



# PhD in ARCHITETTURA, INGEGNERIA DELLE COSTRUZIONI E AMBIENTE COSTRUITO / ARCHITECTURE, BUILT ENVIRONMENT AND CONSTRUCTION ENGINEERING - 38th cycle

Number of scholarship offered	14
Department	DIPARTIMENTO DI ARCHITETTURA, INGEGNERIA DELLE COSTRUZIONI E AMBIENTE COSTRUITO

## Description of the PhD Programme

The Doctoral Program on Architecture, Built Environment and Construction Engineering (ABC-PhD) was established in 2012, heritage of five other programs active since the first institution of Dottorato di Ricerca in Italy that progressively merged in one with the aim to realize a national Point of Reference for training researchers and experts in our fields (progressively reaching this target).

Our vision wishes our PhD holders to become self-sufficient, independent "actors", able to gain as scientist, as intellectuals, as professionals, as entrepreneurs an outstanding position at an international level. ABC-PhD is one of the most multidisciplinary PhD program in Italy (it refers to 20 different scientific sectors) and trains about one hundred PhD Candidates (1/3 new ones each year).

Our Candidates are trained to face complex questions, to develop in depth analysis and reliable models (theories) of complex (physical, economic, environmental or social) systems and to innovate.

Their natural passion and their attitude toward innovation works as an active transmission system and activate a two-way knowledge transfer between the Academy and its stakeholders.

After their training, ABC-PhD Doctors are expected to be endowed not only with a high-level scientific knowledge and a significant experience in Research and Development (R&D) activities, but also with proven communication and management skills, and to become self-sufficient, independent "actors".

For the sake of simplicity, we have organized their topics in six - interacting and reciprocally empowering Strategic Research Lines:

- Innovative design for architecture, spaces and services: health, education, inclusion, safety and emergency
- Technological and Digital transformation for built environment and construction industry
- Advanced materials and components, clean tech, innovative manufacturing technology for



buildings and built environment

- Risks mitigation strategies for built environment
- History, technology and management of cultural heritage and landscape
- Cooperation, R&D and Technology Transfer for emerging countries (Africa)

More details about the specific research projects to be developed can be found at  
<http://www.abc.polimi.it/it/didattica/dottorato/> and <https://beep.metid.polimi.it/it/web/abcphd/home>



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**OPEN SUBJECT Research Field: PHD IN ARCHITECTURE, BUILT ENVIRONMENT AND  
CONSTRUCTION ENGINEERING (ABC-PHD)**

<b>Monthly net income of PhDscholarship (max 36 months)</b>
<b>€ 1275.0</b>
<p style="font-size: small;">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.</p>

<b>Context of the research activity</b>	
<b>Motivation and objectives of the research in this field</b>	<p>Our mission is to train PhD Holders able to reach outstanding positions at an international level not only as scientist or intellectuals but also as professionals or entrepreneurs in one of the quoted research fields. PhD Candidates are expected to refine their skills and to reach a cutting-edge level of knowledge about their research topics and to acquire a multidisciplinary character, to enhance their proficiency in scientific communication, research management and other transferable skills and to become active part of a scientific community. Moreover, they are expected to produce a significant, original contribution to their field, to organize this contribution in a dissertation (the PhD Thesis) and to defend it 'viva voce' (publicly) in front of a committee of experts.</p>
<b>Methods and techniques that will be developed and used to carry out the research</b>	<p>Candidates without a pre-defined research topic shall plan their research and training activities and define the specific methodologies to be used to find the answer to their research question, immediately after the official start of their PhD Programme, in accordance with their Supervisors.</p> <p>The plan and the methodologies will be detailed in the PhD Agreement, giving evidence of their aims and of the</p>



	<p>global amount of time to be spent in research, training and possible other activities.</p> <p>The PhD Agreement will be endorsed by Candidate's Supervisor, and reviewed and approved by the Board of Professors of the ABC-PhD Programme.</p>
<p><b>Educational objectives</b></p>	<p>ABC-PhD Candidates are expected to produce knowledge advancements in their scientific field. Moreover, they are raised to be resilient, not frightened by the uncertainty and failure risks of innovations, trained in communication, management, networking and other transferrable skills, that are fundamental for doing research in this complex world. They are taught to cooperate in a competitive environment and to exploit their creativity to reach their goal, going beyond the limits of one scientific discipline, interacting and learning from other researchers and colleagues. Eventually, they are pushed to find out (and to network with) the possible stakeholders of their work. We purport that the best value for the Candidate and for the Program itself is the reward given by the chance of a practical application of the knowledge advancements realized. With this experience, ABC-PhD Doctors are expected to acquire the capacity to shoulder the responsibilities of the activities listed in the PhD Agreement, to plan and to manage control tasks, to help the development and the critical optimization of policies and projects, to innovate: in particular about the PhD thesis topic, in general about the many sectors of Architecture, Built Environment and Construction Engineering and in all the most critical subjects related to the sustainable transformation and management of the Built Environment (environmental, economic, social and cultural sustainability).</p>
<p><b>Job opportunities</b></p>	<p>The holder of an ABC-PhD will gain high-level scientific knowledge, significant experience and proven R&amp;D management skills, transferrable to other activities. This, together with the habit of communicating and working in English, acquired interacting with colleague at a global scale, during visits and stays abroad, and a deep</p>



	<p>knowledge of the academic world qualifies the Doctorate for positions offered by the best international universities and research centres.</p> <p>ABC-PhD experience, nevertheless, will offer the best occupational opportunities also for employments in architectural and engineering design enterprises, in public bodies and wherever highly qualified personnel (at an international level), specific competencies at the highest level, the attitudes and the network of a researcher is acknowledged. The more the Candidate, during the three PhD years, has taken the opportunities to stay in touch with the stakeholders of actual (or future!) societal needs and to operate real knowledge transfer, the more this comes true.</p> <p>ABC-PhD holders, in fact, are problem-setters, trained to model complex environments, to understand complex questions and to apply critical thinking, and problem solvers, trained to turn uncertainty in methodology and doubts in reliable solutions.</p>
<b>Composition of the research group</b>	<p>43 Full Professors                  84 Associated Professors                  38 Assistant Professors                  164 PhD Students</p>
<b>Name of the research directors</b>	<p>Prof. M. Scaioni (Head of ABC-PhD programme)</p>

<b>Contacts</b>	
<p>ABC-PhD Office                  email: dottorato-dabc@polimi.it</p>	

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

<b>Scholarship Increase for a period abroad</b>	
<b>Amount monthly</b>	637.5 €
<b>By number of months</b>	6

<b>Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information</b>
<p><b>Additional support:</b></p>



**Budget for the research activity:**

total amount Euro 5,197.62 per student

In detail:

- 1st year Euro 1,732.54
- 2nd year Euro 1,732.54
- 3rd year Euro 1,732.54

**More details about expected research proposals and topics will be published at link:**

<https://beep.metid.polimi.it/it/web/abcphd/home>

**Additional information about the organization and regulations of ABC-PhD programme can be found in the Regulations for the 38th Cycle of ABC-PhD:**

download is available at link:

<https://beep.metid.polimi.it/web/abcphd/documenti-e-media>

**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.