

# JOSUA PUTZKE

## AETHEROCOHEDRON

Immersing visitors in a dynamic environment, *Aetheroco-hedron* is a kinetic installation that invites an intuitive understanding of the concept that all elements and forces in the universe are fundamentally linked, constantly transforming while maintaining a coherent structure.

Its exploration of geometric forms in a synergistic system of entangled elements generates a powerful symbol that gestures towards ancient wisdom, mathematical principles and modern concepts of interconnectedness and correlation.

During his residency, Putzke was working in Mark Pauly's Geometric Computing Laboratory, where he engaged with researchers and collaborated on various projects. The original concept for this artwork drew from his early work, which focused on modular synergetic systems. He envisioned creating a kinetic "breathing sphere" and the use of motion in his work, in turn, inspired Pauly and his team as well.

They are now investigating the mathematical properties of polyhedral shapes, in line with the forms Putzke introduced with his kinetic installation, and are currently writing a conference paper based on these findings. Their research includes insights into how the duality of Platonic Solids – such as dodecahedron and icosahe-dron – can be realized in one object that maintains a coherent, interconnected structure throughout the transformation between states.

They named this new class of geometric structures Aetherocohedra, a compound word of 'Aether,' 'Co,' and 'Hedra.' In ancient Greek mythology and early physics, Aether was believed to be the fifth element, a pure, ethereal substance that is interwoven throughout the cosmos. 'Co' introduces the principle of dynamic coherence in continuity, and 'Hedra' refers to polyhedra, like the Platonic Solids.

*Aetheroco-hedron* can be seen as a poetic exploration of how we might imagine the structure of the invisible – the fluid nature of that non-binary state of matter at a quantum level, where all perceived reality is shaped and

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manifested through conscious observation. Staged with an interplay of light and shadow it references Plato's allegory of the cave, reflecting on the way we perceive and construct reality. The sculpture's ability to shift between different states of duality, while remaining complete at every stage, represents the interplay of cosmic forces. The sound design by the sound-artist Konchord is inspired by the song of birds being in constant coherent movement, circling along the sunrise since the beginning of time.

*Aetheroco-hedron* serves as a bridge between the tangible and intangible aspects of reality – a bridge from which we can visualize and contemplate the fundamental nature of the universe.

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**Josua Putzke** is a creator working with the tools of art, design, science and traditional crafts. Fascinated by the interface between the human mind and our mechanical reality – between the organic and the technical – he uses a variety of materials, machines, geometries, and mechanics to explore models and ideas; or Physical Poetics, as he calls it. His approach respects both scientific rigor and the mysteries of human experience, inviting viewers to explore complex ideas through a personal, intuitive lens.

► [josuaputzke.com](http://josuaputzke.com)

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### Credits of the work

Commissioned and produced within the framework of the EPFL-CDH Artist in Residence Program 2024, *Enter the Hyper-Scientific*, in conjunction with EPFL Geometric Computing Laboratory.

► [gcm.epfl.ch](http://gcm.epfl.ch)  
Sounddesign by Konchord  
► [konchord.com](http://konchord.com)

### ENTER THE HYPER-SCIENTIFIC

Initiated by the EPFL College of Humanities (CDH), amplified by EPFL Pavilions, and in partnership with the City of Lausanne, the EPFL – CDH Artist-in-Residence (AiR) Program Enter the Hyper-Scientific reflects the CDH mission of fostering transdisciplinary encounters and collaborations between artists and EPFL's scientific community. The program invites professional Swiss and international artists for three-month residencies to realize innovative and visionary projects at the intersection of art, science, and advanced technologies.

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