



The University of Hong Kong
School of Biological Sciences

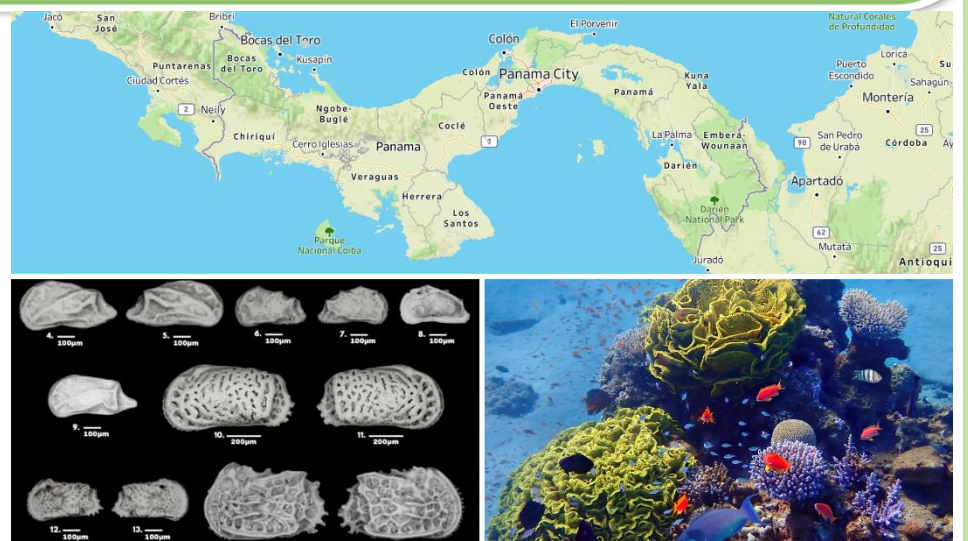
**Public
Seminar**

BRIDGING THE PAST AND PRESENT: THE IMPACT OF THE ISTHMIUS OF PANAMA ON THE FAUNAL DYNAMICS OF OSTRACODA

Date: Thurs 29th January 2026

Time: 4:15 pm

Venue: Zoom & 6N-11



About the speaker:

Kyawt Kay Thwe Aye (Kk) is a PhD candidate under Prof. Moriaki Yasuhara and Prof. David Baker. Her research uses ostracods to investigate tropical shallow marine biodiversity through time.



Abstract:

The closure of the Isthmus of Panama (4.25 – 2.8 Ma) was a pivotal tectonic event that connected the American continents and isolated the Caribbean Sea from the Tropical Eastern Pacific (TEP).

This isolation triggered a collapse in primary productivity, leading to the Caribbean Extinction Event. To date, the long-term impacts of these events on underrepresented taxa remain critically underexamined, limiting our understanding of the broader ecological and evolutionary consequences. My thesis explores how the closure of the Isthmus of Panama influenced the macroevolutionary, morphological, and ecological dynamics of Ostracoda, as well as its role in shaping modern biogeography and community structure across the Caribbean Sea and the TEP. Results indicate a complex multi-stage response to the closure event, with ostracods experiencing a double-peaked extinction at 3.39 Ma and 1.6 Ma, followed by a significant shift towards smaller body sizes after extinction. Furthermore, modern ostracod community structures are governed primarily by temperature and primary productivity, revealing a distinct faunal separation between the Caribbean and the TEP.

Given the current climate-driven declines in global productivity, understanding the response of tropical marine fauna in the fossil record to fluctuations in primary productivity can provide vital insights into the potential tipping points for future biodiversity crises.