The Third International Symposium on Thermal-Fluid Dynamics (ISTFD 2022)

Online, July 28-30, 2022

Program

Xi'an Jiaotong University
Xi'an, China

Sheffield Hallam University
Sheffield, UK

Beijing Institute of Technology
Beijing, China

Science and Technology on Plasma Dynamics Laboratory, Xi'an, China

State Key Laboratory of Multiphase Flow in Power Engineering, Xi'an, China

National Natural Science Foundation of China, Beijing, China

The Third International Symposium on Thermal-Fluid Dynamics

Honorary Chair

Prof. Tassos G. Karayiannis
Brunel University London, UK

Founding Chair

Prof. Bofeng Bai
Xi'an Jiaotong University, Xi'an, China

International Co-Chairs

Prof. Lixin Cheng
Sheffield Hallam University, Sheffield, UK

Prof. Qinling Li
Sheffield Hallam University, Sheffield, UK

Prof. Yun Wu
Science and Technology on Plasma Dynamics Laboratory, Xi'an, China

Prof. Liangyu Zhao
Beijing Institute of Technology, Beijing, China

Conference Secretary

Haibin Zhang
Xi'an Jiaotong University
State Key Laboratory of Multiphase Flow in Power Engineering

International Scientific Committee

(Alphabetical Order)

Name	Affiliation	Country
Pedro Jorge Martins Coelho	University of Lisbon	Portugal
Davide Del Col	University of Padova	Italy
Jerzy M Floryan	University of Western Ontario	Canada
Afshin Ghajar	Oklahoma State University	USA
Zhaoli Guo	Huazhong University of Science and Technology	China
Zhixiong Guo	Rutgers University	USA
Li He	University of Oxford	UK
Hui Hu	Iowa State University	USA
Tassos G. Karayiannis	Brunel University London	UK
Johannes Kiefer	University of Bremen	Germany
Boo Cheong Khoo	National University of Singapore	Singapore
Shuiqing Li	Tsinghua University	China
Mingyan Liu	Tianjin University	China
Moubin Liu	Peking University	China
Andrea Luke	University of Kassel	Germany
Kun Luo	Zhejiang University	China
Lin Ma	University of Sheffield	UK
Oronzio Manca	Universita degli studi della Campania "Luigi Vanvitelli"	Italy
Josua Meyer	University of Pretoria	South Africa
Li Rong	Aarhus University	Denmark
Neil Sandham	University of Southampton	UK
Khellil Sefiane	University of Edinburgh	UK
Yansong Shen	The University of New South Wales	Australia
Cees van der Geld	Eindhoven University of Technology	Netherlands
Guoyu Wang	Beijing Institute of Technology	China
Junye Wang	Athabasca University	Canada
Feng Wu	China Gas Turbine Establishment(Sichuan)	China
Yun Wu	Science and Technology on Plasma Dynamics Laboratory	China
Guodong Xia	Beijing University of Technology	China
Lijun Xu	Beihang University	China
Jinglei Xu	Nanjing University of Aeronautics and Astronautics	China
Jinliang Xu	North China Electric Power University	China
Hong Yan	Northwestern Polytechnical University	China

Terry Yan	Southern Illinois University Edwardsville	USA
Ning Yang	Institute of Process Engineering (IPE) of Chinese Academy of Sciences	China
Taohong Ye	University of Science and Technology of China	China
Mindi Zhang	Beijing Institute of Technology	China
Xinrong Zhang	Peking University	China
Lixin Zhao	Chinese Academy of Agricultural Engineering Planning and Design	China
Wenqi Zhong	Southeast University	China

Welcome

On behalf of the Organizing Committee, it is our pleasure to welcome all participants of the 3rd International Symposium on Thermal-Fluid Dynamics (ISTFD 2022) online, July 28-30, 2022. ISTFD 2022 is intended to explore the new horizons in science and technology in the fields of thermal-fluid dynamics fundamentals and applications.

In the 21st century, progresses in energy and power engineering, aerospace technology, electronic industry are very impressive and will have a chance to bring us to a new era. Thermal-fluid dynamics is one of the key fundamental disciplines and keeps interesting researchers and encouraging them to reveal the mysteries. It is our sincere wish that this symposium will provide an opportunity and platform of brainstorming for scholars to share their valuable ideas and outstanding thoughts.

The scientific program of ISTFD 2022 features more than 150 oral presentations, including 10 plenary lectures and 15 keynote lectures by outstanding researchers in the thermal-fluid dynamics community.

The symposium is hosted by the Xi'an Jiaotong University, which we gratefully acknowledge for providing funding and resources. We would like to express the sincere appreciation to the organizing committee members for their great efforts. We also acknowledge our gratitude to the ISTFD 2022 invited speakers, authors, session chairpersons and attendees, whose contributions and efforts have made the symposium a great success.

On behalf of the Organizing Committee

Bofeng Bai

ISTFD 2022 Chairperson

Objective

The symposium will consider thermal-fluid dynamics related topics involved in these fields, including aerodynamics, combustion, multiphase flow and heat mass transfer, particle/bubble/drop dynamics, spray and mixing, cavitation and cavitating flow, experimental methods/techniques, computation methods and engineering application research. At the symposium, recent research findings on these topics will be presented and discussed.

Symposium Topics

- Aerodynamics
- Cavitation and Cavitating Flow
- Combustion
- Computation Methods
- Engineering Application Research
- Experimental Methods/Techniques
- Multiphase Flow, Heat and Mass Transfer
- Particle, Bubble and Drop Dynamics
- Spray and Mixing

Conference Partners

Xi'an Jiaotong University, Xi'an, China

State Key Laboratory of Multiphase Flow in Power Engineering, Xi'an, China

Sheffield Hallam University Sheffield, S1 1WB, UK

Beijing Institute of Technology, Beijing, China

Science and Technology on Plasma Dynamics Laboratory, Xi'an, China

National Natural Science Foundation of China, Beijing, China

Important Information

1. Conference Arrangement

The detailed agenda is in the end of this conference manual.

2. Conference Service

Time: July 28-30, 2022.
Venue: Online

3. Conference fees

"Early-bird" Registration (before July 10th, 2022):
Regular – 1000 RMB or 160USD;
Master or PhD Student – 800 RMB or 130USD;
(Book of abstracts)

Late Registration (between July 10th, 2022 and July 26th, 2022):
Regular – 1200 RMB or 190USD;
Master or PhD Student – 1000 RMB or 160USD;
(Book of abstracts)

All participants should register for the Symposium using Registration Form and pay Registration Fee as shown above.
Please note: at least one registration is required for each abstract. If a participant does not register and does not pay Registration Fee, the presentation will be removed from the Symposium program and the abstract will not be published.

4. Conference Website:

http://www.istfd.com

5. General Secretary of ISTFD2022:

Dr. Haibin Zhang, Xi'an Jiaotong University, P.R. China
E-mail: istfd@mail.xjtu.edu.cn

Instructions for Presenters

- **Plenary lectures**
  40 minutes in total (35 minutes for presentation, 5 minutes for questions).

- **Keynote lectures**
  30 minutes in total (25 minutes for presentation, 5 minutes for discussion).

- **Oral Presentation**

20 minutes PPT presentation in the Oral presentation section (15 minutes for presentation, 5 minutes for discussion). Presenters are required to enter Zoom meeting 10 minutes before the session starts.

Symposium Services Group

- **General coordinator**:

  Haibin Zhang, tel: +86 15902917976

- **Registration**:

  Suyu Zhu, tel: +86 15070936525

- **Finance:**

  Haoqi Wang, tel: +86 17792699756

Plenary Lecture and Keynote Speakers

(Alphabetical Order)

Name	Affiliation	Country
Plenary Lecture		
Davide Del Col	University of Padova	Italy
Yulong Ding	University of Birmingham	UK
Ali Koşar	Sabanci University	Turkey
Raffaella Ocone	Heriot-Watt University	UK
Demetrios Papageorgiou	Imperial College London	UK
Gherhardt Ribatski	University of São Paulo	Brazil
Khellil Sefiane	University of Edinburgh	UK
Chengzhen Sun	Xi'an Jiaotong University	China
Gretar Tryggvason	Johns Hopkins University	USA
Jinliang Xu	North China Electric Power University	China
Keynote		
Lin Chen	Institute of Enginering Thermophysics, Chinese Academy of Sciences	China
Lixin Cheng	Sheffield Hallam University	UK
Wang Han	Beihang University	China
Marc Hodes	Tufts University	USA
Xianliang Lei	Xi'an Jiaotong University	China
Gangtao Liang	Dalian University of Technology	China
Hailong Liu	Jiangsu University	China
Alfonso William Mauro	Federico II University of Naples	Italy
Dariusz Mikielewicz	Gdansk University of Technology	Poland
Pingjian Ming	Sun Yat-sen University	China
Yuan Wang	National University of Defense Technology	China
Yang Yang	Chongqing University	China
Mindi Zhang	Beijing Institute of Technology	China
Liangyu Zhao	Beijing Institute of Technology	China
Haohua Zong	Science and Technology on Plasma Dynamics Laboratory	China

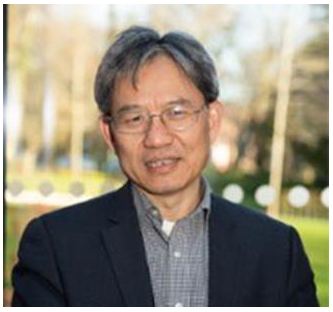
Plenary Lecture Speakers

Effect of Steam Velocity during Dropwise Condensation

Prof. Davide Del Col

University of Padova, Padua, Italy
davide.delcol@unipd.it

Davide Del Col is full professor at University of Padova (Italy), where he teaches “Refrigeration and heat pump technology” and “Renewable energy technologies”. He is Coordinator of the Master degree in Energy engineering at University of Padua, Secretary of UIT (Italian Union of Thermofluid dynamics), Member of Scientific Council of ICHMT, Secretary of Commission B1 of IIR (International Institute of Refrigeration), Paris. He is the responsible of the research group "STET - Sustainable Thermal Energy Technologies", running the Lab of heat transfer with phase change, the Solar energy conversion lab and the Lab of refrigeration and heat pumps. At present he is the coordinator of the ESA Programme: Condensation in microgravity, 2019-2022, with partners from Europe and Canada. Scientific responsible for many international and national projects and projects funded by private companies, he is inventor of three patents (two of them granted to private companies). According to Scopus, he has 161 cited documents, with over 4600 citations and h-index=36.



Composite Phase Change Materials for Heating and Cooling Decarbonisation

Prof. Yulong Ding

School of Chemical Engineering,
University of Birmingham, Birmingham City, UK
y.ding@bham.ac.uk

Professor Yulong Ding holds the founding Chamberlain Chair of Chemical Engineering and is the founding Director of University of Birmingham Centre for Energy Storage. He has research interests in energy materials and energy processes with a focus on understanding multiphase transport phenomena across length scales and using the fundamental understanding to develop novel electrical and thermal energy storage technologies. He has published over 450 technical papers with ~350 in peer-reviewed journals (GS H-Index~73) and filed over 70+ patents. He is an inventor of liquid air energy storage technology (commercialized by Highview Power, a UK engineering company). His work on composite phase change materials has led to large scale deployment with a total installation of 300+ MW / 1.2+ GWh for cleaning heating applications (Jinhe Energy). His work on passive cooling container technology for cold chain transportation has started commercial deployment (CRRC Shijiazhuang). Professor Ding's work has been recognised by the election to the fellow of Royal Academy of Engineering (2020); IChemE Clean Energy Medal (2021); IChemE Global Awards (2019) in three categories of Energy, Research Project and Outstanding Achievement; Cryogenic Energy Storage Research Chair Award (Royal Academy of Engineering, 2014), and Energy & Environment Award and Technology and Innovation Grand Prix Award (The Engineer, 2011). He currently serves on the Molten Salts Advisory Group of the UK Department for Business, Energy and Industrial Strategy, Royal Society Net Zero Panel, IChemE Publication Medal Assessment Panel, and European Technology, and Innovation Platform Working Group on Smart Networks for Energy Transition (ETIPSNET). He is an associate editor of Energy Storage and Saving (KeAi/Elsevier) and Discovery Energy (Springer Nature) and serves on the editorial boards of Journal of Energy Storage (Wiley), Journal of Thermal Science (Springer), and Particuology (Elsevier).

New Generation Biphilic Surfaces for Thermal-Fluids Systems and Energy Efficiency

Prof. Ali Koşar

Center of Excellence for Functional Surfaces and Interfaces for Nanodiagnostics,
Sabanci University, Istanbul, Turkey
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Ali Koşar is a Distinguished Research Professor at Sabanci University. He earned his master's and doctoral degrees in Mechanical Engineering from Rensselaer Polytechnic Institute. He is focusing on the design and development of new generation micro heat sinks with functional surfaces and microfluidic devices including cavitation on chip devices. His research interests constitute a spectrum covering heat and fluid flow in micro/nano scale, condensation, boiling heat transfer, microfluidic systems, and cavitation. He co-authored over 150 research articles in top journals and 80 conference papers in prestigious international conferences. He has also a co-inventor on 7 granted patents and 7 pending patent applications. He received numerous national and international honors, including the μFIP Prominent Researcher Award" in the 2021 micro Flow and Interfacial Phenomena (μFIP) Conference, METU (Middle East Technical University) Prof. Mustafa N. Parlar Foundation Science Award (2021). He is currently leading a large research group consisting of members from various disciplines, graduate students and engineers and to bridge different disciplines (Energy, Nanotechnology, Applied Physics, Bioengineering, Biochemistry, Mechanical Engineering). He has been successful to secure funding for his research activities from a wide variety of national and international resources. He also serves as a reviewer in many prestigious journals and is a Subject Editor in the Applied Thermal Engineering journal. He is the Co-director of Center of Excellence for Functional Surfaces and Interfaces for Nano diagnostics (EFSUN) and a Distinguished Researcher of Sabanci University Nanotechnology and Application Center. He was recently elected as a Member of Turkish Academy of Sciences (TÜBA).

From Fundamentals to Industrial Applications Opportunities and Challenges

Prof. Raffaella Ocone

Department of Chemical Engineering,
Heriot-Watt University, UK
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Raffaella Ocone obtained her first degree in Chemical Engineering from the Università di Napoli, Italy and her MA and PhD in Chemical Engineering from Princeton University, USA. She holds the Chair of Chemical Engineering in the School of Engineering and Physical Sciences at Heriot-Watt University (HWU) since 1999. She is a Fellow of the Royal Academy of Engineering (RAEng), the Royal Society of Edinburgh (RSE), the Institution of Chemical Engineers (IChemE), and the Royal Society of Chemistry. In 2007 she was appointed Cavaliere (Knight) of the Order of the Star of Italian Solidarity by the President of the Italian Republic. In The Queen's 2019 New Year Honours she was appointed Officer of the British Empire (OBE) for services to engineering. Recently she has been announced as one of the top 100 Most Influential Women in the Engineering Sector. The list, produced by board appointments firm Inclusive Boards in partnership with the Financial Times, includes senior leaders from top engineering firms such as Amey, Arup, BAE Systems, and Laing O'Rourke. Raffaella has taken a leading role in debating the role that ethics plays in engineering and the future of energy supply and its relation to climate change. She has featured on a number of public events including a Panel discussing greenhouse gas removal and the associated technologies at the Global Grand Challenge Summit 2019 organized jointly by the Royal Academy of Engineering (RAEng), the Chinese Academy of Engineering (CAE), and the National Academy of Engineering (NAE). In October 2019, Raffaella also featured in a Panel organized by the RSE at the Festival of Politics at the Scottish Parliament debating whether efforts to improve public knowledge of female scientists are working and spoke at a Panel on "Scotland's Energy Future: No Easy Options". The Panel was held as a fringe event organised by the RSE at the SNP Congress in Aberdeen in October 2019. The panel addressed the key themes from the recent RSE inquiry into Scotland's Energy Future and debated how best Scottish energy policy can meet the competing challenges. At HWU, Raffaella is the Head of the Multiphase Multiscale Engineering Modelling (MMEM) research group. Raffaella has worked in a number of highly recognised international Institutions such as the Università di Napoli (Italy); Claude Bérnard Université, Lyon (France); Louisiana State University (USA); Princeton University (USA).

Feedback and Optimal Control of Falling Film Flows

Prof. Demetrios Papageorgiou

Department of Applied Mathematics,
Imperial College London, London, UK
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Demetrios Papageorgiou is a Professor of Applied Mathematics at Imperial College London. His undergraduate and PhD degrees are in Mathematics (University College London and Imperial College London). Prior to joining Imperial College in 2008, he spent his academic career in the US at the Courant Institute of New York University, the Levich Institute of the City College of New York, and the New Jersey Institute of Technology where he was a Distinguished Professor. His research interests centre on physical applied mathematics and in particular theoretical and computational fluid mechanics including waves and interfacial flows incorporating effects such as surfactants, electric and magnetic fields, and viscoelasticity. He is a Fellow of the American Physical Society and a Fellow of the Institute of Mathematics and its Applications. He is co-Editor in Chief of the IMA Journal of Applied Mathematics and served as an Associate Editor for the SIAM Journal on Applied Mathematics. He has had a long association with ICASE, NASA Langely Research Center, where he was a joint recipient of the NASA Group Achievement Award as a member of the ICASE Fluid Mechanics Group. His research has been funded over the years by AFOSR, EPSRC, NASA and NSF.

Liquid Film Characteristics during Horizontal Annular Flows for In-Tube Evaporation and Condensation

Prof. Gherhardt Ribatski

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University of São Paulo (USP), Brazil
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Dr. Gherhardt Ribatski is Full Professor of Multiphase Flow and Heat Transfer at the São Carlos School of Engineering, University of São Paulo (USP), Brazil. He received his BS, MSc. and Doctoral Degrees in Mechanical Engineering from the University of São Paulo. He held postdoctoral positions at the University of Illinois at Urbana–Champaign, Swiss Federal Institute of Technology in Lausanne (EPFL) and Universidade da Coruña. His research interests cover various areas of multiphase flows and heat transfer. Prof. Ribatski is member of the Congress Committee of International Union of Theoretical and Applied Mechanics (IUTAM) and Brazilian Delegate to the Assembly for International Heat Transfer Conferences. He is member of Assembly of World Conferences on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics, Virtual Institute of Two-Phase Flow and Heat Transfer, Scientific Council of the International Centre for Heat and Mass Transfer (ICHMT). He was Director Secretary (2016-2017) and is member and President of the Brazilian Society of Mechanical Sciences and Engineering (2018-2021). He has served as coordinator of the CAPES (Coordination for the Improvement of Higher Education Personnel-Brazil) committee for evaluation of graduate programs in the areas of Mechanical, Mechatronics, Naval and Ocean, Aeronautical, Industrial and Petroleum Engineering. He is member of the area panel of Engineering of FAPESP (São Paulo Research Foundation – Brazil). Prof. Ribatski is subject editor of Applied Thermal Engineering, editor of Experimental Thermal and Fluid Sciences and member of the Editorial Advisory Board of International Journal of Multiphase Flow. He has presented 11 keynote lectures and taken part in the scientific committee of several International Conferences. Dr. Ribatski has over 100 refereed journal publications, 6 book chapters, 1 book and over 120 refereed papers in conferences.

Boiling and Bubbles Dynamics from Artificial Nucleation Sites

Prof. Khellil Sefiane

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University of Edinburgh, Edinburgh, UK
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Professor Khellil Sefiane, PhD, HDR, FRSC and FInstP is a Professor and chair of Thermo-Physical Engineering in the School of Engineering at the University of Edinburgh, Scotland, United Kingdom. He is the Head of the research Institute for multiscale Thermofluids at the University of Edinburgh. Professor Sefiane is a vice President of the UK Heat Transfer Committee. He is the UK editor for the International Journal of Heat and Mass Transfer. He has been associate editor for the International Journal of Multiphase Flows and the ASME Journal of Heat Transfer. He held honorary appointments as Adjunct Professor at the University of Toronto, Canada (2008-2014), Visiting Professor at Kyushu University in Japan and World Premier International Professor at the International Centre for Carbon Neutral Energy Research (I2CNER) at Kyushu in Japan (2015-2019), Shanghai Jiao Tong University, China (2020) and Pretoria University, SA (2021). He is Fellow of the Royal Society of Chemistry, FRSC, and Fellow of the Institute of Physics, FInstP. Professor Sefiane has been research active for the last 25 years in various areas related to multiphase flows, heat transfer, microfluidics, interfacial phenomena and phase change. He has published more than a 250 journal papers in international journals. He has been recipient of the prestigious Institute of Physics (IoP) award (2009) for his work on droplets wetting and evaporation. He holds an ExxonMobil fellowship and Global Research Award, both awarded by the Royal Academy of Engineering, London. Professor Sefiane is member of numerous international scientific committees of experts in heat transfer and multiphase flows (ICHMT, EUROTHERM).

Nanoscale Multiphase Flow: From Basic Theory to Applications

Prof. Chengzhen Sun

State Key Laboratory of Multiphase Flow in Power Engineering,
Xi'an Jiaotong University, China
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Chengzhen Sun received the B.Eng. degree in thermal engineering from Xi'an Jiaotong University, Xi'an, China in 2008 and the Ph.D. degree in Power Engineering and Engineering Thermophysics from Xi'an Jiaotong University, Xi'an, China in 2014. As a Ph.D student, he studied at the Department of Mechanical Engineering in MIT as a visiting student from 2012 to 2013. He started his academic career as a Lecturer at Xi'an Jiaotong University, China in 2014 and then worked as Young Talent Professor in 2021. Currently, his researches focus on mass and energy transport of nanoconfined fluids, especially on nanoscale multiphase flow, to develop high-efficiency technologies of membrane separation, enhanced oil recovery and energy conversion. He published more than 50 peer-reviewed SCI-indexed papers in the journals of Acs Nano (1), Science Bulletin (2), J Phys Chem Lett (3), Phys Chem Chem Phys (5), Langmuir (2) etc. His papers have received citations up to 1000 times in the journal of Nature and others. He was invited to publish book chapter, review paper, perspective and highlight, and serve as the leading editor of a special issue "Nanoconfined fluids in energy applications" in the SCI-indexed journal of Frontiers in Energy Research. He was honored as the Best Doctoral Thesis in Shaanxi Province, Annual Best Paper in Science Bulletin and others.

Numerical Simulations of Complex Multiphase Flows

Prof. Gretar Tryggvason

Department of Mechanical Engineering,
Johns Hopkins University, Baltimore, USA
gtryggv1@jhu.edu

Gretar Tryggvason is the Charles A. Miller, Jr. Distinguished Professor at the Johns Hopkins University and the head of the Department of Mechanical Engineering. He received his PhD from Brown University in 1985 and was on the faculty of the University of Michigan in Ann Arbor until 2000, when he moved to Worcester Polytechnic Institute as the head of the Department of Mechanical Engineering. Between 2010 and 2017 he was the Viola D. Hank professor at the University of Notre Dame and the chair of the Department of Aerospace and Mechanical Engineering. Professor Tryggvason is well known for his contributions to computational fluid dynamics; particularly the development of methods for computations of multiphase flows and for pioneering direct numerical simulations of such flows. He served as the editor-in-chief of the Journal of Computational Physics 2002-2015, is a fellow of APS, ASME and AAAS, and the recipient of several awards, including the 2012 ASME Fluids Engineering Award and the 2019 ASTFE Award.

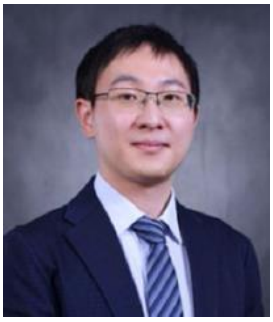
Pseudo-Phase Change Theory and Applications for Supercritical Fluids

Prof. Jinliang Xu

School of Energy Power and Mechanical Engineering
North China Electric Power University, China
xjl@ncepu.edu.cn

Dr Jinliang Xu is professor in School of Energy Power and Mechanical Engineering at North China Electric Power University, and has been the Director of Key Laboratory of Power Station Energy Transfer Conversion and System, China. He has over thirty years of experience in the field of multiphase flow and heat transfer. He has had visiting positions in Hongkong (China), USA, Singapore and UK. He led the National Key R&D Program of China and the National Basic Research Program of China for 10 years. Dr Jinliang Xu is active in the field of multiphase flow. He was the chair or co-chair for a set of academic conferences such as 4th Micro and Nano Flows Conference (University College London, UK, 2014), IHTS 2014 (International Heat Transfer Symposium 2014, Beijing) and first Int. Conference on supercritical CO2 power system (2018, Being) etc. He is the editor of the journals of Thermal Science and Engineering Progress, Frontiers in Heat pipe, Water, Energies. He is the guest editor for the special issues of Energy and Applied Thermal Engineering. He presented 40 plenary/keynote speeches in international conferences, and has been the reviewer for more than 40 journals. He was the best reviewer of the Journal of Heat Transfer, ASME in the fiscal year of 2012. As the corresponding author, he published more than 300 scientific papers and co-authored two books. Dr Jinliang Xu was named as the "Yangtze River Scholar" Professor by the National Ministry of Education, China in 2013. He received the Natural Science Award of the Ministry of Education, China (first grade), and the Distinguished Contribution Award from Chinese Society for Electrical Engineering (2021).

Keynote Speakers



Near-Critical Fluid Thermodynamics: Fluctuation and Parameter Scaling Behaviors

Prof. Lin Chen

Institute of Engineering Thermophysics, Chinese Academy of Sciences, China
chenlin2018@iet.cn

Dr. Lin Chen is now a full professor in the Institute of Engineering Thermophysics, Chinese Academy of Sciences and jointly at the University of Chinese Academy of Sciences, China. He is currently one Board member of Experts Commission of China Energy Society. He obtained his B.E and PhD in Mechanics (Energy and Resources Engineering) from Peking University. He was previously a JST-CREST and JSPS Research Fellow and an Assistant Professor in Tohoku University, Japan. His current research topics include energy resources, supercritical fluids, soil remediation, advanced measurement technologies. In recent years, he has authored over 160 well-cited international journal papers and/or conference presentations, 16 patents and 7 chapters, 3 books, including the most famous one on energy conversion ("Handbook of Research on Advancements in Supercritical Fluids Applications for Sustainable Energy Systems", IGI Global, 2021, 821 pages). He revealed the heat transfer laws and stability conditions of supercritical fluid based natural circulation, which is in the TOP5 most-cited list of Elsevier. Recently, he is focused on CO2 based energy system and utilization processes. He is a winner of the President Scholarship, National Scholarship (MOE), Elite Scholar (PKU) and many other honors/awards. He was the winner of the Young Scholar Award of the Asian Union of Thermal Science and Engineering (AUTSE) in 2018 due to his contribution in supercritical fluid thermodynamics. He is currently an Associate Editor of the ASME Journal of Nuclear Engineering and Radiation Science and an Editorial Board member of the Journal of Supercritical Fluids (Elsevier).

Effect of the Reduced Pressure on Flow Boiling Heat Transfer of CO_2 in Macro- and Micro-channels

Prof. Lixin Cheng

Department of Engineering and Mathematics,
Sheffield Hallam University, UK
lixincheng@hotmail.com

Dr. Lixin Cheng has worked at Sheffield Hallam University since 2016. 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. He has received several prestigious awards such as Alexander von Humboldt Fellowship in Germany in 2006, an ERCOFTAC Visitor Grant in Switzerland in 2010 and a Distinguished Visiting Professorship of the City of Beijing, China in 2016-2021. His research interests are multiphase flow and heat transfer and thermal energy engineering. He has published more than 100 papers in journals and conferences, 9 book chapters and edited 10 books. He has delivered more than 60 keynote and invited lectures worldwide. He has been the chair of the World Congress on Momentum, Heat and Mass Transfer (MHMT) since 2017. He is one of the founders and co-chair of the International Symposium of Thermal-Fluid Dynamics (ISTFD) series since 2019. He is associate editor of Heat Transfer Engineering, Heat Transfer Research and Journal of Fluid Flow, Heat and Mass Transfer, and international advisor of Thermal Power Generation (a Chinese journal).

High-Fidelity Modeling and Simulation of Turbulent Multiphase Combustion in Aeroengine Combustors

Prof. Wang Han

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Jointly trained at Peking University and the University of Michigan, Prof. Wang Han obtained his Ph.D. degree in 2017. He was a Postdoctoral Research Associate (2017-2019) in the STFS institute at TU Darmstadt, Visiting Research Associate (2019) at CRF-Sandia National Labs, and Research Associate (2019-2020) at UNSW Sydney. Prior to joining Beihang University in 2022 as a full professor, he was a Lecturer in Computational Reactive Flows at the University of Edinburgh from 2020-2022. He won the prestigious German DAAD Fellowship in 2017, Bernard Lewis Fellowship from the Combustion Institute in 2018, UKRI-ARCHER2 pioneer award in 2020, and National Natural Science Fund for Excellent Young Scientists Fund Program (Overseas) in 2021.

Transport Phenomena in the Drying of Aerogels

Prof. Marc Hodes

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Marc Hodes received his MS at the University of Minnesota in 1994 and his PhD at the Massachusetts Institute of Technology in 1998. He then spent a decade at Bell Laboratories in Murray Hill, NJ, USA. He is currently in the Department of Mechanical Engineering at Tufts University in Medford, MA, USA, where he is a Professor and the Director of Graduate Studies. His present research interests are on superhydrophobic surfaces, aerogels and singlet oxygen-based disinfection. The research on superhydrophobic surfaces is in collaboration with applied mathematicians at Imperial College London in the context of The Red Lotus Project. He is also the Chief Technology Officer (CTO) of Transport Phenomena Technologies, LLC, which was spun out of Tufts University in 2017.

Heat and Mass Transfer, Flow Instability of Carbon Dioxide in the Sub/Supercritical Regions

Prof. Xianliang Lei

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Xianliang Lei is now an associate professor, a director of High Temperature and High Pressure Multiphase Flow Research Institute in the State Key Laboratory of Multiphase Flow in Power Engineering, Xi'an Jiaotong University, China. He obtained his B.E and PhD in Power engineering and Engineering Thermophysics from Xi'an Jiaotong University. And He was previously visited the department of nuclear engineering, North Carolina State University, USA as a visiting scholar. His current research topics include heat and mass transfer of supercritical fluids, numerical simulation of two-phase flow, boiler hydrodynamics. In recent years, he has published over 80 international journal papers and/or conference presentations, he is also chairs of many high-level research projects.

Boiling Heat Transfer on Hybrid-Wettability Surface

Prof. Gangtao Liang

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Professor Gangtao Liang received his B.Eng. in 2009 and Ph.D. in 2014 from Dalian University of Technology. He undertook his postdoctoral research from 2015 to 2017 at Purdue University Boiling and Two-Phase Flow Laboratory, where he was dedicated to experimental investigation and theoretical modeling of two-phase flow and heat transfer. His primary research interests are two-phase flow and heat transfer, covering droplets impingement, spray cooling, micro-channel flow boiling and condensation, horizontal-tube falling film evaporation, and boiling enhancement. He has published over 60 archival journal papers in Int. J. Heat Mass Transfer, Int. Commun. Heat Mass Transfer, Ind. Eng. Chem. Res, and other recognized journals in the thermal science field. He is currently a member of American Society of Mechanical Engineers, a member of World Society of Sustainable Energy Technologies, Advisory Board Member of Heat Transfer Division in Cambridge Scholars Publishing, International Advisory Board Member of Thermal Science Journal, and Editorial Board Member of Fluid Dynamics & Materials Processing. He also serves as an outstanding reviewer for many international journals.

Atomization of Thermal Liquids Under Non-uniform Electrical Field

Prof. Hailong Liu

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Dr. Hailong Liu received his Ph.D. degree at Gyeongsang National University, South Korea (2013). He is currently the professor at school of energy and power engineering in Jiangsu University. He mainly engaged in the research field of multiphase flow and non-Newtonian complex flow in energy and power engineering, including electrostatic spray, direct numerical simulation of multiphase flow and modern flow field measurement technology. He has undertaken more than 8 projects of the National Natural Science Foundation of China, the Ministry of education and Jiangsu Provincial Department of Science and Technology.

Physic Based Models vs Artificial Intelligence Tools: Performance and Limits in Predictions of Pressure Gradients in Two-Phase Flows

Prof. Alfonso William Mauro

Department of Industrial Engineering,
Federico II University of Naples, Naples, Italy
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Alfonso William Mauro is associate professor at the Department of Industrial Engineering of Federico II University of Naples. Educational and research activities deal mainly with the increase of the efficiency in energy conversion related to the refrigeration and air-conditioning fields. In particular, he is leading the refrigeration lab, promoting researches at basic and applied level. At basic level the main topics are related to the optimal design of high performance evaporators and heat sinks; at a system level the focus is related to the introduction of new refrigerants and technologies for heat pumps and refrigeration systems. In the last five years the main keywords of the research are: low GWP refrigerants, carbon dioxide, propane, flow boiling, two-phase ejectors, heat driven hybrid refrigeration systems. He is author of 83 papers indexed by Scopus. Vice-President of the B2 Commission of the International Institute of Refrigeration. Member of several associations in the field of refrigeration and air-conditioning at national and international level.

Flow Boiling and Flow Condensation at Low, Medium and High Reduced Pressures

Prof. Dariusz Mikielewicz

Faculty of Mechanical Engineering and Ship Technology,
Institute of Energy,
Gdansk University of Technology, Poland
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Dariusz Mikielewicz is a professor in the Department of Thermal Engineering at the Faculty of Mechanical Engineering of Gdańsk University of Technology. In years 1999-2002 he was invited to the position Vice-Dean for Basic Education at the faculty followed by the position of Vice-Dean for Education in years 2002-2005. On November 15, 2002, he presented the Council of the Faculty of Mechanical Engineering the thesis with his habilitation dissertation titled "Modelling of momentum and heat transfer in two-phase boundary layer". Habilitation thesis, along with related publications have been distincted with the President of the Polish Academy of Sciences Award in the name of Bogdan Stefanowski in 2003. In 2010 he received the title of professor from the President of Poland. In 2004-2008 he was an elected member of the Science Council at the Ministry for Science and Education for technical sciences. Since 2007 is an elected member of the Committee of Thermodynamics and Combustion PAS, and since 2015 member of the Presidium of that Committee. From 2015 he is a member of the Committee for Basic Problems of Energy at the Polish Academy of Sciences. In 2018 he was awarded Siemens Awards for distinctive results of scientific research capable of implementation in practice. From 1st January 2022 he is elected to be a corresponding member of Polish Academy of Sciences. From 1 September 2016 he was acting as the Dean of the Faculty of Mechanical Engineering and from 1st October 2019 as a vice-rector for organisation and development of Gdansk University of Technology till present. As a proxy dean he strongly contributed to the merger between the Faculty of Mechanical Engineering and Faculty of Ocean Engineering and Ship Technology to form a new Faculty of Mechanical Engineering and Ship Technology from 1st January 2021.

A Scalable, Robust Parallel CFD Algorithm on Handling of Sliding Non-Conformal Interfaces

Prof. Pingjian Ming

Sino-French Institute of Nuclear Engineering and Technology,
Sun Yat-sen University, China
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Dr. Pingjian Ming is Professor in Sino-French Institute of Nuclear Engineering and Technology at Sun Yat-sen University. He received B Sc and Ph.D at Harbin Engineering University in 2003 and 2008, respectively. His research interests are mainly engaged in fundamentals of multiphase flow and heat mass transfer and related applications in thermal and power engineering and nuclear thermal hydraulic engineering. He was the recipient of several important awards, including national defense science and technology award. Ming has been serving as the director of Reactor Thermal Fluid Mechanics Branch of Chinese Nuclear Society and member of Multiphase flow Professional Committee of Chinese Society of Engineering Thermophysics.

Icing and Anti-icing on Cold Surfaces of Cryogenic Air Precoolers

Prof. Yuan Wang

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National University of Defense Technology, China
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Yuan Wang, Ph.D., Associate Professor. College of Aerospace Science and Engineering, National University of Defense Technology. She obtained her Ph.D. in Chemical Engineering from the University of Edinburgh in 2011 and joint NUDT ever since. Her research interests include air precooling technology for combined cycle propulsion systems, engine thermal protection, icing and anti-icing, and heat and mass transfer in phase-change processes. She has published over 60 academic papers and has been authorized over 10 national patents. She is selected for the High-level Innovative Talent Training Program of National University of Defense Technology.

Multiphase-Interfacial Regulation and Enhanced Mass Transport in Micro/Nano Power Sources

Prof. Yang Yang

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Yang is Associate Professor at Department of Energy and Power Engineering, Chongqing University. His research interest focuses on key issues on thermal physics in Power MEMS and microscale transportation theory and micro energy system. As a project leader, he has undertaken 3 research projects supported by the NSFC and National key R & D plan, and published more than 70 SCI indexed papers. Many first-author papers are from celebrated journals such as Nano Energy, Adv. Sci., and cited more than 800 times by many top journals such as *Joule* and *Chem*.

Investigation of the Cavitation Bubble Dynamics Near Different Boundary Conditions

Prof. Mindi Zhang

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Mindi Zhang is an associate professor at school of Mechanical and Vehicle Engineering, Beijing Institute of Technology. Her research focuses on many aspects of marine engineering, including: cavitation, cavitation erosion, fluid-structure interaction, vehicle diving and jumping out, drag reduction of underwater vehicle and amphibious vehicle. She has published more than 50 articles in various international journals.

Some Achievements Related to Numerical Simulation of Spinning Rockets

Prof. Liangyu Zhao

Beijing Institute of Technology, China
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Dr. Liangyu Zhao is currently an Associate Professor with the School of Aerospace Engineering, Beijing Institute of Technology. He received the bachelor's and Ph.D. degrees from the Beijing Institute of Technology, Beijing, China, in 2003 and 2008, respectively. He worked as a post-doctor from 2009 to 2010 in Hanyang University, South Korea. He joined Beijing Institute of Technology as a Faculty in 2010. His research interests include flight vehicle design, Navigation Guidance and control, System integration and simulation, and aerodynamics. He has published more than 60 papers in journals and conferences. He was the co-chair of the first International Symposium on Thermal-Fluid Dynamics (ISTFD 2019), and the chair of the second International Symposium on Thermal-Fluid Dynamics (ISTFD 2021). He is also the co-chair of the third International Symposium on Thermal-Fluid Dynamics (ISTFD 2022).

Turbulent Skin-Friction Drag Reduction with Plasma Actuators

Prof. Haohua Zong

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Haohua_Zong@126.com

Dr. Haohua Zong, born in October 1992, is currently an associate professor at national key laboratory of plasma dynamics, Xi'an. He received his PhD degree at Delft University of Technology in 2018 and further worked as a post-doc at EPFL, Switzerland in 2019. His main research directions include plasma-based flow control, wind turbine wake modelling, and wind farm power optimization. He has published more than 30 journal papers in the top journals of fluid mechanics such as JFM, POF and AIAA J, and these papers were cited more than 600 times. In 2021, He received sponsorship from the Outstanding Youth Project of NSFC (oversea). In addition, he is also in charge of one national key laboratory funding and one foundation strengthening project.

Program at a glance

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<tr><td>Time
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(Beijing)</td><td>Plenary Lecture</td></tr>
<tr><td>8:30-9:00</td><td>Keynote</td><td>8:00-8:40</td><td>Plenary 6</td><td>8:00-8:40</td><td>MPFL Introduction</td></tr>
<tr><td rowspan="2">9:00-10:00</td><td rowspan="2">Oral presentation 1-3</td><td>8:40-9:20</td><td>Plenary 7</td><td>8:40-9:10</td><td>Session
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Keynote</td></tr>
<tr><td>9:20-10:00</td><td>Plenary 8</td><td>9:10-10:10</td><td>Oral presentation 1-3</td></tr>
<tr><td>10:00-10:20</td><td>Break</td><td>10:00-10:20</td><td>Break</td><td>10:10-10:20</td><td>Break</td></tr>
<tr><td>10:20-12:00</td><td>Oral presentation 4-8</td><td>10:20-12:00</td><td>Session
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<tr><td colspan="6">Break</td></tr>
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(Beijing)</td><td>Plenary Lecture</td><td>Time
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<tr><td>14:30-14:50</td><td>Opening Ceremony</td><td>14:20-14:50</td><td>Keynote</td><td>14:20-15:00</td><td>Plenary 9</td></tr>
<tr><td>14:50-15:30</td><td>Plenary 1</td><td rowspan="2">14:50-16:10</td><td rowspan="2">Oral presentation 1-4</td><td rowspan="2">15:00-15:40</td><td rowspan="2">Plenary 10</td></tr>
<tr><td>15:30-16:10</td><td>Plenary 2</td></tr>
<tr><td>16:10-16:30</td><td>Break</td><td>16:10-16:30</td><td>Break</td><td rowspan="4">15:40-16:00</td><td rowspan="4">Closing Ceremony</td></tr>
<tr><td>16:30-17:10</td><td>Plenary 3</td><td rowspan="3">16:30-18:30</td><td rowspan="3">Oral presentation 5-10</td></tr>
<tr><td>17:10-17:50</td><td>Plenary 4</td></tr>
<tr><td>17:50-18:30</td><td>Plenary 5</td></tr>
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Ceremonies

Activity	Chair	Speaker	Time (Beijing)	Zoom Meeting ID (Room Password)	Live Link	Volunteer
Opening Ceremony	Bofeng Bai Xi'an Jiaotong University, China	 Liejin Guo Xi'an Jiaotong University, China  Tassos G. Karayiannis Brunel University London, UK	28/7/2022 Thursday 14:30-14:50	865 8269 4501 (186948)	https://www.koushare.com/lives/room/051126	Nianduo Song +8618940961327 songnianduo@stu.xjtu.edu.cn
MPFL Introduction	Jinliang Xu North China Electric Power University, China	 Bofeng Bai Xi'an Jiaotong University, China	30/7/2022 Saturday 8:00-8:40			
Closing Ceremony	Lixin Cheng Sheffield Hallam University, UK	 Jinglei Xu Nanjing University of Aeronautics and Astronautics, China	30/7/2022 Saturday 15:40-16:00	918 3758 8073 (101200)	https://www.koushare.com/lives/room/563211	Yida Zhao +8618292029604 z853324623@stu.xjtu.edu.cn

Plenary Lectures

No.	Authors	Title of Presentation	Time (Beijing)	Zoom Meeting ID (Room Password)	Live Link	Volunteer
1	Davide Del Col	Effect of steam velocity during dropwise condensation	28/7/2022-Thursday 14:50-15:30	865 8269 4501 (186948)	https://www.koushare.com/lives/room/051126	Nianduo Song +8618940961327 songnianduo@stu.xjtu.edu.cn
2	Khellil Sefiane	Boiling and bubbles dynamics from artificial nucleation sites	28/7/2022-Thursday 15:30-16:10			
3	Raffaella Ocone	From fundamentals to industrial applications: opportunities and challenges	28/7/2022-Thursday 16:30-17:10			
4	Yulong Ding	Composite phase change materials for heating and cooling decarbonisation	28/7/2022-Thursday 17:10-17:50			
5	Demetrios Papageorgiou	Feedback and optimal control of falling film flows	28/7/2022-Thursday 17:50-18:30			
6	Gretar Tryggvason	Numerical simulations of complex multiphase flows	29/7/2022-Friday 8:00-8:40			
7	Gherhardt Ribatski	Liquid film characteristics during horizontal annular flows for in-tube evaporation and condensation	29/7/2022-Friday 8:40-9:20			
8	Jinliang Xu	Pseudo-phase change theory and applications for supercritical fluids	29/7/2022-Friday 9:20-10:00			
9	Ali Koşar	New generation biphilic surfaces for thermal-fluids systems and energy efficiency	30/7/2022-Saturday 14:20-15:00	918 3758 8073 (101200)	https://www.koushare.com/lives/room/563211	Yida Zhao +8618292029604 z853324623@stu.xjtu.edu.cn
10	Chengzhen Sun	Nanoscale multiphase flow: from basic theory to applications	30/7/2022-Saturday 15:00-15:40			

Keynotes

No.	Authors	Title of Presentation	Affiliation	Time (Beijing)
A1.K	Xianliang Lei	Heat and mass transfer, flow instability of carbon dioxide in the sub/supercritical regions	Xi'an Jiaotong University, China	28/7/2022 Thursday 8:30-9:00
B1.K	Pingjian Ming	A scalable, robust parallel CFD algorithm on handling of sliding non-conformal interfaces	Sun Yat-sen University, China	
C1.K	Haohua Zong	Turbulent skin-friction drag reduction with plasma actuators	Science and Technology on Plasma Dynamics Laboratory, China	
D1.K	Liangyu Zhao	Some achievements related to numerical simulation of spinning rockets	Beijing Institute of Technology, China	
E1.K	Yuan Wang	Icing and anti-icing on cold surfaces of cryogenic air precoolers	National University of Defense Technology, China	
A3.K	Dariusz Mikielewicz	Flow boiling and flow condensation at low, medium and high reduced pressures	Gdansk University of Technology, Poland	29/7/2022 Friday 14:20-14:50
B3.K	Yang Yang	Multiphase-interfacial regulation and enhanced mass transport in micro/nano power sources	Chongqing University, China	
F1.K	Hailong Liu	Atomization of thermal liquids under non-uniform electrical field	Jiangsu University, China	
D3.K	Alfonso William Mauro	Physic based models vs artificial intelligence tools: performance and limits in predictions of pressure gradients in two-phase flows	Federico II University of Naples, Italy	
E3.K	Lixin Cheng	Effect of the reduced pressure on flow boiling heat transfer of CO_2 in macro- and micro-channels	Sheffield Hallam University, UK	
A4.K	Gangtao Liang	Boiling heat transfer on hybrid-wettability surface	Dalian University of Technology, China	30/7/2022 Saturday 8:40-9:10
G1.K	Mindi Zhang	Investigation of the cavitation bubble dynamics near different boundary conditions	Beijing Institute of Technology, China	
H1.K	Wang Han	High-fidelity modeling and simulation of turbulent multiphase combustion in aeroengine combustors	Beihang University, China	
D4.K	Lin Chen	Near-critical fluid thermodynamics: fluctuation and parameter scaling behaviors	Institute of Enginering Thermophysics, Chinese Academy of Sciences, China	
E4.K	Marc Hodes	Transport phenomena in the drying of aerogels	Tufts University, USA	

Sessions

Topic	No.	Time (Beijing)	Session Chair	Zoom Meeting ID (Room Password)	Live Link	Volunteer
Multiphase Flow & Heat and Mass Transfer	A1	28/7/2022-Thursday 8:30-12:00	Prof. Weixiong Chen Prof. Xianliang Lei	968 4189 3265 (700666)	https://www.koushare.com/lives/room/252495	Yida Zhao +86 18292029604 z853324623@stu.xjtu.edu.cn
	A2	29/7/2022-Friday 10:20-12:00	Prof. Qiang Xu			
	A3	29/7/2022-Friday 14:20-18:30	Prof. Jifen Wang Prof. Maolong Liu			
	A4	30/7/2022-Saturday 8:40-12:00	Prof. Liangxing Li Prof. Gangtao Liang			
Particle, Bubble and Drop Dynamics	B1	28/7/2022-Thursday 8:30-12:00	Prof. Zhengyuan Luo Prof. Laishun Wang	919 5354 8490 (687422)	https://www.koushare.com/lives/room/626382	Ruoyu Zhang +86 18220823662 q19980704@stu.xjtu.edu.cn
	B2	29/7/2022-Friday 10:20-12:00	Prof. Bo Wang			
	B3	29/7/2022-Friday 14:20-18:30	Prof. Xuelong Zhou Prof. Yang Yang			
Experimental Methods/Techniques	C1	28/7/2022-Thursday 8:30-12:00	Prof. Dan Zhang Prof. Haohua Zong	919 5642 8705 (044629)	https://www.koushare.com/lives/room/202970	Xingcheng Wang +86 13669276810 wxc904519@stu.xjtu.edu.cn
	C2	29/7/2022-Friday 10:20-12:00	Prof. Ke Wang			
Computation Methods	D1	28/7/2022-Thursday 8:30-12:00	Prof. Min Zeng Prof. Liangyu Zhao	951 1175 4628 (968488)	https://www.koushare.com/lives/room/480649	Zhengliang Yu +86 18966823625 yzl0122@stu.xjtu.edu.cn
	D2	29/7/2022-Friday 10:20-12:00	Prof. Fei Cao			
	D3	29/7/2022-Friday 14:20-18:30	Prof. Qinling Li Prof. Xing Li			

	D4	30/7/2022-Saturday 8:40-12:00	Prof. Kunpeng Zhao Prof. Lin Chen			
Engineering Application Research	E1	28/7/2022-Thursday 8:30-12:00	Prof. Dongyue Jiang Prof. Yuan Wang	944 1069 3987 (036272)	https://www.koushare.com/lives/room/319184	Fangchen Xue +86 18092876707 xuefangchen@stu.xjtu.edu.cn
	E2	29/7/2022-Friday 10:20-12:00	Prof. Fuqiang Chu			
	E3	29/7/2022-Friday 14:20-18:30	Prof. Liwu Tan Prof. Lixin Cheng			
	E4	30/7/2022-Saturday 8:40-12:00	Prof. Zhixiang Zhao Prof. Boyao Wen			
Spray and Mixing	F1	29/7/2022-Friday 14:20-18:30	Prof. Min Chai Prof. Hailong Liu	962 9597 5127 (799182)	https://www.koushare.com/lives/room/222188	Xingcheng Wang +86 13669276810 wxc904519@stu.xjtu.edu.cn
Cavitation and Cavitating Flow & Aerodynamics	G1	30/7/2022-Saturday 8:40-12:00	Prof. Denghui He Prof. Mindi Zhang	961 7362 4243 (949551)	https://www.koushare.com/lives/room/537713	Ruoyu Zhang +86 18220823662 q19980704@stu.xjtu.edu.cn
Combustion	H1	30/7/2022-Saturday 8:40-11:20	Prof. Haifeng Liu Prof. Wang Han	979 0200 4565 (504695)	https://www.koushare.com/lives/room/212838	Xingcheng Wang +86 13669276810 wxc904519@stu.xjtu.edu.cn

Program (Thursday, 28 July 2022)

28/7/2022-Thursday				
Session A1: Multiphase Flow & Heat and Mass Transfer				
Meeting ID: 968 4189 3265**; Room Password:** 700666				
Zoom link: https://zoom.us/j/96841893265?pwd=QjA3SzJObGNpbkFqUklvTWNMZW9Ddz09**; Live link:** https://www.koushare.com/lives/room/252495				
Volunteer: Yida Zhao**; Tel:** +86 18292029604**; Email:** z853324623@stu.xjtu.edu.cn				
Session Chair: Prof. Weixiong Chen & Prof. Xianliang Lei				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
8:30-9:00	A1.K	Xianliang Lei	Heat and mass transfer, flow instability of carbon dioxide in the sub/supercritical regions	Xi'an Jiaotong University, China
9:00-9:20	A1.O1 (05)	Saad Noraldeen; Leping Zhou*	Molecular study of core-shell ratio effect on thermophysical properties of SiO2@Au-water nanofluid	North China Electric Power University, China
9:20-9:40	A1.O2 (08)	Haiyang Li; Jun Wang*; Guodong Xia	Molecular dynamics investigation of the effect of nanostructured surfaces and interfacial coupling on thermal transport through solid-liquid interface	Beijing University of Technology, China
9:40-10:00	A1.O3 (13)	Kai Hui; Pengbo Wei; Weixiong Chen*; *et al.*	Analysis of experiments for steam condensation during the dropping of containment pressure	Xi'an Jiaotong University, China
10:00-10:20	***Break***			
10:20-10:40	A1.O4 (24)	Qun Han; Yongping Huang; Suchen Wu; Chengbin Zhang*	Investigation on the heat transfer enhancement of a composite phase change material	Southeast University, China
10:40-11:00	A1.O5 (32)	Zhijie Gao; Sihui Hong*	An experimental investigation of subcooled pool boiling on downward-facing surfaces with microchannels	Sun Yat-sen University, China
11:00-11:20	A1.O6 (35)	Kun Wang; Ping Liu*; Muye He; Guangfen Liu	Study on heat transfer characteristics of multi beam jet impinging on ribbed surface in microchannel	Anhui University of Science and Technology, China
11:20-11:40	A1.O7 (37)	Hong Zhang; Peizhuo Liu; Na Xu; Wei Zhang*	A review of characteristics and enhancement of mass and heat transfer in microchannels	Taiyuan University of Technology, China
11:40-12:00	A1.O8 (39)	Guangfen Liu; Ping Liu*; Kun Wang; Muye He	Study on heat transfer characteristics in pool boiling using ultrasonic field composite technology	Anhui University of Science and Technology, China

28/7/2022-Thursday				
Session B1: Particle, Bubble and Drop Dynamics				
Meeting ID: 919 5354 8490**; Room Password:** 687422				
Zoom link: https://zoom.us/j/91953548490?pwd=OERITmFvb0RXVzdlTUdYNWhDNnJmZz09**; Live link:** https://www.koushare.com/lives/room/626382				
Volunteer: Ruoyu Zhang**; Tel:** +86 18220823662**; Email:** q19980704@stu.xjtu.edu.cn				
Session Chair: Prof. Zhengyuan Luo & Prof. Laishun Wang				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
8:30-9:00	B1.K	Pingjian Ming	A scalable, robust parallel CFD algorithm on handling of sliding non-conformal interfaces	Sun Yat-sen University, China
9:00-9:20	B1.O1 (51)	Zhifeng Hu[1]; Fuqiang Chu[2]; Xiaomin Wu[1,]*	Droplet splitting on ridged superhydrophobic surfaces	1.Tsinghua University, China 2.University of Science and Technology Beijing, China
9:20-9:40	B1.O2 (38)	Yuhang Wang[1]; Pingjian Ming[2,]*	Effect of convex structure on coalescence-induced self-propelled jumping of droplet on superhydrophobic surfaces	1.Harbin Engineering University, China 2.Sun Yat-Sen University, China
9:40-10:00	B1.O3 (62)	Xingcheng Wang; Zhengyuan Luo*; Bofeng Bai	Droplets dynamic behaviors in porous media	Xi'an Jiaotong University, China
10:00-10:20	***Break***			
10:20-10:40	B1.O4 (20)	Shuxin Li; Yanhui Feng*; Fuqiang Chu*	Icing characteristics of a salty droplet	University of Science and Technology Beijing, China
10:40-11:00	B1.O5 (07)	Jie Tan; Dongyue Jiang*	The mechanism of droplet coalescence and anti-fogging based on electrowetting-on-dielectric	Dalian University of Technology, China
11:00-11:20	B1.O6 (58)	Lei Han; Mindi Zhang*; Zhenkun Tan; Biao Huang	Experiment and numerical study of bubble collapse near elastic panels with the different initial distance	Beijing Institute of Technology, China
11:20-11:40	B1.O7 (60)	Zhengliang Yu; Zhengyuan Luo*; Bofeng Bai	Study on the stability of oil-water displacement interface in homogeneous porous media	Xi'an Jiaotong University, China
11:40-12:00	B1.O8 (61)	Jie Qi; Feng Guo; Zhengyuan Luo*; Bofeng Bai	Effect of nanoparticle surfactants on the motion of a droplet in microchannel	Xi'an Jiaotong University, China

28/7/2022-Thursday				
Session C1: Experimental Methods/Techniques				
Meeting ID: 919 5642 8705**; Room Password:** 044629				
Zoom link: https://zoom.us/j/91956428705?pwd=eWFRNnFkRkdkSEhrbWtwZ0lvcURGdz09**; Live link:** https://www.koushare.com/lives/room/202970				
Volunteer: Xingcheng Wang**; Tel:** +86 13669276810**; Email:** wxc904519@stu.xjtu.edu.cn				
Session Chair: Prof. Dan Zhang & Prof. Haohua Zong				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
8:30-9:00	C1.K	Haohua Zong	Turbulent skin-friction drag reduction with plasma actuators	Science and Technology on Plasma Dynamics Laboratory, China
9:00-9:20	C1.O1 (03)	Yixiao Wang[1]; Dan Zhang[1,*]; Jinrui Jia[2];*et al.*	A novel heat flux measurement on base of dual films of quantum dots	1.Xi'an Jiaotong University, China 2.Nuclear Power Institute of China, China
9:20-9:40	C1.O2 (22)	Mengyu Jia[1]; Xuolong Shen[1]; Jieren Luo[2]; Qiuhui Yan[1,*]	Test of the thermal conductivity of thermal interface materials	1.Xi'an University of Architecture and Technology, China 2.Xi'an Jiaotong University, China
9:40-10:00	C1.O3 (25)	Yizhou Wang[1]; Haideng Zhang[1,*]; Litao Qin[1]; *et al.*	Influences of surface dielectric barrier discharge plasma actuation on tip leakage flow	1. Science and Technology on Plasma Dynamics Laboratory, China 2.Xi'an Jiaotong University, China
10:00-10:20	***Break***			
10:20-10:40	C1.O4 (33)	Yinan Nie; Yifei Li; Min Zhang; Xin Zhao; Guihua Tang*	Study on the thermoelectric properties of ZnO nanowires based on deformation potential theory	Xi'an Jiaotong University, China
10:40-11:00	C1.O5 (70)	Shengfang Huang[1,*]; Yun Wu[2,3]; Shunhua Yang[1]; *et al.*	Non-reacting flow fields of a bluff body controlled by pulsed arc plasma	1.China Aerodynamics Research and Development Center, China 2. Science and Technology on Plasma Dynamics Laboratory, China 3.Xi'an Jiaotong University, China
11:00-11:20	C1.O6 (152)	Yeqi Cao; Qiang Xu; Bo Huang; Haiyang Yu; Lie-jin Guo*	Experimental study on interface characteristics of slug flow in long-distance pipeline	Xi'an Jiaotong University, China
11:20-11:40	C1.O7 (103)	Xuebo Zheng[1,2]; Fan Zhao[2]; Bofeng Bai[2,*]	Towards the error characteristics of wet gas flowmetering based on dual-DP methods	1.Chang'an University, China 2.Xi'an Jiaotong University, China

11:40-12:00	C1.O8 (150)	Haiyang Yu*; Qiang Xu; Liejin Guo	Drift-flux model in 80mm diameter vertical pipe	Xi'an Jiaotong University, China

28/7/2022-Thursday				
Session D1: Computation Methods				
Meeting ID: 951 1175 4628**; Room Password:** 968488				
Zoom link: https://zoom.us/j/95111754628?pwd=QnlLVGJNNWUrVVpYSWh1TU5PaWY0Zz09**; Live link:** https://www.koushare.com/lives/room/480649				
Volunteer: Zhengliang Yu**; Tel:** +86 18966823625**; Email:** yzl0122@stu.xjtu.edu.cn				
Session Chair: Prof. Min Zeng & Prof. Liangyu Zhao				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
8:30-9:00	D1.K	Liangyu Zhao	Some achievements related to numerical simulation of spinning rockets	Beijing Institute of Technology, China
9:00-9:20	D1.O1 (01)	Mengmeng Liu; Zhen Zhang*; Xingtuan Yang	Numerical study on flow and heat transfer characteristics of supercritical water in tubes with variable structure	Tsinghua University, China
9:20-9:40	D1.O2 (02)	Yang Yuan[1]; Dan Zhang[1,*]; Jinrui Jia[2]; *et al.*	Numerical simulation of heating droplet by thermal radiation	1.Xi'an Jiaotong University, China 2.Nuclear Power Institute of China, China
9:40-10:00	D1.O3 (10)	Yuping Bai; Quanbin Zhao*; Weixiong Chen; *et al.*	Direct numerical simulation investigation on multiple neck-like vortices in the compressible mixing layer	Xi'an Jiaotong University, China
10:00-10:20	***Break***			
10:20-10:40	D1.O4 (12)	Yasong Sun[1,*]; Huabo Zhang[1]; Yifan Li[1]; Ruirui Zhou[2]	Steady-state discrete unified gas-kinetic scheme for three-dimensional multiscale radiation heat transfer	1.Northwestern Polytechnical University, China 2. University of Shanghai for Science and Technology, China
10:40-11:00	D1.O5 (15)	Ting Xiong; Chenchen Chen; Yong Chen*	Numerical study of the drag and heat transfer coefficients for oblate ellipsoids in uniform flow	Wuhan University of Technology, China
11:00-11:20	D1.O6 (36)	Enwei Wang; Gongmin Liu	Numerical simulation and improved design of gravity gas water separator	Harbin Engineering University, China
11:20-11:40	D1.O7 (29)	Jin Hu*; Zhishun Yang; Lihua Chen; Zhenhua Xia	Flow field and heat transfer properties in convective solid-liquid phase change system with sidewall heating	Zhejiang University, China

11:40-12:00	D1.O8 (31)	Weihao Ling, Ping Yang, Min Zeng*, Qiuwang Wang	Numerical investigations on Ledinegg instability in single and parallel channels under discrete heat source	Xi'an Jiaotong University, China

28/7/2022-Thursday				
Session E1: Engineering Application Research				
Meeting ID: 944 1069 3987**; Room Password:** 036272				
Zoom link: https://zoom.us/j/94410693987?pwd=MExuVHVXem12MzM1SHNmV0tNS21ZUT09**; Live link:** https://www.koushare.com/lives/room/319184				
Volunteer: Fangchen Xue**; Tel:** +86 18092876707**; Email:** xuefangchen@stu.xjtu.edu.cn				
Session Chair: Prof. Dongyue Jiang & Prof. Yuan Wang				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
8:30-9:00	E1.K	Yuan Wang	Icing and anti-icing on cold surfaces of cryogenic air precoolers	National University of Defense Technology, China
9:00-9:20	E1.O1 (06)	Penghao Tian; Dongyue Jiang*	Study on the performance of capillary wave propeller induced by electrowetting-on-dielectric	Dalian University of Technology, China
9:20-9:40	E1.O2 (09)	Liuxin Yi[1,2]; Jifen Wang[1,2,*]; Huaqing Xie[2]; *et al.*	Bifunctional PW@$CaCO_3$/Y_2O_3 phase change microcapsules for thermal energy storage and photoluminescence	1.Shanghai Polytechnic University, China 2.Shanghai Engineering Research Center of Advanced Thermal Functional Materials, China
9:40-10:00	E1.O3 (26)	Xiaolong Li; Peitian Liu; Xiyao Yu; *et al.*	A criterion for efficiently evaluating the heat exchanger performance on cycle efficiency	Xi'an Jiaotong University, China
10:00-10:20	***Break***			
10:20-10:40	E1.O4 (14)	Fangchen Xue; Kunpeng Zhao; Xing Li; *et al.*	Two-phase flow structure of the submerged gas reactive jet in liquid	Xi'an Jiaotong University, China
10:40-11:00	E1.O5 (16)	Zihui Zhang; Shijun Yan; Sijie Dong; *et al.*	Optimization of the vortex performance and separation performance by a novel cyclone separator	Lanzhou University, China
11:00-11:20	E1.O6 (18)	Liehui Xiao; Minlin Yang; Simin Huang*	Performance study of transport membrane condenser using condensate water to recover water and heat from flue gas	Dongguan University of Technology, China
11:20-11:40	E1.O7 (19)	Mingzheng Qiao; Zefeng Jing*; Xurui Ma; *et al.*	Thermal–hydraulic characteristics and structure optimization of Z-channel printed circuit heat exchanger	Xi'an Jiaotong University, China

28/7/2022-Thursday				
Plenary Lecture				
Meeting ID: 865 8269 4501**; Room Password:** 186948				
Zoom link: https://us06web.zoom.us/j/86582694501?pwd=dUFqWnUvWW1sV25NcCttN3JNTnVFZz09**; Live link:** https://www.koushare.com/lives/room/051126				
Volunteer: Nianduo Song**; Tel:** +86 18940961327**; Email:** songnianduo@stu.xjtu.edu.cn				
Time (Beijing)	**Activity**	**Authors**	**Title of presentation**	**Affiliation**
Chair: Prof. Bofeng Bai				
14:30-14:50	Opening Ceremony	Liejin Guo Tassos G. Karayiannis	Welcome	Xi'an Jiaotong University, China Brunel University London, UK
Chair: Prof. Tassos G. Karayiannis				
14:50-15:30	Plenary 1	Davide Del Col	Effect of steam velocity during dropwise condensation	University of Padova, Italy
15:30-16:10	Plenary 2	Khellil Sefiane	Boiling and bubbles dynamics from artificial nucleation sites	University of Edinburgh, UK
16:10-16:30	***Break***			
Chair: Prof. Aibing Yu				
16:30-17:10	Plenary 3	Raffaella Ocone	From fundamentals to industrial applications: opportunities and challenges	Heriot-Watt University, UK
17:10-17:50	Plenary 4	Yulong Ding	Composite phase change materials for heating and cooling decarbonisation	University of Birmingham, UK
17:50-18:30	Plenary 5	Demetrios Papageorgiou	Feedback and optimal control of falling film flows	Imperial College London, UK

Program (Friday, 29 July 2022)

29/7/2022-Friday				
Plenary Lecture				
Meeting ID: 865 8269 4501; **Room Password:** 186948				
Zoom link: https://us06web.zoom.us/j/86582694501?pwd=dUFqWnUvWW1sV25NcCttN3JNTnVFZz09; **Live link:** https://www.koushare.com/lives/room/051126				
Volunteer: Nianduo Song; **Tel:** +86 18940961327; **Email:** songnianduo@stu.xjtu.edu.cn				
Chair: Prof. Xiaoshu Cai				
Time (Beijing)	**Activity**	**Authors**	**Title of presentation**	**Affiliation**
8:00-8:40	Plenary 6	Gretar Tryggvason	Numerical simulations of complex multiphase flows	Johns Hopkins University, USA
8:40-9:20	Plenary 7	Gherhardt Ribatski	Liquid film characteristics during horizontal annular flows for in-tube evaporation and condensation	University of São Paulo, Brazil
9:20-10:00	Plenary 8	Jinliang Xu	Pseudo-phase change theory and applications for supercritical fluids	North China Electric Power University, China
10:00-10:20	***Break***			

29/7/2022-Friday				
Session A2: Multiphase Flow & Heat and Mass Transfer				
Meeting ID: 968 4189 3265; **Room Password:** 700666				
Zoom link: https://zoom.us/j/96841893265?pwd=QjA3SzJObGNpbkFqUklvTWNMZW9Ddz09; **Live link:** https://www.koushare.com/lives/room/252495				
Volunteer: Yida Zhao; **Tel:** +86 18292029604; **Email:** z853324623@stu.xjtu.edu.cn				
Session Chair: Prof. Qiang Xu				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
10:20-10:40	A2.O1 (41)	Ju Chen; Ke Wang*; Qi Zhang; Jing Peng	Experimental investigation on subcooled flow boiling heat transfer and flow pattern of shell and plate heat exchanger	China University of Petroleum-Beijing, China

10:40-11:00	A2.O2 (49)	Ziqiang Ma; Guilong Zhang; *et al.*	Experimental study on heat transfer characteristics of Marangoni Condensation for ethanol-water mixtures by infrared thermography	Xi'an Jiaotong University, China
11:00-11:20	A2.O3 (55)	Xiaojia Li; Pingjian Ming*; *et al.*	Molecular dynamics simulation of rapid boiling on hybrid walls of an ultrathin liquid film	Sun Yat-Sen University, China
11:20-11:40	A2.O4 (56)	Qi Zhang; Ke Wang*; Ju Chen; Jing Peng	Enhanced pool boiling heat transfer on sintered porous media surface	China University of Petroleum-Beijing, China
11:40-12:00	A2.O5 (23)	Lingyun Pan[1]; Chao Dang[1,2,*]; Ruiqi Min[1];*et al.*	Experimental study on saturation pool boiling heat transfer characteristics of R245fa on the surface covered by sintered copper powder	1.Beijing Jiaotong University, China 2.Beijing Key Laboratory of Flow and Heat Transfer of Phase Changing in Micro and Small Scale, China

29/7/2022-Friday				
Session B2: Particle, Bubble and Drop Dynamics				
Meeting ID: 919 5354 8490**; Room Password:** 687422				
Zoom link: https://zoom.us/j/91953548490?pwd=OERITmFvb0RXVzdlTUdYNWhDNnJmZz09**; Live link:** https://www.koushare.com/lives/room/626382				
Volunteer: Ruoyu Zhang**; Tel:** +86 18220823662**; Email:** q19980704@stu.xjtu.edu.cn				
Session Chair: Prof. Bo Wang				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
10:20-10:40	B2.O1 (21)	Yifu Shu; Yanhui Feng*; Fuqiang Chu*	Droplet impact dynamics on rotating superhydrophobic surfaces	University of Science and Technology Beijing, China
10:40-11:00	B2.O2 (66)	Yong Qin; LiangLiang Fan; Liang Zhao*	Effect of microchannel geometry on the migration of the aerosol particle	Xi'an Jiaotong University, China
11:00-11:20	B2.O3 (67)	Zhe Zhang; Xiang Luo; Yubo Peng	Effect of particle deposition on transpiration cooling	Beihang University, China
11:20-11:40	B2.O4 (88)	Kunpeng Zhao[1,2,*]; Eckart Meiburg[2]; *et al.*	Cohesive sediment: Intermediate shear produces maximum aggregate size	1.Xi'an Jiaotong University, China 2.UC Santa Barbara, USA
11:40-12:00	B2.O5 (90)	Binbin Pei; Kunpeng Zhao; *et al.*	Particle dispersion in turbulent mixing layer at supercritical pressure	Xi'an Jiaotong University, China

29/7/2022-Friday				
Session C2: Experimental Methods/Techniques				
Meeting ID: 919 5642 8705**; Room Password:** 044629				
Zoom link: https://zoom.us/j/91956428705?pwd=eWFRNnFkRkdkSEhrbWtwZ0lvcURGdz09**; Live link:** https://www.koushare.com/lives/room/202970				
Volunteer: Xingcheng Wang**; Tel:** +86 13669276810**; Email:** wxc904519@stu.xjtu.edu.cn				
Session Chair: Prof. Ke Wang				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
10:20-10:40	C2.O1 (117)	Shanshan Li; Bofeng Bai*	Two-phase mass flow coefficient of the cone flow meter	Xi'an Jiaotong University, China
10:40-11:00	C2.O2 (73)	Shaobo Sun; Xiang'e Han*; *et al.*	The initial spatial-temporal characteristics of circular jet measured with rainbow refractometry	Xidian University, China
11:00-11:20	C2.O3 (151)	Zeshui Cao; Qiang Xu; Haopeng Kang; *et al.*	Internal reaction behavior and kinetics of iron ore reduction by biomass	Xi'an Jiaotong University, China
11:20-11:40	C2.O4 (71)	Shuang Ma; Lin Chen*	Quantitative extraction of flow data from high-speed surrounding cylinder flow by luminescent mini-tufts method	Institute of Enginering Thermophysics, Chinese Academy of Sciences, China
11:40-12:00	C2.O5 (153)	Tengfei Nie; Qiang Xu; Xing-miao Ye; *et al.*	Growth and departure of single bubble on a TiO2 photoelectrode surface during photoelectrochemical water splitting	Xi'an Jiaotong University, China

29/7/2022-Friday				
Session D2: Computation Methods				
Meeting ID: 951 1175 4628**; Room Password:** 968488				
Zoom link: https://zoom.us/j/95111754628?pwd=QnlLVGJNNWUrVVpYSWh1TU5PaWY0Zz09**; Live link:** https://www.koushare.com/lives/room/480649				
Volunteer: Zhengliang Yu**; Tel:** +86 18966823625**; Email:** yzl0122@stu.xjtu.edu.cn				
Session Chair: Prof. Fei Cao				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
10:20-10:40	D2.O1	Haoyang Liu[1,2];	Numerical investigation on heat transfer of supercritical pressure CO2 in	1.Wuhan University of Technology,

	(34)	Zhenlong Fang[1,*]; Deng Li[3]; *et al.*	bent pipe	China 2.Chinese Academy of Sciences, China 3.Wuhan University, China
10:40-11:00	D2.O2 (42)	Jing Peng; Ke Wang*; Ju Chen; Qi Zhang	Prediction of leaked oil spread area by SPH method in complex topographic conditions	China University of Petroleum-Beijing, China
11:00-11:20	D2.O3 (43)	Fei Cao*; Haoyu Su; Yanqin Shangguan; *et al.*	Numerical simulation of solar updraft tower power plants with embedded and parallel chimneys	Hohai University, China
11:20-11:40	D2.O4 (44)	Hesen Yang[1,*]; Haohua Zong[2]; Yun Wu[1,2]; *et al.*	Simulation study on surface arc plasma actuation-based swept shock wave/boundary layer interactions control	1. Science and Technology on Plasma Dynamics Laboratory, China 2.Xi'an Jiaotong University, China
11:40-12:00	D2.O5 (141)	Jimin Xu; Tianwang Lai; Xiangyang Liu*; *et al.*	Simulation of cold end temperature and optimal current of TEC with variable semiconductor cross -sections using lattice Boltzmann method	Xi'an Jiaotong University, China

29/7/2022-Friday				
Session E2: Engineering Application Research				
Meeting ID: 944 1069 3987**; Room Password:** 036272				
Zoom link: https://zoom.us/j/94410693987?pwd=MExuVHVXem12MzM1SHNmV0tNS21ZUT09**; Live link:** https://www.koushare.com/lives/room/319184				
Volunteer: Fangchen Xue**; Tel:** +86 18092876707**; Email:** xuefangchen@stu.xjtu.edu.cn				
Session Chair: Prof. Fuqiang Chu				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
10:20-10:40	E2.O1 (27)	Xinyi Zhang; Shuzhong Wang*; Jun Zhao*	Variation of thermal physical properties and crystallization behavior of blast furnace slag with B_2O_3 content	Xi'an Jiaotong University, China
10:40-11:00	E2.O2 (28)	Daihui Jiang; Ningwen Xu; Jun Zhao*; *et al.*	Influence of hybrid air structure on centrifugal granulation of slag	Xi'an Jiaotong University, China
11:00-11:20	E2.O3 (30)	Jiangchuan Yu; Sihui Hong*	Study on heat transfer characteristics of adaptive channeled pulsating heat pipe for high power chip cooling	Sun Yat-sen University, China
11:20-11:40	E2.O4 (48)	Luis Antonio Dávalos-Orozco	Stability of two liquid films coating both sides of a horizontal wall with a heat source	Universidad Nacional Autónoma de México Ciudad Universitaria, México

29/7/2022-Friday				
Session A3: Multiphase Flow & Heat and Mass Transfer				
Meeting ID: 968 4189 3265**; Room Password:** 700666				
Zoom link: https://zoom.us/j/96841893265?pwd=QjA3SzJObGNpbkFqUklvTWNMZW9Ddz09**; Live link:** https://www.koushare.com/lives/room/252495				
Volunteer: Yida Zhao**; Tel:** +86 18292029604**; Email:** z853324623@stu.xjtu.edu.cn				
Session Chair: Prof. Jifen Wang & Prof. Maolong Liu				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
14:20-14:50	A3.K	Dariusz Mikielewicz	Flow boiling and flow condensation at low, medium and high reduced pressures	Gdansk University of Technology, Poland
14:50-15:10	A3.O1 (83)	Yike Wang; Bin Chang; Xilian Luo*; Zhaolin Gu	Migration and enrichment of salt in semi-exposed earthen site within archaeology museum	Xi'an Jiaotong University, China
15:10-15:30	A3.O2 (84)	Yanhua Cheng; Jinlong Ma; Xiaobing Luo*	Dimensional crossover of in-plane thermal anisotropy in tellurium	Huazhong University of Science and Technology, China
15:30-15:50	A3.O3 (86)	A Surtaev[1,2,*]; V Serdykov[1,2]; I Malakhov[1,2]; *et al.*	Control of surface wettability for enhancement of boiling heat transfer at different pressures	1.Kutateladze Institute of Thermophysics, Russia 2.Novosibirsk State University, Russia
15:50-16:10	A3.O4 (104)	Jiayuan Zhao; Liangxing Li*; *et al.*	Flow and heat transfer characteristics of liquid metal and supercritical co2 in helical cruciform tube heat exchanger	Xi'an Jiaotong University, China
16:10-16:30	***Break***			
16:30-16:50	A3.O5 (146)	Bingzhu Lai; Hui Wang*; Junqiang Bai	Prediction of the permeability of fibrous porous structures under the full flow regimes	Northwestern Polytechnical University, China
16:50-17:10	A3.O6 (110)	Kuan Zhao[1,2]; Jifen Wang[1,2,*]; Huaqing Xie[2]; Zhixiong Guo[3]	Microencapsulated phase change n-Octadecane with high heat storage and high thermal stability and its application in building energy conservation	1.School of Science; Shanghai Polytechnic University, China 2.Shanghai Engineering Research Center of Advanced Thermal Functional Materials, China 3.The State University of New Jersey, USA

17:10-17:30	A3.O7 (111)	Ji'an Liu; Rongfeng Zhang; Qingjiang Liu; Shuhan Liu; *et al.*	Research on the threshold of critical heat flux for density wave oscillations	Xi'an Jiaotong University, China
17:30-17:50	A3.O8 (113)	Yusheng Li; Yahui Wang; Xianliang Lei*	Experimental study on the heat transfer characteristics of carbon dioxide in the straightly-ribbed tubes	Xi'an Jiaotong University, China
17:50-18:10	A3.O9 (115)	Yifan Li; Yasong Sun*; Changhao Liu; Huabo Zhang	Predication of radiative intensity on thermal radiation transfer with inhomogeneous media by element differential method	Northwestern Polytechnical University, China
18:10-18:30	A3.O10 (137)	Bin Zhao; Chengzhen Sun; Bofeng Bai*	Equations of state for H_2O/CO_2 mixtures in graphite nanoslits	Xi'an Jiaotong University, China

29/7/2022-Friday				
Session B3: Particle, Bubble and Drop Dynamics				
Meeting ID: 919 5354 8490**; Room Password:** 687422				
Zoom link: https://zoom.us/j/91953548490?pwd=OERITmFvb0RXVzdlTUdYNWhDNnJmZz09**; Live link:** https://www.koushare.com/lives/room/626382				
Volunteer: Ruoyu Zhang**; Tel:** +86 18220823662**; Email:** q19980704@stu.xjtu.edu.cn				
Session Chair: Prof. Xuelong Zhou & Prof. Yang Yang				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
14:20-14:50	B3.K	Yang Yang	Multiphase-interfacial regulation and enhanced mass transport in micro/nano power sources	Chongqing University, China
14:50-15:10	B3.O1 (91)	Vladimir Serdyukov[1,2]; Nikolay Miskiv; Anton Surtaev[1,2]	The simultaneous analysis of droplets impacts and heat transfer during water spray cooling using transparent heater	1. Kutateladze Institute of Thermophysics, Russia 2. Novosibirsk State University, Russia
15:10-15:30	B3.O2 (128)	Xinyao Guo; Guodong Liu*; Junnan Zhao	Simulation of gas-solid flow behavior in bubbling fluidized bed using a new drag model based on the inertial number	Harbin Institute of Technology, China
15:30-15:50	B3.O3 (119)	JiaNing Fan; Yang Yang*; Yi Wang	Purification performance of intense field dielectric on oil droplets generated by evaporation-condensation during machining	Xi'an University of Architecture and Technology, China
15:50-16:10	B3.O4 (127)	Dongbao Wang*; Junfeng Wang; *et al.*	Charged droplet electrohydrodynamics in liquid medium with effect of electric field	Jiangsu University, China

16:10-16:30	***Break***			
16:30-16:50	B3.O5 (96)	Boyao Wen; Bofeng Bai*	Surfactant desorption free energies from micelles and oil-water interfaces obtained from coarse-grained molecular dynamics simulations	Xi'an Jiaotong University, China
16:50-17:10	B3.O6 (133)	Lei Zuo; Junfeng Wang*; Dongbao Wang; *et al.*	Atomization and combustion characteristics of biodiesel droplet in a direct current electric field	Jiangsu University, China
17:10-17:30	B3.O7 (136)	Haojie Xu; Junfeng Wang*; Bufa Li; Tian Hu	Drop impact on heated surfaces under electric field	Jiangsu University, China
17:30-17:50	B3.O8 (139)	Yujia Huang; Xing Li; Liang Zhao; Bofeng Bai*	Numerical investigation of the submerged air jet from the laval nozzle into water	Xi'an Jiaotong University, China
17:50-18:10	B3.O9 (144)	Shilin Gao; Haibin Zhang*; Bofeng Bai	Flow patterns of dense powder-laden flow in annular air intake structure	Xi'an Jiaotong University, China
18:10-18:30	B3.O10 (149)	Jingyi Tan; Qingdan Luo; *et al.*	Study on the promotion of particle heterogeneous condensation by different charging approaches	Lanzhou University, China

29/7/2022-Friday				
Session F1: Spray and Mixing				
Meeting ID: 962 9597 5127**; Room Password:** 799182				
Zoom link: https://zoom.us/j/96295975127?pwd=WEdDZTBob3BlVmFaYW9RUG9RcjUzUT09**; Live link:** https://www.koushare.com/lives/room/222188				
Volunteer: Xingcheng Wang**; Tel:** +86 13669276810**; Email:** wxc904519@stu.xjtu.edu.cn				
Session Chair: Prof. Min Chai & Prof. Hailong Liu				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
14:20-14:50	F1.K	Hailong Liu	Atomization of thermal liquids under non-uniform electrical field	Jiangsu University, China
14:50-15:10	F1.O1 (04)	Jugan Zheng[1]; Dan Zhang[1,*]; Yang Yuan[1]; *et al.*	Numerical simulation of cross mixing between spray flashing of aqueous NaCl and air flow within rectangle tube	1.Xi'an Jiaotong University, China 2.Tianjin University of Commerce, China
15:10-15:30	F1.O2 (54)	Wei Cao; Yuchao Gao; Yongjie Ren; *et al.*	Study on spray characteristics of the double-staged Swirling-air assist injector	Space Engineering University, China
15:30-15:50	F1.O3 (59)	Yueyao Fu; Shuihua Zheng; *et al.*	DNS analysis of interface-vortex interaction of liquid jet atomization in crossflow	Zhejiang University of Technology, China

15:50-16:10	F1.O4 (74)	Ziyu Wang, Hui Zhao*, Weifeng Li, *et al.*	Hardened breakup of shear thickening suspension jet	East China University of Science and Technology, China
16:10-16:30	***Break***			
16:30-16:50	F1.O5 (120)	Shengnan Guo; Yanqiu Huang*; *et al.*	Effect of spray angle on flow field of high-temperature inclined smoke and capture performance of the exhaust hood	Xi'an University of Architecture and Technology, China
16:50-17:10	F1.O6 (121)	Peiwen Dong[1]; Bowen Zhang[2]; Guoqiang Liu[1]; Gang Yan[1,*]	Numerical simulation of swirling flow characteristics in a pressure-swirl atomizer for artificial snowmaking	1.Xi'an Jiaotong University, China 2.Beijing University of Civil Engineering and Architecture, China
17:10-17:30	F1.O7 (143)	Fan Zhao; Haibin Zhang*; Bofeng Bai	Experimental research on spray characteristics of Liquid-Liquid pintle injector element	Xi'an Jiaotong University, China
17:30-17:50	F1.O8 (147)	Haoqi Wu; Shutong Qian; Bofeng Bai*	Study on bubble atomization based on multi-stage gas-liquid flow patterns	Xi'an Jiaotong University, China

29/7/2022-Friday				
Session D3: Computation Methods				
Meeting ID: 951 1175 4628**; Room Password:** 968488				
Zoom link: https://zoom.us/j/95111754628?pwd=QnlLVGJNNWUrVVpYSWh1TU5PaWY0Zz09**; Live link:** https://www.koushare.com/lives/room/480649				
Volunteer: Zhengliang Yu**; Tel:** +86 18966823625**; Email:** yzl0122@stu.xjtu.edu.cn				
Session Chair: Prof. Qinling Li & Prof. Xing Li				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
14:20-14:50	D3.K	Alfonso William Mauro	Physic based models vs artificial intelligence tools: performance and limits in predictions of pressure gradients in two-phase flows	Federico II University of Naples, Italy
14:50-15:10	D3.O1 (46)	Sijia Yue; Zhiguo Xu*	Numerical simulation on boiling heat transfer and bubble growth mechanism based on tree-like structure	Shanghai Jiao Tong University, China
15:10-15:30	D3.O2 (47)	Kuiju Xue[1]; Liangyu Zhao[1,*]; Qinling Li[2]	Numerical studies of flow over a circular cylinder at ReD = 3900 using OpenFOAM	1.Beijing Institute of Technology, China 2.Sheffield Hallam University, UK
15:30-15:50	D3.O3 (52)	Yuchao Gao; Zhiwei Fan; *et al.*	Numerical study on liquid-central swirl coaxial injector under pressure oscillations	Space Engineering University, China

15:50-16:10	D3.O4 (53)	Shuyang Wang; Xinzhi Wang*; *et al.*	Numerical investigation of aerodynamic heating effect on different conformal infrared domes of high-speed aircrafts	Harbin Institute of Technology, China
16:10-16:30	***Break***			
16:30-16:50	D3.O5 (63)	Sipeng Wang*; Xiang Luo; Yang Bai	Computational investigation of flow structure for a rotor-stator system with annular inflow	Beijing University of Aeronautics and Astronautics, China
16:50-17:10	D3.O6 (64)	Dong Zhang; Haochun Zhang*; *et al.*	Natural convective heat transfer in accelerated movement to liquid metal	Harbin Institute of Technology, China
17:10-17:30	D3.O7 (69)	Jian He*; Xiang Luo; Yang Bai	Numerical study on pressure losses characteristics of deswirl ozzles in a rotating cavity with radial inflow	Beihang University, China
17:30-17:50	D3.O8 (72)	Adil Mahdouri[1,2]; Chen Lin[1,3,*]; *et al.*	A numerical simulation of the effect of non-uniform magnetic field on Fe3O4-sCO2 nanofluids heat transfer through a horizontal channel	1.Chinese Academy of Sciences, China 2.Sultan Qaboos University, Oman 3.University of Chinese Academy of Sciences, China
17:50-18:10	D3.O9 (87)	Dongxia Dang*; Yuan Wang	Numerical investigation on heat transfer characteristics of supercritical n-decane and carbon dioxide in horizontal square minichannel	National University of Defense Technology, China
18:10-18:30	D3.O10 (142)	Wang Han, Gongmin Liu, Yipeng Cao	Three-dimensional numerical simulation and flow characteristics analysis of flow field in high-pressure two-phase exhaust back pressure Valve	Harbin Engineering University, China

29/7/2022-Friday				
Session E3: Engineering Application Research				
Meeting ID: 944 1069 3987**; Room Password:** 036272				
Zoom link: https://zoom.us/j/94410693987?pwd=MExuVHVXem12MzM1SHNmV0tNS21ZUT09**; Live link:** https://www.koushare.com/lives/room/319184				
Volunteer: Fangchen Xue**; Tel:** +86 18092876707**; Email:** xuefangchen@stu.xjtu.edu.cn				
Session Chair: Prof. Liwu Tan & Prof. Lixin Cheng				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
14:20-14:50	E3.K	Lixin Cheng	Effect of the reduced pressure on flow boiling heat transfer of CO_2 in macro- and micro-channels	Sheffield Hallam University, UK
14:50-15:10	E3.O1 (126)	Shiguang Zhang; Feng Wang*; *et al.*	Radius ratio optimized storage energy capacity of a vertical Shell-and-tube latent heat thermal energy storage system	Inner Mongolia University of Technology, China

15:10-15:30	E3.O2 (82)	Lijing Ma*; Jiaxin Pan; Xiaoping Li; *et al.*	Effect of nanoparticles on interfacial properties of non-ionic surfactants solution	Xi'an Jiaotong University, China
15:30-15:50	E3.O3 (79)	Shijun Yan[1]; Jingxiang Wei[2]; et al.	An air purifying disinfector based on Cloud-Air-Purifying technology	1.Lanzhou University, China 2.Lanzhou Wbclcloud pollution treatment CO., LTD, China
15:50-16:10	E3.O4 (148)	Di Wei; Zhenkun Liu; Yumeng Zhang*; *et al.*	Application of Cloud-Air-Purifying technology in flue gas purification of rural domestic waste pyrolysis gasification	Lanzhou University, China
16:10-16:30	***Break***			
16:30-16:50	E3.O5 (75)	Jiahang Chen [1]; Lap Mou Tam[1,2,*]; *et al.*	Experimental investigation of heat transfer and pressure drop characteristics for vertical downflow using traditional and 3DPrinted mini tubes	1.University of Macau, China 2.Institute for the Development and Quality, China
16:50-17:10	E3.O6 (85)	Xiaoyu Zhang; Linyi Xiang; Run Hu; *et al.*	Experimental investigation on improving surface roughness and hydrophilicity of titanium surface via sand-blasting large grit acid-etching process	Huazhong University of Science and Technology, China
17:10-17:30	E3.O7 (94)	Yunfan Liu; Xianliang Lei*; Lingtong Gou	The mechanism of abnormal corrosion behavior of metal materials in the pseudocritical region of supercritical water	Xi'an Jiaotong University, China
17:30-17:50	E3.O8 (95)	Naiqi Pei; Xingjian Yu; Run Hu; *et al.*	Impact of vapor penetration on the performance of QDs white LEDs and a high moisture reliability structure	Huazhong University of Science and Technology, China
17:50-18:10	E3.O9 (101)	Ruidong Li; Guohu Tong; *et al.*	Hygroscopic properties and corrosion behavior of ammonium salts in a crude oil distillation column: in situ electrochemical and AIMD studies	Xi'an Jiaotong University, China
18:10-18:30	E3.O10 (102)	Haifeng Liu*; Mengjia Li; Jincheng Li; *et al.*	Simulation of selective Catalytic reduction (SCR) technology for reducing nitrogen oxides emissions from ammonia/diesel dual-fuel engines	Tianjin University, China

Program (Saturday, 30 July 2022)

30/7/2022- Saturday				
Ceremony				
Meeting ID: 865 8269 4501**; Room Password:** 186948				
Zoom link: https://us06web.zoom.us/j/86582694501?pwd=dUFqWnUvWW1sV25NcCttN3JNTnVFZz09**; Live link:** https://www.koushare.com/lives/room/051126				
Volunteer: Nianduo Song**; Tel:** +86 18940961327**; Email:** songnianduo@stu.xjtu.edu.cn				
Time (Beijing)	**Activity**	**Authors**	**Title of presentation**	**Affiliation**
Chair: Prof. Jinliang Xu				
8:00-8:40	MPFL Introduction	Bofeng Bai	State Key Laboratory of Multiphase Flow in Power Engineering	Xi'an Jiaotong University, China

30/7/2022-Saturday				
Session A4: Multiphase Flow & Heat and Mass Transfer				
Meeting ID: 968 4189 3265**; Room Password:** 700666				
Zoom link: https://zoom.us/j/96841893265?pwd=QjA3SzJObGNpbkFqUklvTWNMZW9Ddz09**; Live link:** https://www.koushare.com/lives/room/252495				
Volunteer: Yida Zhao**; Tel:** +86 18292029604**; Email:** z853324623@stu.xjtu.edu.cn				
Session Chair: Prof. Liangxing Li & Prof. Gangtao Liang				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
8:40-9:10	A4.K	Gangtao Liang	Boiling heat transfer on hybrid-wettability surface	Dalian University of Technology, China
9:10-9:30	A4.O1 (116)	Pujun Zhao; Yuan Wang*	Heat transfer performance of supercritical carbon dioxide in a horizontal tube under external high-temperature airflow	National University of Defense Technology, China
9:30-9:50	A4.O2 (123)	Jiawei Li*; Mingyu Gao; Lingyun Hou	Effects of thermal physical properties of aviation kerosene on supercritical heat transfer	Tsinghua University, China
9:50-10:10	A4.O3 (130)	Hengyuan Wang; Huixiong Li*; *et al.*	Numerical simulation of membrane boiling heat transfer characteristics in helical tubes under constant wall temperature and high superheat	Xi'an Jiaotong University, China
10:10-10:20	***Break***			

10:20-10:40	A4.O4 (132)	Ting Tan[1], Yuan Yuan[1], Xing Sun[2], Hua Meng[1,*]	Heat transfer enhancement and thermal oxidative coking of supercritical-pressure kerosene in a counterflow heat exchanger	1.Zhejiang University, China 2.Northwestern Polytechnical University, China
10:40-11:00	A4.O5 (134)	Qingliang Meng*; Zhao Yu; et al.	Experimental investigation on the dynamic heat transfer behavior of a mechanically pumped two-phase loop for large heating power dissipation	Beijing Institute of Space Mechanics and Electricity, China
11:00-11:20	A4.O6 (135)	Qian Niu; Yu Wang*	Experimental and simulation investigation of spray cooling by using an aqueous solution of non-ionic surfactant	Nanjing Tech University, China

30/7/2022-Saturday				
Session G1: Cavitation and Cavitating Flow & Aerodynamics				
Meeting ID: 961 7362 4243**; Room Password:** 949551				
Zoom link: https://zoom.us/j/96173624243?pwd=enNKL3N2VEt1ZjI0cVV4b0ZDYVhodz09**; Live link:** https://www.koushare.com/lives/room/537713				
Volunteer: Ruoyu Zhang**; Tel:** +86 18220823662**; Email:** q19980704@stu.xjtu.edu.cn				
Session Chair: Prof. Denghui He & Prof. Mindi Zhang				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
8:40-9:10	G1.K	Mindi Zhang	Investigation of the cavitation bubble dynamics near different boundary conditions	Beijing Institute of Technology, China
9:10-9:30	G1.O1 (40)	Zhenlong Fang; Wenjiang Hou; *et al.*	LES investigation on cavitating turbulent flow of organ-pipe nozzle with various divergence angles	Wuhan University of Technology, China
9:30-9:50	G1.O2 (57)	Zhenkun Tan; Mindi Zhang*; *et al.*	Experimental investigation on shock wave emission from a cavitation bubble near an air bubble	Beijing Institute of Technology, China
9:50-10:10	G1.O3 (65)	Yang Bai*; Xiang Luo; Jian He	Influence of turbulence parameters on flow characteristics of cavity with finned vortex reducer	Beijing University of Aeronautics and Astronautics, China
10:10-10:20	***Break***			
10:20-10:40	G1.O4 (76)	Jahidul Haque Chaudhuri; Dhiman Chatterjee*	Optimizing Orifice geometry for increased cavitation	IIT Madras, India
10:40-11:00	G1.O5 (78)	Kaijie Ye; Denghui He*; Lin Zhao; *et al.*	Influence of fluid viscosity on cavitation characteristics of helico-axial multiphase pump (HAMP)	Xi'an University of Technology, China

11:00-11:20	G1.O6 (80)	Wen Liu[1,*]; Sheng Jiang[2]; Huazheng Li[2]	Effects of swirler structure on gas–liquid two-phase swirling flow inside a horizontal pipe	1.Foshan University, China 2.Changzhou University, China
11:20-11:40	G1.O7 (131)	Nailiang Li[1]*; Bin Chen[2]; Dongtai Han[1]; *et al.*	Investigation on the void fraction of gas-liquid two-phase flows in pipeline-riser system	1.China University of Mining and Technology, China 2.Xi'an Jiaotong University, China
11:40-12:00	G1.O8 (145)	Bo Guan; Haibin Zhang*; Bofeng Bai	Analysis of flow field structure characteristic in cryogenic wind tunnel	Xi'an Jiaotong University, China

30/7/2022-Saturday				
Session H1: Combustion				
Meeting ID: 979 0200 4565**; Room Password:** 504695				
Zoom link: https://zoom.us/j/97902004565?pwd=MlRld3NBUDc3Sm5aV0VmbHpJcmxqQT09**; Live link:** https://www.koushare.com/lives/room/212838				
Volunteer: Xingcheng Wang**; Tel:** +86 13669276810**; Email:** wxc904519@stu.xjtu.edu.cn				
Session Chair: Prof. Haifeng Liu & Prof. Wang Han				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
8:40-9:10	H1.K	Wang Han	High-fidelity modeling and simulation of turbulent multiphase combustion in aeroengine combustors	Beihang University, China
9:10-9:30	H1.O1 (50)	Yupeng Gao; Wang Han; Jingxuan Li; *et al.*	Influences of swill number and block ratio on a bluff-body stabilized V-shaped flame	Beihang University, China
9:30-9:50	H1.O2 (97)	Xiangyong Huang*; Kexiang Ning; *et al.*	Study on NO formation characteristics of pulverized coal oxygen enriched combustion in cement rotary kiln	Anhui University of Technology, China
9:50-10:10	H1.O3 (105)	Ling Cao; Mingyan Gu*; Yong Wu; *et al.*	Molecular dynamics simulation of pure ammonia combustion	Anhui University of Technology, China
10:10-10:20	***Break***			
10:20-10:40	H1.O4 (106)	Le Ye; Mingyan Gu*; Yong Wu; *et al.*	Study on the combustion characteristics of ring sleeve kiln burner	Anhui University of Technology, China
10:40-11:00	H1.O5 (129)	Zhiguo Xu[1]; Manhou Li[1,2,*]; Qiuting Luo[1]	Study on opposed spilling fire spread over *n*-Butanol with various slopes	1.Hefei University of Technology, China 2.Anhui International Joint Research Center on Hydrogen Safety, China

11:00-11:20	H1.O6 (140)	Qian Huang; Zhaohui Liu*	Direct numerical simulation of pressurized turbulent premixed CH4/H2/O2/CO2 flames	Huazhong University of Science and Technology, China

30/7/2022-Saturday				
Session D4: Computation Methods				
Meeting ID: 951 1175 4628**; Room Password:** 968488				
Zoom link: https://zoom.us/j/95111754628?pwd=QnlLVGJNNWUrVVpYSWh1TU5PaWY0Zz09**; Live link:** https://www.koushare.com/lives/room/480649				
Volunteer: Zhengliang Yu**; Tel:** +86 18966823625**; Email:** yzl0122@stu.xjtu.edu.cn				
Session Chair: Prof. Kunpeng Zhao & Prof. Lin Chen				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
8:40-9:10	D4.K	Lin Chen	Near-critical fluid thermodynamics: fluctuation and parameter scaling behaviors	Institute of Enginering Thermophysics, Chinese Academy of Sciences, China
9:10-9:30	D4.O1 (89)	Yifan Zhang, Yuan Wang*	Numerical study of flow and heat transfer characteristics of carbon dioxide in mini-channels with constant and variable cross-sections	National University of Defense Technology
9:30-9:50	D4.O2 (92)	Runfeng Zhou; Chengzhen Sun*; Bofeng Bai	Capillary flow dynamics of water in extremely confined space	Xi'an Jiaotong University, China
9:50-10:10	D4.O3 (93)	Haoxuan Li; Chengzhen Sun*; Bofeng Bai	Water flow dynamics in graphene oxide nanochannels	Xi'an Jiaotong University, China
10:10-10:20	***Break***			
10:20-10:40	D4.O4 (98)	Li Kun; Lin Qi*	Simulation study on self-heating of variable porosity coal pile	Anhui University of Technology, China
10:40-11:00	D4.O5 (99)	Bo Ren; Xiaoqi Ma; Yueshe Wang*	Numerical study on dense liquid-solid two-phase flow and erosion in downhole choke	Xi'an Jiaotong University, China
11:00-11:20	D4.O6 (100)	Jiaming Tian; Rui Guo; Yueshe Wang*	Numerical study on characteristics of flow pattern in an oil-gas mixer	Xi'an Jiaotong University, China

11:20-11:40	D4.O7 (108)	Jingyuan Wang[1,*]; Feng Wu[2]; Quanyonga Xu[1]; Qiannan Xu[2]; Xudong Feng[2]	A method for fluid points near solid surface marking and flux interpolation between cartesian mesh and overlapping body-fitted mesh	1.Tsinghua University, China 2.AECC Sichuan Gas Turbine Establishment, China

30/7/2022-Saturday				
Session E4: Engineering Application Research				
Meeting ID: 944 1069 3987**; Room Password:** 036272				
Zoom link: https://zoom.us/j/94410693987?pwd=MExuVHVXem12MzM1SHNmV0tNS21ZUT09**; Live link:** https://www.koushare.com/lives/room/319184				
Volunteer: Fangchen Xue**; Tel:** +86 18092876707**; Email:** xuefangchen@stu.xjtu.edu.cn				
Session Chair: Prof. Zhixiang Zhao & Prof. Boyao Wen				
Time (Beijing)	**No. (Abs. No.)**	**Authors**	**Title of Presentation**	**Affiliation**
8:40-9:10	E4.K	Marc Hodes	Transport phenomena in the drying of aerogels	Tufts University, USA
9:10-9:30	E4.O1 (77)	Zhaoyang Ma; Chenyang Wang; Li Guo; Ming Zhai*	Simplification of methane ionization reaction mechanism based on sensitivity analysis and ROP analysis	Harbin Institute of Technology, China
9:30-9:50	E4.O2 (109)	Zhile Gao[1,2]; Jifen Wang[1,2,*]; Huaqing Xie[2]; Zhixiong Guo[3]	The Molecular dynamics study of the thermal conductivity of GaN	1.Shanghai Polytechnic University, China 2.Shanghai Engineering Research Center of Advanced Thermal Functional Materials, China 3.The State University of New Jersey, USA
9:50-10:10	E4.O3 (114)	Kaituo Jiao[1]; Dongxu Han[2]; Bo Yu[2]; Bofeng Bai[1,*]	Investigation of thermal-hydro-mechanical coupled fracture propagation considering rock damage	1. Xi'an Jiaotong University, China 2.Beijing Institute of Petrochemical Technology, China
10:10-10:20	***Break***			

10:20-10:40	E4.O4 (122)	Nianduo Song; Shuaiqi Zhao; Bofeng Bai*	Theoretical analysis of endothermic reaction of ammonium bicarbonate	Xi'an Jiaotong University, China
10:40-11:00	E4.O5 (138)	Huikun Su[1,2,*]; Linghui Gong[1,2]; Zhengyu Li[1]	Theoretical analysis and experiment research on a new helium liquefaction cycle	1.Technical Institute of Physics and Chemistry, China 2.University of Chinese Academy of Sciences, China
11:00-11:20	E4.O6 (125)	Yankai Huo; Anran Li; Qian Wang*	A novel liquid hydrogen cold energy utilization system: design and calculation analysis	Zhongshan Institute of Advanced Cryogenic Technology, China

30/7/2022-Saturday				
Plenary Lecture				
Meeting ID: 918 3758 8073**; Room Password:** 101200				
Zoom link: https://zoom.us/j/91837588073?pwd=Sm1IelA1VHJwd2JkZmtTeTF5R1NPdz09**; Live link:** https://www.koushare.com/lives/room/563211				
Volunteer: Yida Zhao**; Tel:** +86 18292029604**; Email:** z853324623@stu.xjtu.edu.cn				
Chair: Prof. Lixin Cheng				
Time (Beijing)	**Activity**	**Authors**	**Title of presentation**	**Affiliation**
14:20-15:00	Plenary 9	Ali Koşar	New generation biphilic surfaces for thermal-fluids systems and energy efficiency	Sabanci University, Turkey
15:00-15:40	Plenary 10	Chengzhen Sun	Nanoscale multiphase flow: from basic theory to applications	Xi'an Jiaotong University, China
15:40-16:00	Closing Ceremony	Jinglei Xu	Next organizer	Nanjing University of Aeronautics and Astronautics, China