



7TH WORLD CONGRESS ON MECHANICAL, CHEMICAL, AND MATERIAL ENGINEERING (MCM'21)

August 02 - 04, 2021 | ~~Prague, Czech Republic~~ | Virtual Conference

MCM'21

August 03

August 04

Our program is based on EST (Eastern Standard Time - Time zone in Ottawa)

MCM'21

MCM'21 | Scientific Committee Chair



Dr. Huihe Qiu

Hong Kong University of Science &
Technology, China
Congress Chair

[View Profile](#)



Dr. Yuwen Zhang

University of Missouri, USA
Congress Co-Chair

[View Profile](#)

[Return to Top](#)

AUGUST 03

7:30 - 8:30	Registrations
8:30 AM - 8:40 AM	Official Opening
	Dr. Huihe Qiu, The Hong Kong University of Science & Technology, Hong Kong
8:40 AM - 9:25 AM	HTFF KEYNOTE LECTURE
	<u>Advanced Diagnostic Methods for High-Fidelity Measurements in Multiphase Flows: State-of-the-Art, Challenges and Outlook</u> Dr. Christos Markides, Imperial College, UK
9:25 AM - 10:10 AM	ICCPE KEYNOTE LECTURE
	<u>Computational Membrane Separations</u> Dr. Jiang Jianwen, National University of Singapore (NUS), Singapore
10:10 AM - 10:15 AM	BREAK
10:15 AM - 11:00 AM	ICMIE KEYNOTE LECTURE
	<u>Industrial and Systems Safety and Reliability in the Big-Data Era</u> Dr. Min Xie, City University of Hong Kong, China
11:00 AM - 11:05 AM	Break

AUGUST 03

Parallel Sessions

Room 1		ROOM 2	
11:05 AM - 11:35 AM	SESSION Design and Manufacturing	11:05 AM - 12:35 PM	SESSION CFD I
11:35 AM - 12:05 PM	SESSION Composite Materials		
12:05 PM - 12:35 PM	SESSION Polymer Science and Engineering		
12:35 PM - 12:55 PM	Lunch Break		
12:55 PM - 02:10 PM	SESSION Materials Preparation and Processing		
02:10 PM - 02:15 PM	Break		
02:15 PM - 02:45 PM	SESSION Nanotechnology Fluid Flow and Heat Transfer		
2:45 PM - 3:10 PM	SESSION Energy Management		
3:10 PM - 3:55 PM	SESSION Mechanical Engineering I		
3:55 PM - 4:00 PM	Break		
4:00 PM - 4:35 PM	SESSION Metal Processing		

HTFF KEYNOTE LECTURE

AUGUST 03 | 8:40 AM - 9:25 AM | SESSION CHAIR: DR. HUIHE QIU, THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY, HONG KONG



Title: Advanced Diagnostic Methods for High-Fidelity Measurements in Multiphase Flows: State-of-the-Art, Challenges and Outlook

Dr. Christos Markides, Imperial College, UK

[View Abstract](#)

[Return to Top](#)

Christos Markides is Professor of Clean Energy Technologies, Head of the Clean Energy Processes Laboratory, which numbers 45 researchers, and leads the Experimental Multiphase Flow Laboratory, which is the largest experimental space of its kind at Imperial College London. He is also, amongst other, Editor-in-Chief of 'Applied Thermal Engineering', a member of the UK National Heat Transfer Committee and the Scientific Committee of the UK Energy Storage SUPERGEN Hub. He specialises in applied thermodynamics and transport processes as applied to high-performance devices, technologies and systems for thermal-energy recovery, utilization, conversion or storage. His research interests include heating, cooling and power, and in particular, solar energy and waste heat recovery and conversion in heat-intensive industrial applications. He also has an ongoing interest in advanced diagnostic techniques for the provision of detailed, spatiotemporally resolved information in turbulent, reacting and multiphase flows. He has published >200 journal papers and >300 conference papers on these topics. He won IMechE's 'Donald J. Groen' outstanding paper prize in 2016, IChemE's 'Global Award for Best Research Project' in 2018, the Engineers without Borders 'Chill Challenge' in 2020, and received Imperial College President's Award for Research Excellence in 2017.

ICCPE KEYNOTE LECTURE

AUGUST 03 | 9:25 AM - 10:10 AM | SESSION CHAIR: DR. HUIHE QIU, THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY, HONG KONG



Title: Computational Membrane Separations

Dr. Jiang Jianwen, National University of Singapore (NUS), Singapore

[View Abstract](#)

[Return to Top](#)

Jianwen Jiang's research expertise is computational materials modeling, currently focused on nanoporous and membrane materials for energy, environmental and pharmaceutical applications (e.g. carbon capture, water desalination and drug delivery). He has published over 200 technical manuscripts, with ~12000 citations and H-index of 62 (based on Google Scholar). He is a Fellow of the Royal Society of Chemistry, UK. He is on the editorial board of Advanced Theory and Simulations, Computational Materials Science, etc.

ICMIE KEYNOTE LECTURE

AUGUST 03 | 10:15 AM - 11:00 AM | SESSION CHAIR: DR. HUIHE QIU, THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY, HONG KONG



Title: Industrial and Systems Safety and Reliability in the Big-Data Era
[Dr. Min Xie, City University of Hong Kong, China](#)

[View Abstract](#)

[Return to Top](#)

Prof. Min Xie completed his undergraduate study and received his MSc in 1984 from Royal Institute of Technology, Stockholm, and he later received his PhD in 1987 from Linkoping University, Sweden. Dr Xie joined the National University of Singapore in 1991 as one of the first recipients of the prestigious Lee Kuan Yew Research Fellowship. He moved to City University of Hong Kong as Chair Prof of Industrial Engineering in 2011. Prof Xie serves an editor, associate editor and on the editorial board of 20 established international journals. Prof Xie has supervised over 60 PhD students and they hold regular position in banking, industry and academia in different continents. Prof Xie was elected fellow of IEEE in 2005.

SESSION

DESIGN AND MANUFACTURING

AUGUST 03 | 11:05 AM - 11:35 AM | ROOM 1 | SESSION CHAIR: DR. HUIHE QIU, THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY, HONG KONG

Title: Magnetic Flux Density Distribution of 1.5 kW Permanent Magnet Synchronous Generator by using Response Surface Methodology

ICMIE 105

Time: 11:05 - 11:20

Presenter: Aslan Deniz Karaoglan, Balikesir University, Turkey

Authors: Deniz Perin, Mehmet Baki Dogru, Demet Gonen Ocaktan, Ali Oral, Aslan Deniz Karaoglan

Title: Using Machine Learning to Establish the Relationship between Die Casting Parameters and the Casting Quality

ICMIE 107

Time: 11:20 - 11:35

Presenter: Shuei-Wan Juang, National Taiwan Ocean University, Taiwan

Authors: Shuei-Wan Juang, Yi-Ning Huang, David A. Kafando

[Return to Top](#)

SESSION

COMPOSITE MATERIALS

AUGUST 03 | 11:35 AM - 12:05 PM | ROOM 1 | SESSION CHAIR: DR. WILLIE NHETA,
UNIVERSITY OF JOHANNESBURG, SOUTH AFRICA

Title: Mechanical Behaviour of Mg/SiC Composite Processed by Friction Stir Processing

MMME 111

Time: 11:35 - 11:50

Presenter: Basil Darras, American University of Sharjah, UAE

Authors: Ahmed Naser, Basil Darras, Mohammad Nazzal

Title: Comparison of Mechanical Properties of Carbon Fibre and Kaolin Reinforced Polypropylene Composites

MMME 301

Time: 11:50 - 12:05

Presenter: Chamil Abeykoon, The University of Manchester, UK

Authors: Duriyang Thongsoon, Chamil Abeykoon, Ivan J. Vera-Marun, Prasad Potluri, Wareerom Polrut, Butra Boonliang

[Return to Top](#)

SESSION

POLYMER SCIENCE AND ENGINEERING

AUGUST 03 | 12:05 PM - 12:35 PM | ROOM 1 | SESSION CHAIR: DR. ALBERTO MARIA GAMBELLI, UNIVERSITY OF PERUGIA, ITALY

Title: Development of Flame Retardant EPDM based Rubber Compounds
ICCPE 114

Time: 12:05 - 12:20

Presenter: Tuğba Akyıldız, DRC Kauçuk, R&D Center, Turkey

Authors: Tuğba Akyıldız, Ömer Özdemir, Hümeyra Bozkurt

Title: Silicon in Agave Angustifolia Haw Leaves

ICCPE 112

Time: 12:20 - 12:35

Presenter: Margarita Mondragón, Instituto Politécnico Nacional, Mexico

Authors: Margarita Mondragón, Luis E. Elizalde, Victor Rejón

[Return to Top](#)

SESSION

CFD I

AUGUST 03 | 11:05 AM - 12:35 PM | ROOM 2 | SESSION CHAIR: DR. YUWEN ZHANG,
UNIVERSITY OF MISSOURI, USA

Title: Numerical Model of Convective Heat Transfer in a Multi-level Hydroponic Greenhouse

HTFF 111

Time: 11:05 - 11:20

Presenter: Vitaly Haslavsky, Azrieli College of Engineering, Israel

Authors: Vitaly Haslavsky, Helena Vitoshkin

Title: Modeling of Liquid Film Flow during Spin-Coating; Marangoni-Bénard Instability in Parallel Basic Flow

HTFF 112

Time: 11:20 - 11:35

Presenter: Kohei Ono, Tokyo City University, Japan

Authors: Kohei Ono, Suguru Shiratori, Kenjiro Shimano, Hideaki Nagano

Title: Physics-Informed Neural Network with Variable Initial Conditions

HTFF 113

Time: 11:35 - 11:50

Presenter: Suguru Shiratori, Tokyo City University, Japan

Authors: Yo Nakamura, Suguru Shiratori, Hideaki Nagano, Kenjiro Shimano

Title: Vortex Panel Method in Axisymmetric Cylindrical Coordinate

HTFF 114

Time: 11:50 - 12:05

Presenter: Masaya Kato, Tokyo City University, Japan

Authors: Masaya Kato, Suguru Shiratori, Hideaki Nagano, Kenjiro Shimano

[Return to Top](#)

SESSION

CFD I

AUGUST 03 | 11:05 AM - 12:35 PM | ROOM 2 | SESSION CHAIR: DR. YUWEN ZHANG,
UNIVERSITY OF MISSOURI, USA

Title: A Concept for CFD Simulation of One and Two Phase Flow Compact Heat Exchangers towards the Design Optimization

HTFF 119

Time: 12:05 - 12:20

Presenter: Fengjun Yang, Modine Europe GmbH, Germany

Authors: Fengjun Yang, Klaus Mohrlök

Title: Simulations of Low Mach number Flows and Heat Transfer in Rotating Systems

HTFF 126

Time: 12:20 - 12:35

Presenter: Ahmed Hodaib, Aix Marseille Univ, France

Authors: Ahmed Hodaib, Isabelle Raspo, Stéphane Viazzo, Anthony Randriamampianina

[Return to Top](#)

SESSION

MATERIALS PREPARATION AND PROCESSING

AUGUST 03 | 12:55 PM - 02:10 PM | ROOM 1 | SESSION CHAIR: DR. YUWEN ZHANG,
UNIVERSITY OF MISSOURI, USA

Title: Experimental Investigation into Quasi-Static Crushing of CFRP Composite Cylindrical Tubes after Thermal Aging

ICMIE 102

Time: 12:55 - 01:10

Presenter: Tamer A. Sebaey, Prince Sultan University, KSA & Zagazig University, Egypt

Authors: Tamer A. Sebaey

Title: Design, Manufacturing and Testing of Pipe Fittings

ICMIE 109

Time: 01:10 - 01:25

Presenter: Selin Kirdiş, Middle East Technical University, Turkey

Authors: M. Evren Toygar, Selin Kirdiş, Mustafa Yegin, Elvan Pehlivan, Umut Doğan, Özkan Deniz, Mustafa Çoban

Title: Evaluation of the use of titanium and silicon nanoparticles for the improvement the thermal conditioning system in vehicles

ICMIE 112

Time: 01:25 - 01:40

Presenter: Fredy Rafael Llulluna, Universidad Regional Amazonica Ikiam, Ecuador

Authors: Jaime Cueva, Cristian Yalama, Fredy Llulluna, Myrian Larco, Claudio Cordova

[Return to Top](#)

SESSION

MATERIALS PREPARATION AND PROCESSING

AUGUST 03 | 12:55 PM - 02:10 PM | ROOM 1 | SESSION CHAIR: DR. YUWEN ZHANG,
UNIVERSITY OF MISSOURI, USA

Title: Mechanical characterization of dendrocalamus asper bamboo laminates from the andean region

ICMIE 113

Time: 01:40 - 01:55

Presenter: Fredy Rafael Llulluna, Universidad Regional Amazonica Ikiam, Ecuador

Authors: Myrian Larco, Fredy Llulluna, Claudio Cordova

Title: Metallographic analysis for low carbon steels using software developed with Python

ICMIE 115

Time: 01:55 - 02:10

Presenter: Fredy Rafael Llulluna, Universidad Regional Amazonica Ikiam, Ecuador

Authors: Fredy Llulluna, Claudio Cordova, David Pachacama, Darwin Pachacama, William Paucar

[Return to Top](#)

SESSION

NANOTECHNOLOGY FLUID FLOW AND HEAT TRANSFER

AUGUST 03 | 02:15 PM - 02:45 PM | ROOM 1 | SESSION CHAIR: DR. YUWEN ZHANG,
UNIVERSITY OF MISSOURI, USA

Title: Growth Andand Self-Ejection Ofof Single Condensate Droplet Onon Nanostructured Microcones

HTFF 137

Time: 02:15 - 02:30

Presenter: Nicolò G. Di Novo, University of Trento, Italy & Sensors and Devices Center, Trento

Authors: Nicolò G. Di Novo, Alvisè Bagolini, Nicola M. Pugno

Title: A Novel Evaporator Integrated with Wettability Pattern for Improving Thermal Performance of An Ultrathin Vapor Chamber

HTFF 144

Time: 02:30 - 02:45

Presenter: Huihe Qiu, The Hong Kong University of Science and Technology, Hong Kong

Author: Yinchuang Yang, Jian Li, Dong Liao, Xin Ye, Huihe Qiu

[Return to Top](#)

SESSION

ENERGY MANAGEMENT

AUGUST 03 | 02:45 PM - 03:10 PM | ROOM 1 | SESSION CHAIR: DR. YUWEN ZHANG,
UNIVERSITY OF MISSOURI, USA

Title: Study of Temperature Fields and Heat Exchange Surfaces of Semiconductor Component

ICMIE 130

Time: 02:45 - 02:50

Presenter: Peter Hrabovský, Research Centre of University of Zilina, Slovakia

Authors: Peter Hrabovský, Zuzana Kolková, Jozef Matúšov, Zlatica Skákalová, Ľuboš Daniel

Title: Basic Measurement of Air Flow in the Working Environment

ICMIE 128

Time: 02:50 - 02:55

Presenter: Peter Hrabovský, Research Centre of University of Zilina, Slovakia

Authors: Peter Hrabovský, Zuzana Kolková, Jozef Matúšov, Pavol Belány

Title: A Re-examination of Power Coefficient as a Measure of Performance for Horizontal Axis Wind Turbines

HTFF 136

Time: 02:55 - 03:10

Presenter: Thomas M. Adams, Rose-Hulman Institute of Technology, USA

Author: Thomas M. Adams, Benjamin E. Mertz

[Return to Top](#)

SESSION

MECHANICAL ENGINEERING I

AUGUST 03 | 03:10 PM - 03:55 PM | ROOM 1 | SESSION CHAIR: THOMAS M. ADAMS, ROSE-HULMAN INSTITUTE OF TECHNOLOGY, USA

Title: Numerical Simulation of the Erosion Phenomenon at the Knee Tube at Different Angles Using DOE Method

ICMIE 110

Time: 3:10 - 3:25

Presenter: Ayed Alshammari, Prince Mohammad Bin Fahd University, Saudi Arabia

Authors: Ayed Alshammari, Faramaz Djavanroodi, Esam Jassim

Title: Response of Base Isolation System for Small Exhibits in the Museum

ICMIE 116

Time: 03:25 - 03:40

Presenter: Katsumi Kurita, Tokyo Metropolitan College of Industrial Technology, Japan

Authors: Katsumi Kurita, Shigeru Aoki

Title: Evaluation of Welding Residual Stress Reduction by Ultrasonic Vibration Load

ICMIE 117

Time: 03:40 - 03:55

Presenter: Akira Nakazato, Tokyo Metropolitan College of Industrial Technology, Japan

Authors: Akira Nakazato, Katsumi Kurita, Shigeru Aoki, Shigeomi Koshimizu, Tsuyoshi Matuyama

[Return to Top](#)

SESSION

METAL PROCESSING

AUGUST 03 | 04:00 PM - 04:35 PM | ROOM 1 | SESSION CHAIR: DR. WILLIE NHETA,
UNIVERSITY OF JOHANNESBURG, SOUTH AFRICA

Title: Effect of Welding Time on Strength of Friction Stir Spot Welded Aluminum Alloy/Acrylic Plastic Joint

MMME 113

Time: 04:00 - 4:05

Presenter: Mitsuhiro Watanabe, Nihon University, Japan

Authors: Mitsuhiro Watanabe, Masaya Kato, Yu Noguchi, Etsuhiro Tsukidate, Kazunori Yoshida

Title: Atomic Migration of Cu in Ti/Ni/Cu/Ag Backside Metallization on Si Substrate

MMME 120

Time: 4:05 - 4:20

Presenter: Pei-Ing Lee, National Taiwan University, Taiwan

Authors: Tung-Han Chuang, Pei-Ing Lee , Po-Ching Wu

Title: Gold Characterization of the San Luis Alta Mine, Ayacucho, Perú

MMME 121

Time: 4:20 - 4:35

Presenter: Pura Alfonso, Universitat Politècnica de Catalunya, Spain

Authors: Pura Alfonso, Elsa Ccolque, Maite Garcia-Valles, Roger Gaona, Arnau Martínez

[Return to Top](#)

AUGUST 04

8:30 AM - 9:15 AM **ICMIE KEYNOTE LECTURE**

[Recent Areas of Academic Research in Environmentally Conscious Manufacturing and Future Trends](#)

Dr. Surendra M. Gupta, Northeastern University, USA

9:15 AM - 10:00 AM **HTFF KEYNOTE LECTURE**

[Heat Transfer Intensification Using Particles Across Length Scales](#)

Dr. Yulong Ding, University of Birmingham, UK

10:00 AM - 10:05 AM **BREAK**

10:05 AM - 10:50 AM **HTFF KEYNOTE LECTURE**

[MACHINE LEARNING IN INVERSE ANALYSIS OF HEAT TRANSFER PROCESSES](#)

DR. PERUMAL NITHIARASU, UNIVERSITY OF WALES, UK

10:50 AM - 10:55 AM **BREAK**

[Return to Top](#)

AUGUST 04

Parallel Sessions

Room 1		ROOM 2	
10:55 AM - 11:55 AM	SESSION New Materials and Performances	10:55 AM - 12:05 PM	SESSION CFD II
11:55 AM - 12:10 PM	SESSION Optimization of Systems		
12:10 PM - 12:30 PM	Lunch Break		
12:30 PM - 13:15 PM	SESSION Combustion		
1:15 PM - 2:15 PM	SESSION Conduction, Convection and Radiation Heat Transfer		
2:15 PM - 2:55 PM	SESSION Mining Fundamentals and Mineral Processing		
2:55 PM - 3:00 PM	Break		
3:00 PM - 4:20 PM	SESSION Applied Chemistry		
4:20 PM - 5:20 PM	SESSION Mechanical Engineering II		

ICMIE KEYNOTE LECTURE

AUGUST 04 | 8:30 AM - 9:15 AM | SESSION CHAIR: DR. HUIHE QIU, THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY, HONG KONG



Title: Recent Areas of Academic Research in Environmentally Conscious Manufacturing and Future Trends
Dr. Surendra M. Gupta, Northeastern University, USA

[View Abstract](#)

[Return to Top](#)

Surendra M. Gupta, Ph.D., P.E., is a Professor of Mechanical and Industrial Engineering and the Director of the Laboratory for Responsible Manufacturing at Northeastern University in Boston, Massachusetts, USA. He received his BE in Electronics Engineering from Birla Institute of Technology and Science, MBA from Bryant University, and MSIE and Ph.D. in Industrial Engineering from Purdue University. He is a registered professional engineer in the State of Massachusetts, USA. Dr. Gupta's research interests span the areas of Production/Manufacturing Systems and Operations Research. He is mostly interested in Environmentally Conscious Manufacturing, Reverse and Closed-Loop Supply Chains, Disassembly Modeling and Remanufacturing. He has authored or coauthored twelve books and well over 650 technical papers published in edited books, journals and international conference proceedings. His publications have received over 15,500 citations (with an h-index of 63) from researchers all over the world in journals, proceedings, books, and dissertations. He has traveled to all seven continents viz., Africa, Antarctica, Asia, Australia, Europe, North America and South America and presented his work at international conferences on six continents. In addition, he has delivered plenary/keynote speeches in international conferences in several countries including Spain, The Netherlands, Denmark, France, Japan, Korea, Thailand, India, Taiwan, China, Saudi Arabia and Turkey. Dr. Gupta has taught over 150 courses in such areas as operations research, inventory theory, queuing theory, engineering economy, supply chain management, and production planning and control. Among the many recognitions received, he is the recipient of outstanding research award and outstanding industrial

HTFF KEYNOTE LECTURE

AUGUST 04 | 9:15 AM - 10:00 AM | SESSION CHAIR: DR. HUIHE QIU, THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY, HONG KONG



Title: Heat Transfer Intensification Using Particles Across Length Scales
[Dr. Yulong Ding, University of Birmingham, UK](#)

[View Abstract](#)

[Return to Top](#)

Professor Yulong Ding CEng FIChemE FRSC is the founding Chamberlain Chair of Chemical Engineering at the University of Birmingham and director of Birmingham Centre for Energy Storage. His current research covers both fundamental (multiphase transport phenomena across length scales) and applied (new energy conversion and storage technologies) aspects.

He invented liquid air energy storage technology and led the initial stage of their developments and validation, which is commercialised by Highview Power, a UK engineering companies. He developed composite phase change materials for thermal energy storage and associated large-scale manufacture technologies, leading to large scale commercial applications with a total installation of >300MW / >1.2GWh so far.

He is a receiver of three IChemE Global Awards – Energy, Research Project and Outstanding Achievement Awards in 2019; Distinguished Energy Storage Individual Award (Beijing International Energy Storage and Expo, 2018); Cryogenic Energy Storage Research Chair Award (Royal Academy of Engineering, 2014); Beijing Municipal Science and Technology Progress Award (First Prize, Advanced Compressed Air Energy Storage System, 2014); Energy & Environment Award and Technology and Innovation Grand Prix Award (Liquid Air Energy Storage, 'The Engineer' Magazine, 2011).

For more information Please visit:

<http://htffconference.com/keynote-speakers/>

HTFF KEYNOTE LECTURE

AUGUST 04 | 10:05 AM - 10:50 AM | SESSION CHAIR: DR. HUIHE QIU, THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY, HONG KONG



Title: Machine Learning In Inverse Analysis of Heat Transfer Processes

Dr. Perumal Nithiarasu, University of Wales, UK

[View Abstract](#)

[Return to Top](#)

Professor Perumal Nithiarasu (PN) is currently the Associate Dean for Research Innovation and Impact, Faculty of Science and Engineering at Swansea University. Previously, PN served as the Head of Zienkewicz Centre for Computational Engineering for five years, Deputy Head of College of Engineering for three years and Dean of Research Impact for five years. A Mechanical Engineer by training, PN has extensive experience in teaching various disciplines. PN's research areas of interest include computational fluid dynamics/biomedical engineering and, recently AI. He has been working in these areas for more than 25 years and has published many articles and books. Well known internationally for his work, PN was awarded the Zienkiewicz silver medal of ICE London in 2002, ECCOMAS Young Investigator award in 2004 and the prestigious EPSRC Advanced Fellowship in 2006. The group led by PN currently consists of 10 academic staff, more than 20 post-docs and research students. PN currently co-chairs two international conferences, including the well-known Computational and Mathematical Biomedical Engineering series (CMBE series, www.compbimed.net [1]) founded by PN. PN is the founding editor in chief of the *International Journal for Numerical Methods in Biomedical Engineering*, published by Wiley-Blackwell. PN was elected to the fellowship of the Learned Society of Wales in 2018.

SESSION

CFD II

AUGUST 04 | 10:55 AM - 12:05 PM | ROOM 2 | SESSION CHAIR: DR. HUIHE QIU, THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY, HONG KONG

Title: Examination of Complicated Thermal Hydraulic Characteristics in Core Region of a PWRHTFF 127

Time: 10:55 - 11:10

Presenter: Hyun-Gon Kim, Kyung Hee University, Republic of Korea

Authors: Hyun-Gon Kim, Jae-Min Jyung and Yoon-Suk Chang

Title: Examination of Complicated Thermal Hydraulic Characteristics in Core Region of a PWR

HTFF 131

Time: 11:10 - 11:25

Presenter: Mehmet Turgay PAMUK, Bahçeşehir University , Turkey

Authors: Mehmet Turgay PAMUK

Title: Numerical Simulation of Innovative Air Capture Systems Based On Bladeless Technology

HTFF 138

Time: 11:25 - 11:30

Presenter: Mirko Rotondo, University of Tuscia, Italy

Authors: Maurizio Carlini, Andrea Mennuni, Mirko Rotondo, Stefano Morelli

Title: Numerical Modelling and Simulation of the Aluminothermic Welding of Rails: Heat Transfer and Solid-Liquid Phase Change

HTFF 139

Time: 11:30 - 11:35

Presenter: Ravi Govindram Kewalramani, TU Bergakademie Freiberg, Germany

Authors: Ravi Govindram Kewalramani, Ingo Riehl, Jan Hantusch, Joerg Keichel, Martin Niederkrueger, Tobias Fieback

[Return to Top](#)

SESSION

CFD II

AUGUST 04 | 10:55 AM - 12:05 PM | ROOM 2 | SESSION CHAIR: DR. HUIHE QIU, THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY, HONG KONG

Title: The Effect of Particles Surface Temperature Distribution in Numerical Modelling Of High Scale Combustion and Gasification Chambers

HTFF 142

Time: 11:35 - 11:50

Presenter: Sławomir Sładek, Silesian University of Technology, Poland

Authors: Ewa Karchniwy, Adam Klimanek, Sławomir Sładek, Andrzej Szlęk, Agnieszka Korus, Wojciech Adamczyk

Title: Effect of Substrate Orientation on Melt Pool during Multi-Layer Deposition in V-Groove with Gas Metal Arc

HTFF 130

Time: 11:50 - 12:05

Presenter: Pradip Aryal, University West, Sweden

Authors: Pradip Aryal, Kjell Hurtig, Fredrik Sikström, Håkan Nilsson, Isabelle Choquet

[Return to Top](#)

SESSION

NEW MATERIALS AND PERFORMANCES

AUGUST 04 | 10:55 AM - 11:55 AM | ROOM 1 | SESSION CHAIR: DR. WILLIE NHETA, UNIVERSITY OF JOHANNESBURG, SOUTH AFRICA & DR. PURA ALFONSO, UNIVERSITAT POLITÈCNICA DE CATALUNYA, SPAIN

Title: Improving the Process of Metallic Fuels Production through the Solar Carbothermal Reduction of Magnesite

MMME 102

Time: 10:55 - 11:10

Presenter: Youssef Berro, Laboratoire PROcédés, France

Authors: Youssef Berro, Jean Puig, Marianne Balat-Pichelin

Title: Evaluation of the Mechanical Behavior of Mortars Obtained By Geopolymerization of Calcined Clay and Demolition Mortar

MMME 117

Time: 11:10 - 11:25

Presenter: D.L. Mayta-Ponce, Universidad Católica San Pablo, Perú

Authors: D.L. Mayta-Ponce, V.C. Bringas-Rodríguez, J.F. Gamarra-Delgado¹, M.L. Benavides-Salinas, C.K. Palomino-Naupá, G.P. Rodríguez-Guillén and F.A. Huamán-Mamani

Title: Evaluation of the Mechanical Behavior of Biomimetic Silicon Carbide Derived From Low-Density Peruvian Woods

MMME 118

Time: 11:25 - 11:40

Presenter: V.C. Bringas-Rodríguez, Universidad Católica San Pablo, Perú

Authors: J.F. Gamarra-Delgado, M.L. Benavides-Salinas, V.C. Bringas-Rodríguez, C.K. Palomino-Naupá, D.L. Mayta-Ponce, G.P. Rodríguez-Guillén, R.M. Zapana-Vilcapaza and F.A. Huamán-Mamani

Title: Synthesis and Mechanical Evaluation of Portland Cement Mortars Reinforced With Silicon Carbide Powder

MMME 119

Time: 11:40 - 11:55

Presenter: D.L. Mayta-Ponce, Universidad Católica San Pablo, Perú

Authors: J.F. Gamarra-Delgado, M.L. Benavides-Salinas, V.C. Bringas-Rodríguez, C.K. Palomino-Naupá, D.L. Mayta-Ponce¹, G.P. Rodríguez-Guillén, R.M. Zapana-Vilcapaza and F.A. Huamán-Mamani

[Return to Top](#)

SESSION

OPTIMIZATION OF SYSTEMS

AUGUST 04 | 11:55 AM - 12:10 PM | ROOM 1 | SESSION CHAIR: DR. WILLIE NHETA,
UNIVERSITY OF JOHANNESBURG, SOUTH AFRICA

Title: An analysis of operating parameters in an environment with high heat load
ICMIE 125

Time: 11:55 - 12:05

Presenter: Zuzana Kolková, University of Žilina, Slovakia

Authors: Zuzana Kolková, Peter Hrabovský, Jozef Matušov, Pavol Belány

Title: The effect of the state of the indoor environment on the air quality in the cabin

ICMIE 126

Time: 12:05 - 12:10

Presenter: Zuzana Kolková, University of Žilina, Slovakian

Authors: Zuzana Kolková, Peter Hrabovský, Jozef Matušov, Lenka Mikulová,
Ľuboš Daniel

SESSION

COMBUSTION

AUGUST 04 | 12:30 AM - 01:15 PM | ROOM 1 | SESSION CHAIR: DR. YULONG DING, UNIVERSITY OF BIRMINGHAM, UK & DR. ALBERTO MARIA GAMBELLI, UNIVERSITY OF PERUGIA, ITALY

Title: Eligibility Adopting Error Functions to Reproduce the Combustion Behavior of the Covering Materials of Cables

HTFF 121

Time: 12:30 - 12:45

Presenter: Tsukasa Fukaya, Toyohashi University of Technology, Japan

Authors: Tsukasa Fukaya, Yuji Nakamura

Title: Study of Burning Characteristics of Porous Combustibles Soaked With a Liquid Oxidizer

HTFF 124

Time: 12:45 - 01:00

Presenter: Daiki Matsugi, Toyohashi University of Technology, Japan

Authors: Daiki Matsugi, Yuji Nakamura

Title: Influence of Surface Temperature Distribution on Reaction Rate of Solid Fuel Char Particles

HTFF 141

Time: 01:00 - 01:15

Presenter: Adam Klimanek, Silesian University of Technology, poland

Authors: Ewa Karchniwy, Sławomir Śladek, Adam Klimanek, Andrzej Szlęk, Agnieszka Korus, Wojciech Adamczyk

[Return to Top](#)

SESSION

CONDUCTION, CONVECTION AND RADIATION HEAT TRANSFER

AUGUST 04 | 1:15 PM - 2:15 PM | ROOM 1 | SESSION CHAIR: DR. YULONG DING,
UNIVERSITY OF BIRMINGHAM, UK & DR. ALBERTO MARIA GAMBELLI, UNIVERSITY OF
PERUGIA, ITALY

Title: Analytical Study of Thermal Heat Conduction inside Two Orthotropic
Mediums in Cylindrical Geometry

HTFF 125

Time: 1:15 - 1:30

Presenter: Mohammed Nikchi, University Hassan II, Morocco

Authors: Mohammed Nikchi, Hamid Hamza, Khalid Zniber, Jawad Lahjomri and
Abdelaziz Oubarra

Title: Conversion of Mixed Waste of Wood and Plastic to Clean Fuels Using
Pyrolysis in Nigeria – Numerical Study

HTFF 135

Time: 1:30 - 1:45

Presenter: Andrew N. Aziz, University of Birmingham, UK & City of Scientific
Research and Technological Applications, Egypt

Authors: Andrew N. Aziz, Saad Mahmoud, Raya Al-Dadah, Surindar Dhesi, Irina
Kuznetsova, Cyril Effiong, Ejikeme Kanu

Title: Heat Transfer in High-Temperature Contact Processes with the Participation
of the Oxidized Layer

HTFF 140

Time: 1:45 - 2:00

Presenter: Aleksandra Przyłucka, AGH University of Science and Technology,
Poland

Authors: Aleksandra Przyłucka, Marcin Rywotycki

Title: A Wickless Paradigm for High-Performance Vapor-Chamber Heat Spreaders

HTFF 123

Time: 02:00 - 02:15

Presenter: Constantine Megaridis, University of Illinois at Chicago, USA

Authors: George Damoulakis, Constantine Megaridis

SESSION

MINING FUNDAMENTALS AND MINERAL PROCESSING

AUGUST 04 | 02:15 AM - 02:55 PM | ROOM 1 | SESSION CHAIR: DR. THOMAS M. ADAMS, ROSE-HULMAN INSTITUTE OF TECHNOLOGY, USA & DR. PURA ALFONSO, UNIVERSITAT POLITÈCNICA DE CATALUNYA, SPAIN

Title: Impact of Recirculating Mining Process Water on the Flotation Performance of a Sedimentary Phosphate Ore

MMME 115

Time: 2:15 - 2:30

Presenter: Willie Nheta, University of Johannesburg, South Africa

Authors: Morake D. Hlahane, Willie Nheta, Mamookho Elizabeth Makhatha

Title: Upgrading the Fe Grade of Magnetite Concentrate Using a Magnetic Hydro-Sizer

MMME 116

Time: 2:30 - 2:45

Presenter: Willie Nheta, University of Johannesburg, South Africa

Authors: Evans Vincent Rissenga, Willie Nheta

Title: Characterization of clays in Catalan potash basin. Influence on the geomechanical conditions in potash mining.

MMME 109

Time: 2:45 - 2:50

Presenter: Lluís Sanmiquel, Polytechnic University of Catalonia (UPC), Spain

Authors: Nor Sidki, Marc Bascompta, Lluís Sanmiquel, David Parcerisa

Title: Analysis of the Surveying Errors in the Cabanasses Ramp Breakthrough

MMME 114

Time: 2:50 - 2:55

Presenter: Lluís Sanmiquel, Polytechnic University of Catalonia (UPC), Spain

Authors: Lluís Sanmiquel, Marc Bascompta, Hernán Anticoi, Nor Sidki

SESSION

APPLIED CHEMISTRY

AUGUST 04 | 03:00 PM - 04:20 PM | ROOM 1 | SESSION CHAIR: DR. THOMAS M. ADAMS,
ROSE-HULMAN INSTITUTE OF TECHNOLOGY, USA

Title: Possible Effects of a Natural Silica-Based Sand on the Thermodynamic and Kinetic Behaviour of CH₄ and CO₂ Hydrate Formation.

ICCPE 105

Time: 3:00 - 3:15

Presenter: Alberto Maria Gambelli, University of Perugia, Italy

Authors: Alberto Maria Gambelli, Andrea Nicolini

Title: The Determination of Some Organic Pollutants in the Waters of the Seman Basin

ICCPE 111

Time: 3:15 - 3:30

Presenter: Valbona HOXHA, Polytechnic University of Tirana, Albania

Authors: Valbona HOXHA, Albana JANO, Kozeta VASO, Aurel NURO, Enkela PORO

Title: Comparison of Corrosion Protection Efficiency of Two Kinds of Amino Acids

ICCPE 109

Time: 3:30 - 3:45

Presenter: Albana Jano, Polytechnic University of Tirana, Albania

Authors: Albana Jano, Alketa Lame, Efrosini Kokalari and Valbona Hoxha

Title: Effects of Migrating Inhibitors on Corrosion of Reinforcing Steel in Aggressive Environment

ICCPE 110

Time: 3:45 - 4:00

Presenter: Albana Jano, Polytechnic University of Tirana, Albania

Authors: Albana Jano, Valbona Hoxha, Alketa Lame and Efrosini Kokalari

Title: Optimization of CVD Parameters during Synthesis of Fe@C Core-Shell Nanoparticles using Fe-Nitrate Based Precursors

MMME 110

Time: 4:00 - 4:15

Presenter: Siddika Mertdinç, Istanbul Technical University, Turkey

Authors: Siddika Mertdinç, Umut Savacı, M. Lütfi Öveçoğlu, Duygu Ağaoğulları

[Return to Top](#)

SESSION

APPLIED CHEMISTRY

AUGUST 04 | 03:00 PM - 04:20 PM | ROOM 1 | SESSION CHAIR: DR. THOMAS M. ADAMS,
ROSE-HULMAN INSTITUTE OF TECHNOLOGY, USA

Title: Comparison of the Two Common Solvents for THC and CBD
Extractions

ICCPE 115

Time: 4:15 - 4:20

Presenter: Kanda Wongwailikhit, Rangsit University, Thailand

Authors: Kanda Wongwailikhit, Jiratchaya Ruangdech

SESSION

MECHANICAL ENGINEERING II

AUGUST 04 | 04:20 PM - 05:20 PM | ROOM 1 | SESSION CHAIR: DR. THOMAS M. ADAMS,
ROSE-HULMAN INSTITUTE OF TECHNOLOGY, USA

Title: Dynamic Analysis of a Convergence Diagnostic Equipment for Preventive Maintenance in Light Vehicles

ICMIE 121

Time: 04:20 - 04:35

Presenter: Fredy Llulluna, Universidad Regional Amazónica Ikiam, Ecuador

Authors: Claudio Cordova, Fredy Llulluna , Juan Sinchi, David Pachacama, Darwin Pachacama

Title: Detection of Tumours Using Breast Surface Thermal Patterns

ICMIE 124

Time: 04:35 - 04:50

Presenter: Gengshuo Hu, Sichuan University, China

Authors: Y.S. Yu, G.S. Hu, S.C. Fok

Title: Identification of the Mechanical Properties of the Coating Using the Digital Image Correlation Technique

ICMIE 127

Time: 4:50 - 5:05

Presenter: Sebastian Lubowicki, Bialystok University of Technology, Poland

Authors: Sebastian Lubowicki, Jakub Augustyniak, Dariusz M. Perkowski

Title: Analytical and Numerical Solutions of Contact Problem for the Microperiodic Slant Layered Composite Body in A Plane Strain State

ICMIE 129

Time: 5:05 - 5:20

Presenter: Piotr Sebestianiuk, Bialystok University of Technology, Poland

Authors: Piotr Sebestianiuk, Paweł Mościcki, Dariusz Perkowski