

BIODETAILS

9–

11 September

Convergences between Zoology and Design for Sustainable Innovation

Curated by

Carla Langella, Michela Sugni

20
26

Casa
Schuster,
Centro
Ambrosiano,
Piero Panighi
Room, Milan

The exhibition offers an immersive and interdisciplinary journey into the world of biomimicry applied to design, exploring how living organisms, with particular reference to animals, can inspire the creation of innovative, sustainable, and functional artifacts. The goal of the exhibition is therefore to show how the adaptive strategies of animals from different zoological taxa (such as echinoderms, insects, vertebrates, and even unicellular organisms) can be translated, through functional analogies, into artifacts capable of meeting the needs of contemporary society and the market, including sustainability, health, well-being, resilience, comfort, inclusion, and equity. The result of a collaboration between designers from the Hybrid Design Lab of the Department of Architecture at the University of Naples Federico II and zoologists from the Department of Environmental Science and Policy at the University of Milan, the project stems from the synergy between science and design culture. Indeed, the exhibition is the outcome of a multi-year integrated research and teaching activity, built upon a continuous and reciprocal exchange between zoological sciences and design. Among the objects on display, the exhibition features prototypes of biomimetic products developed by designers and students from the Professional Workshop course of the Master's Degree in Design for the Built Environment, in collaboration with researchers and students from the Animal Adaptations and Applications course of the Master's Degree in Biodiversity and Biological Evolution (BIOEVO), as well as with companies from various sectors. In addition to describing their functionality and how they respond to the needs of contemporary society and the market, the captions accompanying the objects include visual markers that trigger augmented reality content when scanned by visitors' smartphones. Through this multimedia information, visitors can access in-depth scientific insights regarding the morpho-functional adaptations of the natural models used as analogical references for the project, developed by BIOEVO students. In this way, the exhibition provides an integrated look into the zoological scientific principles and design approaches behind the displayed products, offering new insights into the perspectives of biomimicry and the relational processes between biological systems and design innovation. Understanding the specific organisms selected as natural models, their characteristics, and their functional adaptations, as well as the potential relevance of this knowledge to daily life, helps spread awareness of nature and biodiversity, promote attention to safeguarding delicate ecosystem balances, and support a culture of health protection for living beings and the planet. Biodetails is therefore not limited solely to the creative design of artifacts; it also embodies the essence of a transdisciplinary educational journey and project that fosters an active dialogue between students from entirely different fields, encouraging the development of hybrid skills rooted in the concept of 'lateral thinking'. In this sense, the educational and artistic path of Biodetails aims to enhance problem-solving methods among students using an indirect and creative approach, exploring unusual perspectives that break habitual mental frameworks and seek alternative, original solutions to stimulate innovation. Biodetails stages a future where nature is not interpreted merely as formal inspiration, but becomes a proactive interlocutor in hybrid design processes aimed at innovating industrial production in a conscious and sustainable way, within a *One Health* vision.

Promoted by

Hybrid Design Lab, Department of Architecture, University of Naples Federico II,
Department of Environmental Science and Policy and Master's Degree Programme in Biodiversity and Biological Evolution, University of Milan,
UZI-SIP Joint Congress: 85th National Congress of the Italian Zoological Union and 35th Congress of the Italian Society of Protistology, POT NEED - New Empathic Educational Design

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Simona Biraglia, Clarita Caliendo, Davide Formichella, Arianna Moxedano

Visual Design

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Exhibit Design

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UFCG Design Students

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