

RESEARCH THEME

XL cycle – a.y. 2024/2025

Title of the doctoral research

Regenerative design beyond sustainability:
Integrating Bio-receptive and Biophilic Design in living environments

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Abstract

The research theme lies at the intersection of two emerging currents under the paradigm of regenerative design: bio-receptive design, which invites nature to actively participate in the creative process, resulting in materials and objects designed to be intentionally colonised by living organisms, and biophilic design, which seeks to create deep emotional and cognitive connection with nature through design. This perspective goes far beyond the concept of sustainability and aims to restore, revitalise and regenerate natural systems through innovative design practices.

The main goal of the research is to understand how these two approaches can work in synergy to develop innovative strategies for designing products, environments, and experiences that do not merely accommodate or emulate nature, but actively participate in an extended life cycle, promoting the regeneration of the natural environment and enriching human well-being.

Starting with a comprehensive review of existing theories and practices, the research will include the investigation into new materials that promote biological growth or are derived from sustainable sources and can be regenerated, the evaluation of user perceptions including empirical studies and qualitative analysis to understand how users interact with artifacts and experimental environments, the assessment of the impact of bio-receptive and biophilic solutions on the physical and psychological well-being of individuals and on environmental sustainability. A further area of interest involves exploring the role of computational design and digital technologies (design by data, algorithmic modelling, digital fabrication, etc.) in the development of regenerative living environment.

The submission of research proposals based on interdisciplinarity between the fields of interaction design, materials design and sustainability is encouraged.

Keywords

Bioreceptive Design, Biophilic Design, regenerative design