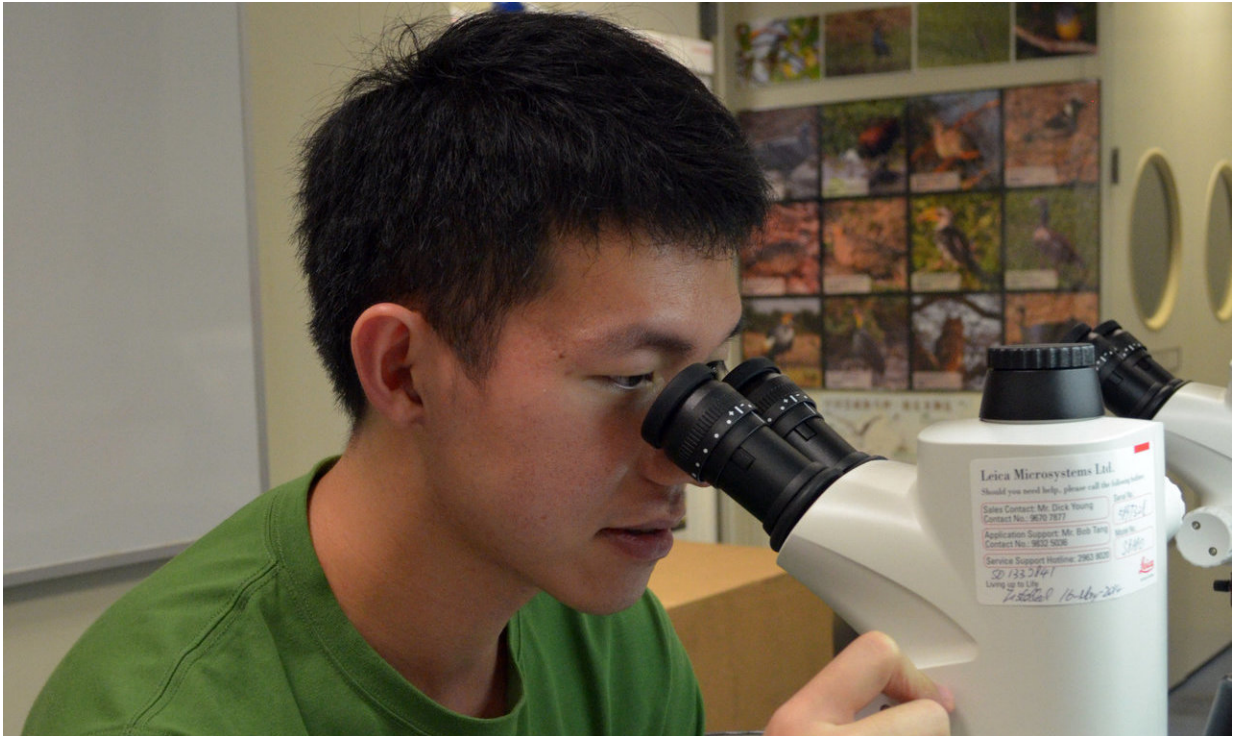


East Asian monsoon dynamics discovery

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Dr. Richard Cheung working in the laboratory at the School of Biological Sciences, The University of Hong Kong. Credit: The University of Hong Kong

In the online edition of *Geophysical Research Letters*, Dr. Cheung Ching Wa Richard, Dr. Moriaki Yasuhara, Dr. Briony Mamo and Dr. Hokuto Iwatani (from School of Biological Sciences and Swire Institute of Marine Science, the University of Hong Kong), in collaboration with scientists at Shimane University, Pusan National University, Korean

Institute of Geoscience and Mineral Resources, Kyoto University, and Shinshu University, reported their discovery on East Asian monsoon dynamics over the past 1,000 years.

The East Asian summer monsoon (EASM) is a determining factor of regional precipitation in East Asia that subsequently affects socioeconomic activities of regional populations such as agriculture. However, spatial and time-series trends of decadal- to centennial-scale East Asian summer monsoon strength over the last millennium remain poorly understood and often show great inconsistency among records from various places of East Asian region, even with precisely dated Chinese cave stalagmite records. Dr. Cheung, Dr. Yasuhara and their collaborators identified four pervasive East Asian summer monsoon strengthening events at 1250, 1450, 1550, and 1900 CE and found that oceanic and continental settings could partially explain spatial differences in Asian summer monsoon trends at this scale. Ocean sediments may better directly record past East Asian Summer Monsoon signals than terrestrial records. In addition, they found that global ocean circulation may be weakened during these East Asian summer monsoon events. These findings shed light on Asian monsoon dynamics in the past, present, and future in this rapidly changing climate.

The research group used fossil Foraminifera and Ostracoda preserved in a sediment core from the East Asian coast as model organisms to reconstruct the variability of the East Asian summer monsoon in the past, as these small (usually

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