The 4th International Conference on Power, Energy and Mechanical Engineering

(ICPEME 2020)

The 9th International Conference on Manufacturing Engineering and Processes

(ICMEP 2020)

February 14-17, 2020

Lion's Garden Hotel

Address: Cházár András u. 4 | 1146 Budapest

Web: http://www.lions-garden.com/

Contents

Welcome Letter

I am pleased to announce that the 4th International Conference on Power, Energy and Mechanical Engineering (ICPEME 2020) and the 9th International Conference on Manufacturing Engineering and Processes (ICMEP 2020) will take place in Budapest, Hungary, from the 14th to the 17th of February of 2020.

ICPEME and ICMEP are annual conferences organized with the intend of being a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in related areas. This conference provides opportunities for the delegates to exchange new ideas and application experiences face to face, to establish business or research relations and to find global partners for future collaboration.

I cordially invite the scientific community to participate in what promises to be a memorable conference. I believe we have chosen a venue that guarantees a successful technical conference amid the culture and scenery of Budapest, Hungary.

Budapest is an attractive city, with an exciting cultural awareness, unique architecture and a warm and welcoming population, all of which make it a very appealing destination.

I look forward to welcoming many professionals in the field of Power, Energy, Mechanical Engineering and Manufacturing Engineering from all over the world in February 2020 in Budapest.

Yours sincerely,
Prof. Mário S. Ming Kong

Conference Committees

Advisory Chair

Ramesh K. Agarwal, Washington University in St. Louis, USA

Conference Chairs

Mário S. Ming Kong, University Lisbon, Portugal

Dorrik Stow Frse, Heriot-Watt University, Edinburgh, Scotland, UK

Program Chairs

Frederic Vignat, Université Grenoble Alpes, France

Stanislaw Szwaja, Czestochowa University of Technology, Poland

Publicity Chairs

Hassan El-Hofy, Alexandria University, Alexandria, Egypt

José B.Aguiar, University of Minho, Portugal

Balan George, Romanian -German University of Sibiu, Romania

Technical Committees

Agata Skwarek, Institute of Electron Technology, Poland

Ahmed Kadhim Hussein, University of Babylon, Iraq

Ali Zamiri, Korea University, South Korea

André Zimmermann, Hahn-Schickard, Germany

Charnnarong Saikaew, Khon Kaen University, Thailand

Che Hassan Bin Che Haron, National University Of Malaysia, Malaysia

Constantin Dulucheanu, University "Stefan cel Mare" of Suceava, Romania

Franco Concli, Free University of Bolzano, Italy

Franz Haas, Graz University of Technology, Austria

Giedrė Streckienė, Vilnius Gediminas Technical University, Lithuania

Hasan AL Dabbas, Philadelphia University, Jordan

Hedayat Omidvar, National Iranian Gas Company, Iran

Ho Jee Hou, University of Nottingham Malaysia, Malaysia

Useful Information

Conference Venue

Lion's Garden Hotel

Address: Cházár András u. 4 | 1146 Budapest

Website: http://www.lions-garden.com/

Time


Time

UTC/GMT+1

Weather

Average Temperature in February in Budapest

-2℃-4℃

Transportation

From the airport by car

It takes about 30 minutes to reach the Hotel depending on traffic. Head north and follow the Centrum signs all the way until you reach Üllői street. Turn right at Könyves Kálmán road and drive along, the name of the street will change to Hungária road after a while. When you reach Budapest Sportcsarnok, turn left at Stefánia street and turn left again at Thököly street. When you see the Cathedral, turn right to Cházár András street. The Hotel is located right across the Cathedral.

By taxi

We are glad to offer you our Airport transfer service at a rate of €35 up to 4 person.
Contact us for assistance: info@lions-garden.com or +36 1 273 2070
In order to avoid unreasonable tariffs, make sure that you take taxis only with a company logo!

By public transportation

From Keleti pályaudvar (East Railway Station):

Bus Nr. 5 direction to Rákospalot

Bus Nr. 7 direction to Újpalota

Bus Nr. 110, 112 or 239 direction to Bosnyák tér

Get off the bus at the 2nd stop, Cházár András street. The Hotel is located at the beginning of the street, right across the 100-year-old Cathedral.

By metro:

Get off metro line Nr. 2 (red line) or Nr. 4 (green line) at Keleti pályaudvar and take bus number 5, 7, 110, 112 or 239. Get off the bus at the 2nd stop, Cházár András street. The Hotel is located at the beginning of the street, right across the 100-year-old Cathedral.

By trolley-bus:

Get off the trolley-bus Nr. 79 or 75 at the stop called Ajtósi Dürer sor. Walk 150 meters in Cházár András street.

Instructions for Presentation

Please come 10 minutes earlier before your session starts.

※ A best presentation will be selected from each session and award during dinner.

Devices Provided by the Conference Organizer

Laptops (with MS-Office & Adobe Reader)

Projector & Screen

Laser Sticks

Portal Frame

Materials Provided by the Presenters

Oral Presentation: PowerPoint or PDF files. Please copy your slide file to the desktop before session starts.

Poster Presentation: 841mm high and 594mm wide (A1 size), Poster must be in the "Portrait" orientation (not "Landscape"). During your poster session, the author should stay by your poster paper to explain and discuss your paper.

Duration of Each Presentation

Regular Oral Session: about 15 minutes of presentation including Q&A.

Poster Session: about 10 minutes of presentation for each poster.

About Dress Code

All participants are required to dress formally. Casual wear is unacceptable. National formal dress is acceptable.

Conference Agenda

Feb. 14, 2020 - Schedule

10:00-16:00 Participants Check-in & Materials Collection (Lobby)

Feb. 15, 2020 - Schedule

	Keynote Speeches	
	Chairman **Prof. Mário S. Ming Kong**	
09:00-09:05	**Conference Opening Remarks** **Prof. Ramesh K. Agarwal**	
09:05-09:55	**Keynote Speaker I** **Prof. Ramesh K. Agarwal** **Washington University in St. Louis, USA** Speech Title: Food - Water – Energy – Environment Nexus and Sustainable Future	PALM Room
9:55-10:45	**Keynote Speaker II** **Prof. Dorrik Stow Frse** **Heriot-Watt University, UK** Speech Title: The Ocean Challenge: Energy, Resources and the Environment	
10:45-11:10	Group Photo and Coffee Break	
11:10-12:00	**Keynote Speaker III** **Prof. Mário S. Ming Kong** **University Lisbon, Portugal** Speech Title: Plasticity of Paper in the Designing Process	PALM Room
12:00-13:00	Lunch	
	Parallel Oral Sessions	
13:00-15:00	**Session 1** Electronic and Electrical Engineering	PALM Room 1
	Session 2 Mechanical and Electrical Systems	PALM Room 2

15:00-15:30	Coffee Break	
	Parallel Oral Sessions and Poster Sessions	
15:30-18:00	**Session 3** Green Energy and Energy Materials	PALM Room 1
	Poster Session	PALM Room 2
18:00-20:00	Dinner	

Session Index

Session 1: M2015; M2018-A; M2019; M2023; M2029; M2033; M2035-A;

Session 2: M2003; M2014; M2016-A; M2017-A; M2022; M2030; M2045-A; M2009

Session 3: M1005-A; M1020-A; M1021; M2027-A; M2032-A; M2036; M23002，M2043-A; M2025

Poster Session: M1004-A; M1006-A; M1007-A; M1024; M2004-A; M2005-A; M2020-A; M2031-A; M2034-A; M2037-A; M2038-A; M2040; M2041; M2039-A; M2046

Introduction of Speakers

Keynote Speaker I

Prof. Ramesh K. Agarwal

Washington University in St. Louis, USA

Title: Food - Water – Energy – Environment Nexus and Sustainable Future

Abstract: Food, energy and water are critical, mutually dependent, resources needed for the existence and progress of human civilization. The production of food requires both energy and water. The production of energy requires large volumes of water and water infrastructure requires large amounts of energy. Therefore there is this food-water-energy nexus which should be addressed together in the context of their supply, demand and management to meet the needs of growing world population, with the prospects and expectations for improved quality of life for large percentage of world population. More importantly, while there are variety of possible alternate sources and technological solutions for increasing the energy supply as well as arresting the global warming, there are limited solutions to increasing the food supply and there is only finite supply of fresh water which can all be adversely affected by the climate change. The only way to increase the fresh water supply is by desalination which is an energy intensive process. In addition, the increase in the use of fossil fuels to meet the energy demands in the near term is likely to impact climate change due to increase in GHG emissions which in turn can impact the water supply. Therefore conservation of water is equally or may be even more important than conservation of energy. To sustain energy production and a dependable water supply, the U.S and the world must gain a detailed understanding of the interdependencies of water and energy systems, balance the needs of all users, and develop technologies to reduce water use and loss by water conservation and efficiency. These goals can be achieved through advancing water and energy system prediction and forecasting, scientific and technological innovation, and the implementation of technologies and management systems. This paper provides an overview of food-water-energy-environment nexus primarily in the context of U.S but also from global perspective.

Biodata: Professor Ramesh K. Agarwal is the William Palm Professor of Engineering in the department of Mechanical Engineering and Materials Science at Washington University in St. Louis. From 1994 to 2001, he was the Sam Bloomfield Distinguished Professor and Executive Director of the National Institute for Aviation Research at Wichita State University in Kansas. From 1978 to 1994, he was the Program Director and McDonnell Douglas Fellow at McDonnell Douglas Research Laboratories in St. Louis. Dr. Agarwal received Ph.D in Aeronautical Sciences from Stanford University in 1975, M.S. in Aeronautical Engineering from the University of Minnesota in 1969 and B.S. in Mechanical Engineering from Indian Institute of Technology, Kharagpur, India in 1968. Over a period of forty years, Professor Agarwal has worked in various areas of Computational Science and Engineering - Computational Fluid Dynamics (CFD), Computational Materials Science and Manufacturing, Computational Electromagnetics (CEM), Neuro-Computing, Control Theory and Systems, and

Multidisciplinary Design and Optimization. He is the author and coauthor of over 500 journal and refereed conference publications. He has given many plenary, keynote and invited lectures at various national and international conferences worldwide in over fifty countries. Professor Agarwal continues to serve on many academic, government, and industrial advisory committees. Dr. Agarwal is a Fellow eighteen societies including the Institute of Electrical and Electronics Engineers (IEEE), American Association for Advancement of Science (AAAS), American Institute of Aeronautics and Astronautics (AIAA), American Physical Society (APS), American Society of Mechanical Engineers (ASME), Royal Aeronautical Society, Chinese Society of Aeronautics and Astronautics (CSAA), Society of Manufacturing Engineers (SME) and American Society for Engineering Education (ASEE). He has received many prestigious honors and national/international awards from various professional societies and organizations for his research contributions.

Keynote Speaker II

Prof. Dorrik Stow Frse

Heriot-Watt University, UK

Title: The Ocean Challenge: Energy, Resources and the Environment

Abstract: Human use and abuse of the oceans will come to define the 21st century. The oceans cover 71% of the planet and have a huge impact on our lives, but sound management of the seas needs political, scientific and engineering solutions. Over 50% of oil and gas discoveries in the last decade have been made in the deep oceans, and companies are routinely drilling on the continental slope in water depths over 2500 metres. Gas from methane hydrates may become the next challenge. There is an explosive increase in renewable energy production, equalling the growth trajectory of oil and gas in the last century. Offshore wind turbines, tidal barrages, energy from waves and other marine sources are an important part of that growth.

The mineral riches of the ocean are vast and barely tapped – manganese nodules, polymetallic chimneys around hot-water vents, and an abundance of rare-earth elements now believed to be concentrated in deep-sea clays. These are an unusual group of rare metals – yttrium and the lanthanide series – that are being consumed in ever-increasing amounts for everyday products such as computer memory chips, mobile phones, batteries, DVDs and much more. Terrestrial resources are very limited for all these minerals. The oceans also offer an almost infinite source of water – from which clean drinking water can be extracted through de-salination. A safe and sufficient water resource for everyone is perhaps the greatest challenge this century.

The environmental impact of human activities in the oceans is enormous. Parts of the oceans are crisscrossed with communication cables, as well as oil and gas pipelines and other subsurface installations. Today, 99% of all internet data is transmitted by submarine cables. There are over 100,000 ships worldwide, most for trade, fishing and tourism. Oceans provide a receptacle for our human waste, a capacity to re-absorb our carbon dioxide emissions from the atmosphere, a cleanser of both sewage and oil spills. Equally, the oceans are the single biggest driver and buffer of global warming. The temperature of the sea helps control everyday weather patterns, generates hurricanes and tropical cyclones, and leads to regional droughts or excessive monsoonal rainfall. The oceans are under serious threat of near irreversible pollution in certain coastal areas and marginal or enclosed seas. Everywhere, the oceans are becoming more acid and this chemical change profoundly affects marine biota. Sea level is on the rise with profound effects on coastal and island communities.

Whatever the societal challenge for the oceans in the 21st century – communications, energy, food, water, minerals, trade, tourism, waste disposal, natural hazards, global warming or environmental degradation – we need better scientific understanding, global political dialogue, and sound engineering solutions to a multitude of challenges. These are the challenges I would like to put before conference delegates.

Biodata: Professor Stow is a leading sedimentologist, geologist and oceanographer of international standing with an extensive record of scientific publications, including

over 200 scientific papers and reports, numerous books and edited volumes. He specialises in the deep sea and on deep-sea deposits now thrown up onto land. In pursuing this scientific quest he has sailed on all the world's major oceans, visited or worked in more than 50 countries and lectured extensively throughout the world. He has worked in and with the oil industry, particularly in their ongoing quest for deep-sea oil and gas and on new and tight reservoir targets; led a major international mission for scientific drilling into the deep Indian Ocean seafloor; and is currently co-chief scientist for IODP Leg 339 on Mediterranean Outflow research. He also maintains strong interest in the field of geoscience and development, with recent visits to Indian Kashmir, Assam and Sri Lanka, concerning hazard mitigation, geoscience education and marine management. His enthusiasm for the popularisation of ocean and earth sciences is expressed through lectures, writing and broadcast, including his recent books Oceans: An Illustrated Reference (2004) and Vanished Ocean (OUP, 2010). He is currently Director of Research and Professor of Petroleum Geoscience at the Institute of Petroleum Engineering, Heriot Watt University, and Director of the Edinburgh Collaborative of Subsurface Science and Engineering (ECOSSE). Employment 2008-present: ECOSSE Chair & Professor, Heriot-Watt University; Director of Research, Institute of Petroleum Engineering 1989-2008: Professor Ocean & Earth Science (from 2000), previously Reader, and Head of Academic Studies, School of Ocean and Earth Science, National Oceanography Centre, Southampton University 2006: Visiting Professor, Instituto Espanol de Oceanografia, Malaga, Spain; Spanish Misitry of Education and Science, Mobility Award. 1998-2000: Royal Society Industrial Research Fellow, BP, Sunbury; working within the Deepwater Research team 1984-1989: Lecturer then Reader, Nottingham University 1984: Associate Professor, Bordeaux University, France 1980-1984: Royal Society of Edinburgh Research Fellow (1982-84); NERC Research Fellow (1980-82), Edinburgh University 1977-1980: Exploration Geologist then Senior Sedimentologist, British National Oil Corporation (Britoil), Glasgow Education and awards 1977: PhD Marine Geology, Dalhousie University, Canada 1976: MA Cambridge University, UK 1974: BA Natural Science Tripos, Cambridge University, UK Royal Society Industrial Research Fellowship National Teaching Fellowship Geological Society William Smith Award Royal Society of Edinburgh Research Fellowship Natural Environmental Research Council Research Fellowship Royal Society John Murray Travelling Fellowship Dalhousie Postgraduate Fellowship Commonwealth Scholarship Exhibition, Sidney Sussex College, Cambridge Royal Institution Australian Science Scholarship.

Keynote Speaker III

Prof. Mário S. Ming Kong

University Lisbon, Portugal

Title: Plasticity of Paper in the Designing Process

Abstract: This communication focuses on two points. One is the materiality of paper, the second, its potential in the designing process.
In this perspective, when we use paper to write, draw or paint on, it supports and conveys ideas and images, however diverting our attention from the supporting element. When we fold, tear, cut or glue paper, it suddenly becomes the protagonist. Take as an example the case of traditional Japanese art of "origami" where we can verify that paper, with only a few combined geometric folds, takes three-dimensional shapes of great beauty. This ability of paper to be easily processed, moulded and torn allows its use as a tool in the conception of new forms, spaces and objects.
Therefore, paper may prove to be a base element of a new methodology for the conceptional process in architecture, art, design and also in the field of engineering and technology.
Inserted in our research project, we have created at our University the Optional Course of "Paper Architectures and Sustainable Materials" and a Specialization Course in "Paper Architecture and Parametric Design associated with alternative Structures and Materials", where these concepts are launched in a vision to promote the trans- and interdisciplinarity of these subjects and where new ideas and new ways to implement them are tested and verified.
With this communication we intend to draw attention to the plastic potential of paper and disclose the results of some studies carried out in these courses.

Biodata: Mário Say Ming Kong holds a PhD in Architecture in the field of Design and Visual Communication at the Escola Técnica Superior de Arquitectura in Barcelona - Universidad Politécnica de Cataluña (ETSAB-UPC) with post-doctoral studies at ETSAB-UPC, a Master degree in Architecture from FAUTL.
He is currently Professor with Aggregation of FA-ULisboa, Guest Professor at ESELx and at the Master Course of Art at FBA-ULisboa.
Previously he was a lecturer at the University Lusófona (U.L.H.T.) and the Universidade Independente, respectively in the departments of Urban Planning and Architecture.
In 2000 he was the coordinator of the first year of the Urban Planning Course at U.L.H.T. In 1998, Regent of the discipline of Design / CAD / Geometry in U.L.H.T.
He has participated in scientific research studies and consultancy work for external entities. He has carried out publications, communications and training courses in order to disseminate the results of his research activity and teacher in national and international universities.
His main fields of research are: "Harmony and proportion in the representation between the West and the East" and "Architectures in Paper and Sustainable Materials with its application in the Plasticity of Paper in the Creative Process of Architecture, Urbanism and Design" applying concepts of Origami and Kirigami to materials such as paper and bamboo.

Parallel Presentation Sessions

Feb. 15-Parallel Oral Session 1

S1: Electronic and Electrical Engineering	
Session Chair: Prof. Ramesh K. Agarwal	
Time: 13:00-15:00	**[Location: PALM Room 1]**

- Please control each presentation time within **15 minutes**, including Q & A.
- The **certification of oral presentations** and **winner of best presentation** will be awarded at dinner.
- The scheduled time for presentations might be changed due to unexpected situations, please arrive meeting room at least **10 minutes** before your session starts.
- To show respect to other authors, especially to encourage the student authors, we strongly suggest you attend the whole session.
- Session photo will be taken at the end of each session and updated online.

M2015 13:00-13:15	A two-sided price-decoupled pay-as-bid auction approach for the clearing of day-ahead electricity markets **Mr. Dávid Csercsik** Pázmány Péter Catholic University, Hungary
M2018-A 13:15-13:30	Deep learning for elastic wave fields obtained by CQBEM and its application to laser ultrasonic non-destructive testing **Dr. Takahiro Saitoh,** Masahiko Tashiro, Riho Minowa and Masahiko Hatano Gunma University, Japan
M2019 13:30-13:45	Real-time determination of overall heat transfer coefficient from the Seebeck effect by using adaptive learning-rate optimization Nataporn Korprasertsak and **Prof. Thananchai Leephakpreeda** Thammasat University, Thailand
M2023 13:45-14:00	Online Monitoring Solutions of Efficiency for Automotive EGR Heat Exchangers Bianca Maria Vaglieco, **Dr. Simona Silvia Merola, Mr.Adrian Irimescu**, Vasco Zollo and Raffaele De Marinis CNR Istituto Motori, Italy
M2029 14:00-14:15	Performance Analysis of a PEM Fuel Cell Stack Having 150 cm2 Active Layer by Using Design of Experiments (DOE) **Dr. Elif Eker Kahveci** and Imdat Taymaz Sakarya University, Turkey
M2033 14:15-14:30	Magnetic Field Distributions inside Magnetically Driven Nanofluids for Thermal Management of CPUs

	Mr. Serkan Doğanay, Levent Çetin, Mehmet Akif Ezan and Alpaslan Turgut Dokuz Eylül University, Turkey
M2035-A 14:30-14:45	Preparation of innovative graphene aerogel air fuel cells **Mr. Po Jen Tseng**, Hong Kai Jheng, Ming Hsiu Huang, Jia Yaw Chang and Chao Yin Kuo National Yunlin University of Science and Technology, Taiwan

Feb. 15-Parallel Oral Session 2

S2: Mechanical and Electrical Systems	
Session Chair: Prof. Mário S. Ming Kong	
Time: 13:00-15:00	**[Location: PALM Room 2]**

- Please control each presentation time within **15 minutes**, including Q & A.
- The **certification of oral presentations** and **winner of best presentation** will be awarded at dinner.
- The scheduled time for presentations might be changed due to unexpected situations, please arrive meeting room at least **10 minutes** before your session starts.
- To show respect to other authors, especially to encourage the student authors, we strongly suggest you attend the whole session.
- Session photo will be taken at the end of each session and updated online.

M2014 13:00-13:15	Comparing subsurface energy storage systems: Underground pumped storage hydropower, compressed air energy storage and suspended weight gravity energy storage **Dr. Javier Menendez,** Falko Schmidt and Jorge Loredo Hunaser Energy, Spain
M2016-A 13:15-13:30	The effect of external domain on oscillating jet emitted from double-feedback fluidic oscillator **Ms. Shabnam Mohammadshahi** and Kyung Chun Kim Pusan National University, Republic of Korea
M2017-A 13:30-13:45	Numerical and experimental analysis of N2 ejector performance **Mr. Hadi Samsam-Khayani,** Sang Youl Yoon and Kyung Chun Kim Pusan National University, Republic of Korea
M2022 13:45-14:00	Effect of drop orientation on structural integrity of a shipping container for nuclear fresh fuel **Mr. Supil Ryu** KEPCO NF, Republic of Korea
M2030 14:00-14:15	Mechanics of electrical transmission line robot inspector: pendulum as a dynamic vibration absorber **Asst. Prof. Mohammad Reza Bahrami** Innopolis University, Russia
M2045-A 14:15-14:30	Mechanical Indentation Analysis with a Higher-order Elastic Beam Model **Prof. C.Q. Ru** University of Alberta , Canada
M2003 14:30-14:45	Novel Design of Speed-increasing Compound Coupled Hydro-mechanical Transmission on Tidal Current Turbine for Power Generation

	Mr. Xiaohan Dong, Zhao Wang, Pengfei Shen, Yurun Song and Jin Yu Chongqing University，China
M2009 14:45-15:00	Analysis of Emergency Evacuation in chemical enterprises Based on Bayes Network **Dr. Yunshan Dong,** Fengqi Si and Kun Yang Southeast University, China

Feb. 15-Parallel Oral Session 3

S3: Green energy and Energy MSaterials	
Session Chair: TBA	
Time: 15:30-17:45	**[Location: PALM Room 1]**

- Please control each presentation time within **15 minutes**, including Q & A.
- The **certification of oral presentations** and **winner of best presentation** will be awarded at dinner.
- The scheduled time for presentations might be changed due to unexpected situations, please arrive meeting room at least **10 minutes** before your session starts.
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- Session photo will be taken at the end of each session and updated online.

M1005-A 15:30-15:45	Effects of grain size on mechanical properties of polycrystalline graphene **Prof. Jihoon Han** Jeonbuk National University, Republic of Korea
M1020-A 15:45-16:00	Determination on Optimum Preparation Condition of Carbon-infiltrated Goethite Ore for Rapid Ironmaking Process **Dr. Keisuke Abe**, Ade Kurniawan, Masafumi Sanada, Takahiro Nomura and Tomohiro Akiyama Hokkaido University, Japan
M1021 16:00-16:15	Additive manufacturing of salt hydrates: Primary process parameters and case study **Dr. Markus Brillinger**, Christian Pichlkastner, Franz Haas, Andreas Trummer and Muaaz Abdul Hadi Pro2Future, Area 4.2 – Cognitive Production Systems, 8010 Graz, Austria Graz University of Technology, Austria
M2027-A 16:15-16:30	Effect of drop orientation on structural integrity of a shipping container for nuclear fresh fuel **Dr. Hamad Alhajeri,** Abdulrahman Almutairi ,Abdulrahman Alenezi and Abdelaziz Gamil PAAET , Kuwait
M2032-A 16:30-16:45	Thermodynamic and Optimization Analysis of Kalina Flash Cycle Based on the Second Law **Prof. Kyoung Hoon Kim** Kumoh National Institute of Technology，Republic of Korea
M2036 16:45-17:00	Study on the Difference of Photochemical Efficiency of Sunlight Photocatalyst in Degradations Dye Aqueous RhB Solution in Different Seasons

	Dr. Hong Kai Jheng, Po Jen Tseng,Chang Zhang Zeng and Chao Yin Kuo National Yunlin University of Science and Technology, Taiwan
M23002 17:00-17:15	Particle Entrainment and Deposition Scenarios in the Sublayer Region of Varying Area Conduits **Dr. Esam I Jassim** Prince Mohammad Bin Fahd University, Saudi Arabia
M2043-A 17:15-17:30	Green Chemistry Approach Turning Hazardous e-Waste Oils into Value-added Carbon Quantum Dots **YongChien Ling,** YH Tsai, TM Chi and YH Shih National TsingHua University , Taiwan
M2025 17:30-17:45	Dynamic prediction of the thermal nonlinear process based on Deep Hybrid Neural Network **Dr. Peng Wang,** Qifeng Si Southeast University , China

Feb. 15-Poster Session

Time: 15:30-17:50	[Location: PALM Room 2]
Session Chair: Assoc. Prof. Kirill E. Kazakov	

- Please control each presentation time within **10 minutes**, including Q & A.
- The **certification of poster presentations** and **winner of best presentation** will be awarded at dinner.
- The scheduled time for presentations might be changed due to unexpected situations, please arrive meeting room at least **10 minutes** before your session starts.
- To show respect to other authors, especially to encourage the student authors, we strongly suggest you attend the whole session.
- Session photo will be taken at the end of each session and updated online.
- **Please bring your poster and put them according to the order.**

01	M1004-A	Process design and economic evaluation of a combined extraction and reactive distillation system for purification of lactic acid from fermentation broth Kanungnit Chawong, Wittaya Julklang, Boonpradab Daengpradab, Suntisuk Hasin, Sunisa Singhawannurat and **Dr. Panarat Rattanaphanee** Suranaree University of Technology, Thailand
02	M1006-A	Surface Charge Effects on the Crystal Shape of Alq3 grown in [C12mim][TFSI] Ionic Liquids **Ms. Jimin Seo**, Sooho Park and Dongchan Shin Chosun University, Republic of Korea
03	M2004-A	Using Fast Fourier Transform in Phase Leading Compensator for Respiratory Motion Compensation System **Prof. Ho-Chiao Chuang**, Yi-Fan Li and Ai-Ho Liao National Taipei University of Technology, Taiwan
04	M1007-A	Phase transition and crystallization of Alq3 by antisolvent method using ionic liquid **Mr. Sooho Park**, Jimin Seo and Dongchan Shin Chosun University, Republic of Korea
05	M2031-A	Colloidal Manganese-Doped Quantum Dots Enhance the Performance of Quantum Dot-Sensitized Solar Cells **Prof. Jia-Yaw Chang** National Taiwan University of Science and Technology, Taiwan
06	M2034-A	Laterally grown ZnO nanowires patterned on texture-controlled ZnObuffer layers **Assit. Prof. Ee Le Shim**

		Halla University, Republic of Korea
07	M2037-A	Optimizing ventilation in buildings for better energy efficiency **Dr. Farid Boudali Errebai**, Lotfi Derradji, Mohamed Amara and Amel Limam CNERIB, Algeria
08	M2005-A	Balancing Resources Available To Transmission System Operator As Future Power System Environment Changes **Mr. Changmin Jeong**, SeungChan Jo and Yongtae Yoon SeouI National University, Republic of Korea
09	M2038-A	Energy performances of HEP housing and control housing in a semi-arid region of Algeria **Dr. Lotfi Derradji**, Farid Boudali Errebai , Amel Limam and Mohamed Amara CNERIB, Algeria
10	M2040	Wear of elastic tube with nonuniform coating by rigid bush **Assoc. Prof. Kirill E. Kazakov** Ishlinsky Institute for Problems in Mechanics RAS, Russia
11	M2020-A	Deep Learning Approach for Peak Load Boiler Operation Planning Problem with Inventory Balance Constraint Because Appaoarch is bad spelling. **Mr. Donghun Lee**, SangHwa Song, Seokmann Yoon and Kwanho Kim Incheon National University, Republic of Korea
12	M2041	Contact problem for foundations with multilayer nonuniform coatings of variable thickness **Assoc. Prof. Kirill E. Kazakov** Ishlinsky Institute for Problems in Mechanics RAS, Russia
13	M2039-A	High Performance Magnesium/Carbon Dioxide Fuel Cell Battery **Dr. Hsin-Hua Tseng**, Chia-Liang Yen and Yong-Chien Ling National Tsing Hua University, Hsinchu, Taiwan
14	M2046	Experimental and numerical studies of a recuperator in micro turbines **Dr. Xusheng Shi**, Yongwei Wang and Xiulan Huai Institute of Engineering Thermophysics, China

Listener

L-1	Prof. Fengqi Si Southeast University, China
L-2	Mr. Fahad S. Almutairi Kuwait National Petroleum Company, Kuwait
L-3	Dr. Dongchan Shin Chosun University, Republic of Korea

Presenter Index