

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 |
|---|---|
| <p>9:00 AM Design and Engineering of Metamaterials and Metasurfaces: from Fundamentals to Applications Keynote Lecture Dr. Jun Yang, University of Western Ontario, Canada</p> | <p>9:00 AM Development of a Flash Ironmaking Technology Based on Hydrogen or Natural Gas - Implications on Energy and Greenhouse Gas Emissions Keynote Lecture Dr. Hong Yong Sohn, University of Utah, USA</p> |
| <p>9:45 AM Turbulent Flow and Heat Transfer Session</p> | <p>9:45 AM Solid Mechanics Session</p> |
| <p>10:45 AM Coffee Break</p> | |
| <p>10:45 AM Poster Session Session</p> | |
| <p>11:30 AM Multiphase Flow and Heat Transfer</p> | <p>11:30 AM Mining Fundamentals and Techniques I</p> |
| <p>1:00 PM</p> | |
| <p>1:05 PM Lunch</p> | |
| <p>2:00 PM Non-Newtonian Fluid Flow and Heat Transfer Session</p> | <p>2:00 PM Mechanical Engineering II Session</p> |
| <p>2:30 PM Turbomachinery Session</p> | |
| <p>3:20 PM Coffee Break</p> | |
| <p>3:40 PM Conduction, Convection and Radiation Heat Transfer Session</p> | <p>3:40 PM Robotics and Mechatronics Session</p> |
| | <p>4:30 PM Chemical Industries Challenges Session</p> |
| <p>8:00 - 10:00 Closing Ceremony</p> | |

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:
Dr. Hong Yong Sohn

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

Friday

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PARALLEL SESSION - ROOM 2

10:20 AM - 12:00 PM **SESSION CHAIR:** Dr. Hong Yong Sohn

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

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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 PM **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

Development of a Flash Ironmaking Technology Based on Hydrogen or Natural Gas - Implications on Energy and Greenhouse Gas Emissions

Dr. Hong Yong Sohn, University of Utah, USA

PARALLEL SESSION - ROOM 2

9:45 AM - 10:45 PM **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 Karpat
Uludag University, Turkey*

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

Saturday

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10:45 AM - 11:30 PM **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 - 12:50 PM **SESSION CHAIR:** TBA
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 - 12:30 *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**
12:30 - 12:50 *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 AM - 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:** TBA

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**

Saturday

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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**