

LSGS & RILS RESEARCH SEMINAR

Beyond Greening: Forest Recovery, Biodiversity Change and Resilience in Hong Kong

A 70-Year Perspective from Remote Sensing and Field Ecology

23 NOV 2026 (MON)
10:00- 11:00
N001, POLYU
ENGLISH

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ABSTRACT

Hong Kong's forests have undergone substantial transformation over the past seven decades, following historical deforestation, recurrent fires, and subsequent conservation and afforestation efforts. This seminar presents findings from more than a decade of research integrating historical aerial photography, satellite remote sensing, GIS-based spatial analysis, and extensive field-based ecological surveys to examine forest regeneration and succession.

The research highlights changes in forest extent, landscape structure, species composition, and biodiversity, alongside the environmental factors influencing natural regeneration. It also examines the impacts of fires, frost, and typhoons on forest recovery and resilience, and compares natural regeneration with plantation-based restoration. Recent advances in GeoAI and advanced remote sensing are discussed as opportunities for improved forest monitoring.

The seminar highlights how integrating geospatial observations with field ecology can support a more comprehensive understanding of forest recovery and inform biodiversity conservation and forest management.

BIOGRAPHY

Dr. Abbas obtained his PhD from The Hong Kong Polytechnic University, where he subsequently served as a Postdoctoral Fellow and Research Assistant Professor in the Department of Land Surveying and Geo-Informatics. His research in Hong Kong has contributed to understanding long-term forest succession, biodiversity recovery, species composition, and ecosystem resilience. Combining satellite remote sensing, historical aerial photography, extensive field-based ecological surveys, and geospatial modelling, his work has examined forest regeneration processes and vegetation responses to environmental disturbances, including fires, frost events, and super typhoons.

His broader research spans forest and coastal ecosystem monitoring, urban environmental dynamics, climate vulnerability, and the integration of GeoAI and satellite Earth observation for environmental management and sustainable development. His current work increasingly emphasizes translating geospatial research into practical applications for climate adaptation, ecosystem restoration, and evidence-based environmental governance.

Dr. Abbas serves as an Associate Editor for Frontiers in Remote Sensing and Frontiers in Environmental Science and holds editorial board positions with international scientific journals. He is actively engaged in regional and international Earth observation initiatives and collaborations, including AOGEO, Space4Water, and ICIMOD.

His research bridges advances in geospatial technologies with ecological understanding and real-world environmental challenges, connecting scientific research with practical applications across Hong Kong, Pakistan, and the wider Asian region.

Moderator:
Dr. Majid NAZEER, Research Assistant Professor of LSGS

All are welcome! Please register now to join us on-site!
Enquiry: lsdept@polyu.edu.hk

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