

## **International workshop on membrane technology**

Date: 9<sup>th</sup> December 2021 (Thu.)

Time: 13:45 (China)/14:45(Japan) – 16:00(China)/17:00(Japan)

Online (ZOOM)

**Scope:** Hydrogen is a clean energy carrier that will allow the world to accomplish its strategic targets of zero-emission and the decarbonization of industry. The development of environmentally friendly, energy-efficient hydrogen production processes gains increased attention from both academia and industry. Blue hydrogen produced from the steam methane reforming process integrated with CO<sub>2</sub> capture is considered as the bridge for an energy transition from fossil fuels to a green hydrogen economy. Moreover, H<sub>2</sub> recovery from liquid organic hydrogen carriers receives increased interest for hydrogen transport and storage. Membrane technology can be instrumental for hydrogen purification and recovery.

Membranes are also regarded as innovative device in other applications such as bio-refinery, chemical productions and water treatment. Therefore, this seminar is targeting exchanging the research ideas on the development of novel inorganic membranes (e.g., carbon and zeolite membranes), and establishing research collaborations between the participants for the joint publications. Mobility of students and staff will be discussed also.

Organizer:

Izumi KUMAKIRI

Yamaguchi University,

Graduate School of Sciences and Technology for Innovation,

Ube, Japan

## AGENDA

Time	No.	Title, presenter name
13:45 (China) / 14:45 (JPN)	<b>Opening</b>	
<b>Presentations</b>		
13:48 – 13:50 (Ch. Time)	Introduction to Environmental Chemical Engineering Laboratory, <b>Yamaguchi University</b>	
13:50 – 14:03	#1	Photo-catalytic membranes for water treatment Azzah Nazihah
14:03 – 14:16	#2	Dehydration/Ethanol-selective membranes for bio-refinery Yu Shimada
14:17 – 14:20	Introduction to <b>Guangdong Technion - Israel Institute of Technology</b>	
14:20 – 14:33	#3	Process Feasibility Analysis of Membrane Systems for CO <sub>2</sub> Removal from Air-breathing Anion Exchange Membrane Fuel Cells Zhicong Liang and Feng Yang
14:33 – 14:46	#4	Development of MOF-based mixed matrix membranes for gas separations Ziyi Yuan and Zhihong Lin
14:47 – 14:50	Introduction to International Institute for Carbon-Neutral Energy Research, <b>Kyushu University</b>	
14:50 – 15:03	#5	Development of the mixed matrix membranes for the CO <sub>2</sub> separation from low concentration mixtures Roman Selyanchyn
15:04 – 15:07	Introduction to Carbon Neutral Technology Innovation Center of Sichuan, <b>Sichuan University</b>	
15:07 – 15:20	#6	MMMs based on in-situ synthesized ZIF-67 nanoparticles with improved CO <sub>2</sub> separation performances Yulei Ma
15:20 – 15:33	#7	Carbon molecular sieve membranes derived from Tröger's base polymer for CO <sub>2</sub> separation Hongfang Guo
15:33– 15:46	#8	Hybrid membranes based on block copolymer and ionic liquids with tunable microstructure for CO <sub>2</sub> separation Jing Wei
- 16:00	<b>Roundtable / Lab. / Call information etc...</b>	
	<b>Closing</b>	