LSGI & RILS RESEARCH SEMINAR

Flood-Risk Reduction for Coastal Cities

📅 **30 SEP 2025 (TUE)**

🕐 **10:00 AM - 11:00 AM**

📍 **R401, POLYU**

🌐 **ENGLISH**

Dr Paul CHAN

Former director, Goddard Earth Science Data Center
Former visiting scientist, Sun Yat-sen University and Chapman University

ABSTRACT

This talk introduces a flood-risk reduction framework tailored for Hong Kong. The framework consists of three main components: risk zoning, risk assessment for impending floods, and a decision-support tool for emergency response.

- Risk zoning divides the city into areas with different levels of flood risk, enabling targeted long-term mitigation measures. It must account for the effects of climate change, including stronger tropical cyclones, storm surge, and extreme rainfall.
- Flood risk assessment, conducted when a flood is imminent, estimates potential impacts on people and economic assets using both zoning information and hydrological and hydraulic forecasts.
- Early warning and decision support provide timely flood information to government agencies and the public, guiding preparedness, response, and recovery actions. This helps minimize casualties as well as direct and indirect economic losses.

BIOGRAPHY

Dr. Paul Chan began his career in climate research at NASA, where he served as Director of the Goddard Earth Science Data Center. At the U.S. Department of Agriculture, he led a groundbreaking project assessing the vulnerabilities of the nation's food and agricultural systems and their economic impacts, work that earned him the 2004 Presidential Award. He later became Chief Operating Officer of IMSG, an environmental services company, overseeing projects in weather and climate modeling, satellite remote sensing, coastal zone management, and marine conservation. As founder of Climate Decision, LLC, he developed strategies to reduce clients' flood risks. While serving as Senior Visiting Scientist at Chapman University in California, Dr. Chan advanced emergency decision-support and early-warning systems for wildfires and hydrologic hazards. Internationally, he has advised Vietnam, Liberia, and Ghana on weather forecasting, satellite environmental monitoring, and climate data systems. In Maryland, Dr. Chan contributed as a member of the Governor's Climate Change Commission Working Group, helping to shape statewide climate action. In recognition of his leadership, he received the 2023 Leadership Award in Climate Science from the Washington Academy of Sciences.

Moderator: Prof. George LIU, LSGI

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