S1-3 Ceramics of Today for a Greener and Cleaner Tomorrow

SHORT DESCRIPTION:

The rapid rise in global energy consumption, particularly for clean and efficient energy sources, has driven an urgent search for new materials, devices, and technologies. Developing technologies for the effective and efficient use of green energy is a top priority to ensure the sustainable growth and development of modern society. In this pursuit, the exploration of ceramics has led to significant breakthroughs, fostering both fundamental discoveries and practical applications in photo/electrochemical water splitting, batteries, photovoltaics, and CO2 conversion.

Achieving these goals requires the design of high-performance materials, alongside innovative characterization techniques. This collective effort calls for interdisciplinary collaboration across fields such as chemistry, materials science, Physics, and environmental science, all working towards the shared objective of achieving sustainable energy.

This symposium will feature sessions on a range of topics, including innovative ceramic materials for energy conversion and storage, advanced ceramics for environmental applications, ceramics for carbon capture and utilization, materials for CO2 reduction into valuable products, and cutting-edge characterization techniques.

SESSION TOPICS:

•Innovative ceramic materials for renewable energy systems
•Advanced ceramics for environmental applications
•Materials for hydrogen production through water splitting
•Advanced ceramics for carbon capture and CO2 reduction to valuable products
•Ceramic of Today for advancing Battery technology

ORGANIZERS:

Federico Rosei, University of Trieste, Italy
Alberto Vomiero, Lulea University of Technology, Sweden
Elisa Moretti, Ca'Foscari University of Venice, Italy
Kassa Belay Ibrahim, Ca'Foscari University of Venice, Italy
Heng-Liang Wu, National Taiwan University, Taiwan
Tohru Sekino, Osaka University, Japan
Darshan GP, M. S. Ramaiah University of Applied Sciences, India