



CHULA ENGINEERING
Foundation toward Innovation

 **Kumamoto University**

Joint International Symposium

**“Multifunctional Reactors and Process Intensification for
Chemical, Petrochemical and Biorefinery Industries”**

Center of Excellence in Catalysis and Catalytic Reaction Engineering

Department of Chemical Engineering, Faculty of Engineering,

Chulalongkorn University

and

Department of Applied Chemistry and Biochemistry

Faculty of Advanced Science and Technology

Kumamoto University

June 1, 2018

Under the support from the Thailand Research Fund and JASTIP-NET

Background

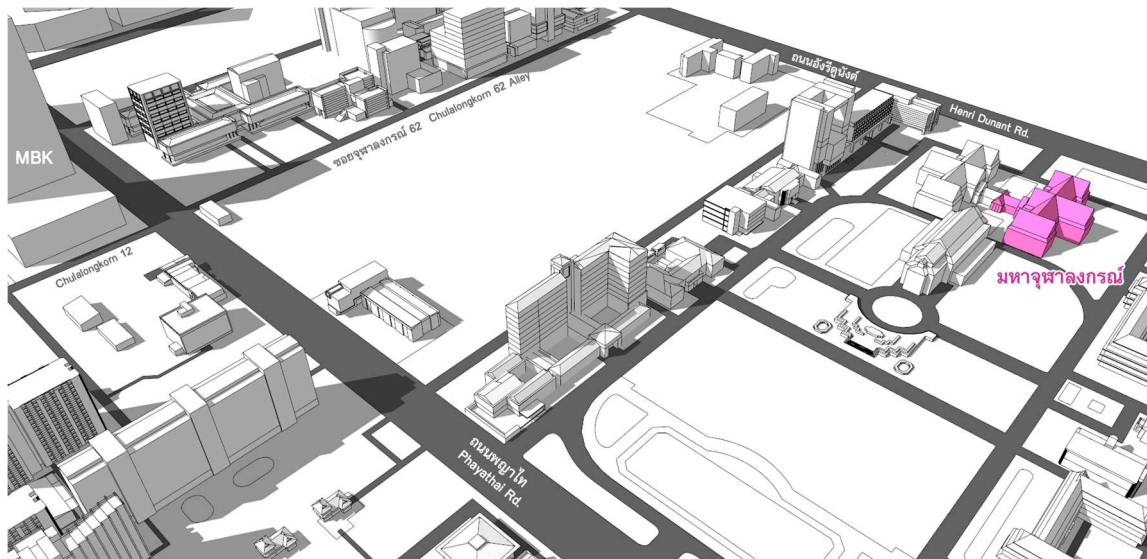
Thailand Research Fund (TRF), one of the major funding bodies of Thailand, has long supported research and encouraged the dissemination of outputs from funded projects. In accordance with TRF's missions, this symposium is held and chaired by Prof. Dr. Suttichai Assabumrungrat, a holder of TRF's Distinguished Research Professor Grant (DPG), as a platform for students, professors, and representatives from academic and industrial sectors to exchange ideas and seek research collaboration.

Venue

Date Friday June 1, 2018

Time 08:30-16:30

Place Room 105, Mahachulalongkorn building (the building highlighted in pink in the map below)



Format

Oral presentation is to be delivered in English with visual aids in ppt/pptx files. A laptop computer connected to a projector is provided but the speakers may opt to use theirs. An oral presentation session lasts 15 minutes (20 minutes for keynote speakers) inclusive of Q&A.

Registration and fees

Registration and participation are free of charge.

Program Schedule

Time	Content	Presenter	Code
08:30-09:00	Registration		
09:00-09:15	Opening address and welcome speech by director of TRF Academic Research Division	Prof. Sompong Klaynongsruang	
09:15-09:30	Opening address and welcome speech by Prof. Hideaki OHGAKI, Institute of Advanced Energy, Kyoto University	Prof. Hideaki Ohgaki	
09:30-09:50	Overviews of research activities and outputs from the project "Multifunctional Reactors and Process Intensification for Chemical, Petrochemical and Biorefinery Industries"	Prof. Suttichai Assabumrungrat	IL1
09:50-10:10	Carbon-based membrane reactors for production of renewable energy carriers	Prof. Tetsuya Kida	IL2
10:10-10:30	Microwave carbocatalysis for biomass conversion processes	Prof. Armando Quitain	IL3
10:30-10:45	<i>Coffee break</i>		
10:45-11:00	Hydrocarbon biofuel production via hydrotreating by using substitute feedstocks under an alternative synthesis gas atmosphere	Assist. Prof. Worapon Kiatkittipong	O1
11:00-11:15	Sorption-enhanced steam reforming for hydrogen production	Assist. Prof. Suwimol Wongsakulphasatch	O2

Time	Content	Presenter	Code
11:15-11:30	Design and performance improvement of fuel cell systems for green power generation	Assist. Prof. Amornchai Arpornwichanop	O3
11:30-11:45	Transition states in the acid-catalyzed hydrolysis of hesperidin	Jonas Karl N. Agutaya	O4
11:45-12:00	Integrating graphene-based catalysis, microwave irradiation and pressurized water for the depolymerization of natural biopolymers	Elaine G. Mission	O5
12:00-13:00	<i>Lunch</i>		
13:00-13:20	Torrefaction of lignocellulosic biomass in flue gas/Impact of meteorological data on biomass research and related industries	Prof. Yoshimitsu Uemura	IL4
13:20-13:40	Functionalization of carbon nanotubes for catalyst in SCF-mediated transesterification of non-edible seed oils	Prof. Joseph Auresenia	IL5
13:40-13:55	Cultivation of microalgae for biomass and biofuel production	Dr. Lam Man Kee	O6
13:55-14:10	Conversion of wastes to value added products for post combustion of CO ₂ capture	Chai Yee Hoo	O7
14:10-15:30	<i>Poster session and coffee break</i>		
15:30-15:50	Green synthesis of biodiesel and bioactive compounds (g-Oryzanol) from rice bran	Dr. Siti Zullaikah	IL6
15:50-16:05	Selected multifunctional reactors for biodiesel production using homogeneous and heterogeneous catalysts	Assist. Prof. Kanokwan Ngaosuwan	O8

Time	Content	Presenter	Code
16:05-16:20	Metabolic response of <i>Aspergillus terreus</i> under stress conditions	Assoc. Prof. Nuttha Thongchul	O9
16:20-16:30	Closing address	Prof. Suttichai Assabumrungrat Prof. Tetsuya Kida Prof. Armando Quitain	
18:00-21:00	Dinner (by invitation)		

List of Poster Presentation

No.	Title	Presenter/Affiliation	Code
1	Calcium oxide derived from waste shells as the heterogeneous catalyst for glycerol carbonate production	Miss Patchaya Benjasirichot (King Mongkut's Institute of Technology Ladkrabang)	P1
2	Exergoeconomic and environmental assessments of air-steam biomass gasification with CO ₂ utilization for dimethyl ether and ethanol productions	Mr. Teeranun Nakyak (Burapha University)	P2
3	Thermodynamic analysis and intrinsic catalytic properties of Tosoh zirconia supported copper-based catalyst and bi - functional catalysts for CO ₂ hydrogenation	Ms. Winatda Prachumsai (Burapha University)	P3
4	Optimization of hydrogen production from three reforming approaches of glycerol via using supercritical water with in situ CO ₂ separation	Asst. Prof. Yaneeporn Patcharavorachot (King Mongkut's Institute of Technology Ladkrabang)	P4
5	Experimental study of dual fixed bed biochar-catalytic gasification with simultaneous feed of O ₂ -steam-CO ₂ for synthesis gas or hydrogen production	Dr. Supawat Vivanpatarakij (Chulalongkorn University)	P5
6	Microwave-carbocatalysis method for conversion of glucose to 5-HMF	Ms. Tomomi Hasunuma (Kumamoto University)	P6
7	Reactive separation utilizing the synergy of mix H ₂ O and CO ₂ for conversion of glucose to 5-hydroxymethyl furfural	Mr. Ryuto Inoue (Kumamoto University)	P7
8	Development of perovskite quantum dots with high stability for optoelectrical applications	Mr. Yuji Akaishi (Kumamoto University)	P8

No.	Title	Presenter/Affiliation	Code
9	Electrochemical hydrogen production and separation using graphene oxide membranes	Mr. Masataka Shintani (Kumamoto University)	P9
10	Development of lead-free perovskite quantum dots for optoelectrical applications	Mr. Shuhei Tominaga (Kumamoto University)	P10
11	Wet-chemical synthesis of WS _x nanosheets	Ms. Karen Nakashima (Kumamoto University)	P11
12	Gas sensing properties of MoS _x nanosheets	Ms. Kana Maeda (Kumamoto University)	P12
13	Performance evaluation of upgrading biogas systems from swine farm to biomethane	Ms. Chidporn Worawimut (King Mongkut's University of Technology Thonburi)	P13
14	Computer fluid dynamic of standard tank mixing tank: Power number	Assist. Prof. Apinan Soottiantawat (Chulalongkorn University)	P14