



INTERNATIONAL INSTITUTE FOR CARBON-NEUTRAL ENERGY RESEARCH

I²CNER THRUST WORKSHOP: TOWARD CARBON NEUTRALITY

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

DATE: JANUARY 28TH, 2022, FRIDAY

TIME: 11:00 PM – 02:00 AM (JST)

VENUE: VIRTUAL WORKSHOP VIA ZOOM

Time	Speaker	Affiliation	Title
11:00-11:05	Prof. Hiroshige Matsumoto	A ECS, I ² CNER	Opening Introduction
Session 1: Advanced Energy Materials Thrust (AEM)			
11:05-11:25	Prof. Arnaud Macadre	AEM, I ² CNER / Yamaguchi University	Towards hydrogen-resistant low-Ni austenitic steels
11:25-11:45	Prof. Yukina Takahashi	AEM, I ² CNER	Highly efficient photoenergy conversion system in nanoscale with plasmonic nanoparticles
11:45-12:05 (00:00 AM)	Dr. Ming-Han Liu	AEM, I ² CNER	Development of Atomic-scale Gold Catalysts for Heterogeneous Catalysis
Session 2: Advanced Energy Conversion Systems Thrust (AEC)			
00:00-00:20	Prof. Kulbir Ghuman	Institut national de la recherche scientifique	Disordered engineering of metal oxides for fuel cell applications
00:20-00:40	Prof. Aleksandar Staykov	A ECS, I ² CNER	Effect of cation polarizability on catalytic activity, ionic transport, and proton transport in fluorite, perovskite, and Ruddlesden-Popper lattices
00:40-01:00	Prof. Sam Stranks	University of Cambridge	Halide perovskites for next-generation solar cells
Session 3: Multiscale Science and Engineering for Energy and the Environment Thrust (MS3E)			
01:00-01:10	Prof. Shigenori Fujikawa (5 min)	MS3E, I ² CNER	Recent achievements of CO ₂ capture research
	Prof. Saha Bidyut Baran (5 min)	MS3E, I ² CNER	Recent achievements of energy efficiency research
01:10-1:35	Prof. Takeshi Tsuji (5 min)	MS3E, I ² CNER	Recent achievements of CO ₂ storage research

	Prof. Kenneth Christensen (15 min)	Illinois Tech	Pore-Scale Dynamics of Liquid CO ₂ -Water Displacement in 2D Porous Micromodels
01:35-2:00	Prof. Andrew Chapman (5 min)	MS3E, I ² CNER	Recent achievements of energy analysis research
	Prof. Caleb Brooks (15 min)	UIUC	Energy Transitions, Culture and Technology