

e-ASIA JRP International Environment Workshop

The Program Management Unit for Human Resources & Institutional Development, Research and Innovation (PMU-B), Thailand in cooperation with National Science and Technology Development Agency (NSTDA), Thailand and e-ASIA Secretariat will be hosting the e-ASIA JRP International Workshop on Environment.

1. Background

The recent IPCC's Working Group 2 Report on "Impacts, Adaptation and Vulnerability" has highlighted that climate change is already causing widespread disruption in every region in the world at current global warming levels, due to past emissions, and further worsening of impacts is inevitable. Many countries have pledged to reduce CO₂ emissions to limit the global temperature rise to a maximum of 1.5 °C by 2050. Advances in carbon capture technologies form keystones in reducing industrial CO₂ emissions amidst the incoming climate crisis. CO₂ emissions are prevalent in the power and manufacturing industry as it is difficult to develop methods that fully strip CO₂ from waste exhaust gases. Decarbonization methods, such as replacing coal with renewable options, have been deployed instead. New technology developments required to reduce costs and capture as much as 99% of CO₂. The developments are essential in reducing overall emission. To solve the climate crisis in the long term, CCS and CCUS which is technology-based, and nature-based solutions need to be utilized alongside renewable power sources and green technologies to replace the current fossil-fuel dependent power supply system.

As a result of e-ASIA Annual Board Meeting 2022, Indonesia, Thailand, and Japan agreed to jointly launch an open call in Environment on 12th e-ASIA call for proposals. The e-ASIA JRP Environment Workshop is therefore conceived in response to this initiative.

2. Purpose

This workshop aims to promote environment research in Asia and build a team of researchers to apply for the 12th e-ASIA JRP open call in Environment.

Country	Member Organization (Funding Agency)	Funding modality
Indonesia	Ministry of Education, Culture, Research and Technology (DIKBUDRISTEK)	○
Japan	Japan Science and Technology Agency (JST)	○
Thailand	National Research Council of Thailand (NRCT)	○
Thailand	Program Management Unit for Human Resources & Institutional Development, Research and Innovation (PMU-B)	○
Lao PDR	Ministry of Education and Sports (MOES)	△

○ :NEW (New budget from FA)

△ :In kind (Researchers participate with their own funds)

e-ASIA JRP International Environment Workshop Agenda

9 February 2023

Time (Thailand)	Program
08:45 - 09:00	Workshop Opens
Opening Session <i>MC: Mr. Saranyu Laemlak, International Relations Office, NSTDA</i>	
09:00 - 09:05 (5 min)	Opening Remarks <i>Mr. Masaki SATO, Manager, Department of International Affairs, Japan Science and Technology Agency (JST)</i>
09:05 - 09:10 (5 min)	Welcome Remarks <i>Prof. Dr. Sompong Klaynongsruang, Director, The Program Management Unit for Human Resources & Institutional Development, Research and Innovation (PMU-B)</i>
09:10 - 09:15 (5 min)	Group Photo Introduce Chair for each session (MC)
Session 1: Carbon Capture, Utilization and Storage (CCUS) (Technology-based Solutions) Chair: Dr. Hidetaka YAMADA, Associate Professor, Kanazawa University	
09:15 - 09:30 (15 min)	Speaker 1-1 (Chair): Introduction (overview) <i>Dr. Hidetaka YAMADA, Associate Professor, Kanazawa University, Japan</i> Title: <i>Amine-based capture of CO2 for utilization and storage</i>
09:30 - 09:45 (15 min)	Speaker 1-2: <i>Dr. Hiroshi MACHIDA, Associate Professor, Nagoya University, Japan</i> Title: <i>Integrated Process for CO2 Capture and Utilization using Phase Separation Solvent</i>
09:45 - 10:00 (15 min)	Speaker 1-3: <i>Prof. Wongkot Wongsapai, Chiang Mai University, Thailand</i> Title: <i>The Development of Carbon Capture Utilization and Storage Business Model for Carbon Neutrality Target in Thailand: The Key Enabling Issues</i>
10:00 - 10:15 (15 min)	Speaker 1-4: <i>Assistant Prof. Dr. Tanapon Phenrat, Naresuan University, Thailand</i> Title: <i>Potential Use of Subsurface Methanogenesis in Depleted Oil and Gas Fields around the World for Valuable Methane Production from Sequestered CO2: Important Findings from Field Characterization and Laboratory Feasibility Study</i>
10:15 - 10:30 (15 min)	Speaker 1-5: <i>Prof. Dr. Wawan Gunawan A. Kadir, M.S., from Institute Technology Bandung (ITB), Indonesia</i> Title: <i>Implementation of Carbon Capture and Storage (CCS) on Increasing Oil Production and Reducing GHG (CO2) Emissions</i>
10:30 - 11:00 (30 min)	Session 1: Group Discussion on future collaboration opportunities in e-ASIA JRP <i>Each session-chair will lead their discussion and prepare a short presentation for wrap-up.</i>
11:00 - 11:15 (15 min)	Coffee Break

Session 2: Carbon Capture, Utilization and Storage (CCUS) (Nature-based Solutions) Chair: Assoc. Prof. Dr. Sate Sampattagul, Chiang Mai University	
11:15 - 11:30 (15 min)	Speaker 2-1 (Chair): Introduction (overview) Assoc. Prof. Dr. Sate Sampattagul , Chiang Mai University, Thailand Title: <i>Overview of Technology and Policy for CCUS & Nature-based Solutions</i>
11:30- 11:45 (15 min)	Speaker 2-2: Dr. Motoaki SEKI , Plant Genomic Network Research Team Leader, RIKEN, Japan Title: <i>Ethanol-mediated novel survival strategy against drought, heat and high-salinity stresses in plants</i>
11:45 - 12:00 (15 min)	Speaker 2-3: Assoc. Prof. Dr. Anchana Prathep , Prince of Songkla University, Thailand Title: <i>Potential of nature-based solutions for climate mitigation with an emphasis on blue carbon in SE Asia</i>
12:00 - 12:15 (15 min)	Speaker 2-4 (ONLINE): Dr. Ir. Farah Mulyasari , S.T., M.T., Pertamina University (UP), Indonesia Title: <i>Blue Carbon Initiative: Natural-based Solution to Accelerate Indonesia's Net Zero Emission Goal by Pertamina Foundation and Universitas Pertamina</i>
12:15- 12:45 (30 min)	Session 2: Group Discussion on future collaboration opportunities in e-ASIA JRP <i>Each session-chair will lead their discussion and prepare a short presentation for wrap-up.</i>
12:45- 13:45 (1 hour)	Lunch Break
Session 3: Low carbon Society Chair: Assoc. Prof. Dr. Amnat Chidthaisong	
13:45 – 14:00 (15 min)	Speaker 3-1 (Chair): Introduction (overview) Assoc. Prof. Dr. Amnat Chidthaisong , King's Mongkut University of Technology Thonburi (KMUTT), Thailand Title: <i>Overview of recent development of low carbon development and ways forwards.</i>
14:00 – 14:15 (15 min)	Speaker 3-2 (ONLINE): Dr. Toshihiko MASUI , Director of the Social Systems Division, National Institute for Environmental Studies, Japan Title: <i>Development of Asia-Pacific Integrated Model and its contribution to carbon neutral society</i>
14.15 – 14.30 (15 min)	Speaker 3-3: Prof. Dr. Ir. Dodik Ridho Nurrochmat , M.ScF.Trop, IPB University, Indonesia Title: <i>Promoting Social Forestry to Reduce Green House Emissions through Carbon Credits</i>
14:30 – 14.45 (15 min)	Speaker 3-4: Assoc. Prof. Sirintornthep Towprayoon , Joint Graduate School of Energy and Environment, King Monkut's University of Technology Thonburi, Thailand Title: <i>Low Carbon Research and the Way towards Zero Emission</i>
14.45-15.15 (30 min)	Session 3: Group Discussion on future collaboration opportunities in e-ASIA JRP <i>Each session-chair will lead their discussion and prepare a short presentation for wrap-up.</i>

10 February 2023

Time (Thailand)	Program
Session 4: Materials (Battery) Chair: Prof. Dr. Mohammad Zaki Mubarak, S.T., M.T., Institute of Technology Bandung (ITB)	
08:45 – 09:00	Workshop Opens
09:00 – 09:15 (15 min)	Speaker 4-1 (Chair): Introduction (overview) Prof. Dr. Mohammad Zaki Mubarak , S.T., M.T., Institute of Technology Bandung (ITB), Indonesia Title: <i>The Effect of Scandium Doping in the Cathode on the Structural Properties and Electrochemical Performance of Nickel-Rich NMC 811 Lithium-Ion Batteries</i>
09:15 – 09:30 (15 min)	Speaker 4-2 (ONLINE): Dr. Pimpa Limthongkul , Research Group Director of Energy Innovation Research Group, National Energy Technology Center (ENTEC), Thailand Title: Energy Storage Material Research for Sustainable Development at ENTEC
09:30 – 09:45 (15 min)	Speaker 4-3 (ONLINE): Assoc. Prof. Dr. Nonglak Meethong , Khon Kaen University, Thailand Title: Li-based and beyond Li-batteries for Energy Storage
09:45 – 10:00 (15 min)	Speaker 4-4 (ONLINE): Prof. Junichiro OTOMO , Professor, School of Environment and Society, Tokyo Institute of Technology, Japan Title: <i>Advances in fuel cell technology for highly efficient energy conversion development of protonic ceramic fuel cells and applications.</i>
10:00 – 10:15 (15 min)	Speaker 4-5: Prof. Dr. Eng. Agus Purwanto , ST MT from Sebelas Maret University, Indonesia Title: <i>Development of nickel-rich cathode material for high density Li-ion batteries</i>
10:15-10:45 (30 min)	Session 4: Group Discussion on future collaboration opportunities in e-ASIA JRP <i>Each session-chair will lead their discussion and prepare a short presentation for wrap-up.</i>
Wrap-up and Closing Session <i>(MC: Emi Kaneko, Director, JST Singapore office, Japan)</i>	
10:45 – 11:15 (30 min)	Information of e-ASIA 12th Call on Environment <i>e-ASIA JRP Program Secretariat (10-min Presentation & 20-min Q&A)</i>
11:15-11:55 (40 min)	Wrap-up Presentations and Comments (10 min each session) <i>Each session chair to present a short summary of the group discussion.</i>
11:55-12:15 (20 min)	Comments from the e-ASIA call participating funding agencies (5 min each MO) (by the alphabetical order of country) <ul style="list-style-type: none"> ➤ Indonesia: DIKBUDRISTEK ➤ Japan: JST ➤ Thailand: PMU-B ➤ Thailand: NRCT