

SEMINAR

THE ROLE OF CLIMATE CHANGE ON TROPICAL CYCLONES REPRESENTED BY HIGH-RESOLUTION EARTH SYSTEM MODEL SIMULATIONS

Speaker

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Abstract

Tropical cyclones (TCs), the generic name for typhoons, are among the most destructive natural hazards on earth. TCs existed on Earth in the past and will exist in the future as well. However, their characteristics such as geographic location, intensity, air-sea interaction, and hazards during the landfall can be changed in response to climate change. This talk will cover the limitation of simulating TCs, and changes in TC characteristics under different background conditions represented by the high-resolution Earth System Model. Changes in TC frequency and increased intensity in the present-day and future climate as well as physical mechanisms controlling their change will be discussed.

Biography



Dr. Chu joined the City University of Hong Kong as Assistant Professor in the School of Energy and Environment in August 2022. She obtained her Ph.D. in Atmospheric Sciences at Pusan National University in South Korea in 2016. During the Ph. D., she has gained extensive experiences on climate change, large-scale

atmospheric teleconnection, monsoon dynamics, aerosol light absorption, and machine learning. From 2017 to 2022, she worked at the IBS Center for Climate Physics led by Dr. Axel Timmermann and studied extreme weather events including tornado activities, tropical cyclones, and high-resolution climate modeling. She published 20 papers including Science Advances and Nature climate change. Her work on future changes in tropical cyclones received Top 100th excellence research honor from Ministry of Science and ICT in the field of Energy and Environment in South Korea in 2021.



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