

Transgenerational ocean acidification induced feminization in edible oysters

Date	17 Mar. (Fri.)
Time	16:00 (UTC+8)
Venue	3N01 & Zoom



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Global climate change can profoundly affect the sex determination and reproductive capacity in organisms, as well as the population structure in ecosystem processes. Ocean acidification (OA) has irreversible physiological and biochemical impacts on marine calcifiers, such as oysters. However, little is known whether and how transgenerational OA changes oyster sex ratio and fecundity. In this study, we used the ecologically and commercially important Portuguese oyster (*Crassostrea angulata*) as a model to investigate the transgenerational OA impact on the sex ratio and reproductive traits of successive generations. The filial generation from the parents exposed to OA had a significantly higher proportion of females than that from control parents. Nevertheless, progeny larval exposure history was negligible to the sex ratio. The OA-induced feminization can be inherited to the next two generations. These results could help us better understand the diversity of sex allocation and the dynamic population structure under future OA.



About speaker: Dang Xin

I am a final-year PhD student in Dr. Rajan's lab, Hong Kong Oyster Hatchery and Innovation Research Unit (HKO-HIRU). I am interested in the long-term and transgenerational impact of ocean acidification (OA) on oyster physiology, immunology and adaptive plasticity. By comprehensively using ecology, molecular cell biology, microbiology and bioinformatics approaches, I aim to investigate: 1) the effects and mechanisms of short-term OA on oyster immune tolerance and gut microbiome; 2) carry-over effects of long-term OA exposure on oyster sex differentiation and immune response to pathogens; 3) multigenerational OA effects on oyster adaptive plasticity.

All are welcome!