



**PROCEEDINGS OF THE 10TH WORLD
CONGRESS
ON MECHANICAL, CHEMICAL, AND
MATERIAL ENGINEERING (MCM 2024)**

AUGUST 22, 2024 - AUGUST 24, 2024 | BARCELONA SPAIN

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WELCOME MESSAGE FROM THE CONFERENCE CHAIR

On behalf of the International Academy of Science, Engineering and Technology (International ASET Inc.), the organizing committee would like to welcome you to the 10th World Congress on Mechanical, Chemical, and Material Engineering (MCM 2024).

MCM is aimed to become one of the leading international annual congresses in the fields of mechanical, chemical, and material engineering. This congress will provide excellent opportunities to the scientists, researchers, industrial engineers, and university students to present their research achievements and to develop new collaborations and partnerships with experts in the field.

While each conference consists of an individual and separate theme, the 4 conferences share considerable overlap, which prompted the organization of this congress. The goal of this undertaking is to bring together experts in each of the specialized fields, and at the same time allow for cross pollinations and sharing of ideas from the other closely related research areas.

In the ninth meeting of this conference, one Plenary Speaker and four keynote speakers will share their expertise with the aim of exposing participants to a wide spectrum of applications, and to foster cross pollination of ideas and develop new research interests. In addition, approximately 142 papers will be presented from professors, students, and researchers across the world.

We thank you for your participation and contribution to the 10th World Congress on Mechanical, Chemical, and Material Engineering (MCM 2024). We wish you a very successful and enjoyable experience.

Dr. Huihe Qiu
Congress Chair and Proceedings Editor
MCM 2024

Dr. Yuwen Zhang
Congress Co-Chair
MCM 2024

Dr. Marcello Iasiello
Congress Local Chair
MCM 2024

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ABOUT MCM 2024

MCM is aimed to become one of the leading international annual congresses in the fields of mechanical, chemical, and material engineering.

This congress will provide excellent opportunities to the scientists, researchers, industrial engineers, and university students to present their research achievements and to develop new collaborations and partnerships with experts in the field.

There are 4 conferences included in the MCM Congress:

HTFF 2024 - 11th International Conference on Heat Transfer and Fluid Flow

ICMIE 2024 - 13th International Conference on Mechanics and Industrial Engineering

MMME 2024 - 11th International Conference on Mining, Material and Metallurgical Engineering

ICCPE 2024 - 10th International Conference on Chemical and Polymer Engineering

While each conference consists of an individual and separate theme, the 4 conferences share considerable overlap, which prompted the organization of this congress. The goal of this undertaking is to bring together experts in each of the specialized fields, and at the same time allow for cross pollinations and sharing of ideas from the other closely related research areas.

MCM is an acronym for **M**echanical, **C**hemical and **M**aterial Engineering.

- The proceedings is published in Ottawa, Canada.
- All papers were peer-reviewed
- The congress proceedings is published under an ISSN and ISBN number
- Each paper is assigned a unique DOI number by [Crossref](#)
- The conference proceedings is indexed by [Scopus](#) and [Google Scholar](#)
- The proceedings is permanently archived in [Portico](#) (one of the largest community-supported digital archives in the world)

 Google Scholar

 Scopus

 Crossref

 PORTICO

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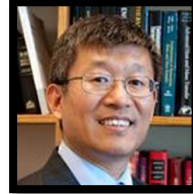
SCIENTIFIC COMMITTEE

We would like to thank the following for accepting to act as a member of the Scientific Committee for the MCM 2024 Congress:



Dr. Huihe Qiu

The Hong Kong University of Science & Technology, Hong Kong
Congress Chair



Dr. Yuwen Zhang

University of Missouri, USA
Congress Co-Chair



Dr. Marcello Iasiello

Università degli Studi di Napoli
Federico II, Italy
Congress Local Chair

Scientific Committee Members for HTFF 2024

- **Dr. Chamil Abeykoon**, The University of Manchester, UK
- **Dr. Jalel Azaiez**, The University of Calgary, Canada
- **Dr. Sid Becker**, University of Canterbury, New Zealand
- **Dr. Wilson Chiu**, University of Connecticut, USA
- **Dr. Yulong Ding**, University of Birmingham, UK
- **Dr. Mohamed Hamed**, McMaster University, Canada
- **Dr. Hui Hu**, Iowa State University, USA
- **Dr. Tassos G. Karayiannis**, Brunel University London, UK
- **Dr. Fotini Labropulu**, University of Regina, Canada
- **Dr. Sylvie Lorente**, Villanova University, USA
- **Dr. Gerardo Maria Mauro**, Università degli studi del Sannio, Italy
- **Dr. Krishnaswamy Nandakumar**, Louisiana State University, Baton Rouge, USA
- **Dr. Yulia Plaksina**, Moscow State University, Russia
- **Dr. Karthik Remella**, Ansys, USA
- **Dr. Ziad Saghir**, Toronto Metropolitan University, Canada
- **Dr. Ahmet Selamet**, Ohio State University, USA
- **Dr. Dongsheng Wen**, University of Leeds, UK

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SCIENTIFIC COMMITTEE

Scientific Committee Members for ICMIE 2024

- **Dr. Alvaro Aguinaga**, Escuela Politécnica Nacional, Ecuador
- **Dr. Carlos Avila**, California Institute of Technology, USA
- **Dr. Luca Greco**, CNR-INM Institute of Marine Engineering, Italy
- **Dr. Aslan Deniz Karaoğlan**, Balikesir University, Turkey
- **Dr. Monica Sharma**, Malaviya National Institute of Technology, India
- **Dr. Biswajit Sarkar**, Yonsei University, Korea
- **Dr. Marton Takacs**, Budapest University of Technology and Economics, Hungary

Scientific Committee Members for MMME 2024

- **Dr. Zdzislaw Adamczyk**, Silesian University of Technology, Poland
- **Dr. Pura Alfonso**, Escola Politècnica Superior d'Enginyeria de Manresa (EPSEM), Spain
- **Dr. Corby Anderson**, Colorado School of Mines, USA
- **Dr. Marc Bascompta**, Universitat Politècnica de Catalunya, Spain
- **Dr. Tung-Han Chuang**, National Taiwan University, Taiwan
- **Dr. Mohammad 'Behdad' Jamshidi**, University of Technology Sydney, Australia
- **Dr. Shaidah Jusoh**, Xiamen University Malaysia, Malaysia
- **Dr. Zi-Kui Liu**, The Pennsylvania State University, USA
- **Dr. Katarzyna Nowińska**, Silesian University of Technology, Poland
- **Dr. Andre Carlos Silva**, Universidade Federal de Catalão, Brazil

SCIENTIFIC COMMITTEE

Scientific Committee Members for ICCPE 2024

- **Dr. Farhang Abbasi**, Sahand University of Technology, Iran
- **Dr. Madhu Bhaskaran**, RMIT University, Australia
- **Dr. Amir H Mohammadi**, University of KwaZulu-Natal, South Africa
- **Dr. Masami Okamoto**, Toyota Technological Institute, Japan

MCM 2024 PLENARY SPEAKERS

The plenary speakers' information for the 10th World Congress on Mechanical, Chemical, and Material Engineering (MCM 2024) is as follows:

PLENARY SPEAKERS



Dr. Madhu Bhaskaran
RMIT University, Australia
ICCPE 2024 Plenary Speaker



Dr. Jishan Liu
The University of Western Australia, Australia
MMME 2024 Plenary Speaker



Dr. Arun Shukla
University of Rhode Island, USA
MMME 2024 Plenary Speaker



Dr. Brent Webb
Brigham Young University, USA
HTFF 2024 Plenary Speaker

MCM 2024 KEYNOTE SPEAKERS

The keynote speakers' information for the 10th World Congress on Mechanical, Chemical, and Material Engineering (MCM 2024) is as follows:

KEYNOTE SPEAKERS



Dr. Kamel Hooman

Delft University of Technology, Netherland
HTFF 2024 Keynote Speaker



Dr. Richard Stevens

University of Twente, Netherlands
ICMIE 2024 Keynote Speaker



Dr. Abbas Taheri

Queen's University, Canada
MMME 2024 Keynote Speaker

PLENARY SPEAKER



Titles: Soft Sensors on Polymeric Substrates for Healthcare and Aged Care Applications

Dr. Madhu Bhaskaran - RMIT University, Australia

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Professor Madhu Bhaskaran is a multi-award winning electronics engineer and innovator – she has won medals from leading Australian Academies. She is a Fellow of the Australian Academy of Technological Sciences and Engineering. She co-leads the Functional Materials and Microsystems Research Group at RMIT University which she established in 2010. Her work on electronic skin and wearable sensors has been patented and her group now works collaboratively with multiple industry and design partners to commercialise the technology for healthcare and aged care.

PLENARY SPEAKER



Titles: Understanding Rock Multiphysics – Key Needs in Symbiotic Pursuit of Mining Critical Minerals and Transitioning Energy

Dr. Jishan Liu - The University of Western Australia, Australia

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Jishan Liu is a Professor at Department of Civil, Environmental and Mining Engineering, the University of Western Australia. In 1996, Jishan earned his PhD degree in Mining Engineering from Penn State University. He has over 28 years of research experience on Rock Geo-multiphysics with applications to in situ mining, coal mine safety, coal seam and shale gas extraction, carbon dioxide sequestration and hydrogen geo-storage. Achievements in these areas are documented in his 335 research papers.

PLENARY SPEAKER



Titles: Composite Sandwich Structures Subjected to Extreme Underwater and In Air Loadings

Dr. Arun Shukla - University of Rhode Island, USA

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Dr. Shukla is the Simon Ostrach Professor of Mechanical Engineering at the University of Rhode Island (URI). He is also the co-founder and inaugural co-director of the National Institute for Undersea Vehicle Technology at URI. Dr. Shukla was elected to the European Academy of Sciences and Arts in 2011 and the Russian Academy of Engineering in 2015. He is a Fellow of the American Society of Mechanical Engineers (ASME), American Academy of Mechanics, Shock Wave Society (India) and the Society for Experimental Mechanics (SEM). He received the M.M. Frocht Award from SEM for “outstanding achievements as an educator in the field of experimental mechanics” and the B.J. Lazan Award from SEM for “outstanding technical contributions.” In 2003 he served as the President of SEM and in 2011 delivered the prestigious Murray Lecture at SEM. He has served as the Technical Editor of Experimental Mechanics and currently serves on the Editorial Boards of key engineering journals. Dr. Shukla has received the Distinguished Alumnus Award from his alma mater, IIT Kanpur. In 2023, he received the prestigious Drucker Medal from the ASME and the Theocaris Award from the SEM. He has served as the Clark B. Millikan Visiting Professor of Aerospace at the California Institute of Technology, USA and as the Satish Dhawan Visiting Chair at the Indian Institute of Sciences, Bangalore India. He has also served as the chair of the ASME’s Applied Mechanics Division, Executive Committee. Along with his many Ph.D. and M.S. students, he has published more than 450 papers in refereed journals and proceedings. Dr. Shukla has also authored and edited 10 books.

PLENARY SPEAKER



Titles: High Accuracy, Computationally Efficient Modeling of Radiation Transfer in Gases

Dr. Brent Webb - Brigham Young University, USA

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Professor Brent Webb received his PhD from Purdue University in 1986, and joined the Mechanical Engineering faculty at Brigham Young University immediately thereafter. He has served the university as Director of the Research Office, Vice President for Research, and Academic Vice President. He now enjoys teaching and research in the department. Professor Webb has been past Associate Editor of the ASME Journal of Heat Transfer, and is currently Associate Editor of the Journal of Quantitative Spectroscopy and Radiative Transfer. He is an ASME Fellow, ICHMT Fellow, and is recipient of the 2016 ASME Heat Transfer Memorial Award. He serves on the Executive Committee of the International Centre for Heat and Mass Transfer, and served as 2022-2023 Chair of the Executive Committee of the ASME Heat Transfer Division. He served as Co-chair of the past five International Symposia on Radiative Transfer. Professor Webb is author of some 260 technical publications, including 145 archival papers and eight invited reviews, and he has presented over forty invited lectures.

KEYNOTE SPEAKER



Titles: Sustainability through heat commodification

Dr. Kamel Hooman - Delft University of Technology, Netherland

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After completing his PhD at The University of Queensland, Kamel has worked there until 2022 when he moved to TU Delft. Working on heat transformation, technology development, and demonstration, his research is mainly to increase the share of renewable energy in the world. He uses a combination of theoretical, numerical, and experimental techniques to conduct his research.

KEYNOTE SPEAKER



Titles: Modeling the Fluid Physics of Wind Farms

Dr. Richard Stevens - University of Twente, Netherlands

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Dr. Richard Stevens is an Associate Professor in the Physics of Fluids group at the University of Twente. He has received an ERC- starting and ERC consolidator grant. His research interests include computational fluid dynamics and high-performance computing. His work is focused on the fundamental understanding of turbulent Rayleigh-Benard convection and wind farm fluid mechanics.

KEYNOTE SPEAKER



Titles: Assessing the Stability of Large-scale Open Pit Mines

Dr. Abbas Taheri - Queen's University, Canada

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Abbas Taheri is a Tenured Associate Professor at the Robert M. Buchan Department of Mining at Queen's University in Kingston, Canada, where he holds the Chair in Mine Design. Abbas has over 22 years of industry, research, and teaching experience in geotechnical engineering, rock mechanics, and mining engineering. In 1999, he earned a BSc in Mining Engineering and, in 2002, an MSc in Rock Mechanics from Amir Kabir University of Technology, Iran. He worked for over four years in the industry in civil and mining engineering projects before moving to Japan in 2005 for a PhD in geotechnical engineering at Yokohama National University. His PhD thesis has been internationally acknowledged as outstanding research work, and he has been awarded a runner-up certificate (Proxime Accessit) of "ISRM Rocha Medal 2010" from the International Society for Rock Mechanics and Rock Engineering (ISRM). In 2008, he was awarded a postdoctoral fellowship from the Japan Society for the Promotion of Science (JSPS) and joined the Tokyo University of Science. In 2011, he was appointed as a lecturer and then a senior lecturer at the University of Adelaide, Australia, until 2021, when he moved to Queen's University, Canada, as an Associate Professor. Abbas is the president of the Commission on Deep Mining of the ISRM. Dr Taheri is/was Associate Editor and a member of the Editorial Board of several scientific journals, including "Soils and Foundations", "International Journal of Rock Mechanics and Mining Science", "Bulletin of Engineering Geology and Environment", "International Journal of Mining Science and Technology," "Geotechnical and Geological Engineering" etc. Abbas is/was the chair, organizer, and member of the organization committee of many international symposiums and workshops. He has produced more than 180 refereed publications. Dr Taheri has developed and taught several geotechnical engineering and mining operation courses.

LIST OF PAPERS

The following papers were presented at the 10th World Congress on Mechanical, Chemical, and Material Engineering (MCM 2024)

CFD

A Numerical Investigation on the Effect of Steam Injection Temperature in Soot Formation of a Steam-Assisted Lab-Scale Turbulent Diffusion Flame

Authors: Rahul Ramadas, Varunkumar S

Analysing The Losses In Wet Steam Flow Through A Turbine's Last Stage

Authors: Sima Shabani, Miroslaw Majkut, Slawomir Dykas, Krystian Smolka

Numerical Investigation of Distance Between Fan and Coil Block in A Fin and Tube Heat Exchanger

Authors: Harun Denizli, Mustafa Zabun, Feyza Şahin

Evaluation of Jet Sheet Strength Against Vortex Pair Collisions

Authors: Kaito Suzuki, Takahiro Iwasaki, Kotaro Sato

Solving the Radiation Transfer Equation in Participating Media Using Physics Informed Neural Networks

Authors: Pratibha Biswal, Jetnis Avdijaj, Alessandro Parente, Axel Coussement

A Numerical Analysis of Thermo-Hydraulic Performance of Pillow-Plate Heat Exchangers with Ellipsoidal Secondary Structures

Authors: : Reza Afsahnoudeh, Julia Riese, Eugeny Y., Kenig

Plane Jet Vectoring near a Flat Plate using Secondary Suction Flow

Authors: Kaito Yabu, Koichi Nishibe, Donghyuk Kang, Kotaro Sato

DNS of syngas autoignition in stratified medium

Authors : Rahul Patil, Sheshadri Sreedhara

LIST OF PAPERS

CFD

Numerical and Experimental Analysis of Amine Flow in Foundry Sand Cores

Authors : Mohammed Shakeer Khan and Michal Szucki

Effect of Composite Coldplate on Thermal Performance of a EV Battery Module

Authors : Said Tunaboynu , Berk Cevrim, Murat Kadri Aktas

Design and Simulation of a Portable Apparatus for in-situ Thermal Response Test (TRT)

Authors : Serena Onwuka, Ahmed Badr Mabrouk, Mason Marzbali

Numerical Simulation of Cryogenic Fluid Sloshing In Propellant Tank and Influence of Damping with Ring Baffles Under Forced Excitations

Authors : Sajid Momin, Pradeep Kumar P., A. Salih

Behavior of Two-dimensional Jets Passing Over Flat Plate Row

Authors : Kota Ishiwata, Takahiro Iwasaki, Kotaro Sato

Influence of Behaviour of Hydrogen Jet on Performance of Port Fuel Injection Hydrogen Engine for Heavy Duty Vehicles

Authors : Yoshinori Nanba, Ryuichi Ryuichi, Hanano Yanagisawa, Koichi Nishibe, Daisuke Hiyama, Akemi Ito

Heat Transfer Rate Intensification Using Kite Vortex Generator with Punched Hole

Authors : Muhammad Irfan Suhaimi, Natrah Kamaruzaman, Mazlan Abdul Wahid, Mohsin Mohd Sies

Numerical investigation of heat transfer characteristics of nanofluid using parallel and, counter flow configurations

Authors : Abdulaziz Alhulaifi

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The following papers were presented at the 10th World Congress on Mechanical, Chemical, and Material Engineering (MCM 2024)

CFD

Numerical Investigation of Thermal-flow Characteristics of Heat Sinks with Lattice Structures and Pin Fins

Authors : Fatemeh Malekabadi, Ali Sadaghiani

Mathematical Modelling of Forced Convection: Insights from Hele-Shaw Analogues and Cylinder Studies

Authors : Azizi Ahmadi, Almon Chai, Victor Nee-Shin Bong

Pressure Drop and Flow Loss Approximation by Comparison Between Mathematical Model and Numerical Model of a Simplified Fluid Mount

Authors : Alfiya Ashraf, Nader Vahdati, Yap Yit Fatt

Maximizing the Aerodynamic Performance of Wind and Water Turbines by Utilizing Advanced Flow Control Techniques

Authors : Edwin Javier Cortes, Surupa Shaw

Optimization of an Autonomous Underwater Vehicle Using a Gradient-Based Approach

Authors : Roham Lavimi, Alla Eddine Benchikh Lehocine, Sébastien Poncet, Bernard Marcos, Raymond Panneton

Experimental studies of Heat Exchangers for Diesel Generator

Authors : Haifa El-Sadi, Herb Connors

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The following papers were presented at the 10th World Congress on Mechanical, Chemical, and Material Engineering (MCM 2024)

CFD

An Efficient Platform to Capture Flow Features In Industrial Applications

Authors : Wasy Akhtar

A Conservative one-cell thick VoF Method on Adaptive Octree Grids

Authors : Wasy Akhtar

Hydrodynamic Analysis of Oxygen and Molten CuCl in the Cu-Cl Cycle Using a 3D CFD Model for Hydrogen Production

Authors : Mohammed Abdulrahman, Nibras Nassar

Impact of Static Liquid Height on Hydrodynamics of the Thermolysis Reactor in the Cu-Cl Cycle for Hydrogen Production

Authors : Mohammed Abdulrahman, Nibras Nassar

LIST OF PAPERS

Experimental Fluid Flow, Heat & Mass Transfer

Response of Impinging Jets Against a Target Wall with Suction Hole to Pulsating Disturbances

Authors : Keiichiro Suzuki, Kotaro Sato, Kaito Suzuki

Interaction Between Two Synthetic Jets at Various Distances

Authors : Mayuko Katano, Masahiro Takano, Koichi Nishibe, Kotaro Sato

Spray and Thermal Analysis of Pressure and Air Atomized Nozzles for Electronic Cooling

Authors : Monu Kumar, Viraj Dusane, Arvind Pattamatta, Marco Marengo

Design and Analysis of Drone for Foreign Object Debris (FOD) Detection in the Airport

Authors : Haifa El-Sadi, Massimiliano Orfanini, Eleonora Orfanini

Optimization Of A Novel Air-Curtain-Sealed Personal Protective Equipment – A CFD Approach

Authors : Nuno Rosa, Joel Loureiro, José Costa, Adélio Gaspar, Manuel Gameiro

Temperature Influence On Electrical Signals In Induction Systems

Authors : Michal Knedlík, David Rot

Low Temperature Monitoring of Gas Wave Refrigerator Based on Calibration-free WMS-TDLAS Method

Authors : Yihui Zhou, Yunhao Ren, Feng Gao, Zhijun Liu, Dapeng Hu

Design and Testing of Composite Heat Exchanger Applied to Industrial Self-Recuperative Gas Burners

Authors : Kai-Cheng Hsu¹, Marx Tang and Max Lin

An Experimental Study On the Frost Characteristics on A Vertical Aluminum Flat Plate

Authors : Jeongwoo Roh, Changho Han, Jun Yeob Chung, Yongchan Kim

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Experimental Fluid Flow, Heat & Mass Transfer

Drying Performance of Clothes with Different Fabric Types in Tumble Drum Dryers

Authors : Haerang Jo, Yongju Lee, Dongchan Lee, Yongchan Kim

Two-Layer Liquid Sloshing Produced by Horizontal Excitation

Authors : Daiki Iwaya, Ryuichi Inoue, Akihito Kiyama, Kang Donghyuk, Kazuhiko Yokota, Kotaro Sato

Investigation on Local Thermal Non-Equilibrium Effect for Convection Heat Transfer of Supercritical CO₂ in Porous Ceramic Medium

Authors : Zhao-Rui Peng, Xin-Rong Zhang

Flow Direction Control using Circular Cylinder with Multi-slotted Tangential Blowing

Authors : Raichi Naito, Koichi Nishibe, Kotaro Sato

Observation of Two-Dimensional Bubble Motions near Various Boundaries

Authors : Ryuichi Inoue, Daiki Iwaya, Akihito Kiyama, Kang Donghyuk, Kotaro Sato

Thermal Management of Pouch Cell under Extreme Climate Conditions Using T-Shaped Cold Plate

Authors : Hemanth Dileep, Kaushal Kumar Jha, Pallab Sinha Mahapatra, Arvind Pattamatta

Insights into Pool Boiling Heat Transfer on Microchannel Surfaces

Authors : Md Motiur Rahaman, Praveen Dhanalakota, Pallab Sinha Mahapatra, Sarit K. Das, and Arvind Pattamatta

Numerical Investigation Of Heat Transfer Characteristics Of Nanofluid Using Parallel And, Counter Flow Configurations

Authors : Abdulaziz S. Alhulaifi

LIST OF PAPERS

Multiphase Flow & Heat Transfer

On The Liquid-Particle Mass Transfer Coefficient Correlation For Multiparticle Systems

Authors : Ziming Wang, Charalampos Christodoulou, Luca Mazzei

Cooling With Magnets-Proving The Concept Of Cascaded Caloric Heat Pipes

Authors : Schipper Jan, Bartholomé Kilian, Unmüßig Sabrina, Jürgen Wöllenstein

Effect of Inlet Configurations on the Separation Efficiency of Free Water Knock Out Vessel

Authors : Hwan Gyo Kim, Su Bin Kim, Seong Han Bae, Hyun Su Jeong, Youn-Jea Kim

Comparative Analysis of Temperature Fields during cryosurgery: Study using the Porosity-based Bioheat Models and Pennes Model

Authors : Hitesh Kumar Gupta, Debabrata Dasgupta, Prabal Talukdar

Flow Pattern Prediction in the Cooling Circuit of the PEM-Electrolysis using Machine Learning

Authors : Montadhar Guesmi, Johannes Manthey, Simon Unz, Michael Beckmann

A CFD model for heat and mass transfer leading to plume formation within Wet Cooling Towers

Authors : Luc FAVRE, Martin Ferrand

Effect Of Geometrical Configuration On Cavity Dynamics In Planar Cavitating Venturis

Authors : Anuja Vijayan, Pradeep Kumar P

LIST OF PAPERS

Multiphase Flow & Heat Transfer

Experimental Investigation of the Transition from the Segregated Flow Regime to the Intermittent Flow Regime in a Horizontal Pipe

Authors : Amina Bouderbai, Yacine Salhi, Abderraouf Arabi, El-Khider Si-Ahmed, Jack Legrand, Abdellah Arhaliass

Flow Boiling Characteristics in Expanding Type Structured Heat Sinks for Different Roles of Gravitational Force

Authors : Burak Markal and Alperen Evcimeny

Heat Transfer Enhancement with Rising Air Bubbles in Graphene Oxide (GO) Nanofluid

Authors : Li Teng Siow, Jun Rong Lee, Ean Hin Ooi, Ee Von Lau

Influence of Interaction of Two Pulsating Jets with Phase on Flow Characteristics

Authors : Masahiro Takano, Koichi Nishibe, Donghyuk Kang, Kotaro Sato

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Mechanical Engineering

Topological Data Analysis and Decoding Based on Electroencephalogram Signals

Authors : Shijin Xu, Jinyuan Song, Yiming Zhang, Jingyu Yang, Zheng Yang, Fok Sai Cheong, Peng Chen

Failure Time for Optical Fibers Used in Telecommunication Networks

Authors : Rochdi El Abdi, Rodrigo Pinto Leit e

Comparative Analysis of EEG Signals in Bimanual Coordination: Real vs. Virtual Environments for Rehabilitation

Authors : Yiming Zhang, Jingyu Yang, Shijin Xu, Jinyuan Song, Zheng Yang, Fok Sai Cheong, Peng Chen

Disc Brake Rotor Thermal Analysis for a Formula SAE Race Car

Authors : Murat Otkur, Issa Fasahi, Taleb Waseem, Osama Zattam, Mohammad Alazmi

A Static Analysis of Compression and Torsion of Kresling Origami Springs

Authors : Kevin Kuriakose Joseph, Ahmed S. Dalaq, Mohammed F. Daqaq

Analysis Of The Mechanical Properties Of 3d Printed Structures And Comparison Of Results Through Simulations In Solidworks Software

Authors : Gisela Iveth Aguilar Arita, Stephanie Santos, Mar a Perdomo

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Industrial Engineering

Decrease The Level Of Complaints In A Company Of Air Compressors Through Lean Manufacturing Based On Dmaic Methodology

Authors : Lucía Eyzaguirre, Claudia Chang, Carlos Urbina

Diagnosis and Improvement in a Fresh grape Agro-exporting Company Using Management Techniques

Authors: Sherghei Tejada-Guevara, Carolina Vilcas-Mitma, Marco Herrera-Portal, José Velásquez-Costa, Herbert Vilchez-Baca

Production Model Based On 5's Tools, Visual Control and Slp to Reduce Waste in a Company in the Poultry Sector

Authors : Mario Sergio Amoretti-Magallanes, Paola Alejandra Carpio-Montesinos, Jorge Antonio Corzo-Chavez

Improvement Model For Reducing Stock-Outs Using Inventory Management Tools In A Commercial Company Specializing In Solar Thermals

Authors : Samantha Isabel Aspajo-Diaz, Martha Yocklen Mendoza-Moscoso, Jorge Antonio Corzo-Chavez

Production Management Model For Waste Reduction Using 5s, Tpm And Poka Yoke Tools In A Peanut Snack Manufacturing Company

Authors : Yadhira Nicole Aldave-Vasquez, Stephanny Morales-Vargas, Jorge Antonio Corzo-Chavez

Demand Forecasting Model To Reduce The Mean Absolute Percentage Error By Applying Seasonal Breakdown Tools In A Sme In The Tourism Sector

Authors : Sayuri Arleth Renatta Ludeña-Roman, Sebastian Zelada-Collazos, Jorge Antonio Corzo-Chavez

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Industrial Engineering

Production Of Cobb 500 Chickens Under Controlled Environments At "Granja De Valle Colorado"

Authors : Isabela Milagros Limaylla Leon, Kelly Lizbeth Curi-Pianto, Mariel Milena Machuca-Balbin, Rodolfo Antonio Chávez-Castillo

Feasibility of Manufacturing and Utilizing Recycled PET 3D Printing Filaments Through Design of Experiments

Authors : Gerardo Enrique Sosa Valenzuela

Statistical Analysis of Time Collection Tools for Simulation of Industrial Systems

Authors : Javier André Bustillo Espinal, María José Velásquez García

Analysis Of Urban Bus Routes In Tegucigalpa, Honduras Through Operational Research

Authors : Diego Alberto Almendares Mass, Fernando Vicente Velásquez Urbizo

Nurse Staff Scheduling Optimization Model in the Emergency Room of the Hospital Escuela Universitario

Authors : Isabela María Paredes Ramírez

Quality Evaluation of Honduran Bottled Water for Human Consumption through Experimental Design

Authors : Francis Yuliana Rivas Granados, Paola Michelle Pascua Cantarero

Analysis Of Improvements In The Practice Of Anthropometry Through 3D Scanning And Photogrammetry At UNITEC

Authors : Tyzon Javier García Flores, Paola Michelle Pascua Cantarero

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Industrial Engineering

Hospital Patient's Menu Planning Using Linear Programming in Tegucigalpa, Honduras

Authors : Freddy David Mejía Armijo

Proposal of initial parameters for an anthropometric database of the Honduran working population

Authors : Clarissa Yarith Martínez Sorto, Shannon Julissa Mejia Enamorado , Paola Michelle Pascua Cantarar

Implementation of the 5S methodology to improve efficiency in a pastry microenterprise San Ramon - Chanchamayo

Authors : Jimmy Vera-Bobadilla, Franklin Apolinario-Caro, Nancy Pineda-Romero, José Velásquez-Costa, Herbert Vilchez-Baca

3D Printing of Carbon Fiber Composite Material: Mechanical Property and its Practical Application

Authors : Kazumasa Kawasaki

Implementation Of Lean Six Sigma To Improve The Quality Of Service Of A Company In The Restaurant Sector

Authors : Andrea Gianella Paz Acosta ; Valeria Alexandra Paz Acosta ; Edilberto Avalos-Ortecho

Reverse logistics optimization model applying process simulation in a carbonated beverage distribution centre in Perú

Authors : Stefanny Montaña, Andy Acosta, Brenda Dávila³, William Orbegoso, Maria Ávila, Sandra Aguirre

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Metallurgical and Material Engineering

Steam Calcination of Magnesium Carbonate: A Kinetic Study

Authors : Hani Ababneh, Bassam Dally

Research On Gas Explosion Pressure Relief Effect Of Explosion Proof Covers With Different Opening Structures

Authors : Ren Jingzhang, Gao Jianliang, Zhang Xuebo, Fang Yingxiang

Investigation of Hydrocyclone Modernization in Küre Copper Ore Re grinding Circuit and Its Effect on Grinding Performance

Authors : M. Temucin Uysal, M.Sc., Fatih Enisoglu, Yasar Kara

Development of Innovative and Sustainable Methodologies Applied To the Recovery of Copper in Integrated Circuit Boards

Authors : Lídia Cunha, Joana Monteiro, Aurora Futuro, José Soeiro, Rui Sousa

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Authors : Tung-Han Chuang, Yen-Ting Chen, Devi Indrawati Syafei, Yin-Hsuan Chen, Seven Chang, and James

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