RESEARCH SEMINAR

DEPARTMENT OF GEOGRAPHY AND RESOURCE MANAGEMENT
THE CHINESE UNIVERSITY OF HONG KONG

High-resolution 3D Ecosystem Mapping from Lidar Satellites: Opportunities and Challenges

21 Sep 2023 (Thur)
4:30 – 6:00 pm (UTC+8)
Rm 221, Chen Kou Bun Building, CUHK

The Global Ecosystem Dynamics Investigation (GEDI) on board of the International Space Station (ISS) is the first spaceborne lidar mission optimized for measuring ecosystem structure at the global scale. Since its launch in Dec 2018, GEDI has collected more than 10 billion high quality laser shots and generated a variety of data products o at 25m resolution, including canopy height, sub-canopy topography (L2A), canopy cover, vertical foliar profiles and plant area index (L2B), and aboveground biomass (L4A). These products have greatly advanced studies in terrestrial ecology, hydrology, carbon cycle science, and biodiversity both at regional and global scales. Yet the use of GEDI footprint-level products sometimes can be challenging due to multiple factors, such as geolocation, sampling, and orbit design. Users thus might consider applying additional adjustment or mitigation strategies depending on research scope and area of interest.

Hao Tang
Assistant Professor
Department of Geography and Centre for Nature-based Climate Solutions, NUS

TANG Hao is an assistant professor in Department of Geography and Centre for Nature-based Climate Solutions at National University of Singapore. His research is focused on the use of satellite for mapping 3D terrestrial ecosystem dynamics under the changing climate. He has been PI and Co-I for multiple NASA research grants and a recipient of NASA Earth and Space Science fellow and New Investigator Program. He is also on the Science Team of NASA's Carbon Monitoring System (CMS) and Product Lead of Global Ecosystem Dynamics Investigation (GEDI) mission. He is an associate editor of Remote Sensing of Environment.

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