

2023 International Symposium on Agricultural Net-Zero Carbon Technology and Management Innovation

Date: Wednesday, September 6, 2023

Venue: 1F, College of Agriculture Building, National Taiwan University, Taipei, Taiwan
(國立臺灣大學 農業綜合大樓 一樓，農經大講堂)

1. Background:

To support the “2050 Net-Zero Transition” and “5+2 Industrial Innovation Plans” in Taiwan, this Symposium aims to exchange the up-to-date information regarding policies, action plans, and demonstration projects on agricultural net-zero. The purposes of this Symposium are (1) to exchange innovative policy tools, research frameworks, methodologies and technologies of agricultural net-zero systems, (2) to identify the future collaborative directions on agricultural net-zero systems, and (3) to foster the exchange and dissemination of state-of-the-art agricultural net-zero research among researchers, educators, and practitioners.

2. Symposium Themes:

A broad range of topics will be covered in the Symposium, which is divided into two themes:

(1) Policies and Action Plans on Net-Zero Agriculture

- Policy Implementation and Roadmaps
- Nature-based Solutions and Negative Carbon Emission Strategies
- Role of Smart technology on Net-Zero Agriculture

(2) Advanced Technologies Toward Agricultural Net-Zero

- Integration with CO₂ Capture and Utilization
- Biowaste Valorization Technology (Value-added Product Recycle for a Circular Economy)
- Food-Energy-Water Nexus for Net-Zero Agriculture
- Smart technology on Net-Zero Agriculture

3. Advisory Organization:

- Ministry of Agriculture, Taiwan ROC

4. Hosted Organization:

- Agricultural Net-Zero Carbon Technology and Management Innovation Research Center, National Taiwan University, Taiwan ROC

5. Sponsor:

- College of Bioresources and Agriculture, National Taiwan University
- The Office of Sustainability, National Taiwan University

- Department of Bioenvironmental Systems Engineering, National Taiwan University

6. Organizing Committees:

(1) International Committees

- Huu Hao Ngo (Australia)
- Yutaka Matsuno (Japan)
- Taira Hidaka (Japan)
- Jin-Yong Choi (South Korea)
- Sang-Hyoun Kim (South Korea)
- Seung-Oh Hur (South Korea)
- Sovik Das (India)

(2) Local Committees

- Chia-Hsuan Chen (MOA, Taiwan ROC)
- Yu-Pin Lin (NTU, Taiwan ROC)
- Pei-Te Chiueh (NTU, Taiwan ROC)
- Hwa-Lung Yu (NTU, Taiwan ROC)
- Tsang-Jung Chang (NTU, Taiwan ROC)
- Yo-Jin Shiau (NTU, Taiwan ROC)
- Chihhao Fan (NTU, Taiwan ROC)
- Shu-Yuan Pan (NTU, Taiwan ROC)
- Po-Chih Tseng (NTU, Taiwan ROC)

7. Registration:

- Link: <https://reurl.cc/dDN7vk>
- QR Code



8. Contact Persons:

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9. Agenda:

Time	Contents
09:00–09:13	<p style="text-align: center;"><u>Opening Remarks</u></p> <ul style="list-style-type: none"> • Ministry of Agriculture, Taiwan ROC • Professor Yu-Pin Lin (Dean, College of Bioresources and Agriculture, National Taiwan University) • Agricultural Net-Zero Carbon Technology and Management Innovation Research Center, National Taiwan University • Professor Hwa-Lung Yu (Chairman, Department of Bioenvironmental Systems Engineering, National Taiwan University)
09:13–09:15	Group Photo Time
<p>Plenary Session: Policies and Action Plans on Net-Zero Agriculture</p> <p style="text-align: right;">Moderator: TBC (College of Bioresources and Agriculture, National Taiwan University)</p>	
09:15–09:45	<p><u>Keynote Speech</u> Net-zero Emissions and Sustainable Strategies in Taiwan’s Agriculture Sector Department of Resources Sustainability, Ministry of Agriculture, Taiwan ROC</p>
09:45–10:15	<p><u>Keynote Speech</u> Agricultural Net-Zero Emission Policies and Practices: the Australian Experience Professor Huu Hao Ngo (University of Technology Sydney, Australia)</p>
10:15–10:30	Coffee Break
<p style="text-align: right;">Moderator: TBC (National Taiwan University, Taiwan)</p>	
10:30–11:00	<p><u>Keynote Speech</u> The Role of Smart Farming for Agricultural Net-Zero Emission in Japan Professor Yutaka Matsuno (Department of Environmental Management, Kindai University, Japan)</p>
11:00–11:30	<p>Negative Agriculture Research Center at National Taiwan University Professor S-L Wang (National Taiwan University, Taiwan)</p>
11:30–12:00	<p><u>Invited Speech</u> Anaerobic Digestion and Biohydrogen Production from Korean Agricultural Waste Biomass Professor Sang-Hyoun Kim (Department of Civil and Environmental Engineering, Yonsei University, South Korea)</p>
12:00–13:30	Lunch

Time	Contents
Session 2: Advanced Technologies Toward Agricultural Net-Zero <p style="text-align: right;">Moderator: Professor Pei-Te Chiueh (Associate Director / CEO, Office of Sustainability, National Taiwan University)</p>	
13:30–14:00	<u>Keynote Speech</u> Smart Water Management and Carbon Mitigation Evaluation Tool (Water-Food-Energy-Carbon Nexus) for Net-Zero in Korea Professor Jin-Yong Choi (Department of Rural Systems Engineering, Seoul National University, Korea)
14:00–14:20	Toward Sustainable Use of Algal Biochar for Sustainable Water Treatment Professor Chengdi Dong (Department of Marine Environmental Engineering, National Kaohsiung University of Science and Technology, Taiwan)
14:20–14:50	<u>Invited Speech</u> Regional Resource and Energy Circulation by Anaerobic Digestion of Sewage Sludge: Current Status in Japan and Research Challenges Professor Taira Hidaka (Kyoto University, Japan)
14:50–15:10	Coffee Break
<p style="text-align: right;">Moderator: Professor Chihhao Fan (Department of Bioenvironmental Systems Engineering, National Taiwan University, Taiwan)</p>	
15:10–15:40	<u>Invited Speech</u> Utilization of Net-Zero and Water-Energy-Food Nexus Tools for Agricultural Policy: The Korean Experience Professor Seung-Oh Hur (National Institute of Agricultural Sciences, Korea)
15:40–16:00	The Sustainable Biorefinery Platform of Value-Added Biomolecules from Brewing Wastes within Supporting Circular Economy Professor Chi-Wei Lan (Chemical Engineering and Materials Science, Yuan Ze University, Taiwan)
16:00–16:30	<u>Invited Speech</u> Anaerobic Digestion of Waste Biomass and Agriculture: Policies and Action Plans in India Professor Sovik Das (Department of Civil Engineering, Indian Institute of Technology (IIT) Delhi, India)
16:30–16:50	Water-based Synthesis of Metal-Organic Frameworks (MOFs) Derived Catalysts for Lignocellulosic Biomass Conversion Professor Kevin C.-W. Wu (Department of Chemical Engineering, National Taiwan University, Taiwan)
16:50–17:00	<p style="text-align: center;"><u>Concluding Remarks</u></p> Professor Chihhao Fan (Department of Bioenvironmental Systems Engineering, National Taiwan University, Taiwan)