

**WG4: Sustainable resources circulation for global environment****[Dec.18] 9:40~15:30**

Chair: YAMAJI Kenji, Senior Vice President, Director-General, Research Institute of Innovative Technology for the Earth (RITE)

Sub-chair: INABA Atsushi, Professor, Department of Environmental Chemistry and Chemical Engineering,

School of Advanced Engineering, Kogakuin University

**9:40-12:00 Introductory & Keynote**

9:40-10:00 Introductory	YAMAJI Kenji, RITE
10:00-10:30 Keynote: NREL: Transforming Energy through Innovation	Martin Keller, Laboratory Director, National Renewable Energy Laboratory
10:30-11:00 Keynote: Science and Research for climate/energy policies and a circular economy	Christian Thiel, Head of Energy Efficiency and Renewables Unit, Joint Research Centre-European Commission
11:00-11:30 Keynote: Accelerating Innovation in CO2 removal	Gregory Nemet, Professor, University of Wisconsin-Madison
11:30-11:50 Keynote: How to evaluate technologies?	INABA Atsushi, Kogakuin University
11:50-12:00 Summary	YAMAJI Kenji, RITE

**12:00-13:15 Break****13:15-15:30 Potential Technology Session**

13:15-13:20 Introductory	INABA Atsushi, Kogakuin University
13:20-13:40 Special Presentation: Synthetic Biology: the 21st C game-changing technology for Earth and beyond	Lynn J. Rothschild, Sr. Research Scientist, NASA Ames Research Center
13:40-13:55 Presentation: Direct Air Capture (DAC): CO2-Selective Absorbents in Air	INAGAKI Fuyuhiko, Professor, Faculty of Pharmaceutical Sciences, Kobe Gakuin University
13:55-14:10 Presentation: Carbon recycling technologies based on microbial electrochemistry	KATO Souichiro, Senior Researcher, Bioproduction Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)
14:10-14:25 Presentation: Can biodegradable plastics solve the problems caused by plastic debris leaking into sea?	KASUYA Ken-ichi, Division of Molecular Science, Faculty of Science and Technology, Gunma University
14:25-15:25 Panel Discussion (*Moderator)	*INABA Atsushi, Kogakuin University
	Martin Keller, National Renewable Energy Laboratory
	Christian Thiel, Joint Research Centre-European Commission
	Gregory Nemet, University of Wisconsin-Madison
	Lynn J. Rothschild, NASA Ames Research Center
	INAGAKI Fuyuhiko, Kobe Gakuin University

	KATO Souichiro, AIST
	KASUYA Ken-ichi, Gunma University
15:25-15:30 Summary	INABA Atsushi, Kogakuin University