CONFERENCE WEBSITE

https://www.iage-net.org/igec2022

14th International Green Energy Conference

(IGEC-XIV)

July 4-8, 2022 | Virtual

Name	Meng Ni
Affiliation	The Hong Kong Polytechnic University

Invited Keynote Lecture

Presentation Title	**Solid oxide fuel cell for clean power generation**
Abstract (Approximately 200 words)	Solid oxide fuel cells (SOFCs) are promising electrochemical devices for clean power generation, especially for combined heat and power cogeneration. Reducing the operating temperature of SOFC from 800-1000°C to about 400-600°C improves the durability and reduces the cost of SOFC on the one hand, but decreases the actual cell performance on the other hand. As the cathode usually causes the highest overpotential loss in SOFC, efforts have been made in developing nanostructured SOFC cathodes by infiltration or developing new cathode materials. In this talk, research activities conducted at HK PolyU will be presented, including modeling and testing of nanostructured SOFC cathode, development of a series of perovskite oxides, and the thermal expansion offset approach for composite cathode. The future development of SOFC will also be discussed.
Biographical Sketch (Approximately 200 words)	Prof. Meng Ni received his Ph.D. in Mechanical Engineering from University of Hong Kong (HKU) in 2007. Then Prof. NI stayed in HKU as a Post-doctoral researcher for 2 years, before joining the Hong Kong Polytechnic University as an Assistant Professor in July 2009. Prof. Ni was promoted to Associate Professor and then Full Professor. After serving as an Associate Head for BRE for 5 years, he started to serve as an Associate Dean of FCE in July 2021. Prof. Ni worked as a Humboldt Fellow at the Forschungszentrum Jülich, Germany in 2017. Prof. Meng Ni's research interests include fuel cells and rechargeable metal-air batteries. In particular, Prof. Ni has developed a series of multi-physics models for fuel cells to optimize the fuel cell electrode microstructure and fuel cell stack configuration. He also developed perovskite oxides for use as fuel cell cathodes. He served as an Associate Editor for Science Bulletin in 2015-2017. Currently, he is a Senior Editor for Sustainable Energy Technologies and Assessments (Elsevier) and an Associate Editor for International Journal of Green Energy (Taylor & Francis) and International Journal of Energy Research (Wiley).