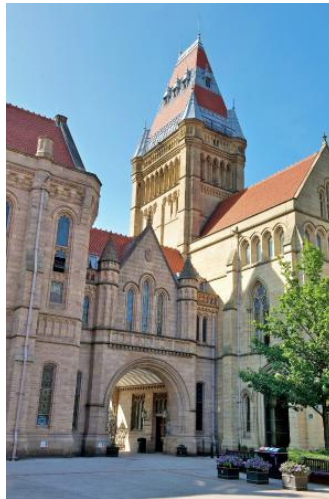
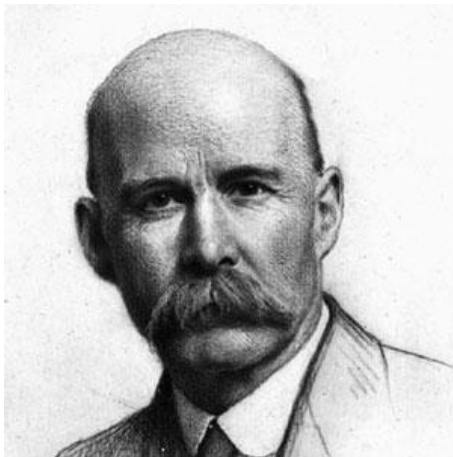




Proceedings of the
**17th UK Heat Transfer
Conference**

4-6 April 2022, Hosted by the University of Manchester



The images flanking the photograph of the University of Manchester show **Sir Thomas Stanton** (after whom the Stanton number is named) and **Professor Osborne Reynolds** (from the portrait by John Collier, RA), two early pioneers in Heat Transfer research at **Owens College, Manchester**, the forerunner of today's university. Stanton served as research assistant to Reynolds for five years following his graduation in 1891

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Alphabetical listing of Authors with Paper Numbers

Welcome!

On behalf of the UK National Heat Transfer Committee, we extend a very warm welcome to all participants!

While this is the **17th UK Heat Transfer Conference**, it is the first of those seventeen to be held on-line. This innovation, while caused by the Covid-19 pandemic with its succession of variants, has brought many opportunities for experimentation and innovation – something that surely lies close to the heart of all serious researchers! Thus, we have been able to extend the technical programme to three full days (giving presenters longer to speak) while substantially reducing registration fees. And, without the need for any printed paperwork, we have been able to extend the deadline for submitting final papers. Moreover, for the first time, all poster authors have the opportunity to introduce their work in one of three oral sessions ... and this also includes the new category of ‘Latest Results’ papers where brief 3-page contributions could be submitted up to February 14th, 2022.

Finally, an on-line conference makes it so much easier for overseas researchers to contribute to our meeting. We are delighted that more than 45% of the papers contributed to the present conference are from overseas, thus enriching our conference by the quality and distinctive national directions of their research coverage! So, while we hope that the 18th UKHTC will again become principally an in-person meeting, perhaps some of the positive experiences from the present on-line meeting can be retained.

A major factor in determining the success of our conference will be the **Gather** conference platform. We felt that it was the best available platform for our type of conference, especially for the opportunities it offers for interactions with poster presenters, with other participants, and with instrument manufacturers and journal editors, several of whom are attending the conference. In any event we would welcome feedback from participants on what their experiences have been.

***Organizing Committee, 17th UK Heat Transfer Conference
April, 2022***

The 17th UK Heat Transfer Conference has been prepared by the following organizing committee:

***Brian Launder (Chairman); Dean Wilson (Co-chair); Naheed Akhtar (Secretary)
Andrea Cioncolini; Francesco Coletti; Tim Craft; Peter Heggs
Hector Iacovides; Megan Jobson; Juan Uribe; Shanying Zhang***

Sponsors and Exhibitors

Appreciated thanks are extended to:

- our principal sponsor: **Électricité de France**
- the journal publishers: **Elsevier** and **MDPI**
- instrument manufacturers: **Dantec Dynamics**, **LA Vision** and **TSI**
- **Hexxcell** software providers for advanced monitoring and predictive maintenance of thermal systems.



The involvement of these sponsors and exhibitors has contributed to keeping registration fees low while offering best-paper prizes in particular areas.

All sponsors and exhibitors have exhibition stands that may be visited at any time. They will also have a member of their company present during the poster-viewing sessions.

Finally, thanks are expressed for the early publicity provided by:

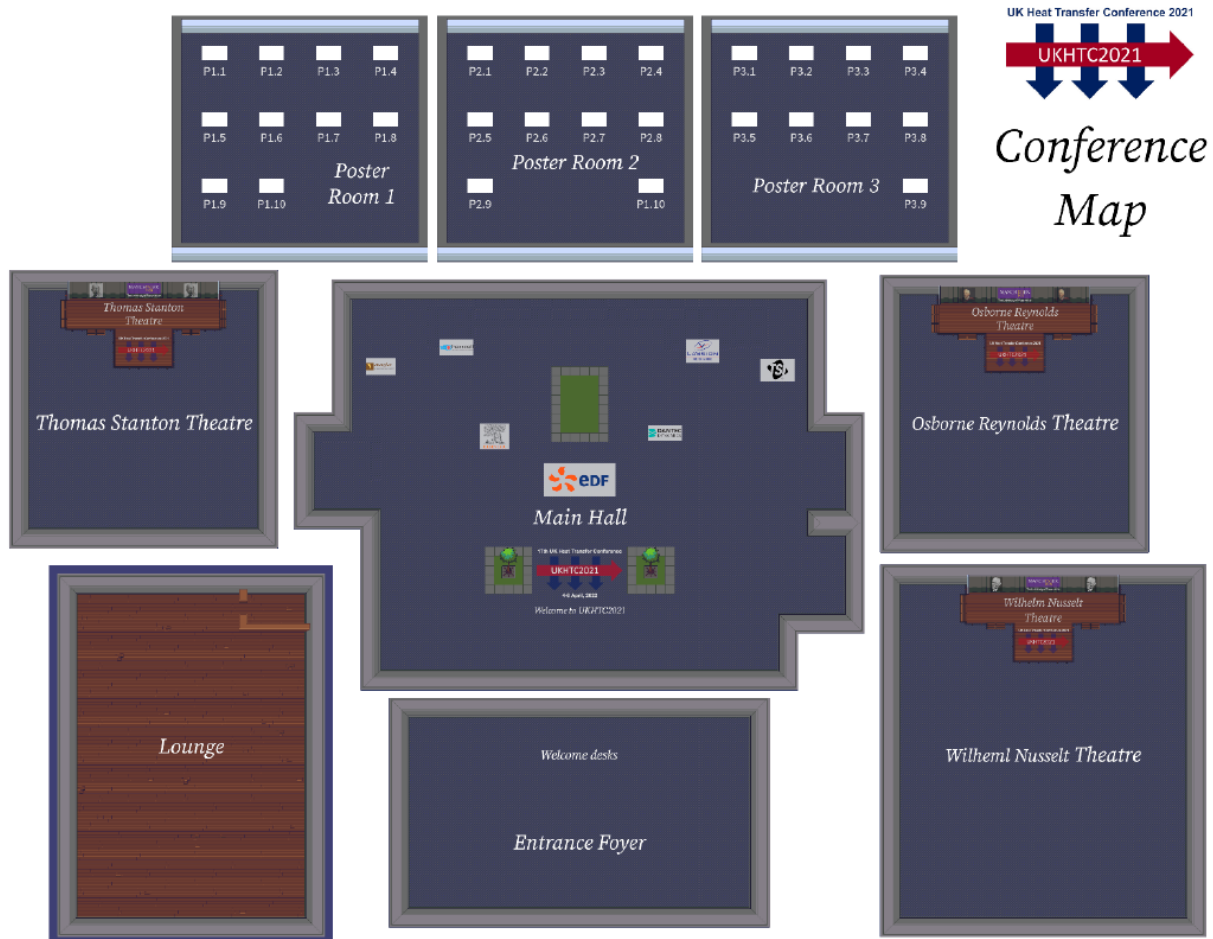
- the **Institution of Mechanical Engineers**



- the **Institution of Chemical Engineers**



The Gather UKHTC Conference Layout



17th UK Heat Transfer Conference

4-6 April 2022, Hosted by The University of Manchester

Conference Timetable

NB: All times are listed in British Summer Time (BST)

Monday, April 4th	
09:00	Welcome & Opening Remarks <i>Wilhelm Nusselt Theatre</i> <i>Tassos Karayiannis, Brian Launder, Dean Wilson</i>
09:30	Keynote Lecture 1 - Chair: Tassos Karayiannis <i>Wilhelm Nusselt Theatre</i> Recent advances on drops evaporation on structured substrates, crystallization and induced motion <i>Khellil Sefiane, Yuhong Chen, Hongyu Zhao, Marina Efstratiou, Veronika Kubyshkina, John Christy and Daniel Orejon</i>
10:10	Keynote Lecture 2 - Chair: Megan Jobson <i>Wilhelm Nusselt Theatre</i> Bridging the reliability gap from heat exchanger design to operation <i>Sean Hennigan</i>
10:50	Break
11:00	Oral Session 1 <i>Thomas Stanton Theatre</i> Boiling & Evaporation
	Oral Session 2 <i>Osborne Reynolds Theatre</i> Computational Heat Transfer 1
12:40	Break
12:45	Poster Orals 1 <i>Wilhelm Nusselt Theatre</i>
13:15	Lunch & Poster Tour 1
14:05	Oral Session 3 <i>Thomas Stanton Theatre</i> Industrial Applications
	Oral Session 4 <i>Osborne Reynolds Theatre</i> Nuclear Heat Transfer 1
15:45	Break
15:55	Oral Session 5 <i>Thomas Stanton Theatre</i> Computational Heat Transfer 2
	Oral Session 6 <i>Osborne Reynolds Theatre</i> Artificial Intelligence in Heat Transfer Presentations + Debate
17:35	Close

Tuesday, April 5th

09:00	Keynote Lecture 3 - Chair: Hector Iacovides <i>Wilhelm Nusselt Theatre</i> Liquid metal: More than cooling? <i>Yerasimos Yerasimou and Volker Pickert</i>	
09:40	Keynote Lecture 4 – Chair: Peter Heggs <i>Wilhelm Nusselt Theatre</i> Heat transfer issues in current and next generation nuclear reactors <i>Shuisheng He</i>	
10:20	Break	
10:30	Oral Session 7 <i>Thomas Stanton Theatre</i> Nuclear Heat Transfer 2	Oral Session 8 <i>Osborne Reynolds Theatre</i> Droplets & Condensation
12:30	Break	
12:35	Poster Orals 2 <i>Wilhelm Nusselt Theatre</i>	
13:05	Lunch & Poster Tour 2	
13:55	Keynote Lecture 5 – Chair: Brian Launder <i>Wilhelm Nusselt Theatre</i> Buoyancy-driven microclimate phenomena: RANS, LES and hybrid modelling <i>Kemal Hanjalić, Michael Hrebtov and Saša Kenjereš</i>	
14:35	Break	
14:45	Oral Session 9 <i>Thomas Stanton Theatre</i> Computational Heat Transfer 3	Oral Session 10 <i>Osborne Reynolds Theatre</i> Gas-turbine Hot Section
16:45	Break	
16:50	Best Thesis Prizes and UK National Heat Transfer Committee Awards <i>Wilhelm Nusselt Theatre</i> <i>Tassos Karayiannis, Khellil Sefiane, David Reay</i>	
17:10	Close	

Wednesday, April 6th

09:00	Keynote Lecture - 6 Chair: Megan Jobson <i>Wilhelm Nusselt Theatre</i> Irradiated gold nanoparticles for localised hyperthermia applications <i>Victoria Timchenko</i>	
09:40	Break	
09:50	Oral Session 11 <i>Thomas Stanton Theatre</i> Micro/Nano Heat Transfer	Oral Session 12 <i>Osborne Reynolds Theatre</i> Energy Storage
11:50	Break	
11:55	Poster Orals 3 <i>Wilhelm Nusselt Theatre</i>	
12:25	Lunch & Poster Tour 3	
13:15	Oral Session 13 <i>Thomas Stanton Theatre</i> Convection	Oral Session 14 <i>Osborne Reynolds Theatre</i> Solar Heat Transfer
15:15	Break	
15:20	Best-Paper Prizes/18th UKHTC Location/Closing Remarks <i>Wilhelm Nusselt Theatre</i> <i>Hector Iacovides, Marco Marengo, Brian Launder, Tassos Karayiannis</i>	
	Closure of Conference	

Oral Papers by Session Number

Session 1: Boiling and Evaporation		Chair: Peter Heggs
#	Authors	Title
1.1	Jionghui Liu, Daniel Orejon, Jonathan G Terry, Anthony J Walton, Camelia Dunare and Khellil Sefiane	Effect of cavity diameter and pressure on pool boiling bubble dynamics
1.2	Michał Pysz, Stanisław Głuch and Dariusz Mikielwicz	Study of Rr-1233ZD(E) convective heat transfer at moderate reduced temperatures
1.3	Thien-Binh Nguyen, Quoc Vo, Xiaopeng Shang, Farith Buang and Tuan Tran	Bypassing film boiling state for maintaining high boiling heat transfer efficiency by dielectrophoretic effect
1.4	Hannah R. Moran, Victor Voulgaropoulos, Shunsuke Yamada, Omar K. Matar and Christos N. Markides	Detailed experimental characterisation of flow boiling in horizontal pipes using laser-diagnostic techniques
1.5	Muhammad Wakil Shahzad, Kim Choon Ng, Muhammad Ahmad Jamil and Ben Bin Xu	Adsorbent coated adsorption cycle performance investigation

Session 2: Computational Heat Transfer - 1		Chair: Tim Craft
#	Authors	Title
2.1	Mohammad Jadidi and Yasser Mahmoudi	Large Eddy Simulation of turbulent flow over fluid-saturated porous media
2.2	Yuanpeng Yao, Shuai Zhang, Yuying Yan and Huiying Wu	Boundary heat flux bifurcation for low Reynolds number fluid convection through high porosity open-cell metal foam
2.3	Oguzhan Kazaz, Nader Karimi, Shanmugam Kumar, Manosh C. Paul and Gioia Falcone	Effects of combined radiation and forced convection on a directly capturing solar energy system
2.4	Mohamad Bayat, Venkata K. Nadimpalli and Jesper H. Hattel	Multiphysics simulation of thermal and fluid dynamics phenomena during the pulsed laser powder bed fusion process of 316-L steel
2.5	Wayne E. Alphonso, Mohamad Bayat, Markus Baier, Simone Carmignato and Jesper H. Hattel	Multi-physics numerical modelling of 316-L austenitic stainless steel in laser powder bed fusion process at meso-scale

Session 3: Industrial Applications		Chair: Mohamed Bayat
#	Authors	Title
3.1	Richard Cornish	Heat transfer model based on the ideas and equations of statistical energy analysis applied to radiation heat flow in electric furnace for melting scrap aluminium and billet
3.2	George Huang, David Doman and Michael Oppenheimer	Management and control of a flexible aircraft fuel thermal systems
3.3	Yingai Jin, Xue Zhang, Yuanbo Zhang, Mingyu Quan and Yaohong Xing	Analysis of numerical simulation and strategy overview of a 350MW supercritical boiler air distribution regulation
3.4	Michael Giovannini and Marco Lorenzini	Numerical model of a refrigeration loop for food storage applications
3.5	Jose Loyola-Fuentes, Tommaso Acerbi, Carlos Planelles, Emilio Diaz-Bejarano, Pierantonio Facco and Francesco Coletti	Robust data reconciliation and gross error detection in an industrial preheat train

Session 4: Nuclear Heat Transfer - 1		Chair: Shuisheng He
#	Authors	Title
4.1	Mike Rabbitt	Matching computational predictions with temperature measurements of the Dungeness B dome
4.2	Ilyas Khurshid, Imran Afgan, Muritala Alade Amidu and Yacine Addad	The effect of metal content in molten corium on concrete ablation: new insights with thermochemical approach
4.3	Marcus Dahlfors, Jivan Khatry, Marat Margulis, Harvey Plows, Jinfeng Li, Simon C. Middleburgh, India Marshall, Michael Rushton and William E. Lee	Open-access water thermal hydraulics facility development in North Wales
4.4	Graham Macpherson, Carolyn Howlett, Richard Underhill, Tim Houghton, Shuisheng He, Hector Iacovides, Juan Uribe, Steve Graham and Charles Moulinec	The UK Nuclear Innovation Programme - Thermal hydraulics research, innovation and industrial capability development
4.5	Haani Rahman, Timothy Hunter and Peter Heggs	Simplified heat transfer model for buffer storage of highly active raffinate on the Sellafield site

Session 5: Computational Heat Transfer - 2		Chair: Richard Cornish
#	Authors	Title
5.1	Huayu Zhang, Hongtao Gao and Yuying Yan	Vibration model of falling film flow based on lattice-Boltzmann method
5.2	Yuchao Song, Hongtao Gao, Yafei Zhang, Yiming Jian and Zhan Lu	Numerical analysis of a free falling water-droplet in different temperatures
5.3	Xiaopeng Shang, Thien-Binh Nguyen and Tuan Tran	Direct numerical simulation of evaporating sessile droplets using the algebraic VOF approach
5.4	Umair Ahmed, Sanjeev Ghai, Nilanjan Chakraborty and Markus Klein	Scalar statistics in premixed flame-wall interaction within turbulent boundary layers under different flow configurations
5.5	Rasmus Korslund Schlander, Stelios Rigopoulos and George Papadakis	Analysis of heat transfer in a turbulent pipe flow using extended proper orthogonal decomposition

Session 6: Artificial Intelligence in Heat Transfer		Chair: Francesco Coletti
#	Authors	Title
6.1	Rajath Subbappa, Vikrant Aute and Jiazhen Ling	Development and comparative evaluation of machine learning algorithms for performance approximation of air-to-refrigerant heat exchangers
6.2	Giovanni Longo, Giulia Righetti, Claudio Zilio and Simone Mancin	On the use of AI for two-phase flow in BPHE
6.3	Jose Loyola-Fuentes, Luca Pietrasanta, Marco Marengo and Francesco Coletti	Machine learning algorithms for flow pattern classification in pulsating heat pipes

Session 7: Nuclear Heat Transfer - 2		Chair: Hector Iacovides
#	Authors	Title
7.1	Bo Liu, Shuisheng He, Charles Moulinec and Juan Uribe	Development and demonstration of a coarse-grid subchannel CFD model for the cooling of a 5x5 rod bundle
7.2	Constantinos Katsamis, Hector Iacovides, Timothy Craft and Juan Uribe	URANS computations of a 3-D single-phase vertical heater vertical cooler natural circulation loop
7.3	Alex Skillen, Ryan Tunstall, Sam Parry, Simon Hind and Sam Treasure	Natural convection within a loop with cold-flow injection
7.4	Ashish Saxena, Matthew Falcone, Xiaoxue Haung and Shuisheng He	Investigation of forced and natural convection in the upper plenum of a pool type nuclear facility
7.5	Muritala Amidu, Yacine Addad and Imran Afgan	Towards a concurrent numerical prediction of heat transfer phenomena present in IVR-ERVC during a severe accident in APR1400 reactors
7.6	Dean Wilson, Hector Iacovides and Tim Craft	LES and URANS computations of 3D natural circulation loops

Session 8: Droplets & Condensation		Chair: Khellil Sefiane
#	Authors	Title
8.1	Nima Samkhaniani and Alexander Stroh	The importance of initial thermal condition for simulation of single vapor bubble condensation
8.2	Joshua Finneran, Colin Garner and Francois Nadal	Droplet evaporation: characterising fully transient behaviour in the gas and liquid phases
8.3	Katie Thomson, Adam Williams, George Karapetsas, Omar Matar, Yutaku Kita, Khellil Sefiane and Prashant Valluri	Stability of evaporating sessile drops comprising binary mixtures
8.4	John Rose and Lei Chai	Condensation on a vertical plate with sinusoidal microfins
8.5	Adrian Jonas, Daniel Orejon and Khellil Sefiane	Submerged self-propulsion driven by the Leidenfrost effect
8.6	Raza Gulfam, Daniel Orejon, Chang-Hwan Choi and Peng Zhang	Thermo-responsive enhanced shedding on lubricant-infused surfaces

Session 9: Computational Heat Transfer - 3		Chair: Hector Iacovides
#	Authors	Title
9.1	Ivan Joksimovic and Suad Jakirlic	Eddy-resolving Reynolds-stress modelling of thermal striping in a mixing tee
9.2	Lisa Lampunio, Yu Duan and Matthew Eaton	Effects of different entry flow profiles on thermal striping in mixing T-junction
9.3	Rika Nagura, Yusuke Kuwata and Kazuhiko Suga	Discussion on the effect of structural parameters of roughness on heat transfer similarity
9.4	Kenneth Chinembiri and Shuisheng He	Highly turbulent natural circulation in an enclosed bundle with converging and diverging rods
9.5	Jundi He, Bing Xu and Shuisheng He	Effect of conjugate heat transfer on the simulation of flow at supercritical pressure
9.6	Dimokratis G.E. Grigoriadis	A numerical method to accelerate CFD of buoyancy driven flows with strong property variations

Session 10: Gas Turbine Hot Section		Chair: Peter Ireland
#	Authors	Title
10.1	Firas Abdulsattar, Dennis Cooper, Hector Iacovides and Shanying Zhang	The effects of porous metal foams on the thermal development in a serpentine passage under stationary and rotating conditions
10.2	Edward Wright, Abdallah Ahmed, Yuying Yan and John Maltson	Experimental investigation of entry length heat transfer coefficient within fan and conical shaped film cooling channels
10.3	Abdelkader Filali, Mohamed Boudeffa, Fatima Dous, Zoubir Nemouchi and Omar Matar	Numerical study on the intensified vortex cooling for gas turbine blade
10.4	Zakaria Mansouri and Richard Jefferson-Loveday	Aerothermal simulation of the effect of hot-streak and residual swirl on a high pressure turbine stage
10.5	Ajay Kumar Jaiswal and Pallab Sinha Mahapatra	Mist-assisted film cooling technique for turbine blade leading edge
10.6	Ben Rafferty and Sung In Kim	Effect of additively manufactured surface roughness on performance of a rib/deflector cooling channel

Session 11: Micro/Nano Scale Heat Transfer		Chair: Yuying Yan
#	Authors	Title
11.1	Efe Öztapak, Oğuzhan Gökkaya and Hojin Ahn	Experimental investigation on heat transfer characteristics of supercritical carbon dioxide flowing in horizontal and vertical microtubes
11.2	Federico Municchi, Hannah Moran, Ismail El Mellas, Omar Matar and Mirco Magnini	Direct numerical simulations of flow boiling in microchannels
11.3	Vivian Lee, Gary Henderson and Tassos Karayiannis	Evaluation of flow boiling pressure drop models for HFE-7200 in multi-microchannels
11.4	Ren Yang, Yi Wang, Yulong Ding and Yongliang Li	Numerical simulation on flow boiling heat transfer of PCM-R134A slurry in a microchannel
11.5	Alessio Lavino, Edward Smith, Mirco Magnini and Omar Matar	Role of surface topography in pool boiling systems via molecular dynamics simulations
11.6	Xiaojing Ma, Wen Li, Jinliang Xu, Yuying Yan, Yan Wang and Lei Lei	Effect of wall subcoolings on dropwise condensation with inverted trapezoid nano-structure surface

Session 12: Energy Storage		Chair: TBC
#	Authors	Title
12.1	Adnan Safar, Max Vasey and Peter Heggs	Modelling the heating and cooling cycles of a sodium sulphur battery
12.2	Marco Bernagozzi, Anastasios Georgoulas, Nicolas Miche, Cedric Rouaud and Marco Marengo	Comparison between different battery thermal management systems during fast charge cycles
12.3	Erik Resendiz-Mora, Valerie Dupont, Tariq Mahmud and Peter John Heggs	Transient heating of a packed bed comprising two different refractory materials
12.4	Klarissa Niedermeier, Stefan Sinning, Franziska Müller-Trefzer, Luca Marocco and Thomas Wetzel	Liquid metal as heat transfer fluid in dual-media sensible and latent heat storage
12.5	Renaldo Nicholls, Mohammad Moghimi and Alison Griffiths	A comparative study of corrugated fins during melting of phase change material in a double pipe heat exchanger
12.6	George Thomas Staley, Mohammad Jadidi and Yasser Mahmoudi	A numerical study of active and passive heat transfer enhancement in latent heat thermal energy storage devices

Session 13: Convection Heat Transfer		Chair: Mirco Magnini
#	Authors	Title
13.1	Constantinos Katsamis, Timothy J. Craft, Hector Iacovides and Juan Uribe	URANS and LES computations for the heat transfer characteristics of wall bounded buoyant flows
13.2	Elin Vesper, Sebastian Tietjen, Manu Chakkingal and Sasa Kenjeres	Studying effects of fins and conductive horizontal walls on natural convection in differentially heated enclosures
13.3	Minto Kavyan, Hector Iacovides, Alex Skillen and Andrea Cioncolini	URANS modelling for mixed convection thermal transients in a U-bend
13.4	Georges Saliba, Vincent Raimbault, Rémi Gilblas and Lucien Baldas	Pulsed impinging jets produced by fluidic oscillators can improve heat transfer
13.5	Thien-Binh Nguyen, Dongdong Liu, Harshal Raut, Amitabh Bhattacharya, Atul Sharma and Tuan Tran	Enhancement of convective heat transfer using magnetically flapping fin array
13.6	Jonas Bender, Konrad Dubil, Felix Hoffmann, Benjamin Dietrich, Martin Doppelbauer and Thomas Wetzel	Spray cooling of plain surfaces with a highly viscous model fluid

Session 14: Solar Energy		Chair: David Reay
#	Authors	Title
14.1	Richard Law, Peter Kew, Ahmad Mustaffar, Chris Underwood and David Reay	Application of solar thermal energy in industry
14.2	Kemal Masera, Hadi Tannous, Savvas Tassou and Valentina Stojceska	Application of solar thermal energy heating and cooling to dairy processes : a case study
14.3	Kadir Zengin, Stefano Landini and Tadhg Sean O'Donovan	Integration of solar hybrid photovoltaic/thermal systems with phase change materials
14.4	Zihao Li, Gan Huang and Christos Markides	Performance evaluation of spectral-splitting hybrid photovoltaic-thermal solar collectors
14.5	Karin Kjellin and Elin Stenmark	CFD modelling and validation of sodium heat transfer in a thermal energy storage
14.6	Stefano Landini, Faisal Ghani and Tadhg O'Donovan	Thermo-fluid dynamics optimisation of tapered helically-coiled solar thermal collectors

Poster/Latest results papers by Session Number

Monday Session P1

#	Authors	Title
P1.1	Abdallah Ahmed, Edward Wright, James Wright and Yuying Yan	Numerical investigation of slot jet reverse impingement
P1.2	Abdallah Ahmed, Edward Wright, Alexandros Terzis and Yuying Yan	Experimental heat transfer investigation of single reverse jet impingement
P1.3	Tongyan Zeng, James Jewkes and Essam Abo-Serie	Conformal cooling channel shape optimisation for high-pressure aluminium die-casting tools using the adjoint method
P1.4	Muhammad Ahmad Jamil, Kim Choon Ng, Ben Bin Xu and Muhammad Wakil Shahzad	Sensitivity analysis of a novel humidifier retrofitted indirect evaporative cooler
P1.5	Daniel Hawkins and Sung In Kim	Software for the rapid design and analysis of condenser heat exchangers
P1.6	Khaloud Al Balushi, Gail Duursma, Prashant Valluri, Khellil Sefiane and Daniel Orejon	Evaporation of binary mixture droplets on structured surfaces
P1.7	Tuo Hou, Yong Ren and Yuying Yan	Numerical investigation of the coupling effect of heat and vibration on triggering the release kinetics of double emulsion for drug delivery
P1.8	Akam Aboubakri, Yigit Akkus, Abdolali Sadaghiani, Khellil Sefiane and Ali Kosar	On the evaporation dynamics of array of cylindrical aqueous droplets
P1.9	Arun Mambazhasseri Divakaran, Essam Abo-Seiri, James Jewkes and Evangelos Gkanas	Heat transfer performance enhancement on wheel hub motor with fin adjoint optimisation
P1.10	Natalie Schwerdtfeger, Katharina Jasch and Stephan Scholl	Enhanced vacuum condensation in vertical tubes in the presence of noncondensable gas

Tuesday Session P2

#	Authors	Title
P2.1	Amy Jardine, Hector Iacovides, Tim Craft and Andrea Cioncolini	Validation of turbulence models for flow and heat transfer over a backward-facing step
P2.2	Saleh Alshaiili, Sean Malkeson and Nilanjan Chakraborty	Laminar natural convection of Bingham fluids in a trapezoidal enclosure heated from the bottom
P2.3	Samuel Wakefield and Milan Mihajlovic	Numerical simulation of the onset of turbulence in natural convection loops
P2.4	Konrad Dubil, Thomas Wetzel and Benjamin Dietrich	Predicting convective heat transfer during unsteady flow in cubic periodic open cellular structures
P2.5	Hector Amino, Cedric Flageul, Sofiane Benhamadouche, Iztok Tiselj, Bertrand Carissimo and Martin Ferrand	A second order conservative time-staggered scheme for all speed flow
P2.6	Adrien Grenouilloux, Vincent Moureau, Ghislain Lartigue, Pierre Bénard and Paul Ferrey	Feature-based mesh adaptation applied to the large-eddy simulation of multiple jets impinging on a surface
P2.7	Giulia Righetti, Giovanni Longo, Claudio Zilio and Simone Mancin	Lattice frame material geometry optimization for air heat transfer
P2.8	Tzu-Hsuan Chiu and Chao-An Lin	Simulations of natural convection for FENE-P fluid on GPU cluster
P2.9	Fatema Alhendal, Yousuf Alhendal and Mohammad Alhendal	The effect of changing surface tension with temperature on the coalescence of two bubbles in zero-gravity condition
P2.10	Adriano Cerminara	Heat flux and coolant concentration in hypersonic turbulent flow with transpiration cooling

Wednesday Session P3

#	Authors	Title
P3.1	Hamid Malah, Yuriy Chumakov and Sara Ramzani Movafagh	Laminar free convective juncture flow around surface-mounted square cylinder
P3.2	Nabeel Abed, Imran Afgan, Andrea Cioncolini, Hector Iacovides and Adel Nasser	Thermal-hydraulic evaluation of various strip shapes and nanofluids on the performance of parabolic trough collectors
P3.3	Foteini Zagklavara, Peter Jimack, Nikil Kapur, Osvaldo Querin and Harvey Thompson	CFD investigation of the effect of heater spacing on DNA amplification and pressure drop in a microfluidic PCR device
P3.4	William Alexander	Performance of a linear, high flux, foil and slot thermal transfer (FASTT) device
P3.5	Yingai Jin, Luyuan Nie, Liang Li, Fuxin Ma and Yaohong Xing	A fast response main steam temperature control system based on heat transfer model and DCS
P3.6	Muhammed Abdullahi, Muyiwa Oyinlola, Abdulhafiz Ahmed and Muyideen Balogun	Investigating the performance of a solar collector with plastic bottles as glazing cover
P3.7	Alexandros Askounis, Duncan Osborne and Maryam Parsa	How do colloidal droplets evaporate when at an incline?
P3.8	Ravi Kumar, Anil Kumar Patil and Manoj Kumar	Sensible energy storage with multi-tubular passages and coil inserts
P3.9	Mohammed Sardar, Alex Skillen, Samuel Draycott, Małgorzata J. Zimorń and Alistair Revell	A machine learning framework for prediction of discretisation errors on coarse CFD grids

17th UK Heat Transfer Conference

4-6 April 2022, Hosted by The University of Manchester

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