Composition of the research group	1 Full Professors 2 Associated Professors 1 Assistant Professors 3 PhD Students
Name of the research directors	Oscar Bellini

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Additional support - Financial aid per PhD student per year (gross amount)	
Housing - Foreign Students	--
Housing - Out-of-town residents	--

Scholarship Increase for a period abroad	
Amount monthly	700.0 €
By number of months	6

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

Additional support: **Budget for the research activity (only for positions supported by scholarship):**

total amount Euro 5.707,20 per student.
In detail:
- 1st year Euro 1.902,40
- 2nd year Euro 1.902,40
- 3rd year Euro 1.902,40

Additional information about the organization and regulations of ABC-PhD programme can be found in the Regulations for the 41st Cycle of ABC-PhD: download is available at link: https://www.dottorato.polimi.it/en/phd-programmes.

Additional information about ABC department and ABC-PhD programme: available at link: https://www.dabc.polimi.it/

Desk availability: The ABC department provides non-permanent desks to be temporarily booked in common PhD rooms.