Participation Report: G4-1 Research Group – Biofuel: Methane

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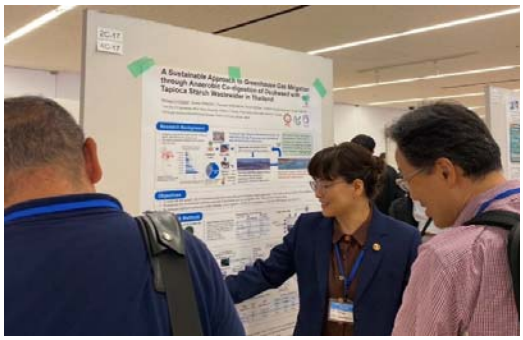
As the representative of the G4-1 research group on **"Biofuel: Methane"** under the project **"Development of the Duckweed Holobiont Resource Values towards Thailand's BCG Economy (Be-HoBiD),"** I had the honor of presenting our research findings at the *Water and Environment Technology Conference (WET2025)*, organized by the Japan Society on Water Environment. The conference took place on July 5th and 6th, 2025, at City Hall Plaza Aore Nagaoka, Japan.

Our presentation, titled "A Sustainable Approach to Greenhouse Gas Mitigation through Anaerobic Co-digestion of Duckweed with Tapioca Starch Wastewater in Thailand," introduced an innovative solution for reducing greenhouse gas emissions. The study highlighted the potential of duckweed as a co-substrate in the anaerobic digestion of tapioca starch wastewater—one of Thailand's major agro-industrial effluents. This approach not only enhances methane production and energy recovery but also supports Thailand's Bio-Circular-Green (BCG) Economy Model and contributes to global sustainability goals.



Participation in the conference offered a valuable opportunity to engage with researchers and professionals from around the world. Through knowledge exchange and academic discussions, we gained updated insights into recent advancements in water and environmental technologies, which will be instrumental in guiding the future direction of our research.

Following the conference, I joined a collaborative meeting at Tohoku University to explore advanced techniques in molecular microbiology analysis. These discussions focused on methods for investigating microbial communities involved in anaerobic digestion—knowledge that will be crucial for future research development and academic publication.

This experience has greatly contributed to the strengthening of international research collaboration and has enhanced the academic capacity of our team. We extend our sincere gratitude to JICA and all supporting organizations for providing this valuable opportunity to promote sustainable environmental innovation and global academic exchange.