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Microbial Diversity and Bioinformatics

# Ecological Genomics of Fungi

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Time: 2022. 09. 22 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. Yin-Ru Chiang 江殷儒研究員

~Attendee must wear mask~
~與會者請配戴口罩~

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## Abstract

Fungi rank third in terms of world's biomass (after plants and bacteria), can survive in almost any environment and play a major role in shaping their surroundings. These eukaryotic microorganisms possess a suite of fascinating adaptations including bioluminescence, pathogenicity and fermentations, but our knowledge about their evolution is limited. How did these traits evolve and which ecological (abiotic and biotic) factors drove such adaptations? This remains one of the most fascinating and practical questions in biology. I will present how my lab combine deep samping of various environmental niches across the continental island of Taiwan, whole genome sequencing, metabarcoding, isolate collection and resequencing to interrogate biogeography, ecology and evolution in various fungi including baker's yeast Saccharomyces cerevisiae, bioluminescent fungi *Mycena*, sea turtle pahotgen *Fusarium solani* species complex and recently discovered *Acrodontium* residing in the mucilage of carnivorous sundew plant *Drosera*. Comparing genomes and transcriptomes between and within populations of these species allows us to understand the fundamental processes by which one of the most diverse and dominant life forms on earth evolved. The results generated from our group will provide a solid foundation for studying fungal evolution and contribute to broader research communities.