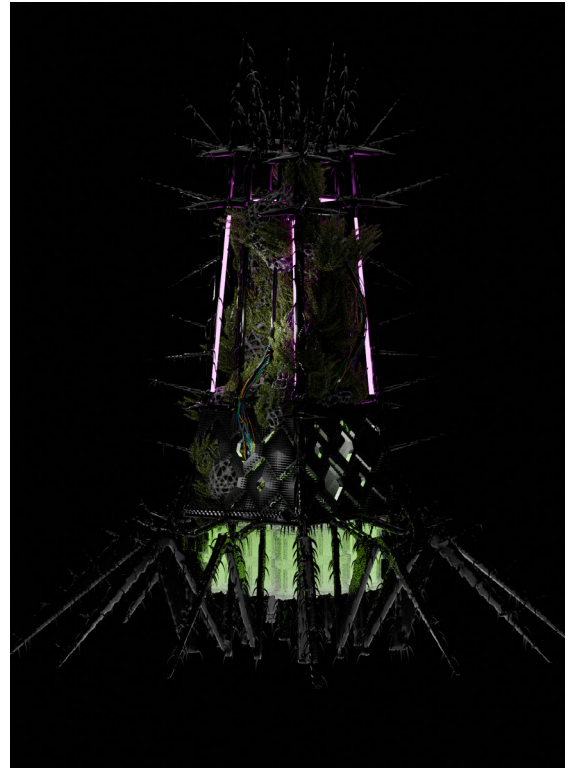


PRESS RELEASE

SPIKA: Living Architecture Re-Imagines Human-Nature Relationship at the 24th Triennale Milano International Exhibition

Milan, Italy – May 13, 2025 – As part of the 24th Triennale Milano International Exhibition titled *Inequalities*, **SPIKA** is a groundbreaking six-meter installation conceived and designed by Rachel Armstrong functioning as both fortress and ecosystem. Part of the *We the Bacteria: Notes Toward Biotic Architecture* exhibition curated by Beatriz Colomina and Mark Wigley, SPIKA reimagines architecture as an active participant in ecological cycles rather than a passive enclosure.



A Constructed and Living Prototype

SPIKA challenges traditional distinctions between the built environment and natural systems with its bold, barbed design. At its heart lies a living infrastructure, developed and constructed by a six-partner European consortium coordinated by Rachel Armstrong and KU Leuven and called **Mi-Hy (Microbial Hydroponics)**. The Mi-Hy project uses microbial fuel cells to transform waste into energy, nutrients, and plant factors through an innovative relationship with hydroponic plant roots. Mi-Hy's circularity challenges industrial agriculture's linear extraction process with an alternative: here, microbes can fix nitrogen that is easy for plants to use, while root exudates recruit microbial consortia that stabilize the acidity of the solution and defend against pathogens.

"SPIKA is not a monument to sustainability but a working prototype," explains project coordinator and lead Rachel Armstrong. "It's an invitation to change our expectations from control to collaboration, from extraction to regeneration."

An Architecture with a Narrative

More than a prototype, SPIKA comes with its own embedded narrative. Visitors will not only meet SPIKA's physical structure, but also the stories embedded in its materials, systems, and forms: From **microbial fuel cells** powering LEDs, across **advanced sensors** showing bioelectrical spikes, to **bioreceptive panels** inviting colonisation by local organisms. SPIKA is also accompanied by a **multi-part narrative** and a **dedicated online presence**, to which everyone but especially visitors who cannot join on site are warmly welcomed. The installation challenges conventional notions of cleanliness, waste, and human dominance. Its communities work at nature's pace, more precisely at the speed of microbial metabolism, which drives plant growth and biodiversity.

Innovation in the Face of Climate Change

The installation and project are part of the European Innovation Council's *CO₂ and Nitrogen Management and Valorisation Portfolio* – a curation of eight breakthrough projects and technologies aimed at restoring the balance of carbon and nitrogen in land and water systems. SPIKA proposes a regenerative architectural model capable of contributing to circular resource flows and ecological resilience. More than a structure, it is also a web of relationships where humans, microbes, plants, and technologies meet.

Join us. Reimagine cities where biodiversity thrives, where wilderness is respected, and where every action—yours included—helps rewrite the terms of our coexistence.

SPIKA will be on display as part of the *We the Bacteria* exhibition at the **24th Triennale Milano International Exhibition**, from **May 13 to November 9, 2025** and can be visited online at spika.mi-hy.eu.

For more information and inquiries contact:

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About the 24th Triennale Milano International Exhibition:

The 24th Triennale Milano International Exhibition, titled *Inequalities* (May 13 – November 9, 2025), is dedicated to the issue of the growing inequalities that characterize cities and the contemporary world. Through a series of exhibitions, special projects and public program events, the International Exhibition questions the global challenges related to the differences present in various spheres of existence: from economic to ethnic, from geographic origin to gender. Personalities from the world of art, design, architecture, collectives, cultural institutions, museums and research institutes from around the world are called upon to reflect on the theme with the aim of mapping inequalities and identifying the most advanced political projects for a society in which differences are a resource and a value to be recomposed into new forms of community.

About the Mi-Hy Consortium:

The Microbial Hydroponics (Mi-Hy) project is a 4-year project comprised of 6 partners: the Catholic University of Leuven (KU Leuven, Belgium), University of Southampton (UK), University of the West of England (UK), Center for Biological Research (CIB) at the Spanish National Research Council (Spain), Sony Computer Science Laboratories (France) and Biofaction (Austria). The project is part of the EIC CO₂ and Nitrogen Management and Valorisation Portfolio and funded by the European Union's Horizon Europe Framework Programme under the project ID 101081782. UK participants are supported by UKRI grants number 10079655 (SOTON) and 10078744 (UWE).

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