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Humanities & Arts

Publish Date : 2025-01-09

Bridge Cocoon at NYCU: A Poetic and Sustainable Architectural Marvel Garnering Prestigious Design Awards



Nestled by the Pond of Bald Cypress lies a hidden gem—a small bridge adorned with a bamboo structure resembling a cocoon. Its unique design beckons visitors to draw closer for a closer look. Entering from either end, one must bow slightly before gradually straightening up, only to be greeted by the sight of the tallest bamboo arch encircling the bridge in an all-bamboo embrace. (Photo Credit: Forest-Wood Archi-Tect.)

Edited by Chance Lai

Nestled by the Pond of Bald Cypress at National Yang Ming Chiao Tung University (NYCU) Chiaotung Campus, the “**Bridge Cocoon**” is a serene and artistic marvel that seems to grow organically from its surroundings. Seamlessly blending nature and craftsmanship, this exquisite structure garnered two prestigious accolades in 2024: the Grand Prize at the 7th **ADA Awards for Emerging Architects** and the **Golden Pin Design Award** for Best Design in the Spatial Design category. Recently, it was shortlisted for the globally renowned [Dezeen Awards](#), cementing its status as an architectural rising star.

Bamboo Arches: A Harmony of Nature and Craftsmanship

Designed by architect En-Kai Kuo from Forest-Wood Archi-Tect., the “Bridge Cocoon” employs the innovative “steam-bent bamboo” technique to craft its bamboo arch framework. The structure is adorned with natural elements such as tensile fabric and bamboo paper, enveloping the original steel pedestrian bridge with a cocoon-like exterior. Treated with advanced weather-resistant technology, the materials are waterproof, light-permeable, and textured with a drum-skin-like finish, turning the bridge into a poetic landmark on campus.

In an extraordinary move, the design integrates discarded fishing buoys reclaimed from the ocean into the bridge’s framework. The buoys bolster airflow within the structure using fluid mechanics and layered binding techniques. During the day, sunlight streams through, creating ever-changing shadows, while at night, the bridge is illuminated, resembling a cluster of fireflies nestled among the trees by the lake, adding a touch of romance to the campus nightscape.



By day, sunlight casts dancing shadows within. Crossing the bridge feels like embarking on a journey emerging from a cocoon. (Photo Credit: Forest-Wood Archi-Tect.)

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A Journey Beyond a Bridge: A Semi-Outdoor Space for Reflection

Inspired by the natural process of insect cocooning, the “Bridge Cocoon” transcends the traditional bridge definition. It is not merely a pathway but a semi-outdoor haven for rest and contemplation. Architect En-Kai Kuo reimagined the conventional wooden walkway on a small experimental scale, transforming a transit space into a destination. The structure embodies a harmonious blend of nature’s vitality and sustainability. It serves as a vessel for connecting people with their environment and is a testament to the coexistence of human-made structures and nature.



The biomimetic design extends to its imaginative integration of nighttime lighting. The lights are programmed to mimic fireflies’ gentle glow and fade, creating a slow, rhythmic pulsation. Inside, a pair of filament globe lights sway softly in the breeze, casting a delicate glow that evokes the imagery of a living heartbeat. (Photo Credit: Forest-Wood Archi-Tect.)

The innovative design and masterful craftsmanship of the “Bridge Cocoon” have earned widespread acclaim locally and internationally. Beyond its dual accolades in Taiwan, it was shortlisted in the Small Building category at the Dezeen Awards, bringing Taiwan’s architectural achievements to the global stage.

Discover the Magic of the “Bridge Cocoon”

If you’re visiting Hsinchu, don’t miss the chance to explore the “Bridge Cocoon” at NYCU’s Chiaotung campus. Stroll along the Pond of Bald Cypress, marvel at the interplay of sunlight and illumination, and experience how this artistic, sustainable, and poetic structure redefines the campus landscape. The “Bridge Cocoon” is more than architecture—a dancing journey with nature.

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