Conference Program

15-17 December, 2019

Bangkok, Thailand

ICFMCE 2019

2019 3rd International Conference on Functional Materials and Chemical Engineering

Welcome

Dear Distinguished Participants,

Welcome to 2019 3rd International Conference on Functional Materials and Chemical Engineering (ICFMCE 2019)

After one-year painstaking preparation, we're delighted to declare that ICFMCE 2019, which is jointly hosted by Chulalongkorn University, PSE for SPEED Company and IASED will be held at Chulalongkorn University, Bangkok, Thailand as scheduled.

First of all, we'd like to express our sincere gratitude for your participation, which is the vital note to make the conference a great forum for the collision and fusion of ideas and knowledge. Besides, we'd like to say that the kind help and great efforts offered to our conference Professor Rafiqul Gani and conference chair Prof. Iqbal M. Mujtaba is greatly appreciated. Meanwhile, we also appreciate our local chair Prof. Varong Pavarajarn and other local committee members, plenary speakers, Prof. Suttichai Assabumrungrat, Prof. Stratos Pistikopoulos FREng, Prof. Fengqi You and Prof. Jay H Lee, 16 Keynote Speakers and 4 panel members who will share their newest and outstanding research achievements on the conference site.

In this big data age, the ever-changing information technology has updated and revolutionized the structure and content of our knowledge. The aim as well as the objective of ICFMCE 2019 is to present the latest research and results of Functional Materials and Chemical Engineering. By providing opportunities for the delegates to exchange new ideas face-to-face, to establish business or research relations as well as to find global partners for future collaborations, we do hope that the conference will intensify mutual improvement and facilitate academic exchange, as a result that leading to significant contributions to the knowledge in these up-to-date scientific fields.

Finally, we wish ICFMCE will be held with a complete success. At the same time, we wish you enjoy a very splendid time during the conference days in the impressive city of Bangkok, Thailand!

Thank you!

Sincerely yours,

ICFMCE 2019 Committee

❖**Registration**

The registration desk will be situated at **Ballroom 2001, Floor 20, Chaloem Rajakumari 60 Building (Chamchuri 10), Chulalongkorn University, Thialand** during the following time:

16:00-19:00, Sunday, 15 December, 2019.

❖**Instructions for Registration**

❖❖**There will be 4 desks for registration on Dec.15, 2019:**

1. **Speaker Registration:** Speakers (plenary speakers, keynote speakers, panel members) are encouraged to register in this desk. If you want to upload your slides on the conference computer when registration, please prepare your USB with your slides in advance. For additional participants, please also turn to this area for your registration.

2. **Oral Registration:** Oral presenters are encouraged to register on the oral registration desk. Please prepare your USB with your slides in advance and upload your slides on the conference computer when registration.

3. **Poster Registration:** Poster presenters are encouraged to finish the registration process on the poster registration desk. Please prepare your poster in advance and deliver your poster to the staff at poster registration desk when you finish the registration process.

4. **Registration-Payment:** Relating to registration fee, please turn to ''Registration-Payment'' desk.

❖❖**Registration Process:**

Step 1: Signing your name on the attendance list for your participation of the ICFMCE 2019.

Step 2: Collecting conference materials: inclusive of printed program, USB with proceeding, pen pad, chest card, receipt, conference souvenir.

Step 3: Copy the slides on the conference computer or deliver the posters to the registration desk.

❖**Reception**

Conference will provide Icebreaker reception drinks at **Ballroom 2001, Floor 20, Chaloem Rajakumari 60 Building (Chamchuri 10), Chulalongkorn University, Thialand,** it will start at

18:30, Sunday, 15 December, 2019.

❖**Remarks:** Conference will provide free coffee breaks**,** lunch and dinner.

❖**A Polite Request to All Participants**

Participants are requested to arrive in a timely fashion for all addresses. Presenters are reminded that the time slots should be divided fairly and equally by the number of presentations, and that they should not overrun. The session chair is asked to assume this timekeeping role and to summarize key issues in each topic.

❖**Prayer Room**

The prayer room is at Lecture Room 701.

❖**Dress Code for Conference:** Formal or National Custom

❖**Certificate**

Certificate of Attendance

A certificate of presentation indicates a presenter's name, affiliation and the paper title that is presented in the scheduled session, certifying the paper has been presented on the conference site.

Certificate of Best Oral & Best Poster

Presenters who presents a great oral presentation or poster presentation will be awarded as the Best Oral, or the Best Poster. The conference chair or the session chair will award a certificate of Best for them in the award ceremony on 17 December, 2019.

Certificate Distribution

Oral presenters will receive a certificate of presentation from the session chair at the end of your presentation.
Poster presenters will receive a certificate of presentation from the conference chair at the poster session.
Listener will receive a certificate from the conference chair at the end of the conference.

❖**Preparation for Oral Presentations**

All presentation rooms are equipped with a screen, an LCD projector, and a laptop computer installed with Microsoft Power Point. You will be able to insert your USB flash drive into the computer and double check your file in PowerPoint. We recommend you to bring two copies of the file(PDF&PPT) in case that one fails. You may also connect your own laptop to the provided projector; however please ensure you have the requisite connector.

Regular Oral Presentation: about 20 minutes, including 2-5 minutes of Q&A.

❖**Preparation for Poster Presentation**

Materials Prepared by the Conference Organizer:

Adhesive tapes

Materials Prepared by the Presenters:

Home-made poster (s)
Material: not limited, can be posted on the canvases.
Recommended poster size: width*height: 841mm*1189mm

Chaloem Rajakumari 60 Building (Chamchuri 10),

Chulalongkorn University (จุฬาลงกรณ์มหาวิทยาลัย)

Address: Chaloem Rajakumari 60 Building Phayathai Rd, Phatumwan Khet Pathum Wan, Krung Thep Maha Nakhon 10330 Thailand

Chulalongkorn University (Chaloem Rajakumari 60 Building Phayathai Rd, Phatumwan Khet Pathum Wan, Krung Thep Maha Nakhon 10330 Thailand)

Chulalongkorn University is continuously improving its curriculum and educational system. By employing qualified and experienced faculty and staff, using technology to enhance instruction, and designing the course content to cover all relevant aspects, CU provides students with the best education that can be adapted to benefit society and the country.

Chula ranked No.1 university in Thailand for 7 consecutive years by QS World University Rankings 2020.

❖**WIFI**

❖Transportation

Chulalongkorn University is conveniently located in the heart of Bangkok and getting to the university is easy from anywhere in the city.

Bangkok Mass Transit System (BTS)

The Bangkok Mass Transit System, also referred to as the BTS or Sky train, is an elevated rapid transit system in Bangkok. The Siam Station and National Stadium Station are relatively close to the university. From these stations, university shuttle buses to the university are provided.

Click here for the BTS map.

Metropolitan Rapid Transit (MRT)

The Metropolitan Rapid Transit, or MRT, is a rapid transit system serving the Bangkok Metropolitan Area and the Sam Yan MRT Station is right next to the university. Head towards Exit 2 below Chamchuri Square, which is one of the university's buildings, and you can begin your CU visit. From Chamchuri Square, you can walk, board a bus or hire a taxi to go to a specific building or faculty on campus.

Click here for the MRT map.

The Public Bus

There are quite a few buses that swing by CU. In fact, bus stops are located on all sides of the campus and can be divided into four main routes:

Rama 1 Road – Bus No. 11, 25, 54, 73, 73ก(Gor), 79 and 204.

Rama 4 Road – Bus No. 21, 34, 47, 50, 67, 93 and 141.

Phayathai Road – Bus No. 27, 29, 36, 36ก(Gor), 65 and 501.

Henri Dunant Road – Bus No. 16, 21 and 141.

Inquiries about other bus routes can be directed to www.bmta.co.th or call BMTA hotline: 1348.

Parking

Parking is available in several multi-storey Car Park:

Car park 1 (Chamchuri 9)

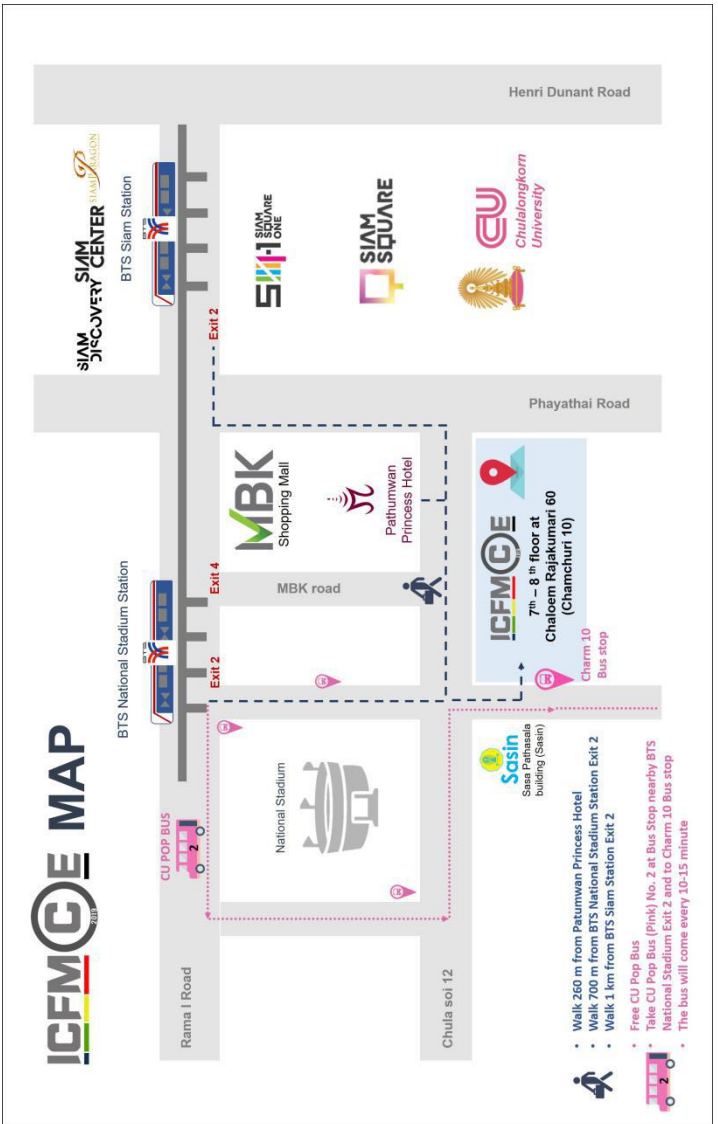
Car park 2 (Near the Faculty of Arts)

Car park 3 (Near the Faculty of Political Science)

Car park 4 (Near Chula Phat 14)

Guides to Conference Venue:

Some ICFMCE volunteers will act as guides for participants who stay in Pathumwan Princess. If you need help, please turn to them.


ICFMCE MAP
Henri Dunant Road
SIAM DISCOVERY CENTER
BTS Siam Station
SIAM ONE
SIAM SQUARE
Chulalongkorn University
Phayathai Road
Exit 2
MBK
Shopping Mall
Pathumwan Princess Hotel
MBK road
Exit 4
BTS National Stadium Station
CU POP BUS
Rama I Road
Exit 2
National Stadium
Chula soi 12
Sasin
Sasa Pathasala building (Sasin)
ICFMCE
7th – 8th floor at Chaloem Rajakumari 60 (Chamchuri 10)
Charm 10 Bus stop
Walk 260 m from Paturnwan Princess Hotel
Walk 700 m from BTS National Stadium Station Exit 2
Walk 1 km from BTS Siam Station Exit 2
Free CU Pop Bus
Take CU Pop Bus (Pink) No. 2 at Bus Stop nearby BTS National Stadium Exit 2 and to Charm 10 Bus stop
The bus will come every 10-15 minute

Technical Program

15-December

Time	Function
1600-1900	Registration (**Ballroom 2001, Floor 20**)
1830-	Reception (**Ballroom 2001, Floor 20**)

16-December

Time	Plenary Session 1 (**Auditorium 801, Floor 8**)	
	Session Chair: Professor Rafiqul Gani	
0845-0900 (Welcome Address)		Prof. Iqbal Mujtaba Conference Chair Bradford University, UK
		Prof. Kiat Ruxrungtham Vice President for Research and Innovation Chulalongkorn University, Thailand
0900-0940 (40-min) Plenary 1		Prof. Stratos Pistikopoulos Texas A&M University, USA *A Multi-scale Energy Systems Engineering approach towards Optimal Energy Transition Strategies*

16-December, Room 1 (Auditorium 801, Floor 8)

Time	Parallel Session 1: Model Based Techniques 1	
	Session Chairs: Prof. Eduardo S. Perez Cisneros, Dr. Reza Miresmaeili	
0945-1015 (30-min) Keynote 1		Assoc. Prof. Hirokazu Sugiyama University of Tokyo, Japan *Process Systems Engineering for Pharmaceutical Process Design and Operation*
1015-1035 (20-min) Oral	F010	Shiyang Chai Dalian University of Technology, China Computer-Aided Design of Crystallization Solvents for the Recovery of High-Purity 2-Mercapotobenzothiazole
1035-1050	***Break* (Lecture 701-702, Floor 7)**	
1050-1120 (30-min) Keynote 2		Prof. Meihong Wang The University of Sheffield, UK *Modelling, Simulation and Optimisation for Carbon Capture and CO_2 Utilisation*
1120-1300 (20-min) Oral	F036	Asst. Prof. Lida Simasatitkul King Mongkut's University of Technology North Bangkok, Thailand Economic assessment of toxic gases separation from hydrolysis of second aluminium dross

	F051	Nashwa El-Tahhan University of the Witwatersrand, South Africa Removal of Zn (II) and Cu (II) From Aqueous Solution Using Dried Water Hyacinth as Adsorbent: Optimization of Process Parameters Using RSM and GAMS
	F082	Asst. Prof. Reza Miresmaeili Tarbiat Modares University, Iran Dislocation Density-Based Modeling of the Grain Refinement in Surface Mechanical Attrition Treatment (SMAT)
	F058	Chidporn Worawimut King Mongkut's University of Technology Thonburi, Thailand Combination Unit of Membrane and Absorption for Purification and Upgrading Biogas to Biomethane
	F020	Chi Hung Vo National University of Singapore, Singapore Behaviours of the methanogen Methanococcus maripaludis under diazotrophy growth
1300-1530	***Lunch & Poster & Tea* (Lecture 701-702, Floor 7)**	

16-December, Room 2 (Lecture 802, Floor 8B)

Time	Parallel Session 2: Model Based Techniques 2 Session Chairs: Prof. Dr. Nat. Hesham A. El Enshasy, Dr. M. A. A. Shoukat Choudhury	
0945-1015 (30-min) Keynote 3		Associate Professor Lei Zhang School of Chemical Engineering, Dalian University of Technology, China *ProCAPD - A Smart Tool for Computer-Aided Chemical Product Design*
1015-1035 (20-min) Oral	F063	Yue Chai The University of Sheffield, UK Lab-based Experimental Study and Simulation of Pyrolysis and Gasification of Biomass and Plastics for H_2 Production
1035-1050	***Break* (Lecture 701-702, Floor 7)**	
1050-1120 (30-min) Keynote 4		Prof. Xi Chen Zhejiang University, China *Advanced Optimization Approaches for Polymerization Processes with Microstructural Quality Indices*
1120-1240 (20-min) Oral	F033	Ghochapon Mongkhonsiri Chulalongkorn University, Thailand Process design of integrated biorefinery in pulp and paper industry for sustainable development

	F083	Prof. Tomas Viveros-Garcia Universidad Autonoma Metropolitana Iztapalapa, Mexico Isomerization of citronellal to isopulegol. Activity and estereoselectivity on sulfated and phosphated zirconia
	F054	Nosaiba Abdelmagid Eltayeb Mohamed Texas A&M University at Qatar, Doha, Qatar Modelling of Catalyst Deactivation on the Dry Reforming of Methane (DRM) Using the Generalized Power Law Expression (GPLE)
	F069	Dr. Antonis Kokossis National Technical University of Athens, Greece Simultaneous Optimization for Mass and Energy Networks in Biorefineries
1300-1530	***Lunch & Poster & Tea* (Lecture 701-702, Floor 7)**	

16-December, Room 3 (Lecture 803, Floor 8B)

Time	**Parallel Session 3: Water** **Session Chairs: Prof. Edwin Zondervan, Dr. Varong Pavarajarn**	
0945-1015 (30-min) Keynote 5		Prof. Ahmad Fauzi Ismail Universiti Teknologi Malaysia, Malaysia *Photocatalytic Membranes for Water Reclamations: From Material Sciences to Applications*

1015-1035 (20-min) Oral	F052	Damson Leonard Kaunga University of Bradford, UK Modeling and Simulation of Multistage Humidification and Dehumidification Desalination Plant Using Solar Energy
1035-1050	***Break* (Lecture 701-702, Floor 7)**	
1050-1120 (30-min) Keynote 6		Prof. Wei Sun Beijing University of Chemical Technology, China *Data-driven smart operation systems in process industry*
1120-1240 (20-min) Oral	F050	Dr. B. Garudachari Kuwait Institute for Scientific Research (KISR), Kuwait Fabrication, Characterization of Modified Polyvinylpyrrolidone/Polysulfone Blend Membrane for Ultrafiltration Application
	F026	Varong Pavarajarn Chulalongkorn University, Thailand Simultaneous Separation and Recovery of Metal Ion by a Novel Nanofiber-Supported Liquid Membrane Operated in a Microchannel
	F048	Tasmeem Jahan Meem Bangladesh University of Engineering and Technology, Bangladesh A Study on the Efficiency of Fatted and Defatted Moringa Oleifera Seed Extract (MOSE) on Indigo Carmine Dye Removal

	F007	Assoc. Prof. Pei Sean GOH Universiti Teknologi Malaysia, Malaysia Polyamide Thin Film Nanocomposite Membrane Incorporated with Carbon Nanotubes/Graphene Oxide for Carbon Dioxide Removal
1300-1530	***Lunch & Poster & Tea* (Lecture 701-702, Floor 7)**	
1300-1530	Poster Session (Poster presentation and discussion at the poster display) **(Hallway, Floor 8)**	
	Session Chair: Prof. Iqbal Mujtaba	
	F001	Tanveer Mahtab Bangladesh University of Engineering and Technology, Bangladesh Decolorization of Dye by Fenton Process
	F002	Arisa Ronbin PSE for SPPED, Thailand LCSoft -Systematic and Consistent Life Cycle Assessment Software
	F008	Tasmeem Jahan Meem Bangladesh University of Engineering and Technology, Bangladesh Photocatalytic Performance of Solar-TiO_2 Immobilized Reactor for the Treatment of Methyl Orange Dye in Textile Wastewater
	F011	Jongsung Kim Gachon University, Republic of Korea Enhancement of H_2 evolution via photoelectrochemical water splitting using stable g-C_3N_4 decorated Fe_3O_4 doped CdS nanohybrids

	F012	Dr. Jeongjin Kim, Joonwoo We Lottee Engineering & Construction, South Korea Evaluation on the Damping performance of the polymer concrete by using pipe structure
	F017	Smach KIM Mahidol University, Thailand Comparative Study for Welding Machine by Using Welch Algorithm in Double Pulse Welding Function
	F019	Yusraini Dian Inayati Siregar Universitas Indonesia, Indonesia One Pot Conversion of Delignified Sorghum Bicolor Biomass into Levulinic Acid with Mn Metal Base Catalyst
	F022	A. Wongmaek Chulalongkorn University, Thailand Performance and durability of Ni-Fe-Cr alloys hydrogen electrode of solid oxide electrolysis cells for steam electrolysis
	F023	P. Kim-Lohsoontorn Chulalongkorn University, Thailand $Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O_{3-\delta}$ Perovskite anode for solid oxide electrolysis cells
	F024	Joungsung Kim Gachon University, South Korea Synthesis and Characterization of Uniform Size Gold Nanoparticles For detecting Hepatits B antigen

	F025	Wachiramon Khuenkaew Chulalongkorn University, Thailand Integrative carbon capture and utilization process: aqueous penta-ethylene hexamine system for CO_2 capture and hydrogenation to methanol
	F028	Varong Pavarajarn Chulalongkorn University, Thailand Advanced Oxidation Processes for Degradation of Toxic Contaminants: Degradation Pathway and Associated Toxicity
	F029	Akan Seitzhanov Bremen University, Germany Biodiesel production by reactive distillation: Rapeseed oil transesterification case in the context of German bioeconomy
	F038	Supawat Vivanpatarakij Chulalongkorn University, Thailand Biogas production from beverages industry waste by co-digestion
	F039	Parichart Konglek Chulalongkorn University, Thailand Hydrogenolysis of Glycerol over Bimetallic on Alumina Catalyst
	F040	Nutchada Kururatchaikun Chulalongkorn University, Thailand Hydrotreating of Oleic acid over heterogeneous noble catalyst

	F041	Tianpichet Perngyai Chulalongkorn University, Thailand Production of microencapsulated phase change material by pilot-scaled spray dryer
	F042	Nutchada Kururatchaikun Chulalongkorn University, Thailand Effect of hydrogen feed ratio on the hydrotreating of oleic acid over noble catalyst on Alumina
	F044	Apinan Soottitantawat Chulalongkorn University, Thailand Effect of water concentration on the hydrogenolysis of Glycerol over Bimetallic on Alumina Catalyst
	F045	Kornratad Satitrueg Chulalongkorn University, Thailand Influence of agitator speed and aeration rate on the oxygen mass transfer rate coefficient in the stirred tank bioreactor
	F049	Dr. Rafia Usman Khan NED University of Engineering and Technology, Pakistan Development of novel synthesis method for silver nanoparticles using benzene thiol and disulfide derivatives bearing triazine group and their catalyst application

	F068	Assoc. Prof. Chia-Ying Chiang National Taiwan University of Science and Technology Enhanced Photoelectrochemical Water Splitting by Introducing the Amorphous Metal Oxide Catalysts
	F089	Maria Luisa Baiño Salingay IHE Delft, The Netherlands, The Netherlands The effectiveness of using passive samplers in pesticide assessment in Can Tho River, Can Tho, Vietnam
	F088	Heechan YOON Korea Advanced Institute of Science and Technology (KAIST), South Korea Multi-metallic electro catalysts by carbothermal method for CO_2 reduction
1530-1700 Panel Discussion	**Panel Discussion:** *Chemical and biochemical engineering includingfunctional materials in 2030 in Thailand* **(Auditorium 801, Floor 8)**	
	Chair: Professor Rafiqul Gani	
		Dr. Alisa Kammafoo SCG Chemicals Co., Ltd, Thailand
		Dr. Prasert Pavasant Thai Roong Rueng Industry Co. Ltd, Thailand

		Dr. Kajornsak Faungnawakij National Science and Technology Development Agency, Thailand
		Prof. Varong Pavarajarn Chulalongkorn University, Bangkok, Thailand
Time	**Plenary Session 2 (Auditorium 801, Floor 8)**	
	Session Chair: Prof. Antonis Kokossis	
1700-1740 (40-min) Plenary 2		Prof. Suttichai Assabumrungrat Chulalongkorn University, Thailand *Thailand's Transformation to Bio - Circular - Green (BCG) Economy - A contribution from Chemical Engineers*
1740-1820 (40-min) Plenary 3		Prof. Fengqi You Cornell University, USA *Multi-Scale Life Cycle Optimization and Sustainability Analytics for Biorefinery Systems*
1900-	**Cultural Function and Conference Dinner (Ballroom 2001, Floor 20)**	

17-December

Time	**Plenary Session 3 (Auditorium 801, Floor 8)**
0900-0940	**Chair: Professor Rafiqul Gani**

(40-min) Plenary 4		Prof. Jay H Lee Korea Advanced Institute of Science and Technology (KAIST), Korea *Reinforcement Learning – Overview of Recent Progress and Potential Applications for Process Systems Engineering*

17-December, Room 1(Auditorium 801, Floor 8)

Time	**Parallel Session 4: Energy 1** **Session Chair: Prof. Meihong Wang, Prof. Ahmad Fauzi Ismail**	
0945-1015 (30-min) Keynote 7		Prof. Eduardo S. Perez Cisneros Universidad Autonóma Metropolitana - Iztapalapa, Mexico *An intensified Co-hydrotreating Reactive Separation Process for Jet Fuel Production*
1015-1045 (30-min) Keynote 8		Prof. Antonis Kokossis National Technical University of Athens, Greece *On the integrated design of lignin-first biorefineries using green solvents and an integrated systems approach*
1045-1100	***Break* (Lecture 701-702, Floor 7)**	
1100-1130 (30-min) Keynote 9		Prof. Edwin Zondervan Bremen University, Germany *Balancing costs, safety and CO_2 emissions in the design of hydrogen supply chains*

1130-1200 (30-min) Keynote 10		Dr. M. A. A. Shoukat Choudhury Bangladesh University of Engineering and Technology, Bangladesh *Detection and Diagnosis of Oscillations in Process Data - A Practical Approach*
1200-1320 (20-min) Oral	F005	Sayantanu Mandal Jadavpur University, Kolkata, India Fuel cell-Thermoelectric hybrid device based on waste heat utilization for Portable Power application
	F086	Olivia A. Perederic Technical University of Denmark, Denmark Waste Streams Property Characterisation in Biorefinery Systems Engineering Using an Ontology Approach
	F057	Thanakarn Suthirojn Chulalongkorn University, Thailand Techno-economic analysis of acetaldehyde production via non-oxidative dehydrogenation of ethanol
	F087	Goran Čubrić University of Zagreb, Croatia Thermographic Assessment of Bio-based Materials for Functional and Sustainable End Product
1320-1530	***Lunch & Poster & Tea* (Lecture 701-702, Floor 7)**	

17-December, Room 2 (Lecture 802, Floor 8B)

Time	Parallel Session 5: Functional Materials 1 Session Chair: Prof. Wei Sun, Prof. Tomás Viveros-García	
0945-1015 (30-min) Keynote 11		Prof. Dr. Nat. Hesham A. El Enshasy Universiti Teknologi Malaysia, Malaysia *Bioprocess platform design for large scale production of bioactive molecules from Mushrooms*
1015-1045 (30-min) Keynote 12		Dr. Nuttha Thongchul Chulalongkorn University, Thailand *Low cost technology platform development for a bioplastic precursor*
1045-1100	***Break* (Lecture 701-702, Floor 7)**	
1100-1130 (30-min) Keynote 13		Prof. Mohd. Sapual Salit Universiti Putra Malaysia (UPM), Malaysia *Advancement in natural fibre reinforced synthetic/bio polymer composites for engineering application*
1130-1310 (20-min) Oral	F072	Assoc. Prof. Ramesh Vinayagam Manipal Institute of Technology, India Catalytic reduction of acid blue 113 dye by silver nanoparticles synthesized using Tabebuia aurea leaf extract

	F043	Apinan Soottitantawat Chulalongkorn University, Thailand Process Design for Pentadecane Production from Methyl Palmitate
	F034	Supanida Chimpae King Mongkut's University of Technology North Bangkok, Thailand Applied multifunctional material by Pelletization for Hydrogen production from by-product of Biodiesel process
	F056	Sudarat Sompong Chulalongkorn University, Thailand Techno-economic analysis of acetaldehyde production via oxidative dehydrogenation of ethanol
	F085	Johan M. Ahlström Chalmers University of Technology, Sweden Decentralized plastic waste recycling through pyrolysis – a techno-economic feasibility study
1320-1530	***Lunch & Poster & Tea* (Lecture 701-702, Floor 7)**	

17-December, Room 3 (Lecture 803, Floor 8B)

Time	Parallel Session 6: Functional Materials 2 Session Chair: Prof. Xi Chen, Dr. Rungthiwa Methaapanon	
0945-1015 (30 min) Keynote 14		Dr. Seyed Soheil Mansouri Technical University of Denmark, Denmark *Integration of Computational Chemistry and Process Design for Process Intensification*
1015-1045 (30 min) Keynote 15		Dr. Alisa Kammafoo SCG Chemicals Co., Ltd, Thailand *Hybrid-Bioscrubber technology, a smart solution for VOCs and Odor treatment*
1045-1100	***Break* (Lecture 701-702, Floor 7)**	
1100-1130 (30-min) Keynote 16		Dr. Thana Sornchamni Innovation Institute, PTT, Public Company Limited, Thailand *The Development of Microchannel Heat Exchanger: from Lab-scale to commercial scale*
1130-1310 (20-min) Oral	F076	Asst. Prof. Tariq M. R. Aqeel The Public Authority of Applied Education and Training (PAAET) Kuwait, Kuwait Direct One-Step Synthesis Of Mesoporous ZnO-Silicate Matrix Using a True Liquid Crystal Method

	F037	Rungthiwa Methaapanon Chulalongkorn University, Thailand Fractionation of Lignocellulosic Biomass from Oil Palm Fronds using Gamma-Valerolactone and Dimethyl Sulfoxide
	F073	Assoc. Prof. Thivaharan Varadavenkatesan Manipal Institute of Technology, India Synthesis, characterization and antibacterial properties of silver nanoparticles fabricated using the fruit extract of Lagerstroemia speciosa
	F013	Assoc. Prof. Ho-Joong Kim Chosun University, South Korea Synthesis and studies on photophysical properties of BODIPY derivatives with triphenylamine substituents for bio-imaging application
	F080	Prof. Tomas Viveros-Garcia Universidad Autonoma Metropolitana Iztapalapa, Mexico Synthesis and characterization of NiMo/ γ -Al_2O_3 catalysts prepared by microemulsion method
1320-1530	***Lunch & Poster & Tea*** **(Lecture 701-702, Floor 7)**	

1320-1530	Poster Session (Poster presentation and discussion at the poster display) **(Hallway, Floor 8)**	
	Session Chair: Prof. Iqbal Mujtaba	
	F014	Prof. Naofumi Ohtsu Kitami Institute of Technology, Japan Production of Antimicrobial Agent from a Peppermint Herbal Water
	F031	Prof. Hirofumi Arai Kitami Institute of Technology, Japan Effect of flavonoids on oxidation of lipid and protein mediated by titanium dioxide with ultraviolet rays
	F046	Dolrudee Jaruwat Chulalongkorn University, Thailand Influence of parameter on the chemical activation of mesoporous carbon material derived from cattail leaves
	F047	B. A. Olufemi University of Lagos, Nigeria Adsorption of Nickel (II) Ion from Aqueous Solution using Saw Dust and Modified Saw Dust
	F053	Prof. Ching An Huang Dept. Mechanical Engineering, Chang Gung University Tensile fracture behavior of pure Ti specimens annealed at 750ºC and 1000ºC for different periods

	F055	Boonraksa Chaiapha Chulalongkorn University, Thailand Techno-economic analysis of diethylether production via dehydration of ethanol
	F061	Natnapong Wuttipisan Chulalongkorn University, Thailand Design and Analysis of the Empty Fruit Bunch Conversion Process for Multi-biofuels Production
	F062	Prof. LEE, MING-JER National Taiwan University of Science & Technology Separation of acetonitrile from its azeotropic aqueous solution with the aid of Good's buffer ionic liquid [TMA][EPPS]
	F064	Arif Chowdhury Dept. of Chemistry, IIT Patna, India Superadsorbent Ni-Co-S/SDS Nanocomposites for Ultrahigh Removal of Cationic, Anionic Organic Dyes and Toxic Metal Ions: Kinetics, Isotherm and Adsorption Mechanism
	F066	Saiful Irwan Zubairi Universiti Kebangsaan Malaysia, Malaysia Development of a Rigid Three-Dimensional (3-D) Pre-Blocks Mushroom Substrate from Wood Ash and Palm Fronds

	F067	Hak-Ryul Kim Kyungpook National University, South Korea Vegetable oil : Potential Substrate of Microbial Bioconversion for Production of Antibacterial Agent against Multidrug-resistant *Staphylococcus aureus*
	F070	Dr. Edyta Paula Wawrzynska University of Chemistry and Technology, Prague, Czech Republic Preparation of thermoresponsive poly(N-isopropylacrylamide) surfaces for non-enzymatic cell harvesting
	F074	Dr. Gitish Kishor Dutta National Institute of Technology-Meghalaya, India Nitrogen-Doped Porous Carbons Derived from Microporous Organic Polymers for Electrochemical Energy Storage
	F075	Assoc. Prof. Tae Kyu An Korea National University of Transportation, Republic of Korea Effect of Lateral Confinement on Crystallization Behavior of a Small-Molecule Semiconductor during Capillary Force Lithography for Use in High-Performance OFETs

	F077	Prof. Iqbal Mujtaba Bradford University, UK Adsorption of Dyes and Metal Ions onto Chemical Grafting of Electrospun PAN Nanofibers
	F078	Somen Mondal Indian Institute of Technology Guwahati, India Synthesis Of Ag-RGO Nanocomposite Using Greem Method And Its Application As An Efficient Naproxen Adsorbent
	F079	Nichakorn Kuprasertwong Chulalongkorn University, Thailand Fast, Efficient & Reliable Problem Solution through a New Class of Software Tools
	F081	Rashin Namivandi-Zangeneh The University of New South Wales, Australia Synergy between Synthetic Antimicrobial Polymer and Antibiotics/Nitric Oxide: A Promising Platform To Combat Multidrug-Resistant Bacteria
	F084	Humaira Khan University of Management and Technology Highly efficient visible light active sulphur doped zinc oxide and its composite with graphene oxide for degradation of toxic pollutants

17-December, Room 1 (Auditorium 801, Floor 8)

Time	**Parallel Session 7: Energy 2**	
1530-1630 (20-min) Oral	**Session Chair: Dr. Seyed Soheil Mansouri**	
	F065	Maytungkorn Sermsuk King Mongkut's Institute of Technology Ladkrabang, Thailand The design of a heat exchanger utilizing cold energy of Liquefied Natural Gas (LNG) to produce electricity and cold water for reduce capital of a Data Center
	F027	Kanya Bumroongsil Chulalongkorn University, Bangkok, Thailand Effects of pulse current charging in tri-electrode rechargeable zinc-air flow battery
	F035	Talita Nimmas Chulalongkorn University, Thailand Hydrogen production from sorption enhanced chemical looping ethanol steam reforming using NiO-CuO-CaO-$Ca_{12}A_{14}O_{33}$ multifunctional catalyst

17-December, Room 3 (Lecture 803, Floor 8B)

Time	**Parallel Session 8: Functional Materials 3**
	Session Chair: Assoc. Prof. Lei Zhang

1530-1630 (20-min) Oral	F018	Souptik Bhattacharya Jadavpur University, Kolkata, India Molecular docking studies and shelf life enhancement of bioactive thiosulfinate drug extracted from Allium sativum using micelle carrier system
	F071	Assoc. Prof. Raja Selvaraj Manipal Academy of Higher Education (MAHE), India Green synthesis, characterization and catalytic degradation ability of silver nanoparticles synthesized using Thunbergia grandiflora leaf extract
	F060	Narita Chanthon Chulalongkorn University, Thailand Intensification of biodiesel production from palm oil using rotating tube reactor

17-December, Room 1 (Auditorium 801, Floor 8)

Time	**Closing Session and Award Ceremony**	
1700-1730 (Closing Session)		Prof. Dr. A. Kokossis National Technical University of Athens, Greece Next ICFMCE Announcing

		Prof R Gani PSE for SPEED Company Announce best oral and best poster Closing Remarks
		Prof Iqbal M. Mujtaba ICFMCE 2019 Chair Bradford University, UK Announce best oral and best poster Closing Remarks

Additional participants	
F01	Orakotch Padungwatanaroj NPSE for SPPED, Thailand
F02	Dr. Chaiya Prasittichai Kasetsart University, Thailand
F03	Asst. Prof. Paravee Vas-Umnuay Chulalongkorn University, Thailand
F04	Pongtorn Charoensuppanimit Chulalongkorn University, Thailand
F05	Asst. Prof. Palang Bumroongsakulsawat Chulalongkorn University, Bangkok 10330, Thailand

❖**Closing Session & Awards will be held in Auditorium 801, Floor 8**

❖**Coffee breaks will be in Lecture 701-702, Floor 7.**

❖**Prayer room is in the 701, Floor 7.**

Note

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