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Paper ID _____ : 101

Paper Title _____ : Machine Learning Models for Predicting Electrode and Membrane Degradation in alkaline Water Electrolysis for Hydrogen Production

Bio :

Dr. Santosh M. Walke is an academic researcher specializing in Chemical Process Engineering, Green Hydrogen Production, Artificial Intelligence in Process Modeling, and Multiphase Reactor Hydrodynamics.

He has over 29 years of academic and industrial experience across India and Oman. He serves as Principal Investigator for multiple funded research projects from Oman's Research Council (TRC), including 'Green Hydrogen Production via Alkaline Water Electrolysis using Hybrid Solar Energy Source'. His work integrates machine learning, simulation (Aspen HYSYS, MATLAB, Python), and sustainable energy systems toward Oman Vision 2040 objectives.

Dr. Walke has authored over 60 peer reviewed publications, four books, and three granted patents. He also serves as a peer reviewer and editorial board member for international journals. His awards include the Research Excellence Award 2024 and Academic Excellence Award 2023