



MHMT
CONGRESS

PROCEEDINGS OF THE 4TH WORLD CONGRESS ON MOMENTUM, HEAT AND MASS TRANSFER (MHMT'19)

April 10 - 12, 2019 | Rome, Italy

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ISBN: 978-1-927877-53-1 | ISSN: 2371-5316

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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 4th World Congress on Momentum, Heat and Mass Transfer (MHMT'19).

MHMT is aimed to become one of the leading international annual congresses in the fields of momentum, heat and mass transfer. This congress will provide excellent opportunities to scientists, researchers, industrial experts, 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 3 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.

We thank you for your participation and contribution to the 4th World Congress on Momentum, Heat and Mass Transfer (MHMT'19). We wish you a very successful and enjoyable experience.

Dr. Lixin Cheng

*Congress Chair and Proceedings Editor
MHMT'19*

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ABOUT MHMT'19

MHMT is aimed to become one of the leading international annual congresses in the fields of momentum, heat and mass transfer. 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 3 conferences included in the CSEE Congress:

ENFHT'19 - 4th International Conference on Experimental and Numerical Flow and Heat Transfer

ICMFHT'19 - 4th International Conference on Multiphase Flow and Heat Transfer

CSP'19 - 4th International Conference on Combustion Science and Process
While each conference consists of an individual and separate theme, the 3 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.

MHMT is an acronym for **M**omentum, **H**eat, and **M**ass **T**ransfer

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 [Google Scholar](#)

The proceedings is permanently archived in [Portico](#) (one of the largest community-supported digital archives in the world)

Google Scholar

Crossref


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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 MHMT'19 Congress:

Scientific Committee Members for ENFHT'19

- Dr. Panagiota Angeli, University College London, UK
- Dr. Rayhaneh Akhavan, University of Michigan, USA
- Dr. Jun Cao, Ryerson University, Canada
- Dr. Selva Çavus, Istanbul University, Turkey
- Dr. Khoo Boo Cheong, National University of Singapore, Singapore
- Dr. Arend Dubbelboer, Danone Nutricia Research, Netherlands
- Dr. Mohammad Hamdan, American University of Sharjah, United Arab Emirates
- Dr. Mohammad Hojjat, University of Isfahan, Iran
- Dr. Roy Issa, West Texas A&M University, USA
- Dr. Jerhuan Jang, Ming Chi University of Technology, Taiwan
- Dr. Zdeněk Jegla, Brno University of Technology, Czech Republic
- Dr. Alexander Liberson, Rocheste Institute of Technology, USA
- Dr. Pamela M. Norris, University of Virginia, USA
- Dr. Arturo Pacheco-Vega, California State University, Los Angeles, USA
- Dr. Hakan Oztop, Firat University. Turkey
- Dr. Bruno Zelić, University of Zagreb, Croatia

SCIENTIFIC COMMITTEE

Scientific Committee Members for ICMFHT'19

- Dr. Nabeel Al-Rawahi, Sultan Qaboos University, Oman
- Dr. Mandar Badve, University of Birmingham, United Kingdom
- Dr. Mostafa Barigou, University of Birmingham, UK
- Dr. Carlos Martínez Bazán, Universidad de Jaen, Spain
- Dr. Andre Benard, Michigan State University, USA
- Dr. Ming-Jyh Chern, National Taiwan University of Science & Technology, Taiwan
- Dr. Farhad Ein-Mozaffari, Ryerson University, Canada
- Dr. Sonia Fidler-Woudberg, Stellenbosch University, South Africa
- Dr. Kamiel Gabriel, University of Ontario Institute of Technology, Canada
- Dr. Afshin J. Ghajar, Oklahoma State University, USA
- Dr. Dana Grecov, University of British Columbia, Canada
- Dr. Thomas Höhne, Helmholtz-Zentrum Dresden - Rossendorf (HZDR), Germany
- Dr. James Liburdy, Oregon State University, USA
- Dr. Huihe Qiu, Hong Kong University of Science and Technology, Hong Kong
- Dr. Liping Wei, Northwest University, China
- Dr. Guodong Xia, Beijing University of Technology, China
- Dr. Fu-Ling Yang, NTU, Taiwan
- Dr. Jiyun Zhao, City University of Hong Kong, Hong Kong

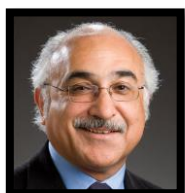
SCIENTIFIC COMMITTEE

Scientific Committee Members for CSP'19

- Dr. Christopher Chao, Hong Kong University of Science & Technology, Hong Kong
- Dr. Young Choi, Korea Institute of Machinery and Materials, Korea
- Dr. Byungchul Choi, Chonnam National University, Korea
- Dr. Pedro Jorge Martins Coelho, University of Lisbon, Portugal
- Dr. Lin Ma, The University of Sheffield, UK
- Dr. Vahid Motevalli, Tennessee Tech University, USA
- Dr. Constantine D. Rakopoulos, National Technical University of Athens, Greece
- Dr. Sergei Sazhin, University of Brighton, UK
- Dr. Andrzej Szlęk, Silesian Technical University, Poland
- Dr. Hari Vuthaluru, Curtin University Australia, Australia
- Dr. Mirosław Wyszynski, University of Birmingham, UK
- Dr. Kwok Kit Richard Yuen, City University of Hong Kong, Hong Kong

KEYNOTE SPEAKERS

The keynote information for the 4th World Congress on Recent Advances in Nanotechnology (MHMT'19) is as follows:



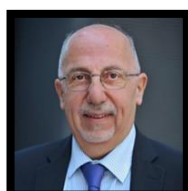
Dr. Afshin J. Ghajar
Oklahoma State University,
USA
ENFHT'19 Keynote Speaker



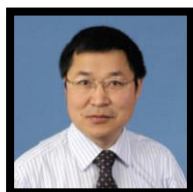
Dr. Boo Cheong Khoo
National University of
Singapore, Singapore
ENFHT'19 Keynote Speaker



Dr. BoFeng Bai
Xi'an Jiaotong University,
China
ENFHT'19 Keynote Speaker



Dr. Tassos G. Karayiannis
Brunel University London, UK
ICMFHT'19 Keynote Speaker



Dr. Lixin Cheng
Sheffield Hallam
University, UK
ICMFHT'19 Keynote
Speaker



Dr. Guodong Xia
Beijing University of
Technology, China
ICMFHT'19 Keynote Speaker

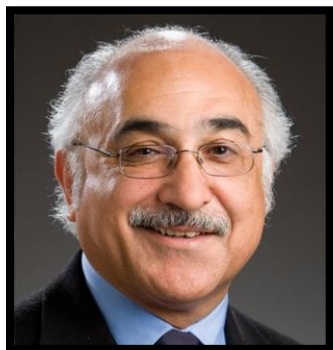


Dr. Johannes Kiefer
University of Bremen,
Germany
CSP'19 Keynote Speaker



Dr. Qinling Li
Sheffield Hallam University,
UK
CSP'19 Keynote Speaker

ENFHT KEYNOTE SPEAKER



Topic of Keynote: Transitional Flow in Tubes:
Experimental Results and Recommended
Correlations for Calculation of Pressure Drop and
Heat Transfer in Plain and Micro-fin Tubes
Dr. Afshin J. Ghajar, Oklahoma State
University, USA

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Dr. Afshin J. Ghajar is Regents and John Brammer Endowed Professor in the School of Mechanical and Aerospace Engineering at Oklahoma State University, Stillwater, Oklahoma, USA and an Honorary Professor of Xi'an Jiaotong University, Xi'an, China. He received his BS, MS, and PhD all in Mechanical Engineering from Oklahoma State University. His expertise is in experimental heat transfer/fluid mechanics and development of practical engineering correlations. Dr. Ghajar has made significant contributions to the field of thermal sciences through his experimental, empirical, and numerical works in heat transfer and stratification in sensible heat storage systems, heat transfer to non-Newtonian fluids, heat transfer in the transition region, and non-boiling heat transfer in two-phase flow. His current research is in two-phase flow heat transfer/ pressure drop studies in pipes with different orientations, heat transfer/pressure drop in mini/micro tubes, and mixed convective heat transfer/pressure drop in the transition region (plain and enhanced tubes). Dr. Ghajar has been a Summer Research Fellow at Wright Patterson AFB (Dayton, Ohio) and Dow Chemical Company (Freeport, Texas). He and his co-workers have published over 200 reviewed research papers and 10 book/handbook chapters. He has delivered numerous keynote and invited lectures at major technical conferences and institutions.

ENFHT KEYNOTE SPEAKER



Topic of Keynote: Drag reduction and heat transfer in turbulent channel flow over circular dimples: shifting the deepest point of dimples
Dr. Boo Cheong Khoo, National University of Singapore, Singapore

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BC Khoo graduated from the University of Cambridge with a BA (Honours, 1st Class with Distinction). In 1984, he obtained his MEng from the NUS and followed by PhD from MIT in 1989. He joined NUS in 1989.

From 1998 to 1999, he was seconded to the Institute of High Performance Computing (IHPC, Singapore) and served as the deputy Director and Director of Research.

In 1999, BC returned to NUS and spent time at the SMA-I (Singapore MIT Alliance I) as the co-Chair of High Performance Computation for Engineered Systems Program till 2004. In the period 2005-2013, under the SMA-II, he was appointed as the co-Chair of Computational Engineering Program.

In 2011-2012, BC was appointed the Director of Research, Temasek Laboratories, NUS. Since 2012, he has been the Director, Temasek Laboratories

ENFHT KEYNOTE SPEAKER



Topic of Keynote: Turbulent Heat Transfer of Supercritical Fluids: Fundamentals and Modeling

Dr. BoFeng Bai, Xi'an Jiaotong University, China

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Dr. BoFeng Bai is a Professor in the State Key Laboratory of Multiphase Flow in Power Engineering at Xi'an Jiaotong University. He received his BE, ME and Ph.D all in Power Engineering & Engineering Thermophysics at Xi'an Jiaotong University in 1993, 1995 and 1999, respectively. His research area covers multiphase flow fundamentals and applications in thermal engineering, power engineering as well as petroleum engineering. He has published over 200 journal papers including Journal of Fluid Mechanics and International of Multiphase Flow, given over 20 invited lectures at technical conferences and institutions, and supervised 13 doctoral students. He is the member of editorial board of Case Studies in Thermal Engineering (Elsevier) and Interfacial Phenomena and Heat Transfer (Begell House), the recipient of several awards, including China National Ten Thousand Talent Program and China National Funds for Distinguished Young Scientists.

ICMFHT KEYNOTE SPEAKER



Topic of Keynote: Developments in Flow Boiling in Micro Tubes and Channels

Dr. Tassos G. Karayiannis, Brunel University London, UK

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Tassos Karayiannis studied at the City University London and the University of Western Ontario (Western). He started his career as a researcher at Southampton University and later as a British Technology Group Researcher at City University. Subsequently he worked at London South Bank University and joined Brunel University London in 2005 where he is now professor of Thermal Engineering and Leader of the Energy Efficient & Sustainable Technologies Theme. Professor Karayiannis has carried out fundamental and applied research in a number of heat transfer related topics including natural convection and renewable energy. He has been involved with two-phase flow and heat transfer for over 30 years. Initially he worked on the enhancement of pool boiling and condensation processes using high intensity electric fields (Electrohydrodynamic enhancement of Heat Transfer). In parallel, he carried out extensive experimental work in pool boiling heat transfer with plane and enhanced surfaces. Professor Karayiannis has also been very actively involved with research in flow boiling in small to micro tubes and micro-multi-channels. This work involves fundamental studies as well as research leading to the design of high heat flux integrated thermal management systems. His research has been funded by the Engineering and Physical Sciences Research Council, Innovate UK and Industry. He has published more than 230 papers, chapters in books and industrial reports. He chaired the following conferences/meetings: 48th European Two Phase Flow Group Meeting, 2010 the 9th UK-Japan Seminar on Multiphase flows 2013 and the 15th UK National Heat Transfer Conference, 2017. He also chairs the Int Conf on Micro and Nanoscale flows now in its 6th edition. He is a Fellow of the EI and the IMechE and the Chairman of the UK National Heat Transfer Committee.

ICMFHT KEYNOTE SPEAKER



Topic of Keynote: Flow Boiling Heat Transfer and Two-Phase Flow of Carbon Dioxide: Fundamentals, Mechanistic Models and Applications

Dr. Lixin Cheng, Sheffield Hallam University, UK
ICMFHT Keynote Speaker

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Dr. Lixin Cheng is Principal Lecturer and Programme Leader in Chemical Engineering at Sheffield Hallam University, UK. He obtained his Ph.D. in Thermal Energy Engineering at the State Key Laboratory of Multiphase Flow at Xi'an Jiaotong University, China in 1998. Dr. Cheng has extensive international working and collaboration experience. He held an associate professor in Chemical Engineering at Aarhus University, Denmark in 2013-2015. He was a senior lecturer and course leader in Petroleum Engineering at the University of Portsmouth, UK in 2011-2013, and a lecturer in Chemical Engineering at the University of Aberdeen, UK in 2009-2011. He worked as a scientific collaborator in the Laboratory of Heat and Mass Transfer (LTCM) at the Swiss Federal Institute of Technology in Lausanne (EPFL), Switzerland in 2006-2009. He was awarded an Alexander von Humboldt Research Fellowship and worked at the Institute of Process Engineering at the Leibniz University of Hanover, Germany in 2004-2006. He was a senior research fellow at London South Bank University in 2001-2003, and a post-doctoral research fellow at Eindhoven University of Technology, the Netherlands in 2000-2001. His research interests include multiphase flow and heat transfer, enhanced heat transfer, micro-scale two-phase flow and heat transfer, nanofluid two-phase flow and heat transfer, compact and micro-heat exchangers, chemical processes and thermal energy system etc. In recent years, he is active in developing cutting-edge interdisciplinary research such as bioenergy, waste utilization and energy efficiency. He has published more than 100 papers in journals and conferences, 10 book chapters and edited 10 books. He is associate editor of Heat Transfer Engineering since 2016. He was the founder and Editor-in-Chief of the International Journal of Microscale and Nanoscale Thermal and Fluid Transport Phenomena (IJMNTFTP) (2010-2014). He is the Editor-in-Chief of e-book series Advances in Multiphase Flow and Heat Transfer, and editor of SpringerBriefs on "Multiphase Flow" and Book series "Frontiers and Progress in Multiphase Flow" by Springer Verlag in Germany.

ICMFHT KEYNOTE SPEAKER



Topic of Keynote: Flow Boiling Heat Transfer and Two-Phase Flow of Carbon Dioxide: Fundamentals, Mechanistic Models and Applications

Dr. Guodong Xia, Beijing University of Technology, China

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Professor Guodong Xia is a leading professor in Thermal Energy Engineering at Beijing University of Technology, China. He received his Ph.D. in Thermal Energy Engineering at the State Key Laboratory of Multiphase Flow at Xi'an Jiaotong University, China in 1996. He was a visiting professor in the Institute of Process Engineering of the University of Hanover, Germany in 2000 -2001. His research interests include fundamentals and applications of microscale heat transfer, multiphase flow and heat transfer, waste energy recovery, thermal energy system, heat exchanger design and enhanced heat transfer. His research has been supported by the National Basic Research Program of China (973 Program), National Natural Science Foundation of China (NSFC), Beijing Natural Science Foundation and industry. He is a member of the multiphase flow committee of the Chinese Society of Engineering Thermophysics and a member of the multiphase flow committee of the Chinese Society of Theoretical and Applied Mechanics. He has published more than 100 papers in journals and conferences. Especially, he has published more than 50 papers in the leading international journals such as International Journal of Heat Mass Transfer, International Journal of Multiphase Flow, Applied Thermal Engineering and International Journal of Thermal Sciences etc. since 2011.

CSP KEYNOTE SPEAKER



Topic of Keynote: Laser Diagnostics in
Combustion: Opportunities and Challenges
Dr. Johannes Kiefer, University of Bremen,
Germany

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Johannes Kiefer is Chair Professor and Head of the division of engineering thermodynamics at the University of Bremen, Germany. In addition, he is an Honorary Professor at the University of Aberdeen, Scotland, and he holds a guest professorship of the Erlangen Graduate School in Advanced Optical Technologies (SAOT) at the University Erlangen-Nuremberg, Germany.

He earned his chemical engineering degree and a PhD from the University Erlangen-Nuremberg. From 2010 to 2014 he was a lecturer and senior lecturer at the University of Aberdeen before he moved to Bremen. He was visiting researcher at renowned institutions including the division of combustion physics at the University of Lund, Sweden and the Combustion Research Facility of the Sandia National Labs Livermore, US. His research interests are the areas of developing and applying spectroscopic techniques for the characterization of advanced materials and processes including combustion. Johannes has received a number of prizes including the Combustion Institute British Section's Hinshelwood Prize 2012 and the 2010 distinguished paper award on diagnostics at the 33rd International Symposium on Combustion.

CSP KEYNOTE SPEAKER



Topic of Keynote: High Speed Compressible Turbulence With/without Combustion: Fundamental Understandings and Challenges
Dr. Qinling Li, Sheffield Hallam University, UK

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Qinling Li is a senior lecturer in Department of Engineering and Mathematics, Sheffield Hallam University. After received her PhD in the School of Engineering & Science, University of Southampton, she worked as research associates in Aeronautical and Automatics Engineering Department, Loughborough University (2003~2006), and the Department of Applied Mathematics and Theoretical Physics (DAMTP), University of Cambridge (2006~2009). The main research fields are fundamentals of compressible turbulence, shock-waves boundary layer interaction, jet-in-cross flow & mixing, turbine/combustion chamber cooling effectiveness, fan broadband noise prediction, LES of short take-off and vertical landing aircraft in descending phase (STOVL), high-order numerical methods used in DNS/LES and fluid-structure interaction (FSI). She is also interested in turbomachinery mean-line design, multi-phase flow, energy storage, thermal system, energy saving and recovery.

LIST OF PAPERS

The following papers were presented at the 6th World Congress on Momentum, Heat and Mass Transfer.

CFD

Title: Numerical Modeling of Liquid-Liquid Slug Flow in a Cross-Shaped Square Microchannel

Author: Roman Filimonov, Zan Wu, Bengt Sundén

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Title: Numerical Study of Water Flooding Simulations Using ANSYS Fluent

Author: Mohammed Azhar, Jay Sanyal

[View Paper](#)

Title: Numerical Study of Nucleate Boiling Flows Using ANSYS Fluent

Author: Mohammed Azhar

[View Paper](#)

Title: Improving Separation Efficiency of Particle less than 10 Microns in Hydrocyclone

Author: Adebola Adewoye, Mamdud Hossain, Sheikh Zahidul Islam, Aditya Karnik

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Title: Gas Dispersion in Highly Viscous Fluids with a Coaxial Mixer through Tomography and CFD

Author: Farhad Ein-Mozaffari, Nasim Hashemi

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The following papers were presented at the 6th World Congress on Momentum, Heat and Mass Transfer.

CFD

Title: Numerical Analysis of the Effect of Jet-Fan Operation Condition on Smoke Movement and Visibility in Tunnel Fire

Author: Ha Thien Khieu, Ji Tae Kim, Ki Bea Hong, and Hong Sun Ryou

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Title: Comparative Three Dimensional CFD Study for Inline Cross Flow Plate Finned Tube Heat Exchanger

Author: M. Shawky Ismail, M. Hassab, Wael M. El-Maghlany

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Title: Using CFD Simulation and Porous Medium Analogy to Assess Cerebral Aneurysm Hemodynamics after Endovascular Embolization

Author: Mohammad O. Hamdan, Hashem M. Alargha, Emad Elnajjar, Ali Hilal-Alnaqbi, Waseem H. Aziz

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Title: Thermal Comfort in Air-Conditioned Space by Desiccant Cooling

Author: Joon Ahn, Hoyup Choi

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Title: Enhancement of Cooling Effectiveness with Mist Assisted Film Cooling

Author: Pratibha Biswal, Udaydeep Jindal, Sathi Rajesh Reddy

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CFD

Title: Enhancement of Cooling Effectiveness with Mist Assisted Film Cooling

Author: Pratibha Biswal, Udaydeep Jindal, Sathi Rajesh Reddy

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Title: Modeling of an Air-Assisted Spray Breakup of Urea-Water Solution for SCR Applications

Author: Amit Naik, Markus Höltermann, Eric Lauer, Stefan Blodig, Friedrich Dinkelacker

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Title: Ways to increase the evaporation surface area of liquid droplets: an experimental study

Author: Dmitrii V. Antonov, Genii V. Kuznetsov, Maxim V. Piskunov, Pavel A. Strizhak, Nikita E. Shlegel

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Title: A Two-Dimensional Central Non-Oscillatory Scheme for Inviscid Compressible Flows

Author: Gregorio Gerardo Spinelli, Bayram Celik

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Title: A Boundary Layer Approach in the Modelling Flows in Microscale

Author: Alexander S. Liberson

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CFD

Title: Numerical simulation of boiling on 3D unstructured grids

Author: Guillaume Sahut, Giovanni Ghigliotti, Patrick Bégou, Philippe Marty, Guillaume Balarac

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Title: Ransom Test Results from a Bi-Lagrange + Remap Explicit Approach

Author: Vazquez-Gonzalez Thibaud, Llor Antoine

[View Paper](#)

Title: CFD–DEM Modelling Approach of Particle–Liquid Food Flows in a Bent Pipe

Author: Mohd Tarmizan Ibrahim, Heiko Briesen, Petra Först, Jörg Zacharias

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Title: Thermal Performance of Heat Shield Under High-Temperature Jet

Author: Zheng Hu, Jiajia Sui, Chengbin Zhang

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Title: Numerical Simulations of the Pore-Scale Flow in Ceramic Open-Cell Foams

Author: Jesus Nain Camacho Hernandez, Markus Schubert, Uwe Hampel

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CFD

Title: Feasibility of Using CFD Analysis for Improving the Gas Hobs Performance In terms of Efficiency and Emissions

Author: Ehsan Amirabedin, Tuba Anık, Ali Karaduman

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Title: Numerical investigation of spray cooling in OpenFOAM

Author: Sarah Winstanley, Alexander Haban, Bernd Platzer, Martin Fehlbier, Daniel Zipplies

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Title: Effect of Heat Transfer on the Efficiency of Micro Size Turbine and Compressor Used in Turbocharger

Author: Omer Faruk Atac, Jeong-Eui Yun, Taehyun Noh

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Experimental Measurements

Title: Preparatory Experiments on Oscillatory Thermocapillary bubble Convection

Author: Ebram Tadrous, Günter Wozniak

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Title: Experimental measurement of mass transfer resistances in a membrane based adiabatic microchannel absorber

Author: Mercedes de Vega, Néstor García-Hernando, María Venegas

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Title: Experiments of the Pressure Drop of Propane Considering Hysteresis and Metastability

Author: Xenia Gabrisch, Jens-Uwe Repke

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Title: Measurement of Bubbles Properties to Generated Efficient Surface Flow

Author: Hassan Abdulmouti

[View Paper](#)

Title: Towards Experimental Measurement of Methane Adsorption Isotherm in Shale Reservoirs

Author: Razieh Solatpour, Apostolos Kantzas

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Experimental Measurements

Title: Thermal Convection in Rotating Horizontal Cylinder Subject to Transverse Vibration

Author: Victor Kozlov, Aleksei Vjatkin, Rustam Sabirov

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Title: Experimental Study of Air–water Two-phase Flow in a 3×3 Rod Bundle for PDF Analysis

Author: Pei- Syuan Ruan, Ya-Chi Yu, Shao-Wen Chen, Jin-Der Lee, Jong-San Wu, Chienkuan Shih

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Title: Experiments of the Pressure Drop of Propane Considering Hysteresis and Metastability

Author: Xenia Gabrisch, Jens-Uwe Repke

[View Paper](#)

Title: Thermal convection and heat transfer in rotating horizontal annulus

Author: Victor Kozlov, Aleksei Vjatkin, Ramil Siraev

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Title: Experimental study on heat transfer performance of curved heat pipe

Author: Shuangshuang Miao, Jiajia Sui, Chengbin Zhang

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Multiphase Flow and Heat Transfer in Micro and Nano Channel

Title: Production of gelatin microparticles in a flow focusing microfluidic device for biomedical applications

Author: A. I. Moreira, J. Carneiro, J. B. L. M. Campos, J. M. Miranda

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Title: Flow Boiling Results of HFE-7200 in a Multi-Microchannel Evaporator and Comparison with HFE-7100

Author: Vivian Y.S. Lee, Ali Al-Zaidi, Gary Henderson, Tassos G. Karayiannis

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Title: Trends in Complex Multiphase Flow Modeling for Effective Fuel Energy Acquisition

Author: Muhammad Talha Tahir, Dengwei Jing, Muhammad Hatami, Hassan Elahi

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Title: Initial Results from the Experimental and Computational Study of Microbubble Generation

Author: Alessio Basso, F. A. Hamad, Poobalan Ganesan

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Title: Study of Bubble Growth in a Multicomponent Mixture at High Pressure

Author: Aitor Amatriain, Ignacio Parra, Gonzalo Rubio

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Flow and Heat Transfer in Microchannels

Title: Effects of Nanoparticles on Pin-Based Microchannel Heat Sinks

Author: Mohammad Zargartalebi, Jalel Azaiez

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Title: Heat Transfer Enhancement in Wavy Micro-Channels: Effect of Block Material

Author: Justin Moon, J. Rafael Pacheco, Arturo Pacheco-Vega

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Title: Leidenfrost Rotor Dynamics: Design of Turbine-inspired Substrates

Author: Prashant Agrawal, Gary G. Wells, Rodrigo Ledesma-Aguilar, Glen McHale, Anthony Buchoux, Adam Stokes, Anthony Walton, Jonathan Terry, Khellil Sefiane

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Title: Nano-Coated Heat Pipe Plate for Miniaturized Electronics Cooling

Author: Yanping Du, Yonggang Zhu

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Design and Simulation

Title: A New Approach for Removing Bubble in Microfluidic Systems

Author: Hossein Zargartalebi, Razieh Salahandish, Amir Sanati Nezhad

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Title: Modeling of conductive heat transfer in a 3D numerical material by a stochastic process

Author: V. Gonneau, D. Rochais, F. Enguehard, S. Chupin, G. L. Vignoles

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Title: Heat Transfer Characteristic Analysis of Supercritical CO₂ Based on Heat Current Method Combining with Entropy Dissipation

Author: Jun-hong Hao, Qun Chen, Xia Li

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Title: Numerical Simulation of Cavitating Flows using Overset Mesh

Author: Alok Khaware, Vinay Kumar Gupta, KVSS Srikanth, Mohammed Azhar

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Title: Coupled Fluid Flow Modeling in the Wellbore and Reservoir for CO₂ Injection at the CaMI Field Research Station

Author: Somayeh Goodarzi, Don Lawton, Kirk Osadetz

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Title: Convective Electro-Thermal Simulation of a Generator Circuit Breaker Starting Switch

Author: Marcelo Buffoni, Francesco Agostini

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Laminar Flow and Heat Transfer

Title: Numerical Investigation of Laminar Film Condensation at Low Pressure on a Condenser Tube of an Adsorption Chiller

Author: Yusuf Yilmaz, Gamze Gediz Ilis, Hasan Demir

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Title: Transient Behaviour of Heat Exchangers Under Inlet Perturbations
Author: Shahram Fotowat, Serena Askar, Amir Fartaj

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Title: External Mass Transfer of a Single Particle in Nonlinear Extensional Flow

Author: Anjun Liu, Jie Chen, Zhenzhen Wang, Chao Yang, Zai-Sha Mao

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Title: Dynamics of Immiscible Radial Flow Displacements of Dilatant Fluids in Porous Media

Author: Y-H Lee, J. Azaiez, I. D. GatesAzhar

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Experimental Measurement in Combustion

Title: Pollutant gas emissions during the co-combustion of Oil Shales from Uruguay with biomass wastes

Author: Martín Torres, Patrice Portugau, Andrés Cuña, Jorge Castiglioni, Luis Yermán

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Title: Regularities and Characteristics of Gel Fuel Ignition

Author: Dmitrii Glushkov, Pavel Strizhak

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Title: Utilization of Oil and Coal Industrial Waste by Combustion in the Form of Slurry and Granulate

Author: Pavel Strizhak, Ksenia Vershinina, Daniil Romanov1, Vadim Dorokhov

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