香港科技大學
THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

土木及環境工程學系
DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

SEMINAR

CARBON NEGATIVE BIOCHAR: MARKET DEVELOPMENT FOR ESG AND CLIMATE SOLUTIONS

Speaker

Prof. Yong Sik Ok

Korea University
President, International ESG Association (IESGA)
President, International Society of Trace Element Biogeochemistry (ISTEB)

Abstract

Biochar, long valued for its role in soil enhancement and carbon sequestration, is now gaining momentum across diverse industries such as construction, waste management, textiles, and renewable energy. This talk explores how biochar is evolving into a scalable, carbon-negative solution aligned with ESG goals. Drawing on techno-economic analysis and global case studies, we identify key commercialization barriers—such as inconsistent standards and policy gaps—and propose solutions including life cycle assessments, inclusive governance models, and region-specific pyrolysis technologies. A coordinated effort across government, industry, and academia is essential to unlock the full environmental and economic potential of biochar.

Biography

Professor Yong Sik Ok currently serves as President of both the International ESG Association (IESGA) and the International Society of Trace Element Biogeochemistry (ISTEB). In 2022, he was recognized as a Highly Cited Researcher (HCR) in three distinct fields—Environment and Ecology, Engineering, and Biology and Biochemistry—an exceptional distinction. He was also the first Korean scientist to receive HCR recognition in Environment and Ecology, beginning in 2019.

In 2025, Prof. Ok was ranked first globally in Environmental Sciences by ScholarGPS and first in Asia in the same field by Research.com. His Google Scholar profile reflects a substantial research impact, with an h-index of 179, more than 20,000 annual citations, over 120,700 total citations, and 114 highly cited papers. He is currently Korea's most cited scientist across multiple disciplines.

Prof. Ok leads a global research network and serves as the Editor-in-Chief of CleanMat (Wiley). His research aligns with the UN Sustainable Development Goals (SDGs) and ESG principles, with a particular focus on climate-positive technologies such as biochar. In addition to his academic research, he teaches MBA and EMBA courses on business and the environment at Korea University Business School and has shared his insights through invited lectures at leading institutions, including Samsung Electronics, the POSCO Forum, and Shinhan Bank.

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