中央研究院生物多樣性研究中心
Biodiversity Research Center, Academia Sinica
biodiv@gate.sinica.edu.tw
02-2789-9621

Evolutionary Genetics and Genomics

Collective Behaviors of Fire Ant Rafts (紅火蟻筏) and Black Soldier Fly Larvae (黑水虻) in Dynamic Fluid Environments

Mr. Hungtang Ko
柯鴻堂先生

PhD Candidate
Georgia Institute of Technology

Time: 2021. 12. 29 Wed. 11:00

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

Host: Dr. John Wang 王忠信副研究員

~Attendee must wear mask~
~與會者請配戴口罩~

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Abstract

Animal collectives must adapt to changing environments in order to survive. In this talk, I will present two systems for probing the collective behavior under external fluid flows. Fire ant rafts elongate and deform in water currents. Collectives of black soldier fly larvae loosen and become more porous as they are subjected to the airflow in fluidized beds. In both cases, we find that the behaviors of these collectives are strikingly different from traditional soft materials placed under the same conditions. We present experiments and simulations of these active materials and conclude that the active movement of the constituents is crucial to the response of the collectives.