

Technology Showcase

Date 9 December 2022 Friday

Time 9:30 am – 12:30 pm

HKUST Jockey Club Institute for Advance Study (IAS), Venue

The Hong Kong University of Science and Technology,

Clear Water bay, Kowloon, Hong Kong

HKUST Energy Institute Technology Showcase 2022 aims to offer a valuable platform for scholars, investors, entrepreneurs and government leaders within the energy sector to share experiences, exchange ideas and forge collaborations.

Here, our faculty members will discuss the latest developments in green energy and advanced materials technologies. In parallel to the presentations, we will also feature exhibits and interactive demonstrations to showcase research on new energy technologies at HKUST.



Featured Speakers



Dr. Shin Cheul KIM

Associate Vice-President for Research and Development (Knowledge Transfer)

entations (by alphabetical order)



Prof. Francesco CIUCCI

Associate Professor of Mechanical and Aerospace Engineering Associate Professor of Chemical and **Biological Engineering**



Prof. Ping GAO

Professor of Chemical and Biological Engineering



Prof. Baoling HUANG

Professor of Mechanical and Aerospace Engineering



Prof. Frank LAM

Assistant Professor of Engineering Education



Prof. Minhua SHAO

Cheong Ying Chan Professor of Energy **Engineering and Environment** Chair Professor of Chemical and Biological Engineering



Prof. Henry YAN

Professor of Chemistry



Prof. Shuhuai YAO

Professor of Mechanical and Aerospace Engineering Professor of Chemical and Biological Engineering



Vice-President for Research and Development



Prof. Minhua SHAO

Director of HKUST Energy Institute



Prof. Zhiyoung FAN

Professor of Electronic and Computer Engineering Professor of Chemical and Biological Engineering



Prof. Jonathan HALPERT

Assistant Professor of Chemistry



Prof. Yoonseob KIM

Assistant Professor of Chemical and Biological Engineering



Prof. Yi-Kuen LEE

Associate Professor of Mechanical and Aerospace Engineering Associate Professor of Chemical and Biological Engineering



Prof. Jianwei SUN

Professor of Chemistry



Prof. Jinglei YANG

Professor of Mechanical and Aerospace Engineering







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Program

Registration 9:00 9:30 - 9:35 Welcome

Prof. Tim Cheng
Vice-President for Research & Development

HKUST Energy Institute Overview Prof. Minhua ShaoDirector of HKUST Energy Institute 9:35 - 9:45

9:45 - 9:50 **Group Photo** 9:50 - 10:50 Presentation I

Fuel Cells and Battery Technologies
Prof. Minhua Shao
Cheong Ying Chan Professor of Energy Engineering and Environment
Chair Professor of Chemical and Biological Engineering

Hydrogen Generation from Photoelectrochemical Water Splitting Process

Prof. Frank LamAssistant Professor of Engineering Education

Membranes for Energy Storage and Energy Conversion Applications

Prof. Ping Gao
Professor of Chemical and Biological Engineering

Solid-state Batteries Prof. Francesco Ciucci

Associate Professor of Mechanical and Aerospace Engineering Associate Professor of Chemical and Biological Engineering

Solid-electrolytes for Li-metal Batteries Prof. Yoonseob Kim

Assistant Professor of Chemical and Biological Engineering

Organic Solar Cell: a Clear and Renewable Energy Source

Prof. Henry Yan
Professor of Chemistry

10:50 - 11:20 Poster and Demonstration

11:20 - 12:30 **Presentation II**

Integrative Materials Innovation for Low-carbon Buildings Prof. Jinglei Yang Professor of Mechanical and Aerospace Engineering

Elastocaloric Cooling Technology for Next-generation Green Air Conditioners

Prof. Shuhuai Yao
Professor of Mechanical and Aerospace Engineering

Professor of Chemical and Biological Engineering

CMOS MEMS Sensor System for Smart Energy-efficient Buildings

Prof. Yi-Kuen Lee
Associate Professor of Mechanical and Aerospace Engineering
Associate Professor of Chemical and Biological Engineering

Large-scale Perovskite Light-emitting Diodes with Quantum Wires Prof. Zhiyong Fan
Professor of Electronic and Computer Engineering

Professor of Chemical and Biological Engineering

New Catalysts for Chiral Drug Synthesis Prof. Jianwei Sun Professor of Chemistry

. Janus Textile for Personal Thermal Management in Harsh Climates

Prof. Baoling Huang
Professor of Mechanical and Aerospace Engineering

Advanced Perovskite-like Metal Halide Nanomaterials for LED and Solar

Battery Applications
Prof. Jonathan Halpert
Assistant Professor of Chemistry

Closing Remarks

Dr. Shin Cheul Kim Associate Vice-President for Research and

Development (Knowledge Transfer)

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