DEPARTMENT OF CHEMICAL ENGINEERING, IIT INDORE PRESENTS

GUEST SEMINAR ON MICROBIAL FUEL CELLS

Speaker

Dr. Rohan Sharma

ABSTRACT

Acid rock drainage (ARD) causes long-term environmental damage and loss of valuable metals, which could otherwise be recovered. Microbial fuel cells (MFCs) offer a low-carbon biological alternative that enables simultaneous metal recovery and partial neutralization without external energy input. However, scaling MFCs for continuous ARD treatment is challenging, as increased electrode size and surface area do not necessarily improve performance. This lecture highlights experimental constraints related to electrode configuration and accessibility that limit MFC application beyond lab-scale systems.

About the Speaker

Rohan Sharma is a sustainability professional at Orenda Green, Singapore, working on large-scale infrastructure projects focused on water and wastewater treatment, resource recovery, and low-carbon systems. He holds a B.Tech-M.Tech from IIT Kanpur and a Ph.D. from the University of British Columbia, where he researched bio-electrochemical fuel cells for acid rock drainage remediation. His work contributed to a founding patent for a Canadian mine-waste remediation startup. Rohan's career centers on translating lab-scale sustainable technologies into practical, real-world solutions.

DETAILS

FEBRUARY 06, 2026
03:00 PM TO 04:00 PM
MAITREYI SEMINAR HALL