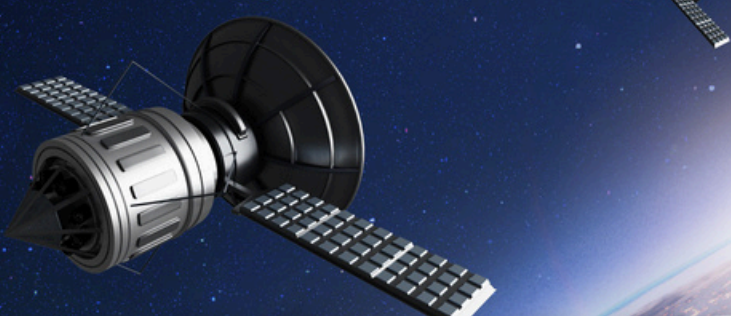




LSGS RESEARCH SEMINAR

Understanding Water Vulnerability in a Changing Environment: Insights from Earth Observation, Modelling, and Deep Learning

📅 11 SEP 2026 (FRI)

🕒 3:00 PM - 4:00 PM

📍 Z211, POLYU

🌐 ENGLISH

Dr. Xueying LI

Marie Curie Fellow
University of Oxford



ABSTRACT

Climate change and anthropogenic intervention are reshaping the terrestrial water cycle, altering how much water is stored on land and how it moves through river basins. These changes pose growing challenges to sustainable water supply and hydroclimatic risk management, particularly in regions where ground-based observations remain sparse. This presentation will illustrate how satellite Earth observations, artificial intelligence, and hydrologic modelling can be integrated to observe, reconstruct, and understand changes in terrestrial water storage and runoff, drawing on research from the Tibetan Plateau and extending to the global scale. It will also examine water-supply vulnerability arising from compound limitations in both water storage and runoff, considering their complementary roles as the buffering and renewable components of water availability. Together, these efforts improve our understanding of hydrologic responses to environmental change and provide new insights for sustainable water management and climate adaptation.

BIOGRAPHY

Dr. Xueying Li is a Marie Curie Fellow at the School of Geography and the Environment, University of Oxford. Before joining Oxford, she obtained her PhD at Tsinghua University and conducted postdoctoral research at the Helmholtz Centre for Environmental Research (UFZ) in Germany. Dr. Li is an Earth observation scientist and hydrologist focusing on water vulnerability under environmental change. Her research investigates multiscale changes in water storage and hydrologic fluxes, integrating satellite remote sensing with AI-enabled modelling and process-based hydrologic analysis. She currently leads an EU-funded project on global water stress and co-leads an ESA-supported Earth observation project on agricultural water resources. Her work has been published in leading journals including Nature Climate Change (cover paper; ESI 1% Highly Cited), Water Resources Research, and Remote Sensing of Environment, and has received more than 1,700 Google Scholar citations and coverage by around 160 news outlets worldwide.

Moderator:

Prof. Xiao LI, Assistant Professor, LSGS

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