



# 2022 HEFAT-ATE

16TH INTERNATIONAL CONFERENCE ON HEAT TRANSFER,  
FLUID MECHANICS AND THERMODYNAMICS AND THE  
EDITORIAL BOARD OF APPLIED THERMAL ENGINEERING

TIME	VENUE 1	VENUE 2	VENUE 3
<b>MONDAY, 08 August 2022</b>			
08H30 - 09H45	<b>OPENING &amp; KEYNOTE 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> OPENING ADDRESS BY CONFERENCE CHAIR Josua Meyer (University of Pretoria, South Africa)		
08H30 - 09H00	THERMAL-HYDRAULIC CHARACTERISTICS OF FLUID FLOW THROUGH OPEN-CELL POROUS METALS Ji Hwan Jeong (Pusan National University, South Korea)		
09H00 - 09H45	BREAK		
09H45 - 10H00	<b>ENERGY STORAGE 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> PRESSURE DROP ACROSS PACKED BEDS OF CRUSHED ROCK, ELLIPSOIDS AND ROUNDED BRICKS Jaap Hoffmann (Stellenbosch University, South Africa)		
10H00 - 10H20	<b>TWO-PHASE FLOW 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> VOID FRACTION THERMO-KINEMATICS FOR SUB-COOLED FLOW BOILING Francisco J. Collado (Universidad de Zaragoza, Spain)	<b>MASS TRANSFER 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> DEGASSING BEHAVIOR OF WATER THROUGH BUBBLING NEAR A VAPOR PRESSURE CONDITION Yong Du Jun (Kongju National University, South Korea)	<b>ENERGY STORAGE 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> TOPOLOGY OPTIMIZATION FOR HEAT AND MASS TRANSFER INTENSIFICATION IN THERMOCHEMICAL ENERGY STORAGE REACTIVE BEDS Gabriele Humbert, Yulong Ding and Adriano Sciacovelli (University of Birmingham, United Kingdom)
10H20 - 10H40	NUMERICAL INVESTIGATION OF ENTROPY GENERATION IN ELLIPTICAL U-BEND TUBE HEAT EXCHANGER DURING TWO PHASE FLOW BOILING EVAPORATION OF R134A Tanimu Jatau and Tunde Bello-Ochende (University of Cape Town, South Africa)	MOLECULAR SIMULATION OF GENERATING PROCESS OF LITHIUM BROMIDE AQUEOUS SOLUTION THROUGH HYDROPHOBIC MEMBRANE Hongtao Gao (Dalian Maritime University, China)	INITIAL CFD ASSESSMENT OF COMPACT LATENT HEAT THERMAL ENERGY STORAGE SYSTEM FOR MOBILE APPLICATION IN THE MARITIME SECTOR Pouriya Niknam, Gabriele Humbert and Adriano Sciacovelli (University of Birmingham, United Kingdom)
10H40 - 11H00	DURABILITY IMPROVEMENT OF ALUMINUM PULSATING HEAT PIPE USING WATER AS A WORKING FLUID Ji Yeon Kim and Sung Yong Jung (Chosun University, South Korea)	DESIGN OF MIXING TUBE FOR DOMESTIC LIQUEFIED PETROLEUM GAS BURNERS Pradeep Vaidyanathan and Vasudevan Raghavan (Indian Institute of Technology Madras, India)	AN ECONOMIC WAY TO INCREASE THERMAL CONDUCTIVITY OF A PCM-BASED THERMAL ENERGY STORAGE TUBE Giulia Righetti, Claudio Zilio, Giovanni Antonio Longo and Simone Mancini (University of Padova, Italy)
11H00 - 11H20	MINICHANNEL FLOW BOILING COMPLEXITY ASSESSMENT Gabriela Stanislaw Rafalko, Hubert Grzybowski, Pawel Dziennis and Romuald Pawel Mosdorf (Bialystok University of Technology, Poland)	BRINE CONCENTRATION WITH COOLING TOWER EVAPORATION FOR A ZERO LIQUID DISCHARGE SYSTEM. TRNSYS MODELLING AND EXPERIMENTAL RESULTS. Yera Garcia Francisco, Calleja Cayin Pablo, Prado de Nicolás Amanda, Molina-García Ángel and García-Bermejo Juan Tomás (Technical University of Cartagena, Spain)	AN EXPERIMENTAL STUDY ON ERYTHRITOL AS PCM FOR WASTE HEAT RECOVERY Giulia Righetti, Claudio Zilio, Giovanni Antonio Longo and Simone Mancini (University of Padova, Italy)
11H20 - 11H40	EXPERIMENTAL COMPARISON BETWEEN TWO-PHASE LOOPS AND PULSATING HEAT-PIPES FOR POWER ELECTRONICS CONVERTER APPLICATIONS Bruno Agostini and Daniele Torresin (ABB Switzerland Ltd., Switzerland)	HYBRID COOLING SYSTEM FOR FUTURE SUSTAINABILITY Muhammad Wakli Shahzad (Northumbria University, United Kingdom), Nida Imtiaz (Universiti Teknologi Malaysia (UTM), Malaysia), Kim Ng and Qian Chen (KAUST, Saudi Arabia)	FORMULATION OF PREDICTION MODEL FOR WORKING FLUID TEMPERATURE IN A VERTICAL PARABOLOID-SHAPED THERMAL ENERGY STORAGE TANK DURING STAND-ALONE OPERATION Hitesh Khurana and Sandip Kumar Saha (Indian Institute of Technology Bombay, India) and Rudrodip Majumdar (National Institute of Advanced Studies, India)
11H40 - 12H00	A NOVEL APPROACH FOR FLOW ANALYSIS IN PULSATING HEAT PIPES: CROSS-CORRELATION OF LOCAL HEAT FLUX Naoko Iwata, Fabio Bozzoli, Luca Paggiarini, Luca Cattani, Matteo Malavasi and Sara Rainieri (University of Parma, Italy)	3D PRINTED MINIATURE COOLER FOR ELECTRONICS THERMAL MANAGEMENT Nida Imtiaz, Mazlan Abdul Wahid and Natarah Binti Kamaruzaman (Universiti Teknologi Malaysia, Malaysia), Kim Ng (KAUST, Saudi Arabia) and Muhammad Wakli Shahzad (Northumbria University, United Kingdom)	
12H00 - 13H00	<b>LUNCH</b>		
13H00 - 13H20	<b>SOLAR ENERGY 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> REDUCED ORDER MODELLING OF AN EXTERNAL SOLAR CENTRAL RECEIVER USING AN EQUIVALENT THERMAL RESISTANCE NETWORK James Heydenrych, Pieter Rousseau and Colin du Sart (University of Cape Town, South Africa)	<b>BOILING 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> CAPILLARY WAVE GENERATION ON THE SURFACE OF BOILING WATER DROPLET Jiangtao Cheng and Wenge Huang (Virginia Tech, United States)	<b>ENERGY STORAGE 2</b> <i>Chairs: First Name Last Name (Institution, Country)</i> PERFORMANCE OF CRUMPLED GRAPHENE-BASED SUPERCAPACITORS WITH SODIUM HALIDE AQUEOUS ELECTROLYTES: A MOLECULAR DYNAMICS STUDY Saïd Noor Rabi, Toufiq Jameel, Abrar Amin Khan and Md. Ashiqur Rahman (Bangladesh University of Engineering and Technology, Bangladesh)
13H20 - 13H40	3D RAY TRACING FOR OPTIMIZING A MIRROR TILED COMPOUND PARABOLIC CONCENTRATOR Ole Nydal and Casiana Lwiza (Norwegian University of Science and Technology, Norway)	A ONE-DIMENSIONAL THERMO-HYDRAULIC STEADY-STATE MODELLING APPROACH FOR TWO-PHASE LOOP THERMOSYPHONS Achref Rabhi, Ioanna Aslanidou, Konstantinos Kyriaridis and Rebei Bel Fihila (Mälardalens University, Sweden)	A MULTISCALE MODELING FRAMEWORK FOR DROPLET SOLIDIFICATION USING PHASE FIELD METHOD Minghan Xu and Agus Sasmito (McGill University, Canada) and Saad Akhtar (Polytechnique Montreal, Canada)
13H40 - 14H00	DESIGN OF AN AIR-COOLED HEAT REJECTION SYSTEM FOR A SUPERCRITICAL CARBON DIOXIDE CONCENTRATED SOLAR POWER PLANT Liam Abrahams and Colin du Sart (University of Cape Town, South Africa) and Ryno Laubscher (University of Stellenbosch, South Africa)	EXPERIMENTAL STUDY OF HFC/HFO MIXTURES FLUID BOILING INSIDE A CIRCULAR MINICHANNEL Nicolo Mattiuzzo, Marco Azzolin, Arianna Berto, Stefano Bortolin and Davide Del Col (University of Padova, Italy)	DETERMINING THE PARTICLE HEAT TRANSFER COEFFICIENT FOR AN ANISOTROPIC BED OF CRUSHED ROCK PARTICLES Jaap Hoffmann (Stellenbosch University, South Africa)
14H00 - 14H20	THERMODYNAMIC ANALYSIS OF A 20 MWE CONCENTRATED SOLAR-POWERED SCOO2 BRAYTON RECOMPRESSION CYCLE Mubenga Carl Tshamala, Taneta Mae Hara, Michael Trevor Forwell Owen, Craig McGregor and Clayton Gowender (Stellenbosch University, South Africa)	MICROLAYER DYNAMICS AT BUBBLE GROWTH IN BOILING Cassiano Techcio, Xiaolong Zhang, Benjamin Carteau, Gilbert Zalcer, Simon Vassant and Vadim Nikolayev (Alternative Energies and Atomic Energy Commission of France and Paris-Saclay University, France), Pere Roca i Cabarrós, Pavel Bulkin and Jérôme Charliac (Institut Polytechnique de Paris, France)	AN EXPERIMENTALLY-VERIFIED THERMAL-ELECTROCHEMICAL SIMULATION MODEL OF A 21700 CELL USING A LUMPED SEMI-EMPIRICAL BATTERY MODEL Yifei Yu and James Marco (University of Warwick, United Kingdom), Alireza Sarmadipoor, Barbara Shollock and Francesco Restuccia (King's College London, United Kingdom)
14H20 - 14H40	NUMERICAL SIMULATION OF THE IMPACT OF SINUSOIDAL HEAT PIPE FLUID FLOW ON COEFFICIENT OF HEAT TRANSFER IN A THERMAL ENERGY STORAGE SYSTEM Raymond Olanogwa Ikeji and Tunde Bello-Ochende (University of Cape Town, South Africa)	DATA-BASED MODEL APPROACHMENT TO THE PREDICTION OF BOILING HEAT TRANSFER COEFFICIENT INSIDE MULTIPORT MINI-CHANNEL TUBES Nurfaiz Agustin, Hieu Ngoc Hoang and Jong-taek Oh (Chonnam National University, South Korea)	THE INFLUENCE OF INCOMING WATER TEMPERATURE AND SOLAR RADIATION IN FLAT-PLATE SOLAR COLLECTORS THERMAL ENERGY STORAGE SYSTEMS EQUIPPED WITH METAL FOAMS, NANOPARTICLES AND/OR WAVY WALLS Abolfazl NematpourKeshkeli, Marcello Iasiello, Giuseppe Langella and Nicola Bianco (Università degli Studi di Napoli Federico II, Italy)
14H40 - 15H00	EXPERIMENTAL INVESTIGATION OF A LOCALLY FABRICATED LOW-COST SOLAR PARABOLIC TROUGH IN THAILAND. Teerapath Limboonruang and Muiywi Oyintola (De Montfort University, United Kingdom) and Nittalin Phunagit (Srinakharinwirot University, Thailand)	INFLUENCE OF SURFACE ROUGHNESS ON COOLING EFFICIENCY DURING COOLING WITH WATER JET AND WATER SPRAY UNDER SURFACE BOILING CONDITIONS Elzbieta Jasiewicz, Beata Hadala, Michał Lidwin and Gabriela Rałowska (AGH University of Science and Technology, Poland) and Lukasz Błajszczak (AGH University of Science and Technology, Italy)	FLOW FIELD ANALYSIS INSIDE A THERMAL ENERGY STORAGE DEVICE USING PHASE CHANGE MATERIALS Damián Crespi-Llorens, Alberto Egea Villarreal, Fernando Roig Alarcón and Pedro Gines Vicente Quiles (Universidad Miguel Hernández de Elche, Spain)
15H00 - 15H20	<b>BREAK</b>		
15H20 - 15H40	<b>DUCT AND PIPE FLOWS 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> MODEL OF OIL TEMPERATURE DISTRIBUTION ON THE MAIN OIL PIPELINES DEPENDENT ON SOIL TEMPERATURE FIELD FOR NON-STATIONARY PUMPING PROCESS Timur Bekbayev (Satsbayev University, Kazakhstan)	<b>AERODYNAMICS 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> EXPERIMENTAL INVESTIGATION OF THE EFFECT OF THE REYNOLDS NUMBER ON THE PERFORMANCE OF A MICRO-SCALE AND LOW TIP-SPEED RATIO WIND TURBINE Martin Bourhis, Florent Ravetel and Michael Pereira (Arts et Métiers Institute of Technology, France)	<b>MISCELLANEOUS 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> PARAMETER OPTIMIZATION OF HIGH-INTENSITY FOCUSED ULTRASOUND ABLATION: EXPERIMENTAL AND NUMERICAL STUDY Maxim Solovchuk, Sophia Hou and Peter Deng (National Health Research Institutes, Taiwan)
15H40 - 16H00	HEAT AND MASS TRANSFER ON CONVECTIVE BOILING IN MICROCHANNEL BASED HEAT SINKS FOR PV CELLS Pedro Pontes, Iva Gonçalves, Antonio Moreira and Ana Moita (IN+ Instituto Superior Técnico, Portugal)	NUMERICAL INVESTIGATION OF MULTIPLE SHOCK WAVE OSCILLATIONS IN A SUPERSONIC ISOLATOR. Jintu Kochupulickal James and Heuy Dong Kim (Andong National University, South Korea)	EVALUATION OF HYBRID COOLING TOWER PERFORMANCE FOR WATER AND ENERGY CONSERVATION Cristina Elena Anghel, Alfonso Takawira Titywa and Lagooze Tartibu (University of Johannesburg, South Africa)
16H00 - 16H20	NON-ISOTHERMAL WAXY OIL FLOW IN A PIPELINE Danqyar Bossinoy and Uzak Zhabasbayev (Satsbayev University, Kazakhstan)	FORCED TRANSVERSE VS STREAMWISE OSCILLATIONS OF A HEATED CIRCULAR CYLINDER Md Islam, Ussama Ali and Sam Janjreh (Khalifa University of Science and Technology, United Arab Emirates)	DEWETTING ACCELERATED BY EVAPORATION Xiaolong Zhang and Vadim Nikolayev (Alternative Energies and Atomic Energy Commission of France and Paris-Saclay University, France)
16H20 - 16H40	A MACHINE LEARNING MODEL FOR REYNOLDS AVERAGED TURBULENCE MODELLING OF INTERNAL FLOWS Anthony Man, Mohammad Jaddi, Amir Keshmiri, Hujun Yin and Yasser Mahmoudi Larimi (University of Manchester, United Kingdom)	THERMAL BUOYANCY EFFECT ON WAKE-INDUCED VIBRATION OF AN ELASTICALLY MOUNTED CIRCULAR CYLINDER SUBMERGED IN THE WAKE OF A STATIONARY CYLINDER Md Islam and Hamid Khan (Khalifa University of Science and Technology, United Arab Emirates)	WETTING TRANSITION OF EVAPORATING FAKIR DROP ON MICROSTRUCTURED SUPERHYDROPHOBIC SURFACES Jubair Shaming, Yukinari Takahashi, Wei-Lun Hsu and Hirofumi Daiguji (The University of Tokyo, Japan), Anjan Goswami (Imperial College London, United Kingdom) and Nadeem Shaikat (Pakistan Institute of Engineering and Applied Sciences (PIEAS), Pakistan)
16H40 - 17H00	A NUMERICAL STUDY ON THE EFFECT OF INLET DUCTING ONTO AIR HANDLING UNIT AIRFLOW Ardiyansyah Yatim, Iqbal Tanjung, Rido Irwansyah (Universitas Indonesia, Indonesia) and Christian Konrad Bach (Oklahoma State University, United States)	FILM-COOLING ENHANCEMENT IN HIGH-PRESSURE TURBINE OF AN AIRCRAFT ENGINE Nabeel Aizuri, Ahmed alhusseiny and Adel Nasser (University of Manchester, United Kingdom)	A NOVEL CHARGING STATION FOR ELECTRIC VEHICLES USING SOLID OXIDE FUEL CELL (SOFC) TECHNOLOGY: THERMODYNAMIC ANALYSIS Hossein Pourrahmani, Chengzhang Xu and Jan Van herle (École Polytechnique Fédérale de Lausanne (EPFL), Switzerland)
17H00 - 17H20	WATER HARVESTING BY CAPILLARY TREES Xuewei Zhang and Sylvie Lorente (Villanova University, United States)	HEAT AND FLOW TOPOLOGY AROUND 3x3 SQUARE PRISMS MD Mahub Alam (Harbin Institute of Technology, China)	ESTIMATION OF KINETIC PARAMETERS FOR HYDROCARBON PYROLYSIS IN A LIQUID METAL REACTOR Alberto Abánades Velasco (Universidad Politécnica de Madrid, Spain)

TIME	VENUE 1	VENUE 2	VENUE 3
<b>TUESDAY, 09 August 2022</b>			
08H15 - 09H45	<b>KEYNOTE 2 &amp; 3</b> <i>Chairs: First Name Last Name (Institution, Country)</i> NEW GENERATION SURFACES WITH BIOCOATINGS SURFACES FOR PHASE CHANGE HEAT TRANSFER ENHANCEMENT Ercil Toyran, Mandana Mohammadilooey, Alp Duman, Zulf Muganli, Ghazaleh Garib, Abdolali K Sadaghiani and <b>Ali Kosar</b> (Sabanci University, Turkey)		
08H15 - 09H00			
09H00 - 09H45	AN STUDY ON FLOW BOILING AND CONDENSATION HEAT TRANSFER OF R290, R600A AND R1270 AND THEIR MIXTURES FOCUSING ON THE REPLACEMENT OF R134A <b>Gherhardt Ribatski</b> (University of Sao Paulo, Brazil) and Tiago Augusto Moreira (University of Wisconsin-Madison, United States)		
09H45 - 10H00	<b>BREAK</b>		
10H00 - 12H00	<b>COOLING AND CRYOGENICS 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> NUMERICAL ANALYSIS OF PHASE-CHANGE HEAT TRANSFER BEHAVIORS OF CRYOGENIC FLOW ACROSS TUBE ARRAYS UNDER DIFFERENT BOUNDARY CONDITIONS Peiyuan Xu, <b>Liu Chen</b> , Jiaxiang Chen and Yongchang Feng (Chinese Academy of Sciences, China), Desing Mei (School of Automotive and Traffic Engineering, China), Xiaohui Zhang (Jiangsu University, China), Xiaoguang Mi (R&D Center, China) and Jie Chen (CNOOC Gas & Power Group, China)	<b>POROUS MEDIA 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> A STRAIGHTFORWARD DIGITAL APPROACH TO DESIGN, ASSESS AND MANUFACTURE POROUS METAL FOAM HEAT EXCHANGERS <b>Denis Antoine</b> Kneer and Aron Kneer (TinniT Technologies GmbH, Germany), Tobias Wolf, Lothar Müller and Stéphane Barbe (Cologne University of Applied Sciences, Germany) and Anastasia August (University of Applied Sciences Karlsruhe, Germany)	<b>CONDUCTION 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> THERMAL CHARACTERIZATION OF COMPOSITE WALLS MADE FROM WASTE MATERIALS Bilal Messahel, Nwakaego Onyeneke and <b>Muyiwa Oyinlola</b> (De Montfort University, United Kingdom) and Arash Bezaee (Loughborough University, United Kingdom)
10H00 - 10H20			
10H20 - 10H40	EXPERIMENTAL COOLING PERFORMANCE ANALYSIS OF THE METAL ADDITIVE-MANUFACTURED COLD PLATE WITH BODY-CENTERED CUBIC (BCC) ELEMENTS FOR INDIRECT COOLING APPLICATIONS Baris Burak Kanbur (Nanyang Technological University (NTU), Technical University of Denmark (DTU), Denmark), Yi Zhou, Mun Hoe Seat and <b>Fai Duan</b> (Nanyang Technological University (NTU), Singapore), Martin Rhyll Kaern and Wiebke Brix <b>Markussen</b> (Technical University of Denmark (DTU), Denmark)	NOVEL DCMD SPACER DESIGN USING TPMS STRUCTURES: FLUID FLOW AND HEAT TRANSFER CHARACTERISTICS <b>Mohamed Ali</b> , Balsam Swaidan, Rashid Abu Al-Rub and Hassan Arzaf (Khalifa University, United Arab Emirates)	ANALYTICAL MODELLING OF AXIAL CONDUCTION IN THICK CIRCULAR MICROCHANNELS <b>Indrasis Mitra</b> and Indranil Ghosh (Indian Institute of Technology Kharagpur, India)
10H40 - 11H00	DETERMINATION OF THE THERMAL CONDUCTIVITY OF A BATTERY COOLING LIQUID USING TRANSPARENT HOT BRIDGE AND LASER FLASH TECHNIQUE - METHOD VALIDATION <b>Daniel Laged</b> (AIT Austrian Institute of Technology GmbH, Austria)	EXCHANGE OF HEAT AND FLOW BETWEEN POROUS AND NON-POROUS REGION IN A COMPOSITE POROUS-FLUID SYSTEM: LES STUDY <b>Mohammad Jafar</b> and Yasser Mahmoudi (The University of Manchester, United Kingdom)	A NOVEL REDUCED-ORDER MODEL FOR TRANSIENT HEAT TRANSFER IN THERMOSYPHON FOR GEOTHERMAL SYSTEMS <b>Mohammad Zolfagharroshan</b> , Ahmad F. Zueier, Minghan Xu and Agus P. Sasmito (McGill University, Canada)
11H00 - 11H20	A COMMON PRIMARY ENERGY PLATFORM FOR CHILLERS- DEMYTHIFYING THE FIGURE OF MERIT FOR CHILLERS PERFORMANCE <b>Kim Choo No</b> , Qian Chen, Mium Ja and Doskhan Myrmyrakul (King Abdullah University of Science & Technology, Saudi Arabia), Faheem Akhtar (Lahore University of Management Sciences, Pakistan), Muhammad Wakil Shahzad and Muhammad <b>Shahzad</b> (Northumbria University, United Kingdom)	RIGID BODY SIMULATION AND CFD ANALYSIS OF PACKED BED THERMAL ENERGY STORAGE WITH CYLINDRICAL-SHAPED MICRO-ENCAPSULATION OF PHASE CHANGE MATERIAL Akshay Kumar, <b>Hitesh Khurana</b> and Sandip Kumar Saha (IIT Bombay, India)	OPTIMIZATION OF THERMAL SWITCHES IN MAGNETOCALORIC DEVICES <b>Katja Klinar</b> , Katja Vozel and Andrej Kitanovski (University of Ljubljana, Slovenia)
11H20 - 11H40	A THERMAL MANAGEMENT SCHEME FOR LITHIUM-ION BATTERY USING PHASE CHANGE MATERIAL AND AIR CONVECTION BASED ON EXTERNAL FIN STRUCTURES <b>Guanyu Chen</b> , Yong Shi and Hanyang Ye (University of Nottingham Ningbo China, China)	CFD ANALYSIS OF A PRECOOLER FOR HYPERSONIC PROPULSION Amit Hegde and <b>Chennu Ranganayakulu</b> (Birla Institute of Technology and Science Pilani, India)	NEAR-FIELD OF CONVECTIVE PLUMES FROM A LOCALLY HEATING SOURCE IN WATER <b>Anh Nguyen</b> and Kakuta Naoto (Tokyo Metropolitan University, Japan)
11H40 - 12H00	PERFORMANCE IMPROVEMENTS OF COMBINED CYCLE POWER PLANTS IN A HOT-HUMID CLIMATE USING INNOVATIVE THERMOFLUID DESICCANT, ELECTRO- AND REFRIGERATION GAS TURBINE INLET AIR-COOLING TECHNIQUES <b>Ashraf Bassily</b> (Alexandria Higher Institute of Engineering and Technology, Egypt)	NEW RESULTS FROM THE DESIGN AND USE OF AIR COOLING EQUIPMENT IN ELECTRONICS TO ENSURE ENVIRONMENTAL FRIENDLINESS Václav Vacek and <b>Martin Doubek</b> (Czech Technical University, Czech Republic)	TRANSIENT SOLUTION OF HEAT FIELD OF CONJUGATE LAMINAR FORCED CONVECTION HEAT TRANSFER IN FUNCTIONALLY GRADED HOLLOW CYLINDER <b>Oguzen Fadige</b> , Efe Steve and Lee Seong (Morgan State University, United States) and Adekunle Adejaja (University of Lagos, Nigeria)
12H00 - 13H00	<b>LUNCH</b>		
13H00 - 15H00	<b>ENERGY CONVERSION 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> MARINE DIESEL ENGINE MULTIPLE PERFORMANCE PARAMETER CHARACTERIZATION IN VARIABLE CONDITIONS WITH THERMODYNAMIC MODELLING <b>Joseba Castresana Larrauri</b> and Zigor Urondo Arne (AZTI, Spain), Gorka Gabiria Iribar (Marine Research, Spain) and Ainguru Basterrechea Bitriola (Basque Research and Technology Alliance (BRTA), Spain)	<b>ENERGY AND ENVIRONMENTAL SYSTEMS 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> NATURAL CONVECTION HEAT TRANSFER IN GREENHOUSES CONTAINING ROOF AND SIDE VENTILATORS <b>Sunita Krueger</b> (University of Johannesburg, South Africa) and Leon Pretorius (University of Pretoria, South Africa)	<b>MISCELLANEOUS 2</b> <i>Chairs: First Name Last Name (Institution, Country)</i> THERMODYNAMICS-INFORMED NEURAL NETWORK FOR ACCELERATED FLASH CALCULATION IN HYDROGEN ENERGY <b>Tao Zhang</b> , Yanhui Zhang, Abdallah Alshethi, Shuyu Sun and Ibrahim Hoteit (King Abdullah University of Science and Technology, Saudi Arabia) and Klemens Katterbauer (Saudi Aramco, Saudi Arabia)
13H00 - 13H20			
13H20 - 13H40	OPERATIONAL BEHAVIOR OF A THERMOSYPHON DESORBER IN A FLUE GAS-CONDENSING ABSORPTION HEAT PUMP <b>Tina Hermann</b> , Christian Schwegler (Munich University of Applied Sciences, Germany), Dominik Glöckner (SCHERDEL Energietechnik GmbH, Germany) and Marco Bauer (SCHERDEL Energietechnik GmbH, Germany)	EVALUATION OF THE CO-CAPTURE CO <sub>2</sub> /O <sub>2</sub> OR NO AS IMPURITIES FROM OXY-FUEL COMBUSTION PROCESSES FOR CCS <b>Sofia Teresa Blanco Arifo</b> and Javier Fernández López (Universidad de Zaragoza, Spain) and Roberto Berbé Martínez (Instituto de Síntesis Química y Cataláisis Homogénea, CSIC-Universidad de Zaragoza, Spain)	EXPERIMENTAL PERFORMANCE ANALYSIS OF A FUEL CELL UNIT FOR VARIOUS NATURAL GAS-HYDROGEN FUEL MIXTURES <b>Katarina Simic</b> , Jera Van Nieuwenhuyse and Michel De Paep (Ghent University, Belgium)
13H40 - 14H00	ANALYSIS OF A MODIFIED REVOLVING VANE EXPANDER (M-RVE) IN AN ORC SYSTEM: VALIDATION OF THE THEORETICAL MODEL <b>Ali Naseri</b> , Stuart Norris and Alison Subiantoro (The University of Auckland, New Zealand)	FEASIBILITY STUDY OF A PROTOTYPE SYSTEM IN ELECTRICITY GENERATION FROM SOLAR ENERGY BY USING A FRESNEL LENS: A CASE STUDY IN THAILAND. <b>Nittalin Phunapa</b> and Teerapath Limboonruang (Srinakharinwirot University, Thailand)	PERFORMANCE IMPROVEMENTS AND OPTIMIZATION OF COMBINED CYCLE USING INNOVATIVE HYBRID GAS TURBINE INLET COOLING TECHNIQUES: DESCRIPTIONS, COMBUSTION MODELING AND AMBIENT CONDITIONS EFFECTS <b>Ashraf Bassily</b> (Alexandria Higher Institute of Engineering and Technology, Egypt)
14H00 - 14H20	CALIBRATION AND VALIDATION OF AN INTEGRATED THERMOFLUID MODEL OF A UTILITY-SCALE COND-THROUGH BOILER AT FULL- AND PART-LOAD Kai Feng and <b>Pieter Rousseau</b> (University of Cape Town, South Africa) and Ryno Laubscher (Stellenbosch University, South Africa)	ELECTROWETTING-CONTROLLED LIQUID PRISM HELOSTAT FOR BUILDING NATURAL DAYLIGHTING <b>Jiangtao Cheng</b> and Xukun He (Virginia Tech, United States)	CHARACTERIZATION AND MODELLING OF HEAT PIPE BASED THERMAL MANAGEMENT SYSTEMS FOR MOVING ASSEMBLIES Welf-Guntran Drossel and <b>Immanuel Voigt</b> (Chemnitz University of Technology, Germany)
14H20 - 14H40	EXPERIMENTAL RESULTS OF A PARTIAL-EXHAUSTED ORGANIC RANKINE CYCLE INCLUDING A TWO-PHASE AXIAL TURBINE <b>Nicolas Tauveron</b> , Guillaume Lhermet and Nadia Caney (CEA, France)	ON THE INFLUENCE OF SPRAY PRE-COOLING THE INLET AIR OF NATURAL DRAFT DRY COOLING TOWERS ON THE PERFORMANCE OF CSP PLANTS <b>Javier Ruiz Ramirez</b> and Manuel Lucas Miralles (Miguel Hernández University of Elche, Spain), Michael Opolot and Kamel Hooman (The University of Queensland, Australia)	SEASONAL PERFORMANCE EVALUATION OF RADIANT SENSIBLE COOLING IN HIGH AMBIENT TEMPERATURE ENVIRONMENTS <b>Omar Zaki</b> and Omar Abdelaziz (The American University in Cairo, Egypt)
14H40 - 15H00	NUMERICAL ANALYSIS OF A SOLAR-ASSISTED DUAL-SOURCE HEAT PUMP COUPLED WITH A THERMAL STORAGE FOR RESIDENTIAL HEATING Alfonso William Mauro, Giovanni Napoli, <b>Francesco Pelilla</b> and Luca Visetto (Federico II University of Naples, Italy)	A COMPARISON OF THE IMPACT OF DRY, WET AND COMBINED DRY/WET COOLING ON THERMAL POWER PLANT ANNUAL PERFORMANCE, WATER CONSUMPTION AND ECONOMICS <b>Daniel Terry Waters</b> and Michael Trevor Foxwell Owen (University of Stellenbosch, South Africa) and Hanno Carl Rudolph Reuter (Hamon Thermal Energy, South Africa)	LIQUID FILM MODEL FOR PULSATING HEAT PIPES <b>Xiaolong Zhang</b> and Vadim Nikolayev (French Alternative Energies and Atomic Energy Commission (CEA), France)
15H00 - 15H20	<b>BREAK</b>		
15H20 - 17H20	<b>NUCLEAR ENERGY 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> DIRECT NUMERICAL SIMULATION OF TURBULENT HEAT TRANSFER WITH LOW PRANDTL NUMBERS <b>Yanjun Tong</b> , Houjian Zhao and Fenglei Niu (North China Electric Power University, China), Xiaowei Li and Xiaoyang Xie (Tsinghua University, China)	<b>HEAT EXCHANGERS 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> MODELLING AND EXPERIMENTAL VALIDATION OF THE HEAT-TRANSFER PROCESSES OF A DIRECT VAPORIZATION MICRO-SCALE ORC-EVAPORATOR FOR THERMAL DEGRADATION RISK ASSESSMENT João Silva Pereira (Universidade de Coimbra, Portugal)	<b>THERMAL MANAGEMENT AND CONTROL 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i> ACHIEVING TEMPERATURE CONTROL BY DIRECT INJECTION OF LIQUID WATER IN AXIAL COMPRESSORS OF "IN-SERVICE" GAS TURBINE ENGINES George STANESCU (Federal University of Parana, Brazil), Ene Barbu, <b>Valeriu Vilag</b> and Jeni Vilag (INCD Turbotranso COMOTI, Romania)
15H20 - 15H40			
15H40 - 16H00	LARGE-SCALE EXPERIMENTAL ANALYSIS OF STEAM SUB-ATMOSPHERIC CONDENSATION FOR ITER VACUUM VESSEL PRESSURE SUPPRESSION SYSTEM DURING LOCA EVENT <b>Alessio Pesenti</b> , Michele Raucci, Guglielmo Giambartolomei, Luca Berti and Donato Aquaro (University of Pisa, Italy)	A THERMAL DEGRADATION ANALYSIS UNDER CLOSE-TO-REAL OPERATING CONDITIONS IN ORC BASED MICRO-CHP SYSTEMS <b>João Silva Pereira</b> (Universidade de Coimbra, Portugal)	GRAPHITE FOAM STRUCTURES AS AN EFFECTIVE MEANS TO COOL HIGH-PERFORMANCE ELECTRONICS <b>Ahmed Alhusseny</b> , Nabeel Al-Zurfi, Adel Nasser (University of Manchester, United Kingdom) and Qahtan Al-Abaidy (University of Kufa, Iraq)
16H00 - 16H20	DRIFT-FLUX ANALYSIS OF AN OXIDIZING NUCLEAR FUEL CHANNEL DURING LOFA <b>Eran Elias</b> , Yurii Nekhamkin, Dov Hasan and Joshua Dayan (Technion, Israel)	HEAT EXCHANGER ARRANGEMENTS IN SUPERCRITICAL CO <sub>2</sub> BRAYTON CYCLE SYSTEMS: AN ANALYSIS BASED ON THE DISTRIBUTION COORDINATION PRINCIPLE <b>Jiangfeng Guo</b> , Jian Song, Konstantin S Pervunin and Christos Markides (Imperial College London, United Kingdom)	3D PRINTING CONFORMAL COOLING CHANNELS INTEGRATED WITH LATTICE STRUCTURE FOR INJECTION MOULDING <b>Fai Duan</b> (Nanyang Technological University, Singapore)
16H20 - 16H40	DIRECT NUMERICAL SIMULATION OF THE TURBULENT CROSS FLOW CHARACTERISTICS OVER AN INLINE TUBE BUNDLE <b>Xiaoyang Xie</b> , Yunhao Luo and Xinlin Wu (Tsinghua University, China), Houjian Zhao (Beijing Key Laboratory of Passive Safety Technology for Nuclear Energy, China) and Xiaowei Li (North China Electric Power University, China)	THERMOCHEMICAL ENERGY STORAGE FLUIDS - INVESTIGATION OF WETTING BEHAVIOUR ON COMMERCIAL HEAT EXCHANGERS SUBSTRATES Gabriele Humbert and <b>Adriano Sciacovelli</b> (University of Birmingham, United Kingdom)	MODELLING HEAT TRANSFER IN AN EXTRUDER FOR RECYCLING PLASTICS INTO FILAMENTS FOR USE IN ADDITIVE MANUFACTURING Meyyam Azadani (De Montfort University, United Kingdom), Esther Akinlabi (Pan African University, Nigeria), Timothy Whitehead (Life and Earth Sciences Institute, United Kingdom) and <b>Muyiwa Oyinlola</b> (Aston University, United Kingdom)
16H40 - 17H00	COMPARISON OF CONDENSATION MODELS IN STEAM-AIR MIXTURE UNDER FORCED AND NATURAL CONVECTION CONDITION USING CUPID CODE <b>Ji-Hwan Hwang</b> and Dong-Wook Jerng (Chung-Ang University, South Korea), Jung Jin Bang (FNC Technology CO., South Korea) and Gi-Hyeon Choi (LTD, South Korea)	EXPERIMENTAL STUDY ON THE LIQUID ETHANOL TUBULAR COMBUSTION SUSTAINED BY DUAL SWIRL <b>Qing Cao</b> , Kuanyu Wang, Xiao Yu, Dingliang Xie, Yong Tang and Baolu Shi (Beijing Institute of Technology, China)	A CONTROL MODEL TO OPTIMIZE THE PERFORMANCE OF A RADIANT FLOOR WITH A ZONED DUCTED FANCOIL <b>Francisco Fernández Hernández</b> and Antonio Ahenza Márquez (University of Málaga, Spain), José Miguel Peña Suárez, Juan Antonio Bardera Cantalejo, Irene Fernández Jiménez and Mari Carmen González Muriano (Altra Corporation S.L., Spain)
17H00 - 17H20	LEI QUENCH TESTS MODELLING EXPERIENCE AND THE PRELIMINARY MODELLING RESULTS OF QUENCH-20 TEST USING RELAP5/CDAPSIM <b>Noura Elsalmony</b> , Tadas Kallitka and Algirdas Kallitka (Lithuanian Energy Institute, Lithuania)	NET FLOW CHARACTERISTICS INSIDE AN OSCILLATORY REACTOR EQUIPPED WITH 3 ORIFICE BAFELES José Muñoz-Cámara, Damián Crespi-Llorens, Pedro Vicente Quiles and Juan Pedro Solano (Universidad Politécnica de Cartagena, Spain)	CHARACTERIZATION AND MODELLING OF HEAT PIPE BASED THERMAL MANAGEMENT SYSTEMS FOR MOVING ASSEMBLIES Welf-Guntran Drossel and <b>Immanuel Voigt</b> (Chemnitz University of Technology, Germany)

TIME	VENUE 1	VENUE 2	VENUE 3
<b>WEDNESDAY, 10 August 2022</b>			
08H15 - 09H45	<b>KEYNOTE 4 &amp; 5</b> <i>Chairs: First Name Last Name (Institution, Country)</i>		
08H15 - 09H00	ADVANCES IN USING NATURE INSPIRED SOLUTIONS FOR IMPROVING HEAT TRANSFER ENHANCEMENT AND ENERGY STORAGE <i>Yuying Yan (University of Nottingham, United Kingdom)</i>		
09H00 - 09H45	CONVULSIVE MODELS IN TIME: A BUILDING BRICK FOR TRANSIENT HEAT TRANSFER <i>Denis Maillet (LEMTA, France)</i>		
<b>BREAK</b>			
09H45 - 10H00	<b>HEAT TRANSFER ENHANCEMENT 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i>		
10H00 - 10H20	HEAT TRANSFER OF AN AXISYMMETRIC OIL JET IMPINGING A ROTATING DISK <i>Cecay Klimphamer, Majed Etemadi, Ram Balachandrar and Ronald Barron (University of Windsor, Canada) and Lakshmi Varaha Iyer (Magna International Inc., United States)</i>	HEAT TRANSFER INVESTIGATION OF THE SODIUM FLOW IN THE 720°C SOLTEC FACILITY <i>Alexandra Onca, Wolfgang Hering, Luca Spani and Robert Stieglitz (Karlsruhe Institute of Technology, Germany)</i>	<b>HYDRODYNAMICS 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i>
10H20 - 10H40	ASSESSMENT OF THE EFFECT OF NANOPARTICLES CONCENTRATION ON VISCOSITY AND DENSITY OF DIFFERENT NANOFUIDS <i>Elaine Fabre, Rui Mira and M. Sohel Murshed (Instituto Superior Tecnico, Portugal)</i>	EFFECT OF FLOW MALDISTRIBUTION ON THERMAL PERFORMANCE DETERIORATION IN MULTI-STREAM PLATE-FIN HEAT EXCHANGERS <i>Reza Niroomand and Mohammad Hasan Saidi (Sharif University of Technology, Iran)</i>	NUMERICAL SOLUTION OF THE SHALLOW WATER EQUATIONS USING THE FINITE VOLUME METHOD <i>Diego Bautista, Arlex Chaves-Guerrero and David Alfredo Fuentes Diaz (Universidad Industrial de Santander, Colombia)</i>
10H40 - 11H00	NUMERICAL INVESTIGATION OF TRIPLE STRUCTURES OF LAMINAR FUEL-RICH ETHANOL/AIR SPRAY FLAMES IN THE COUNTERFLOW CONFIGURATION <i>Zhaoping Ying and Eva Guthel (Heidelberg University, Germany)</i>	NUMERICAL THERMAL ANALYSIS OF TUBE BANK HEAT EXCHANGERS FOR SORPTION THERMAL ENERGY STORAGE (STES) SYSTEMS <i>Yakov Garfunkel and Nir Tzabar (Ariel University, Israel)</i>	CHARACTERIZATION OF HEAT TRANSFER AND PRESSURE DROP DURING STEADY STATE FLOW IN PERIODIC OPEN CELLULAR STRUCTURES (POCS) <i>Konrad Döbel, Thomas Wetzel and Benjamin Dietrich (Karlsruhe Institute of Technology, Germany)</i>
11H00 - 11H20	TURBULENT HEAT TRANSFER IN A SUPERCRITICAL DOWNWARD FLOW <i>Kenneth Chinenmbi and Shuisheng He (University of Sheffield, United Kingdom)</i>	DYNAMIC MODELING AND CONTROL OF A PLATULAR HEAT EXCHANGER FOR BLANCHING PROCESSES <i>Felipe Escudero, Vincenzo Rosati, Gonzalo Carvajal and Andrés Fuentes (Universidad Técnica Federico Santa María, Chile) and Gonzalo Febres and Marcelo Cortés (Gasco, Chile)</i>	ON HYDRODYNAMICS OF DRY SLAG GRANULATION OF LD/BOF SLAG: DEVELOPMENTS FOR NEW LIQUID <i>D.S. Kushan, Goutam Chakraborty, Biswajit Maiti, Sukanta Kumar Dash, Arun Kumar Samantaray and Sanat Kumar Singha (Indian Institute of Technology Kharagpur, India)</i>
11H20 - 11H40	INFLUENCE OF HIDDEN VARIABLES ON THE THERMAL CONDUCTIVITY OF NANOFUIDS <i>Julia Telleke (University of Bremen, Germany), Benjamin Schuez (Department of Prevention and Health Promotion, Germany) and Marc Avila (Center of applied space technology and microgravity, Germany)</i>	EXPERIMENTAL INVESTIGATION INTO THE EFFECT OF CHARGE OPTIMIZATION WITH DIFFERENT HEAT EXCHANGER CONFIGURATIONS AND COMPRESSOR MODULATION STRATEGIES ON THE SEASONAL PERFORMANCE IN A R404A CHILLER <i>Sugun Tei Inampudi and Stefan Ebel (University of Illinois at Urbana Champaign, United States)</i>	ON HYDRODYNAMICS OF DRY SLAG GRANULATION OF LD/BOF SLAG: ANALYTICAL MODELING <i>D.S. Kushan, Goutam Chakraborty, Biswajit Maiti, Sukanta Kumar Dash and Arun Kumar Samantaray (Indian Institute of Technology Kharagpur, India)</i>
11H40 - 12H00	COMPARATIVE ANALYSIS OF DIFFERENT STRATEGIES EXPLOITING THE ADJOINT TOPOLOGY OPTIMIZATION METHOD FOR ENHANCING THE PERFORMANCE OF A COOLING DEVICE EQUIPPED WITH MICRO-CHANNELS <i>Rosa Difonzo, Laura Savio and Antonio Gammi (Politecnico di Milano, Italy) and Heinrich Laqua (Max-Planck-Institute for Plasma Physics, Germany)</i>	PERFORMANCE ANALYSIS AND NUMERICAL OPTIMIZATION OF THE ANNUAL COST OF A TUBE-FIN CROSS-FLOW CONDENSING HEAT EXCHANGER USING A PRACTICAL APPROACH <i>Ashraf Bassily (Alexandria Higher Institute of Engineering and Technology, Egypt)</i>	FILM DRAINAGE AND COALESCENCE OF DROPLETS CONTAINING PARTICLES IN VISCOUS FLOW THROUGH A CIRCULAR TUBE IN STOKES REGIME <i>Masahiro Muraoka (Tokyo University of Science, Japan) and Haruhito Sakurai (THK CO.LTD., Japan)</i>
<b>LUNCH</b>			
12H00 - 13H00	<b>COMPUTATIONAL FLUID DYNAMICS 1</b> <i>Chairs: First Name Last Name (Institution, Country)</i>		
13H00 - 13H20	NUMERICAL MODELING OF SCALE FORMATION DURING THE REHEATING OF STEEL SLABS <i>Zaqaub Yunus Ahmed, Ilya Tjoljyn, Toon Deemster, Teun deraad, Steven Lecompte and Michel De Paepe (Ghent University, Belgium)</i>	ANALYTICAL APPROACH FOR HEAT TRANSFER PROBLEM IN THE ENTRANCE REGION OF ANNULAR FLOW WITH MIXED BOUNDARY CONDITIONS CONSIDERING RADIALLY VARIABLE VELOCITY <i>Yasemen Kuddusi (Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland) and Lutfullah Kuddusi (Istanbul Technical University (ITU), Turkey)</i>	<b>ENERGY STORAGE 3</b> <i>Chairs: First Name Last Name (Institution, Country)</i>
13H20 - 13H40	NUMERICAL VISUALIZATION OF EXPLOSION AT AIR, WATER AND INTERFACE <i>Rajasekar Jayabal, Tae Ho Kim and Heuy Dong Kim (Andong National University, South Korea)</i>	INVESTIGATION OF FORCED CONVECTION HEAT TRANSFER IN HEAT SINKS WITH CLADDING CONTAINING LIQUID SODIUM <i>Mahyar Poughasemi and Nima Fathi (University of New Mexico, United States)</i>	CALIBRATION AND VALIDATION OF A CHARGING TIME ENERGY FRACTION MODEL FOR MELTING EXPERIMENTS OF A HIGH TEMPERATURE LATENT HEAT THERMAL ENERGY STORAGE SYSTEM <i>Kenny Couvreur, Wim Beyne, Robin Tassenoy, Steven Lecompte and Michel De Paepe (Ghent University, Belgium)</i>
13H40 - 14H00	NUMERICAL THERMAL ANALYSIS OF A PCM-ENHANCED ADAPTIVE ENVELOPE PROTOTYPE <i>Matias Álvarez-Rodríguez, Inés Suárez-Ramón, Mar Alonso-Martínez and Juan José del Coz-Díaz (University of Oviedo, Spain)</i>	EXPERIMENTAL DETERMINATION OF THE FORCED CONVECTION HEAT TRANSFER COEFFICIENT OF AN ALUMINUM COOLING PLATE WITH A CHANNEL SHAPE INSPIRED BY NATURE <i>José Félix Guill-Prados, Anne Maren Coll-Franck, Luis Miguel García-Gutiérrez and Antonio Soría-Verdejo (Universidad Carlos III de Madrid, Spain)</i>	ZERO-DIMENSIONAL MODELS OF RECIPROCATING COMPRESSOR AND EXPANDER FOR A PHES SYSTEM <i>Natalia Wener, Federico Favre, Pedro Curto-Risso and Daniel Croa (Facultad de Ingeniería/Uruguay, Uruguay)</i>
14H00 - 14H20	NUMERICAL ASSESSMENTS OF HYDRO AND HEMODYNAMIC PARAMETERS OF A NEW VENTRICULAR ASSISTANCE DEVICE <i>Louis Marcel and Smaïne Kouidri (Arts et Métiers Sciences et Technologies, France) and Mathieu Specklin (Conservatoire National des Arts et Métiers CNAM, France)</i>	COMPARISON OF THE HEAT TRANSFER COEFFICIENT FOR AN AIR STREAM COOLING OF PLATES MADE OF ARMCO AND 1.4845 STEEL <i>Kamil Jasiewicz, Zbigniew Malinowski and Agnieszka Cebo-Rudnicka (AGH University of Science and Technology, Poland)</i>	CAN PASSIVE COOLING BE A PRACTICAL SOLUTION FOR THE THERMAL MANAGEMENT OF BATTERY IN ELECTRIC VEHICLES? <i>Renaldo Antonio Nicholls, Mohammad Ardekanian Moghimi and Alison Griffiths (Staffordshire University, United Kingdom)</i>
14H20 - 14H40	A NUMERICAL STUDY OF SMOKE BIFURCATION FLOW IN LARGE TUNNEL FIRES <i>Nigel Charles Dhillon and Wei Hua Ho (University of the Witwatersrand, South Africa)</i>	MODELING AND SIMULATION OF THE EVAPORATION AND THERMAL DECOMPOSITION OF AN IRON(III) NITRATE NONAHYDRATE/ETHANOL DROPLET IN HOT CONVECTIVE AIR <i>Paveen Narazu and Eva Guthel (Heidelberg University, Germany)</i>	SMART-ENERGY-SALINA: CO <sub>2</sub> -OPTIMAL CHARGING OF A THERMAL ENERGY STORAGE THROUGH MODEL PREDICTIVE CONTROL <i>Christian Karczewski, Joshua Tholen and Micha Schäfer (University of Stuttgart, Germany)</i>
14H40 - 15H00	THE IMPACT OF VARYING FAN AIRFLOW RATES ON THE COMPUTER'S PROCESSOR'S HEAT SINK <i>Roodolf Daniel Steyn, Mostafa Mahdavi and Mohsen Shanifur (University of Pretoria, South Africa) and Josua Meyer (Stellenbosch University, South Africa)</i>	MODELLING OF COLD-END SYSTEM FOR A DIRECT AIR-COOLING GENERATING UNIT <i>Éster Angula and Filimon N. Nangolo (University of Namibia, Namibia) and Paul Chisale (The Copperbelt University, Zambia)</i>	THERMOCHEMICAL BATTERY FOR ELECTRICITY STORAGE: PARAMETRIC ANALYSIS OF THERMALLY COUPLED GAS-SOLID REACTIONS IN AN ADIABATIC REACTOR <i>Rakesh Sharma, Matthias Schmidt, Marc Linder and Inga Bürger (German Aerospace Centre (DLR), Germany)</i>
<b>BREAK</b>			
15H00 - 15H20	<b>COMPUTATIONAL FLUID DYNAMICS 2</b> <i>Chairs: First Name Last Name (Institution, Country)</i>		
15H20 - 15H40	DROPLET VISCOELASTIC SPLASHING ON SOFT MICROPIRLARED SURFACES <i>Jiangtao Cheng (Virginia Tech, United States)</i>	<b>MISCELLANEOUS 3</b> <i>Chairs: First Name Last Name (Institution, Country)</i>	<b>MISCELLANEOUS 4</b> <i>Chairs: First Name Last Name (Institution, Country)</i>
15H40 - 16H00	INFLUENCE OF EXTENDED SURFACES ON CONVECTION AND HEAT TRANSFER IN A SQUARE CAVITY <i>Ebrahim Momoni, Charis Harlow and Sheldon Herbst (University Of Johannesburg, South Africa)</i>	CALIBRATION AND VALIDATION OF A NEW FLOW CALORIMETER TEST RIG FOR SUPERCRITICAL REFRIGERANTS <i>Jera Van Nieuwenhuysse, Willem Faes, Julie Vermout and Steven Lecompte (Ghent University, Belgium) and Michel De Paepe (Ghent University, New Zealand)</i>	NATURAL DRAFT AIR-COOLED CONDENSER SCALING FOR DIVERSE APPLICATIONS <i>Wian Strydom, Johannes Pretorius and Jaap Hoffmann (University of Stellenbosch, South Africa)</i>
16H00 - 16H20	PERFORMANCE EVALUATION AND OPTIMIZATION OF AN ULTRASONIC SPRAY ATOMIZERS SYSTEM FOR HVAC APPLICATIONS <i>Javier Ruiz Ramirez, Pedro Navarro Cobocho, Manuel Lucas Miralles, Pedro Martínez Martínez, Jonás Pérez Marco and Alberto Rodríguez Martínez (Miguel Hernández University of Elche, Spain)</i>	EXPERIMENTAL AND NUMERICAL INVESTIGATION ON INTERACTION AMONG FUEL COMPONENTS IN CO-PYROLYSIS OF BENZENE, ACETYLENE AND DIMETHYL ETHER <i>Bilal Hussain, Qilong Fang, Wei Li and Yuyang Li (Shanghai Jiao Tong University, China)</i>	STUDY OF THE INFLUENCE OF LIQUID PROPERTIES ON THE LIQUID ROPE COILING <i>Ranjana Rathaur, Liril D. Silvi and Sumana Ghosh (Indian Institute of Technology Roorkee, India)</i>
16H20 - 16H40	DESIGN AND SIMULATION OF PASSIVE COOLING SYSTEM FOR A TRANSIT-ORIENTED DEVELOPMENT BUILDING CORRIDOR <i>Dyandra Bahmid and Ardiansyah Yatim (Universitas Indonesia, Indonesia) and Elang Wijaya (Arttech Teknik Indonesia, Indonesia)</i>	EXPERIMENTAL STUDY OF A SOLAR DRYER FOR DRYING APPLES IN 24 H DRYING CYCLES <i>Ashmore Mwaigai, Masoodi Ramokoli and Moteboeng Mophuti (North-West University, South Africa), Petros Demissie Tegenaw (Ivo Vlaanderen, United Kingdom) and Maarten Vanierschot (KU Leuven, Belgium)</i>	NUMERICAL INVESTIGATIONS OF A PIPE-JET WITH COIL-INSERTS <i>Hamid Rahai (California State University, United States) and Kamal Gada (COE-CSULB, United States)</i>
16H40 - 17H00	EFFECT OF MOXIBUSTION ON THE TEMPERATURE ELEVATION AND BLOOD FLOW IN HUMAN LEG <i>Hong-An Deng and Maxim Solovchuk (National Health Research Institutes, Taiwan)</i>	STUDY OF THE OSCILLATIONS OF A MICROBUBBLE WITH SURFACE TENSION AS FUNCTION OF TIME WITH HEAT TRANSFER AT THE SURFACE <i>Cesar Yopez, Jorge Naude, Federico Mendez and Nargarita Navarrete (Universidad Nacional Autónoma de México/PUNTA, Mexico)</i>	CONCAVE BENDING OF CONTACT LINE DUE TO POLARIZATION AND SURFACE TRAPPING <i>Jiangtao Cheng and Lei Zhao (Virginia Tech, United States)</i>
17H00 - 17H20		ANALYSIS OF THE EXPERIMENTAL DISTRICT HEATING AND COOLING FACILITY IN ALCALA IN THE FRAMEWORK OF THE W.E. DISTRICT PROJECT <i>Alberto Abades Velasco, Javier Rodríguez Martín and Juan José Roncal Casano (Universidad Politécnica de Madrid, Spain), Ignasi Gurruchaga and Daniel González (SEENSO, Spain) and María Victoria Cambromero Vázquez (Acciona, Spain)</i>	