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Solid oxide fuel cells for efficient energy conversion using alternative fuels

Solid oxide fuel cells (SOFCs) are high temperature electrochemical devices for energy conversion at an efficiency higher than that of conventional thermal power plants. Compared with low temperature fuel cells, one distinct feature of SOFCs is their fuel flexibility, as various alternative fuels can be used in SOFC for power generation. In this talk, experimental testing of SOFCs with biogas fuel and solid carbon fuels will be reported. Mathematical modeling analyses on SOFCs will also be covered, from electrode level, single cell level, to stack level modeling. Possible methodologies to recover the waste heat from SOFC stacks will be discussed as well.

Biography

Meng N I received his PhD from The University of Hong Kong and Hong Kong Young Scientist Award in 2007. He joined The Hong Kong Polytechnic University in July 2009 as an Assistant Professor. He was promoted to an Associate Professor in 2012 and a Full Professor in July 2016. His research focuses on solid oxide fuel cells. He is a Humboldt Fellow. He is an Associate Editor for *Sustainable Energy Technologies and Assessments, Frontiers in Environmental Science,* and *Sustainable Buildings.* He is also an Editorial Board member for 7 journals including *International Journal of Energy Research.*

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