



INTERNATIONAL INSTITUTE FOR CARBON-NEUTRAL ENERGY RESEARCH

## I<sup>2</sup>CNER THRUST WORKSHOP: TOWARD CARBON NEUTRALITY

ADVANCED ENERGY MATERIALS THRUST (AEM),  
ADVANCED ENERGY CONVERSION SYSTEMS THRUST (AECS),  
AND MULTISCALE SCIENCE AND ENGINEERING FOR ENERGY AND THE ENVIRONMENT THRUST (MS3E)

DATE: FEBRUARY 2ND, 2023, THURSDAY

TIME: 9:30 AM – 2:30 PM (JST)

VENUE: I<sup>2</sup>CNER HALL/HYBRID, ITO CAMPUS, KYUSHU UNIVERSITY

Time	Speaker	Affiliation	Title
9:30 a.m.	Hiroshige Matsumoto	I <sup>2</sup> CNER	Opening Remarks
<b>Session 1: Advanced Energy Materials Thrust (AEM)</b>			
9:35 a.m.	Robert O. Ritchie (virtual presentation)	UC Berkeley/ Lawrence Berkeley National Laboratory	TBA
10:00 a.m.	Yoshinori Sawae	Kyushu University/ I <sup>2</sup> CNER	Polymer tribology in hydrogen
10:25 a.m.	Toshihiro Tsuchiyama	Kyushu University/ I <sup>2</sup> CNER	Alloy design of low-Ni high-strength austenitic steels with interstitial elements
<b>Session 2: Advanced Energy Conversion Systems Thrust (AECS)</b>			
10:50 a.m.	Deibert Wendelin/ Wenyu Zhou	Forschungszentrum Jülich GmbH	Membrane Reactor for Dehydrogenation of Alkanes
11:15 a.m.	Motonori Watanabe	I <sup>2</sup> CNER	D-π-A type sensitized TiO <sub>2</sub> photocatalyst for H <sub>2</sub> production under NIR light
11:40 a.m.	Aleksandar Staykov	I <sup>2</sup> CNER	Design of Energy-related Materials using First Principle Calculations
<b>Lunch at I<sup>2</sup>CNER lounge</b>			
SOIFIT lunch meeting (*invitees only) at I <sup>2</sup> CNER meeting room			
<b>Session 3: Multiscale Science and Engineering for Energy and the Environment Thrust (MS3E)</b>			
1:10 p.m.	Caleb Brooks	UIUC	Cultural and demographic considerations for energy transition: a case study in the U.S.
1:35 p.m.	Anutosh Chakraborty	Nanyang Technological University (NTU)	Adsorption Assisted Xenon and Hydrogen Storage
2:00 p.m.	Roman Selyanchyn	I <sup>2</sup> CNER	Gas separation membrane - based extraction of CO <sub>2</sub> from air and its potential for distributed direct air capture
2:25 p.m.	Petros Sofronis	Director, I <sup>2</sup> CNER	Closing Remarks

(Coffee Break)