

3rd World Congress on Mechanical, Chemical, and Material Engineering (MCM'17)

The congress consists of:

HTFF'17	4 th International Conference on Heat Transfer and Fluid Flow
MMME'17	4 th International Conference on Mining, Material and Metallurgical Engineering
ICMIE'17	6 th International Conference on Mechanics and Industrial Engineering
ICCPPE'17	International Conference on Chemical and Polymer Engineering

Registrants from the four conferences are permitted, and even encouraged, to attend sessions from any of the four conferences.

Thursday

June 8, 2017

3:00 PM - 5:00 PM **Registration**

Friday

June 9, 2017

Please click on a session title to view the details

8:00 PM Registrations	
ROOM 1	ROOM 2
9:00 AM Official Opening Dr. Yuyuan Zhao, University of Liverpool, UK	
9:15 AM Molecular and Multiscale Simulation of Liquid-Vapor Phase Change Heat Transfer Keynote Lecture Dr. Yuwen Zhang, University of Missouri, USA	9:15 AM Scale Down of Reforming Processes for Hydrogen Production from renewable Sources Keynote Lecture Dr. Maria Cristina Annesini, Sapienza University of Rome, Italy
10:00 AM Coffee Break	
10:20 AM Heat Transfer Enhancement Session	10:20 AM Metallurgical Fundamentals and Techniques Session
12:20 AM Lunch	
1:20 PM Thermal Control Using Surface Plasma Actuation Keynote Lecture Dr. Subrata Roy, University of Florida, USA	1:20 PM Mechanical Engineering Session
2:05 PM Micro and Nano Fluids Session	2:40 PM Industrial Engineering Session
3:30 PM Coffee Break	
3:50 PM Heat Exchangers and Heat and Mass Transfer Devices Session	3:50 PM Polymer Processing Session
	4:20 PM Polymer Science and Engineering Session

Saturday

June 10, 2017

Please click on a session title to view the details

ROOM 1	ROOM 2
9:00 AM Keynote Lecture Design and Engineering of Metamaterials and Metasurfaces: from Fundamentals to Applications Dr. Jun Yang, University of Western Ontario, Canada	9:00 AM Keynote Lecture Properties of Porous Metals Produced by Powder Metallurgy Based Methods Dr. Yuyuan Zhao, University of Liverpool, UK
9:45 AM Session Turbulent Flow and Heat Transfer	9:45 AM Session Solid Mechanics
10:45 AM Coffee Break	
10:45 AM Poster Session Session	
11:30 AM Multiphase Flow and Heat Transfer	11:30 AM Mining Fundamentals and Techniques I
1:00 PM	
1:05 PM Lunch	
2:00 PM Session Non-Newtonian Fluid Flow and Heat Transfer	2:00 PM Session Mechanical Engineering II
2:30 PM Session Turbomachinery	
3:20 PM Coffee Break	
3:40 PM Session Conduction, Convection and Radiation Heat Transfer	3:40 PM Session Robotics and Mechatronics
	4:30 PM Session Chemical Industries Challenges
8:00 - 10:00 Closing Ceremony	

Friday

June 9, 2017

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8:00 AM - 9:00 AM **Registration**

ROOM 1

9:00 AM - 9:15 AM **Official Opening of the Congress**

Dr. Yuyuan Zhao, University of Liverpool, UK

PARALLEL SESSION - ROOM 1

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

Session Chair:
Dr. Yuyuan Zhao

**Molecular and Multiscale Simulation of Liquid-Vapor Phase
Change Heat Transfer**

Dr. Yuwen Zhang, University of Missouri, USA

PARALLEL SESSION - ROOM 2

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

Session Chair:
TBA

**Scale Down of Reforming Processes for Hydrogen Production
from renewable Source**

Dr. Maria Cristina Annesini, Sapienza University of Rome, Italy

10:00 AM - 10:20 AM **COFFEE BREAK**

Friday

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PARALLEL SESSION - ROOM 1

10:20 AM - 12:20 PM **SESSION CHAIR:** Dr. Siqing Lu
Heat Transfer Enhancement

HTFF 145 **Modelling of Vapour Condensation on Single Cylindrical Fin**
10:20 - 10:30 *Andrey Glushchuk*, Patrick Queeckers, Carlo S. Iorio, Frank Dubois
Université libre de Bruxelles, Belgium

HTFF 133 **Development of a Heat Treatment Technology for Hot Rolled Coils**
10:30 - 10:50 *Seongkyu See*, Seungjin Lee, Changkyu Jung
POSCO, South Korea

HTFF 154 **The Indus3Es Project: New technologies for Utilization of Heat Recovery in Large Industrial Systems**
10:50 - 11:10 *Patrizia Circelli*, Valentina Cinti, Laura Alonso, Asier Martinez
CiaoTech PNO, Italy

HTFF 168 **Reflux Condensation with Various Non-Condensable Gases**
11:10 - 11:30 *M. Szogradi*, F. Janasz, Choi Ki-Yong
University of Science and Technology, South Korea

HTFF 160 **Latent-Heat Thermal-Energy Storage in Heat Exchanger with Plain and Finned Tube**
11:30 - 11:50 *Muris Torlak*, Nijaz Delalić
University of Sarajevo, Bosnia-Herzegovina

HTFF 174 **Nucleate Boiling Heat Transfer Investigation Using Micro and Nanostructured Plates**
11:50 - 12:10 *Masoumeh Nedaei*, Nawzat Saadi, Tansel Karabacak, Ali Kosar
Sabancı University, Turkey

HTFF 146 **CFD-Based Investigation of the Effectiveness of a Novel Longitudinal Ventilation Concept in Tunnels**
12:10 - 12:20 *Merve Altay*, Ali Surmen
Bursa Technical University, Turkey

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PARALLEL SESSION - ROOM 2

10:20 AM - 12:00 PM **SESSION CHAIR:** TBA

Metallurgical Fundamentals and Techniques

MMME 137 **The Feasibility of Air Classification of Dusts from the Iron and Steel Industry**
10:20 - 10:40 *Christof Lanzerstorfer*, Albert Angerbauer, Michael Gaßlbauer, Robert Neuhold
University of Applied Sciences Upper Austria, Austria

MMME 141 **Increase of Lifetime and Screening Results by Advanced Hardfacing Technologies**
10:40 - 11:00 *Jens Laskowski*
Welding Alloys GmbH, Germany

MMME 131 **Considerations in Mineral Processing of Scale-up from Bench to Pilot Plant to Full Production**
11:00 - 11:10 *Maria Sinche Gonzalez*, Saija Luukkanen, Marko Paavola
University of Oulu, Finland

MMME 105 **Filling characterization into a section restriction in low-pressure casting**
11:10 - 11:20 *Antonin Sanitas*, Marie Bedeli, Mohamed El Mansori
MSMP Laboratory (EA-7350), Arts et Métiers ParisTech, 2 cours des Arts et Métiers, France

MMME 133 **Extraction of Aluminium from Kaolin: a Comparative Study of Hydrometallurgical Processes**
11:20 - 11:40 *Konstantina Kyriakogona*, *Ioanna Giannopoulou*, Dimitrios Panias
National Technical University of Athens, Greece

MMME 111 **Forming Gears from ZA-27 Zinc Alloy Using Semi-Solid Slurry Squeeze Casting Process**
11:40 - 12:00 *Thawatchai Plookphol*, Somjai Janudom, Supakit Vongcharoenpon
Prince of Songkla University, Thailand

12:20 PM - 1:20 PM LUNCH

Friday

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PARALLEL SESSION - ROOM 1

1:20 PM - 2:05 PM **KEYNOTE LECTURE**

Session Chair
Dr. Yuwen Zhang

Thermal Control Using Surface Plasma Actuation

Dr. Subrata Roy, University of Florida, USA

2:05 PM - 3:25 PM **SESSION CHAIR:** Dr. Yuwen Zhang

Micro and Nano Fluids

HTFF 170 **Dimensional Analysis of a Hot-arm Actuator**

2:05 - 2:25 *Thomas M. Adams*

Rose-Hulman Institute of Technology, USA

HTFF 127 **Hydrodynamic Dispersion due to a Magnetohydrodynamic-Electroosmotic Driven Flow through a Microchannel**

2:25 - 2:45

Carlos Vargas, Oscar Bautista

Instituto Politécnico Nacional, Mexico

HTFF 147 **Viscoelastic Effects on Dispersion due to Electroosmotic Flow with Variable Zeta Potential**

2:45 - 3:05

J. C. Arcos, O. E. Bautista, F. Méndez, E. G. Bautista

Instituto Politecnico Nacional, Mexico

HTFF 159 **Interfacial Flows of Contact Line Dynamics and Liquid Displacement in a Circular Microchannel**

3:05 - 3:25

Changfei Yan, Huihe Qiu

The Hong Kong University of Science and Technology, Hong Kong

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PARALLEL SESSION - ROOM 2

1:20 PM - 2:40 PM **SESSION CHAIRS:** Dr. Chan-Jung Kim

Mechanical Engineering I

ICMIE 102 **The Optimum Analysis of Tapping Screw Subcontract Factories' Manufacturing Qualities with Taguchi Method**
1:20 - 1:40
Chih-Cheng Yang, Wen-Ching Chao
Kao Yuan University, Taiwan

ICMIE 107 **Failure Prediction of Composite Laminates under Out-of-Plane Loading**
1:40 - 1:50
Jin-Sung Kim, Dong-Guk Choi, Soo-Yong Lee, Jung-Sun Park
Korea Aerospace University, South Korea

ICMIE 110 **Optimization of Carbonitrided AISI 1022 Self-drilling Tapping Screw Process Parameters Using Taguchi Approach**
1:50 - 2:10
Chih-Cheng Yang, Chung-Yi Wu
Kao Yuan University, Taiwan

ICMIE 117 **Development and Evaluation of 6-component Wheel Dynamometer**
2:10 - 2:20
Sunju Park, Hyunchang Yoo, Jinwon Joo
Chungbuk National University, South Korea

ICMIE 111 **The Road to Sustainable Exercise: Using Stationary Bicycles to Power a Green Gym**
2:20 - 2:40
Basel Hindi, Nasser Atiyah, Sami Abdalla, Omar Al Ani, Shameel Abdulla, Reza Tafreshi
Texas A&M University at Qatar, Qatar

2:40 PM - 3:30 PM **SESSION CHAIRS:** Dr. Alvaro Aguinaga

Industrial Engineering

ICMIE 105 **Dynamic Characteristics of Micro-Cracked Park Gear under Transient Shock Input**
2:40 - 2:50
Chan-Jung Kim, Ho-Young Kang, Young-Geun Song, Eric Lee, Patrick Seo
Pukyong National University, South Korea

ICMIE 118 **Scheduling Customized Orders: A Case Study at Best Transformers Company**
2:50 - 3:10
M.A. Beyazit Ocaktan, Ibrahim Kucukkoc, Aslan Deniz Karaoglan, Abdullah Cicibas, Kadir Buyukozkan
University of Balikesir, Turkey

ICMIE 125 **Ergonomic Analysis of an Assembly Line Using the AnyBody Modeling System**
3:10 - 3:30
Hilal Atici, Demet Gonen, Ali Oral, Bunyamin Kaya
Uludag University, Turkey

3:30 PM - 3:50 PM **COFFEE BREAK**

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PARALLEL SESSION - ROOM 1

3:50 PM - 6:10 PM **SESSION CHAIR:** Dr. Subrata Roy

Heat Exchangers and Heat and Mass Transfer Devices

HTFF 148 **False Transient Evaporator Thermal Model of the 'Closed Loop Two-Phase Wicked Thermosyphon (CLTPWT)' Studying Slug-Plug Liquid Vapor Flow**

Karthik S. Remella, *Frank M. Gerner*
University of Cincinnati, USA

HTFF 117 **Validation of Vapour / Water Production in a Thermoelectric Distillation System**

4:10 - 4:30 *Hayder Al-Madhhachi*, Matthew Phillips, Gao Min
Cardiff University, UK

HTFF 143 **Modelling and Optimization for a High Temperature Generator of Absorption Chiller**

4:30 - 4:40 *Su Kyoung Lee*, Jin Taek Chung, Yong Tae Kang
Korea University, South Korea

HTFF 157 **Evaporation Heat Transfer and Pressure Drop Characteristics of R245fa in a Plate and Shell Heat Exchanger**

Kang Sub Song, Junyub Lim, Junho Kwon, Changyun Baek, Yongchan Kim
Korea University, South Korea

HTFF 165 **Simulation of Semiconductor Manufacturing Equipment and Processes**

4:50 - 5:10 *Siqing Lu*
Samsung Electronics, South Korea

HTFF 123 **A Comprehensive Study of Silicon Micropillar Based Biporous Evaporator**

5:10 - 5:30 *Mengyao Wei*, Bin He, Qian Liang, Sivanand Somasundaram, Chuan Seng Tan, Evelyn N. Wang
Singapore-MIT Alliance for Research and Technology (SMART) Centre, Singapore

HTFF 124 **Study of Ultra-Thin Silicon Micropillar Based Vapor Chamber**

5:30 - 5:50 *Mengyao Wei*, Bin He, Qian Liang, Sivanand Somasundaram, Chuan Seng Tan, Evelyn N. Wang
Singapore-MIT Alliance for Research and Technology (SMART) Centre, Singapore

HTFF 126 **Numerical Simulation of Metal Hydride Hydrogen Storage Device with Pin Fin Tube Heat Exchanger**

Vikas Keshari, M. P. Maiya
Indian Institute of Technology Madras, India

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PARALLEL SESSION - ROOM 2

3:50 PM - 4:20 PM **SESSION CHAIR:** Dr. Maria Cristina Annesini

Polymer Processing

ICCPE 111 **Modelling and Simulation of the Coalescence of Two Different Polymer Grains**

3:50 - 4:00 *Sara Aid*, Anissa Eddhahak, Zaida Ortega, Daniel Froelich, Abbas Tcharkhtchi
Arts et Metiers Paristech, France

ICCPE 118 **Process Modeling and Simulation of Cyclohexanone Production**

4:00 - 4:10 Atthadej Kamchaddaskorn, Nalinee Mukdasanit, *Thongchai Srinophakun*
Kasetsart University, Thailand

ICCPE 119 **Performance Study of Passivity Based Control on Heat Exchanger Networks**

4:10 - 4:20 *Varintorn Athithunchaiyaphong*, Niaon Prajimtis, Thongchai Srinophakun
Kasetsart University, Thailand

4:20 PM - 5:40 PM **SESSION CHAIR:** Dr. Maria Cristina Annesini

Polymer Science and Engineering

ICCPE 102 **Influence of Different Aluminium Alkyls on the Ziegler-Natta Polymerization**

4:20 - 4:30 *Aigner Paul*, Paulik Christian, Spiegel Gunnar
Johannes Kepler University Linz, Austria

ICCPE 101 **Optimization of a Batch Reactor for Biomass-derived Renewable Polyesters**

4:30 - 4:50 *Mónica Lomelí-Rodríguez*, Martín Rivera-Toledo, José Antonio López-Sánchez
University of Liverpool, United Kingdom

ICCPE 121 **Improving the Abrasion Resistance of "Green" Tyre Compounds**

4:50 - 5:10 *Teku Zakwan Zaeimoedin*, Jane Clarke
University of Loughborough, United Kingdom

ICCPE 105 **Synthesis of Hollow Silica Spheres using Skim Natural Rubber as a Template**

5:10 - 5:20 *Nanthiya Hansupalak*, Kanokwan Jantawatchai
Kasetsart University, Thailand

ICCPE 103 **Development of Nano-nickel Catalyst by Using Supercritical CO₂ for Methane Cracking**

5:20 - 5:30 *Manop Charoenchaitrakool*, Metta Chareonpanich, Pornprapa Saithongsuk
Kasetsart University, Thailand

ICCPE 108 **Turning Waste Oil to High Standard Commercial Biodiesel**

5:30 - 5:40 *Penjit Srinophakun*, Rawinun Junsitiwate, Anusith Thanapimmetha, Methee Saisriyoot
Kasetsart University, Thailand

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PARALLEL SESSION - ROOM 1

9:00 AM - 9:45 AM **KEYNOTE LECTURE**

Session Chair:
Dr. Thomas Adams

Design and Engineering of Metamaterials and Metasurfaces: from Fundamentals to Applications

Dr. Jun Yang, University of Western Ontario, Canada

9:45 AM - 10:45 AM **SESSION CHAIRS:** Dr. Thomas Adams

Turbulent Flow and Heat Transfer

HTFF 111 **An Analytical Wall Function for 2-D Shock Wave/Turbulent Boundary Layer
Interactions**

9:45 - 10:05

*X Wang, T.J. Craft, H. Iacovides
University of Manchester, UK*

HTFF 116 **The Reynolds Stresses Equation Modelling in the Prediction of Flow Past a Rotating
Cylinder at High Reynolds Number**

10:05 - 10:25

*Sitthichai Ruchayosyothin, Tim J. Craft, Hector Iacovides
University of Manchester, UK*

HTFF 140 **Estimation of Turbulent Dissipation Rate Using 2D Data in
Channel Flows**

10:25 - 10:45

*Dinesh Bhatia, Callum Atkinson, Vassili Kitsios, Nicolas Mazellier, Julio Soria
Monash University, Australia*

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PARALLEL SESSION - ROOM 2

9:00 AM - 9:45 AM **KEYNOTE LECTURE**

Session Chair:
Dr. Bella Gurevich

Properties of Porous Metals Produced by Powder Metallurgy Based Methods

Dr. Yuyuan Zhao, University of Liverpool, UK

PARALLEL SESSION - ROOM 2

9:45 AM - 10:45 AM **SESSION CHAIRS:** Dr. Bella Gurevich

Solid Mechanics

ICMIE 116 **Evaluation of Stress State in a Brick Lining of a Hot Rotary Kiln due to Material and Design Change**

9:45 - 9:55

Dmitrij Ramanenka, Gustaf Gustafsson, Pär Jonsén, Lars-Olof Nordin
Luleå University of Technology, Sweden

ICMIE 106 **Fast Prediction of Residual Stresses and Part Distortion in Selective Laser Melting**

9:55 - 10:05

Tsung-Wen Tsai, Tzong-Ming Wu, Kuo-Teng Tsai, Sung-Yueh Wu, Sung-Ho Liu, Ji-Bin Horng, Jinn-Kuen Chen
Industrial Technology Research Institute, Taiwan

ICMIE 121 **Graphite Flake Size Effects to Thermal Durability of Automobile Flywheel Under Forced Slippage**

10:05 - 10:25

Mehmet Onur Genç, Çağlar İmer
Valeo Automotive, Turkey

ICMIE 132 **Stress Analysis of Thin Rimmed Spur Gear with Asymmetric Trochoid**

10:25 - 10:45

Tufan Gürkan Yılmaz, Oğuz Doğan, Fatih Karpaz
Uludag University, Turkey

10:45 AM - 11:30 AM **COFFEE BREAK**

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10:45 AM - 11:30 AM **SESSION CHAIRS:** Dr. Siqing Lu and Negar Saeidi

Poster Session

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- HTFF 139 **A CFD Heterogeneous Parallel Solver Based On Collaborating CPU and GPU**
Jianqi Lai, Zhengyu Tian, Hua Li, Sha Pan
National University of Defense Technology, China
-
- HTFF 134 **A Study on Computational Analysis of Smoke Movement in Indoor Complex Gymnasium**
Chan-sol Ahn, Jung-yup Kim
Korea Institute of Civil Engineering and Building Technology, South Korea
-
- HTFF 144 **Molecular Dynamics Simulation of Gas Flow Through Rough Nanochannels**
Ran Zhang, Zhengyu Tian, Hua Li
National University of Defence Technology, China
-
- HTFF 161 **Numerical Modelling of Slide-induced Bore-like Wave Propagation**
Joongcheol Paik
Gangneung-Wonju National University, South Korea
-
- HTFF 155 **Heat Transfer Characteristics of a Polymer-Based Roll-to-Roll Microchannel Heat Exchanger**
Heng Wang, Samuel D. Marshall, Rerngchai Arayanarakool, Lakshmi Balasubramaniam, Niven Singh Virik, Poh Seng Lee, Peter C.Y. Chen
National University of Singapore, Singapore
-
- HTFF 125 **Flow Generation by a Piezoelectric Fan**
Myung Hun Oh, Heungsu Jeon, Minsuk Choi
Myongji University, South Korea
-
- HTFF 163 **Analysis of Flow Characteristics in SCR Mixing Chambers of Different Shapes**
Kyongjun Lee, Sechang Park
Technology Institute, South Korea
-
- HTFF 114 **System Efficiency of Proton Exchange Membrane Fuel Cell for Emergency Power Supply System**
Seung-Won Jeon, Jung-Yup Kim, Su-Gak Lee
Korea Institute of Civil Engineering and Building Technology, South Korea
-
- HTFF 112 **Field Experiment of the Measures to Control the Stack Effect in Stairwell of Building**
Jung-Yup Kim, Su-Gak Lee, Seung-Won Jeon
Korea Institute of Civil Engineering and Building Technology, South Korea
-
- HTFF 115 **A Study on Numerical Analysis of Smoke Protection Characteristic using Air Curtain in 2nd Floor Building**
Su-Gak Lee, Jung-Yup Kim, Seung-Won Jeon
Korea Institute of Civil Engineering and Building Technology, South Korea
-
- MMME 101 **The Economic Feasibility Study on Development of Coal Mine Using Real Options**
Hyunbock Lee
Korea Institute Geoscience and Mineral Resources, South Korea
-
- MMME 106 **Fabrication of High Purity Nano-Sized Silica Powder by Sol-Gel Process using Purification of Ion-Exchanged Water Glass**
Tae-Gyeong Kim, Eui-Keun Park, Hyeon-Myeong Oh, Hyun-Kwuon Lee
Kumoh National Institute of Technology, South Korea
-

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- MMME 130 Extraction of Zinc from Smithsonite by Ammonia Leaching**
Deniz Talan, M. Ümit Atalay, *N. Emre Altun*
Middle East Technical University, Turkey
-
- MMME 136 Chemical Composition of Iron Sulphides Contained In Dust from the Pyrometallurgical Zn and Pb Production**
Zdzisław Adamczyk, *Katarzyna Nowińska*
Silesian University of Technology, Poland
-
- MMME 115 Microstructural Changes in PAN-based Carbon Fibers in Relation to Isothermal Oxidation**
Seong-Moon Oh, Dong-Su Kang, Sang-Min Lee, *Un-Gyeong Baek*, Jae-Seung Roh
Kumoh National Institute of Technology, South Korea
-
- MMME 114 Changes in Crystallinity of Gas-phase Oxidized PAN-based Carbon Fibers**
Sang-Min Lee, Seong-Moon Oh, Dong-Su Kang, Jae-Seung Roh
Kumoh National Institute of Technology, South Korea
-
- MMME 120 Comparative Analysis of Different Carboxylic Leaching Agents for Lead Battery Recycling**
Lina Villa, Nestor Rojas, Wilmer Saldarriaga
National University of Colombia, Colombia
-
- MMME 153 Thermal Stress Analysis Considering Material Properties at Different Temperatures**
Taekyung Kim, *Kwangju Lee*
KoreaTech, South Korea
-
- MMME 134 Assessment of an Underground Fire and the Emergency Plan**
Marc Bascompta, Adrián Solorzano, Lluís Sanmiquel, Josep Oliva, Eduard Guasch
Polytechnic University of Catalonia, Spain
-
- MMME 140 Subsidence Analysis and Comparison between GPS Measurements and Interferometry**
Lluís Sanmiquel, *Adrián Solorzano*, Marc Bascompta, Josep M^a Rossell, Josep Oliva, Hernán F. Anticoi
Polytechnic University of Catalonia, Spain
-
- MMME 132 Development of Waste Gas Recirculation System with Improvement of Sintering Productivity**
Eun-Ho Jeong, Jong-In Park, Byung-Kuk Cho
POSCO, South Korea
-
- ICMIE 130 Studying on Non-Sampling Mixing Index**
Migyung Cho, Jaesool Shim
Tongmyong University, South Korea
-
- ICCPE 106 DMTA Analysis of Glycerol Diglycidyl Ether Based Photocross-linked Polymers**
Sigita Kasetaitė, Jolita Ostrauskaite, Violeta Grazuleviciene
Kaunas University of Technology, Lithuania
-
- ICCPE 120 Graphene Reinforced Nanocomposites for 3D Printing Applications**
María Soria Sánchez, Gerard Tobías Rossell
Institute of Material Science of Barcelona, Spain
-

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PARALLEL SESSION - ROOM 1

11:30 AM - 1:00 PM **SESSION CHAIR:** Dr. Yapa Mudiyansele Chamil Eranda Kumara Abeykoon
Multiphase Flow and Heat Transfer

HTFF 113 **Bubble Pump Models Verification Based on the Experimental Results**
11:30 - 11:50 *Bella Gurevich*
Shamoon College of Engineering, Israel

HTFF 136 **Influence of a Nozzle Type on the Thermal Performance of the Fill**
11:50 - 12:10 *Pavol Vitkovic*
Czech Technical University in Prague, Czech Republic

HTFF 137 **Particle Temperature Measurements in a Flow Using Laser-Induced Phosphorescence**
12:10 - 12:30 *Kimberley C. Y. Kueh, Timothy C. W. Lau, Graham J. Nathan, Zeyad T. Alwahabi*
University of Adelaide, Australia

HTFF 152 **Effect of Surface Roughness on Non-Equilibrium Condensation in a Laval Nozzle**
12:30 - 12:50 *Aditya Pillai, B. V. S. S. S. Prasad*
Indian Institute of Technology Madras, India

HTFF 156 **Design Optimization of a Refrigerant-cooling Thermal Management System for the Battery in Electric Vehicles**
12:50 - 1:00 *Seonggi Park, Dong Soo Jang, DongChan Lee, Wonseok Yang, Yongchan Kim*
Korea University, South Korea

PARALLEL SESSION - ROOM 2

11:30 AM - 1:00 PM **SESSION CHAIR:** Dr. Katarzyna Nowińska
Mining Fundamentals and Techniques I

MMME 151 **Usage of Fuzzy Logic Method for Tunnel Boring Machines**
11:30 - 11:50 *Omur Acaroglu Ergun*
Istanbul Technical University, South Korea

MMME 152 **Stability Analysis of Roadheaders**
11:50 - 12:10 *Omur Acaroglu Ergun*
Istanbul Technical University, Turkey

MMME 121 **The Influence of Negative Pressure in High-Position Tunnel on Gas Grainage Effect**
12:10 - 12:20 *Jianliang Gao, Longyu Zhuang, Weilong Ding*
Henan Polytechnic University, China

MMME 150 **Towards Improving the Performance of Creighton Mine's Natural Heat Exchange Area**
12:20 - 12:40 *Negar Saeidi, Lorrie Fava, Cheryl Allen*
MIRARCO - Mining Innovation, Canada

MMME 148 **Bottle Roll Testing for Cyanidation of Gold Ores: Problems related to Standardized Procedures on Difficult-to-Process Ores**
12:40 - 1:00 *Mahir C. Cetin, N. Emre Altun, M. Ümit Atalay, K. Büyüktanır*
Middle East Technical University, Turkey

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1:00 PM - 1:05 PM **GROUP PHOTO**
Please come to the registration desk to take the photo

1:05 PM - 2:00 PM **LUNCH**

PARALLEL SESSION - ROOM 1

2:00 PM - 2:30 PM **SESSION CHAIR:** Dr. Zeyad Alwahabi
Non-Newtonian Fluid Flow and Heat Transfer

HTFF 153 **The Motion of the Magnetic Nano-Particles During Blood Flow in a Tube**
2:00 - 2:10 *Amit Mondal*
Jadavpur University, India

HTFF 169 **Incipient Motion of Sediments in Oscillatory Flows of Pseudoplastic Fluids: Preliminary Results**
2:10 - 2:30 *Aldo Tamburrino, Kevin Vidal*
University of Chile, Chile

2:30 PM - 3:20 PM **SESSION CHAIR:** Dr. Zeyad Alwahabi
Turbomachinery

HTFF 118 **Discrete Porosity Method for Roughness Modelling in the Framework of RANS**
2:30 - 2:40 *Duc Duong Viet, Jitendra Kumar, Frank-Hendrik Wurm*
University of Rostock, Germany

HTFF 121 **Alternative Heat Sink to Enhance Thermo-Hydraulic Behaviour of an Array of Short Pin Fins**
2:40 - 3:00 *Abhilash Maiti, B. V. S. S. S Prasad*
Indian Institute of Technology, India

HTFF 151 **Design and Analysis of a Kaplan Turbine Runner Wheel**
3:00 - 3:20 *Chamil Abeykoon, Tobi Hantsch*
The University of Manchester, UK

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PARALLEL SESSION - ROOM 2

2:00 PM - 3:20 PM **SESSION CHAIR:** Dr. Yuyuan Zhao
Mechanical Engineering II

ICMIE 122 **The Stiffness Evaluation of Tracking Solar Power Generator for Wind Load**
2:00 - 2:10 *Youngeun Kim*, Kyuwon Jeong
Chungbuk National University, South Korea

ICMIE 119 **A Satellite Relative Navigation based on Hardware Characteristics of Femtosecond Laser**
2:10 - 2:30 *Dae-Eun Kang*, Sang-Young Park, Jongwoo Lee
Yonsei University, South Korea

ICMIE 103 **Selective Laser Melting of Metal Powders in Additive Manufacturing**
2:30 - 2:40 *Tsung-Wen*, Tsai, Wei-Chin Huang, Chuan-Sheng Chuang, De-Yau, Lin, Sung-Ho Liu, Ji-Bin Horng, Jinn-Kuen Chen
Industrial Technology Research Institute, Taiwan

ICMIE 120 **Stress Behaviour Improvement of Automobile Flywheel Under High Centrifugal Forces**
2:40 - 3:00 *Çağlar İmer*, Samet Kartal, Mehmet Onur Genç
Valeo Automotive, Turkey

ICMIE 126 **A Feed-Forward Backpropagation Neural Network Method for Remaining Useful Life Prediction of Francis Turbines**
3:00 - 3:20 *Alvaro Aguinaga*, Xianwu Luo, Víctor Hidalgo, Edgar Cando, Fredy Llulluna
Escuela Politécnica Nacional, Ecuador

3:20 PM - 3:40 PM **COFFEE BREAK**

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PARALLEL SESSION - ROOM 1

3:40 AM - 4:30 PM **SESSION CHAIR:** Dr. Yuyuan Zhao

Conduction, Convection and Radiation Heat Transfer

HTFF 102 **Improvements to Wire Bundle Thermal Modeling for Ampacity Determination**

3:40 - 4:00 **Steven L. Rickman**, Christopher J. Iannello, Khadijah Shariff
NASA Engineering and Safety Center, USA

HTFF 164 **Impact of Sizing on the Temperature of Automotive Lighting Products**

4:00 - 4:20 Mustafa Emre Bayraktar, **Mehmet Aktaş**
Uludag University, Turkey

HTFF 172 **Thermal Aging Effect on Thermal Conductivity Properties of Mineral Wool Pipe Samples at High Temperature**

4:20 - 4:30 **Artur Miros**
Institute of Mechanised Construction & Rock Mining, Poland

Saturday

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PARALLEL SESSION - ROOM 2

3:40 PM - 4:30 PM **SESSION CHAIR:** Dr. Alvaro Aguinaga

Robotics and Mechatronics

ICMIE 124 **Controller Implementation of a Balancing Robot through a Dynamic Model with Acceleration Control Input**

3:40 - 4:00
Jungyoon Choi, Bongeon Jo, Young Sam Lee
Inha University, South Korea

ICMIE 114 **Design of the Wireless Power Supply System for the Wheel Force Sensor**

4:00 - 4:10
Yongjin Kwon, *Kyuwon Jeong*
Chungbuk National University, South Korea

ICMIE 123 **Design and Control of an Active Powered Knee Prosthesis System using Position-based Impedance Control**

4:10 - 4:30
Bongeon Jo, Young-Sam Lee
Inha University, South Korea

4:30 PM - 5:00 PM **SESSION CHAIR:** Dr. Maria Soria Sanchez

Chemical Industries Challenges

ICCPE 114 **Asphaltene Molecular Representation: Impact on Aggregation Evaluation**

4:30 - 4:50
Ana Milena Velásquez, *Jennifer de León*, Bibian A. Hoyos
Universidad Nacional de Colombia-Sede Medellín, Colombia

ICCPE 112 **Viscosity-Temperature Relationship of Dextrin-Riboflavin Solutions for Biological Applications**

4:50 - 5:00
İlke Ulusaraç, Neslihan Koyuncu, F. Gülay Acar
İstanbul Technical University, Turkey

8:00 PM - 10:00 PM **Closing Ceremony**