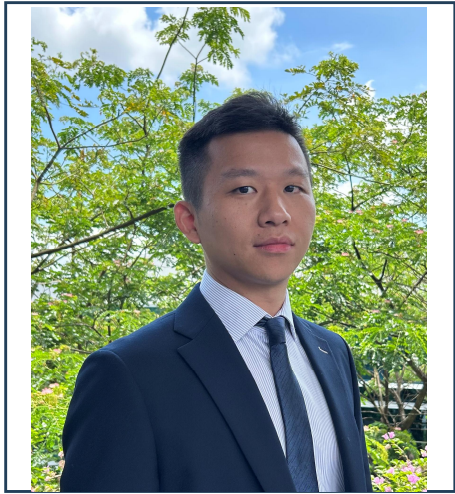


EME International Seminar Series



Beyond Warming: How Climate Change Drives Health Burden

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Abstract: Climate change is often described as global warming, but its impacts on human health go far beyond rising temperature alone. Changes in atmospheric circulation, rainfall patterns, humidity, and the timing and structure of extreme events can reshape the environmental conditions that people experience in daily life, influencing where, when, and how populations are exposed to health risks. This seminar will introduce a series of studies that connect climate dynamics, human exposure, and health burden. It will first discuss how large-scale climate systems, including shifts in tropical rainfall and atmospheric circulation, drive patterns of climate-related exposure, followed by evidence that heatwaves are increasingly evolving into multi-phase events involving dry heat, humid heat, and compound extremes. The seminar will then examine how humid heat is regulated by rainfall processes, particularly light rainfall, and how satellite observations can help constrain uncertain climate model projections. These climate insights will be linked to health impact studies, including the effects of humid heat on mental health and cold stress on cardiovascular disease. Finally, a physiology-based heat warning framework will be presented to show how weather conditions can be translated into human heat strain and safe activity levels. Together, these studies highlight the need to move beyond temperature alone and develop a more integrated understanding of climate change, exposure pathways, physiological vulnerability, and public health protection.

Thursday, 30 July 2026 16:00 – 17:00, 3F400

Degree Program in Engineering Mechanics and Energy
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