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Marine Biodiversity and Ecosystems

From Jellyfish to Corals: Understanding Symbiotic Interactions and Holobiont Resilience



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Time: 2026. 11. 26 Thu. 10:00

Venue: Auditorium, 1st Floor
Interdisciplinary Research Building
跨領域科技研究大樓1樓演講廳

Host: Dr. Chaolun Allen Chen 陳昭倫研究員

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Abstract

Our laboratory investigates the dynamics of cnidarian holobionts, focusing on how interactions among partners shape development, phenotype, and resilience to environmental change. Using the jellyfish *Cassiopea xamachana* as a model for co-development, we examine how different algal symbionts and their associated microbiomes influence host metamorphosis. Complementing this experimental approach, we use coral ancient DNA (coraDNA), metagenomics, sclerochronology, and geochemical analyses to reconstruct historical changes in coral-associated microbial communities across contrasting environmental conditions and timescales. By integrating experimental studies of symbiosis with historical reconstructions of coral holobiont dynamics, our research aims to identify the mechanisms underlying host-microbe interactions. Ultimately, this work seeks to advance our understanding of cnidarian symbiosis and inform microbiome-based strategies for coral conservation and restoration in a changing ocean.