



## PhD in DESIGN - 38th cycle

### **PARTENARIATO PNRR Research Field: INFORMATION DESIGN AND DATA VISUALIZATION FOR THE PUBLIC COMMUNICATION OF RESEARCHES ON BIODIVERSITY AND NATURE-BASED SOLUTIONS**

#### **Monthly net income of PhDscholarship (max 36 months)**

**€ 1250.0**

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 research will be strictly connected to the development of the Italian PNRR with a specific focus on the activities of the National Biodiversity Future Center.

In the last centuries, cities grew both in size and complexity. In the same way, the need for land and resources for their inhabitants grew. New solutions that avoid resource exploitation are required by embracing nature-based solutions to preserve cities' biodiversity and increase sustainability.

A growing corpus of data on urban biodiversity and on possible solutions and strategies is being produced, creating a complex and fragmented representation of the phenomenon.

New visual solutions are required to understand and explore such data. Information design and data visualization, combined with communication design approaches, will play a role in research goals and citizens' involvement.

The research and investigation will focus on identifying visual strategies to ease the exploration and the communication of the results collected by the National Biodiversity Future Center. It will be developed in close relationship with the affiliated researchers. Successful Ph.D. research projects are expected to develop: a) an overview of the stakeholders involved in the topic of urban biodiversity and their needs in accessing data; b) an analysis of the current technical and visual solution adopted in the field; c) an international assessment of open science approaches for the engagement of public



	<p>open science approaches for the engagement of public actors and d) the identification of efficient and sustainable solutions for providing a digital access to the produced data.</p> <p>To properly set up the research project, good knowledge of the communication design field is needed, particularly in information design and data visualization, both on the theoretical and application level. Knowledge of modern digital technologies related to the field is beneficial.</p>
<b>Methods and techniques that will be developed and used to carry out the research</b>	<p>The research will be developed through different methods and techniques, among which:</p> <ul style="list-style-type: none"> <li>- An analysis of current literature and case studies, with an in-depth analysis of technological solutions for the creation of visualizations on the web and their sustainability in the near future;</li> <li>- Experimental design workshop/sprints with researchers and stakeholders to identify design requirements;</li> <li>- An action-research approach, implying the design of visual solutions for case studies identified within the context of the National Biodiversity Future Center;</li> <li>- Identification and implementation of evaluation methods to assess the impact of the visual communication of data to the identified stakeholders.</li> </ul>
<b>Educational objectives</b>	<p>The program aims to train highly qualified researchers and professionals in Communication information design, with a specific focus on data visualization and its usage to ease communication between academia and the public/private sector. During the program, the Ph.D. candidate will have the opportunity to attend courses and seminars on design, design research, and research in general, developing specialized skills in the design discipline and the research profession. They will also have the opportunity to deal with different research methodologies, increasing their experience and knowledge of the tools and methods best suited to developing their research activity and subject. The candidate will benefit from being part of the DensityDesign Lab, a research group focused on information design and data visualization.</p>



<b>Job opportunities</b>	<p>At the end of his career, the candidate will obtain a professional and research background that they can exploit in public and private sectors in the following areas:</p> <ul style="list-style-type: none"> <li>- Data design. research and design of technological solutions that exploit and enhance user data</li> <li>- Research outreach. Identify and coordinate the creation of artifacts that ease the communication of scientific content.</li> <li>- Biodiversity and nature-based solution communication.</li> </ul> <p>During the Ph.D., the candidate will gain knowledge on those specific domains that are rapidly gaining relevance and bridge the gap with the communication field.</p>
<b>Composition of the research group</b>	0 Full Professors 0 Associated Professors 1 Assistant Professors 0 PhD Students
<b>Name of the research directors</b>	Michele Mauri

<b>Contacts</b>
email: michele.mauri@polimi.it

<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>	873.07 €
<b>By number of months</b>	6

<b>Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information</b>
<p>Educational activities (purchase of study books and material, funding for participation in courses, summer schools, workshops and conferences):</p> <p>financial aid per PhD student</p> <p>max 5.095,96 euros per student (total for 3 years)</p> <p>Teaching assistanship: availability of funding in recognition of supporting teaching activities by the PhD student there are various forms of financial aid both for research and teaching activities. The PhD student is encouraged to take part in these activities, within the limits allowed by the regulations.</p> <p>Computer availability: 1st year, 2nd year and 3rd year: Each research group will supply PhD</p>



student with a computer, if necessary.

Desk availability: 1st year, 2nd year and 3rd year: Each research group will supply phd student with a desk