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INSTITUTE OF APPLIED PHYSICS AND MATERIALS ENGINEERING

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IAPME Seminar

New Technologies and Ideas for Ecological Restoration in South China

6 February 2026

Prof. Mingguo ZHENG
Guangdong Academy of Sciences

Venue: N23-1004b
Time: 11:30 – 12:30
Hosted by: Prof. Guoxing SUN

Abstract

Ecological restoration constitutes a vital component of ecological civilization construction in China. Existing ecological restoration technologies generally rely on engineering measures, which are characterized by large construction volumes, high costs and significant environmental disturbance. Taking South China as the research area, this study has developed a series of low-cost green technologies, mainly including gully erosion control, ecological restoration of historically abandoned rare earth mines, and vegetation restoration on high and steep rocky slopes.This lecture consists of three parts: ecological restoration of soil underlying surfaces – flexible soil and water conservation technologies and their applications; ecological restoration of rocky underlying surfaces; and the development of soil-based nutrient soil and its implications for geological disaster prevention and control.

Biography

Prof. Mingguo ZHENG is a researcher at the Institute of Eco-Environmental and Soil Sciences, Guangdong Academy of Sciences. His research focuses on soil and water conservation and ecological restoration, remote sensing information extraction, soil improvement and degraded land remediation, vegetation restoration in harsh sites, as well as soil and ecosystem carbon sequestration. He has a long-standing research experience in soil and water processes and their associated environmental issues. Recently, his research mainly centers on the remediation of collapsing gullies and eroded degraded land in southern China, vegetation restoration and soil carbon pool responses in red soil regions, ecological restoration of historically abandoned mines, and resource utilization of industrial solid waste. He serves as a member of the Soil Erosion Professional Committee, Collapsing Gully Control Professional Committee and Engineering Greening Professional Committee of the Chinese Society of Soil and Water Conservation, and also a member of the Hydrology and Sediment Professional Committee of the Chinese Society of Hydropower Engineering. He has won the Second Prize of Science and Technology Progress Award of the Chinese Society of Soil and Water Conservation and the First Prize of Surveying and Mapping Science and Technology Progress Award, among other honors. He has published more than 40 SCI-indexed papers, presided over 4 General Program projects of the National Natural Science Foundation of China and 1 Guangdong Provincial Local Standard project, and compiled a number of consulting reports for the Guangdong Provincial Government.

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