



## **Program: NSTDA-OSAKA University Collaborative Research on Microbial Products for Industry, Energy and Environment**

### **Background:**

The collaboration between the National Science and Technology Development Agency (NSTDA), particularly ENTEC, and Osaka University has been a cornerstone for advancing microbial research. This partnership has led to significant progress in enzyme technology, metabolic engineering, and microbial applications. The program aims to further enhance this collaboration by exploring new joint research areas and fostering innovation and knowledge sharing between Thailand and Japan.

### **Date: 21 February 2025**

Time: 10:00 AM - 3:00 PM (Bangkok Time) / 12:00 PM – 5:00 PM (Japan Time)

Platform: Online (Link: <https://tinyurl.com/3caxdbtk>)

### **Program Agenda**

#### **10:00 AM - 10:10 AM (BKK) / 12:00 PM - 12:10 PM (JPN)**

Welcome Address

- Representative from Osaka University
- Representative from NSTDA (ENTECH)

#### **Session 1: Microbial Production Systems**

#### **10:10 AM - 10:30 AM (BKK) / 12:10 PM - 12:30 PM (JPN)**

Speaker: Dr. Takao Ohashi (Osaka University, Setsunan University)

Title: Production of phenylpropanoids in engineered *Escherichia coli* toward plant-derived flavonoid glycosides

#### **10:30 AM - 10:50 AM (BKK) / 12:30 PM - 12:50 PM (JPN)**

Speaker: Dr. Peera Jaruampornpan (NSTDA)

Title: Yeast-Based Expression Systems for Animal Vaccine Development

#### **10:50 AM - 11:10 AM (BKK) / 12:50 PM - 1:10 PM (JPN)**

Speaker: Dr. Hiroya Tomita (Osaka University)

Title: Biosynthesis of peptidyl secondary metabolites in Thermophiles

#### **11:10 AM - 11:30 AM (BKK) / 1:10 PM – 1:30 PM (JPN)**

Speaker: Dr. Verawat Champreda (NSTDA)

Title: Development of Enzymes for Green Industry

**Break: 11:30 PM - 12:30 PM (BKK) / 1:30 PM - 2:30 PM (JPN)**

## **Session 2: Microbial Applications**

**12:30 PM - 12:50 PM (BKK) / 2:30 PM - 2:50 PM (JPN)**

Speaker: Mr. Yuishin Kosaka, Prof. Wataru Aoki (Osaka University)

Title: In vitro reconstitution of ribosome biogenesis and its applications

**12:50 PM - 1:10 PM (BKK) / 2:50 PM - 3:10 PM (JPN)**

Speaker: Dr. Lily Eurwilaichitr (NSTDA)

Title: Microbial Power Unleashed: Transforming Energy and Environment Through Partnership and Discovery

## **Session 3: Lipid Production and Biofuels**

**1:10 PM - 1:30 PM (BKK) / 3:10 PM - 3:30 PM (JPN)**

Speaker: Dr. Hiroyuki Kajiura (Osaka University)

Title: Energy conversion from industrial waste to high-value lipids using oleaginous yeast

**1:30 PM - 1:50 PM (BKK) / 3:30 PM - 3:50 PM (JPN)**

Speaker: Dr. Weerawat Runguphan (NSTDA)

Title: Engineering yeasts to produce higher and branched-chain alcohols as advanced biofuels

## **Session 4: Future Perspectives**

**1:50 PM - 2:10 PM (BKK) / 3:50 PM - 4:10 PM (JPN)**

Speaker: Dr. Miyazaki Kentaro (Osaka University)

Title: Solving insoluble protein problems

## **Session 5: Presentation by students**

**2:10 PM - 2:25 PM (BKK) / 4:10 PM - 4:25 PM (JPN)**

Speaker: Ms. Shiho Morikane, Prof. Kosuke Honda (Osaka University)

Title: Characterization of a thermophilic polyhydroxyalkanoate-degrading enzyme from a soil bacterium in Thailand

**2:25 PM - 2:40 PM (BKK) / 4:25 PM - 4:40 PM (JPN)**

Speaker: Mr. Bhisimo Srenggoro Kuntonugroho, Prof. Kazuhito Fujiyama (Osaka University)

Title: Crude glycerol valorization into microbial lipid through *Rhodotorula toruloides* mutants

**2:40 PM - 3:00 PM (BKK) / 4:40 PM - 5:00 PM (JPN)**

Closing Remarks

- Representative from Osaka University