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應用物理及材料工程研究院
INSTITUTO DE FÍSICA APLICADA E ENGENHARIA DE MATERIAIS
INSTITUTE OF APPLIED PHYSICS AND MATERIALS ENGINEERING

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IAPME Seminar

Celebrating the 45th Anniversary of the University of Macau: Carbon Dioxide Removal (CDR) Research at Zhejiang University

10 February 2026

Prof. Tao WANG
Zhejiang University

Venue: N23-1004b
Time: 15:30 - 16:30
Hosted by: Prof. Guoxing SUN

Abstract

The presentation highlights research progresses in Carbon Dioxide Removal (CDR) at Zhejiang University. It covers advancements in next-generation flue gas capture featuring novel two-phase absorbents, disruptive Direct Air Capture (DAC) utilizing moisture-swing materials, and scalable CO_2 mineralization for creating carbon-negative building materials. These integrated solutions offer a sustainable technology pathway toward achieving global carbon neutrality.

Biography

Prof. Tao WANG is the Professor at the College of Energy Engineering, Zhejiang University, Doctor of Engineering, and the Chief Scientist of the National Key R&D Program Project. He has long been engaged in research on carbon removal technologies, including direct air capture of carbon dioxide and mineralization storage and Consecutively selected as one of Elsevier's top 2% global scientists. The advanced carbon capture materials and mineralized curing concrete technologies it developed are applied in large energy enterprise, including China Energy Group and Zhejiang Energy Group and multiple next-generation coal power CCUS benchmark demonstration projects in China. This technology was selected as one of the top ten scientific and technological innovation achievements in China for carbon peaking and carbon neutrality in 2023, and received final funding from Tencent's first “Carbon Quest Program”. He led the development of China's first industry standard for chemical absorption solutions in the coal-fired power sector, primarily authored important carbon neutrality technology research reports such as China's CCUS roadmap, and contributed as an author to the Fifth National Assessment Report on Climate Change.