



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
	MONDAY, 08 August 2022		
08:30 - 09:45	OPENING & KEYNOTE 1		
08:30 - 09:40	OPENING ADDRESS BY CONFERENCE CHAIR <i>Issac Meyer (University of Pretoria, South Africa)</i>		
09:40 - 09:45	THERMAL-HYDRAULIC CHARACTERISTICS OF FLUID FLOW THROUGH OPEN-CELL POROUS METALS <i>Ji Hwan Jeong (Pusan National University, South Korea)</i>		
09:45 - 10:00		BREAK	
10:00 - 12:00	TWO-PHASE FLOW 1 <i>Chairs: Ardyansyah Yatim and Alberto Abadades</i>	MASS TRANSFER 1 <i>Chairs: Valeria Vilag and Jubair Shamim</i>	ENERGY STORAGE 1 <i>Chairs: Johannes Pretorius and Alfredo Sarmadon</i>
10:00 - 10:20	VOID FRACTION THERMO-KINEMATICS FOR SUBCOOLED FLOW BOILING WORKING FLUID <i>Francisco J. Collado (Universidad de Zaragoza, Spain)</i>	DEGASSING BEHAVIOR OF WATER THROUGH BUBBLING NEAR A VAPOR PRESSURE CONDITION <i>Yong Du Jun (Kongju National University, South Korea)</i>	PRESSURE DROP ACROSS PACKED BEDS OF CRUSHED ROCK, ELLIPSOIDS AND ROUNDED BRICKS <i>Jaap Hoffmann (Stellenbosch University, South Africa)</i>
10:20 - 10:40	NUMERICAL INVESTIGATION OF ENTROPY GENERATION IN ELLIPTICAL U-BEND TUBE HEAT EXCHANGER DURING TWO PHASE FLOW BOILING EVAPORATION OF R245A <i>Tanmay Jitao and Tunde Bello-Ochende (University of Cape Town, South Africa)</i>	MOLECULAR SIMULATION OF GENERATING PROCESS OF LITHIUM BROMIDE AQUEOUS SOLUTION THROUGH HYDROPHOBIC MEMBRANE <i>Yicongao Gao (Dalian Maritime University, China)</i>	TOPOLOGY OPTIMIZATION FOR HEAT AND MASS TRANSFER INTENSIFICATION IN THERMOCHEMICAL ENERGY STORAGE REACTIVE BEDS <i>Gabriele Humbert, Yulong Ding and Adriano Sciacovelli (University of Birmingham, United Kingdom)</i>
10:40 - 11:00	DURABILITY IMPROVEMENT OF ALUMINUM PULSATING HEAT PIPE USING WATER AS A WORKING FLUID <i>Ji Yeon Kim and Sung Yong Jung (Chosun University, South Korea)</i>	DESIGN OF MIXING TUBE FOR DOMESTIC LIQUEFIED PETROLEUM GAS BURNERS <i>Prabesa Vidyanathan and Vasudevan Raghavan (Indian Institute of Technology Madras, India)</i>	INITIAL CFD ASSESSMENT OF COMPACT LATENT HEAT THERMAL ENERGY STORAGE SYSTEM FOR MOBILE APPLICATION IN THE MARITIME SECTOR <i>Pouriya Niknam, Gabriele Humber and Adriano Sciacovelli (University of Birmingham, United Kingdom)</i>
11:00 - 11:20	MINICHANNEL FLOW BOILING COMPLEXITY ASSESSMENT <i>Gabriela Stanisława Rafajło, Hubert Grzybowski, Paweł Dżenis and Romuald Paweł Mosdorf (Białystok University of Technology, Poland)</i>	BRINE CONCENTRATION WITH COOLING TOWER EVAPORATION FOR A ZERO LIQUID DISCHARGE SYSTEM: TRENDS MODELLING AND EXPERIMENTAL RESULTS. <i>Vera-García Francisco, Calleja Cayón Pablo, Prado de Nicolás Amanda, Molina-García Ángel and García-Bermejo Juan Tomás (Technical University of Cartagena, Spain)</i>	AN ECONOMICAL WAY TO INCREASE THERMAL CONDUCTIVITY OF A PCM-BASED THERMAL ENERGY STORAGE TUBE <i>Giulia Righetti, Claudio Zilio, Giovanni Antonio Longo and Simone Mancini (University of Padova, Italy)</i>
11:20 - 11:40	EXPERIMENTAL COMPARISON BETWEEN TWO-PHASE LOOPS AND PULSATING HEAT-PIPES FOR POWER ELECTRONICS CONVERTER APPLICATIONS <i>Bruno Agostini and Daniele Torresin (ABB Switzerland Ltd., Switzerland)</i>	HYBRID COOLING SYSTEM FOR FUTURE SUSTAINABILITY <i>Muhammad Waki Shabazz (Northumbria University, United Kingdom), Nida Imtiaz (Universiti Teknologi Malaysia (UTM), Malaysia), Kim Ng and Qian Chen (KAUST, Saudi Arabia)</i>	AN EXPERIMENTAL STUDY ON ERYTHRITOL AS PCM FOR WASTE HEAT RECOVERY <i>Giulia Righetti, Claudio Zilio, Giovanni Antonio Longo and Simone Mancini (University of Padova, Italy)</i>
11:40 - 12:00	A NOVEL APPROACH FOR FLOW ANALYSIS IN PULSATING HEAT PIPES: CROSS-CORRELATION OF LOCAL HEAT FLUX <i>Nachik Iwata, Fabio Bozzoli, Luca Pagnanini, Luca Cattani, Matteo Malvasi and Sara Rainieri (University of Parma, Italy)</i>	3D PRINTED MINIATURE COOLER FOR ELECTRONICS THERMAL MANAGEMENT <i>Nida Imtiaz, Maslan Abdul Wahid and Natrah Binti Kamaruzaman (Universiti Teknologi Malaysia, Malaysia), Kim Ng (KAUST, Saudi Arabia) and Muhammad Waki Shabazz (Northumbria University, United Kingdom)</i>	FORMULATION OF PREDICTION MODEL FOR WORKING FLUID TEMPERATURE IN A VERTICAL PARABOLOID-SHAPED THERMAL ENERGY STORAGE TANK DURING STAND-ALONE OPERATION <i>Hitesh Khurana and Sandip Kumar Saha (Indian Institute of Technology Bombay, India) and Rudratip Majumdar (National Institute of Advanced Studies, India)</i>
12:00 - 13:00		LUNCH	
13:00 - 15:00	SOLAR ENERGY 1 <i>Chairs: Muhammad Waki Shabazz and Ahmed Alhusseny</i>	BOILING 1 <i>Chairs: Sunita Kruger and Fai Duan</i>	ENERGY STORAGE 2 <i>Chairs: Alexandra Onsea and Yong Shi</i>
13:00 - 13:20	REDUCED ORDER MODELING OF AN EXTERNAL SOLAR CENTRAL RECEIVER USING AN EQUIVALENT THERMAL RESISTANCE NETWORK <i>James Heywood (Rensselaer Institute of Technology, United States)</i>	CAPILLARY WAVE GENERATION ON THE SURFACE OF BOILING WATER DROPLET <i>Hangtao Cheng and Wenge Huang (Virginia Tech, United States)</i>	PERFORMANCE OF CRUMPLED GRAPHENE-BASED SUPERCAPACITORS WITH SODIUM HALIDE AQUEOUS ELECTROLYTES: A MOLECULAR DYNAMICS STUDY <i>Saad Noor Balal, Toufiq Jameel, Abrar Amin Khan and Md. Ashour Rahman (Bangladesh University of Engineering and Technology, Bangladesh)</i>
13:20 - 13:40	3D RAY TRACING FOR OPTIMIZING A MISOR-TILED COMPOUND PARABOLIC CONCENTRATOR <i>Ole Nydal and Casiana Lwiza (Norwegian University of Science and Technology, Norway)</i>	A ONE-DIMENSIONAL THERMO-HYDRAULIC STEADY-STATE MODELLING APPROACH FOR TWO-PHASE LOOP THERMOSYPHONS <i>Achref Rabhi, Ioanna Aslanidou, Konstantinos Kyriazidis and Rebei Bel Fdhila (Mälardalens University, Sweden)</i>	A MULTISCALE MODELING FRAMEWORK FOR DROPLET SOLIDIFICATION USING PHASE FIELD METHOD <i>Minghan Xu and Agus Sasmito (McGill University, Canada) and Saad Akhtar (Polytechnique Montréal, Canada)</i>
13:40 - 14:00	DESIGN OF AN AIR-COOLED HEAT REJECTION SYSTEM FOR A SUPERCRITICAL CARBON DIOXIDE CONCENTRATED SOLAR POWER PLANT <i>Liam Abrahamson and Colin du Sart (University of Cape Town, South Africa) and Ryno Laubscher (University of Stellenbosch, South Africa)</i>	EXPERIMENTAL STUDY OF HFC/HFO MIXTURES FLOW BOILING INSIDE A CIRCULAR MINICHANNEL <i>Nicolò Mattiuzzo, Marco Azzioli, Arianna Benzi, Stefano Bertolini and Davide Del Col (University of Padova, Italy)</i>	DETERMINING THE PARTICLE HEAT TRANSFER COEFFICIENT FOR AN ANISOTROPIC BED OF CRUSHED ROCK PARTICLES <i>Jaap Hoffmann (Stellenbosch University, South Africa)</i>
14:00 - 14:20	THERMODYNAMIC ANALYSIS OF A 20 MW CONCENTRATED SOLAR-POWERED SCOT BRAYTON RECOMPRESSION CYCLE <i>Mubanga Carl Tshamala, Tameha Mae Hans, Michael Trevor Foxwell Owen, Craig McGregor and Clayton Governder (Stellenbosch University, South Africa)</i>	MICROLAYER DYNAMICS AT BUBBLE GROWTH IN BOILING <i>Cassiano Techio, Xiaolong Zhang, Benjamin Carreau, Gilbert Zaker, Simon Vassant and Vadim Nikolayev (Alternative Energies and Atomic Energy Commission of France and Paris-Saclay University, France), Pere Roca i Cabarrocas, Pavel Bulkin and Jérôme Charlat (Institut Polytechnique de Paris, France)</i>	AN EXPERIMENTALLY-VERIFIED THERMAL-ELECTROCHEMICAL SIMULATION MODEL OF A 21700 CELL USING A LUMPED SEMI-EMPIRICAL BATTERY MODEL <i>Yifei Yu and James Marco (University of Warwick, United Kingdom), Alfredo Sarmadon, Barbara Shollock and Francesco Restuccia (King's College London, United Kingdom)</i>
14:20 - 14:40	NUMERICAL SIMULATION OF THE IMPACT OF SINUSOIDAL HEAT PIPE FLUID FLOW ON COEFFICIENT OF HEAT TRANSFER IN A THERMAL ENERGY STORAGE SYSTEM <i>Raymond Chinouya Kilegeti and Tunde Bello-Ochende (University of Cape Town, South Africa)</i>	DATA-BASED MODEL APPROACHMENT TO THE PREDICTION OF BOILING HEAT TRANSFER COEFFICIENT INSIDE MULTIPORT MINI-CHANNEL TUBES <i>Nurkilly Agostini, Hieu Ngoc Hoang and Jong-taek Oh (Chonnam National University, South Korea)</i>	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 WAXY WALLS <i>Abolfazl Nematpour-Elmehri, Marcello Isidoro, Giuseppe Lingella and Nicola Bianco (Università degli Studi di Napoli Federico II, Italy)</i>
14:40 - 15:00	EXPERIMENTAL INVESTIGATION OF A LOCALLY FABRICATED LOW-COST SOLAR PARABOLIC TROUGH IN THAILAND. <i>Teerapath Limboonruang and Muiyua Oyintola (De Montfort University, United Kingdom) and Nititain Phunpapi (Srinakharinwirot University, Thailand)</i>	INFLUENCE OF SURFACE ROUGHNESS ON COOLING EFFICIENCY DURING COOLING WITH WATER JET AND WATER SPRAY UNDER SURFACE BOILING CONDITIONS <i>Ewa Jędrzejewska, Beata Hladik, Michał Łosin and Gabriela Ratajczak (AGH University of Science and Technology, Poland) and Lukasz Blazczak (AGH University of Science and Technology, Italy)</i>	FLOW FIELD ANALYSIS INSIDE A THERMAL ENERGY STORAGE DEVICE USING PHASE CHANGE MATERIALS <i>Damián Crespi Lorens, Alberto Egea Villarreal, Fernando Rog Alarcón and Pedro Ginés Vicente Quiles (Universidad Miguel Hernández de Elche, Spain)</i>
15:00 - 15:20		BREAK	
15:20 - 17:40	DUCT AND PIPE FLOWS 1 <i>Chairs: Johannes Pretorius and Jaap Hoffmann</i>	AERODYNAMICS 1 <i>Chairs: Noma Fethi and Yong Du Jun</i>	MISCELLANEOUS 1 <i>Chairs: Lutfallah Kaddusi and Lin Chen</i>
15:20 - 15:40	MODEL OF OIL TEMPERATURE DISTRIBUTION ON THE MAIN OIL PIPELINES DEPENDING ON SOIL TEMPERATURE FIELD FOR NON-STATIONARY PUMPING PROCESS <i>Timur Bekbayev (Satsbayev University, Kazakhstan)</i>	EXPERIMENTAL INVESTIGATION OF THE EFFECT OF THE REYNOLDS NUMBER ON THE PERFORMANCE OF A MICRO-SCALE AND LOW TIP-SPEED RATIO WIND TURBINE <i>Martin Bouzidi, Florent Ravetel and Michael Perera (Arts et Métiers Institute of Technology, France)</i>	PARAMETER OPTIMIZATION OF HIGH-INTENSITY FOCUSED ULTRASOUND ABLATION: EXPERIMENTAL AND NUMERICAL STUDY <i>Maxim Solovchuk, Sophia Hsu and Peter Ong (National Health Research Institutes, Taiwan)</i>
15:40 - 16:00	BUBBLE DYNAMICS AND HEAT TRANSFER IN MICROCHANNEL FLOW BOILING <i>Pedro Pontes, Ivo Gonçalves, Antonio Moreira and Ana Mota (IN- Instituto Superior Técnico, Portugal)</i>	NUMERICAL INVESTIGATION OF MULTIPLE SHOCK WAVE OSCILLATIONS IN A SUPERSONIC SOLATOR. <i>Jinta Kochupoulal James and Heuy Dong Kim (Andong National University, South Korea)</i>	EVALUATION OF HYBRID COOLING TOWER PERFORMANCE FOR WATER AND ENERGY CONSERVATION <i>Cristina Elena Anghel, Afionca Takawita Thawe and Lagouge Tartibu (University of Johannesburg, South Africa)</i>
16:00 - 16:20	NON-ISOTHERMAL WAXY OIL FLOW IN A PIPELINE <i>Daniyar Boshinov and Uzak Zhabbasbayev (Satsbayev University, Kazakhstan)</i>	FORCED TRANSVERSE VS STREAMWISE OSCILLATIONS OF A HEATED CIRCULAR CYLINDER SOLATOR. <i>Md Islam, Ussama Ali and Isam Janjgah (Khafu University of Science and Technology, United Arab Emirates)</i>	DEWETTING ACCELERATED BY EVAPORATION <i>Xiaobing Zhang and Jiamin Xiaobing (Alternative Energies and Atomic Energy Commission of France and Paris-Saclay University, France)</i>
16:20 - 16:40	OPTIMISING A MACHINE LEARNING MODEL FOR REYNOLDS AVERAGED TURBULENCE MODELLING OF INTERNAL FLOWS <i>Anthony Man, Mohammad Jafri, Amir Koshner, Hujun Yin and Yasser Mahmoudi Larimi (University of Manchester, United Kingdom)</i>	FILM-COOLING ENHANCEMENT IN HIGH-PRESSURE TURBINE OF AN AIRCRAFT ENGINE <i>Nabeel Adouli, Ahmed Alhusseny and Adel Nasser (University of Manchester, United Kingdom)</i>	WETTING TRANSITION OF EVAPORATING FAIR DROP ON MICROSTRUCTURED SUPERHYDROPHOBIC SURFACES <i>Jubair Shamim, Yukinari Takahashi, Wei-Lun Hsu and Hirofumi Daigji (The University of Tokyo, Japan), Anjan Goswami (Imperial College London, United Kingdom) and Nadeem Shaukat (Pakistan Institute of Engineering and Applied Sciences (PIEAS), Pakistan)</i>
16:40 - 17:00	A NUMERICAL STUDY ON THE EFFECT OF INLET DUCTING ONTO AIR HANDLING UNIT AIRFLOW <i>Ardyansyah Yatim, Iqbal Tanjung, Ritho Irwansyah (Universitas Indonesia, Indonesia) and Christian Konrad Bach (Oklahoma State University, United States)</i>		USING ENHANCED HEATED WALLS IN THE STUDY ON INTENSIFICATION OF FLOW BOILING HEAT TRANSFER IN MINICHANNELS <i>Magdalenia Piszczka and Krzysztof Strykowski (Kielce University of Technology, Poland)</i>
17:00 - 17:20	WATER HARVESTING BY CAPILLARY TREES <i>Xuewei Zhang and Sylvie Lorente (Villanova University, United States)</i>	HEAT AND FLOW TOPOLOGY AROUND 3x3 SQUARE PRISMS <i>MD Mahabub Alam (Harbin Institute of Technology, China)</i>	ESTIMATION OF KINETIC PARAMETERS FOR HYDRO-CARBON PYROLYSIS IN A LIQUID METAL REACTOR <i>Alberto Abánades Velasco (Universidad Politécnica de Madrid, Spain)</i>

TIME	VENUE 1	VENUE 2	VENUE 3
TUESDAY, 09 August 2022			
08H15 - 09H45	KEYNOTE 2 & 3 Chairs: <i>Yuying Yan and Denis Mailler</i>		
08H15 - 09H00	NEW GENERATION SURFACES WITH BIOCATIONS SURFACES FOR PHASE CHANGE HEAT TRANSFER ENHANCEMENT Ercl Toyran, Mandana Mohammadmlooy, Alp Duman, Zulai Muganli, Ghazaleh Gharib, Abdolali K Sadaghiani and Ali Kesar (Sabanci University, Turkey)		
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 <i>Gschwendt Sibasaki</i> (University of Sao Paulo, Brazil) and Tiago Augusto Moreira (University of Wisconsin-Madison, United States)		
BREAK			
09H45 - 10H00	COOLING AND CRYOGENICS 1 Chairs: <i>All Nasari and Ardiyansyah Yatim</i>	POROUS MEDIA 1 Chairs: <i>Francisco Vera-Garcia and Nimra Fathi</i>	CONDUCTION 1 Chairs: <i>Jiangtao Cheng and Lüfuluh Kudvali</i>
10H00 - 10H00	NUMERICAL ANALYSIS OF PHASE-CHANGE HEAT TRANSFER BEHAVIORS OF CRYOGENIC FLOW ACROSS TUBE ARRAYS UNDER DIFFERENT BOUNDARY CONDITIONS Peiyuan Xu, <i>Lin Chen</i> , Jiaxiang Chen and Yongshang Feng (Chinese Academy of Sciences, China), Deqing Mei (School of Automotive and Traffic Engineering, China), Xiaohu Zhang (Jiangsu University, China), Xiaopang Mi (R&D Center, China) and Jie Chen (CNPC Gas & Power Group, China)	A STRAIGHTFORWARD DIGITAL APPROACH TO DESIGN, ASSESS AND MANUFACTURE POROUS METAL FOAM HEAT EXCHANGERS <i>Denis Antoine</i> , Kneer and Aron Kneer (Tinnit Technologies GmbH, Germany), Tobias Wolf, Lothar Müller and Stéphan Barbe (Cologne University of Applied Sciences, Germany) and Anastasia August (University of Applied Sciences Karlsruhe, Germany)	THERMAL CHARACTERIZATION OF COMPOSITE WALLS MADE FROM WASTE MATERIALS Blal Messahel, Nwakaego Oryenokporo and <i>Muayna Dymola</i> (De Montfort University, United Kingdom) and Arash Bezaee (Loughborough University, United Kingdom)
10H00 - 10H40	EXPERIMENTAL COOLING PERFORMANCE ANALYSIS OF THE METAL ADDITIVE-MANUFACTURED COLD PLATE WITH BODY-CENTERED CUBIC (BCC) ELEMENTS FOR INDIRECT COOLING APPLICATIONS Boris Burak Kanbur (Nanyang Technological University (NTU), Technical University of Denmark (DTU), Denmark), Yi Zhou, Mun Hoe Seok and <i>Fel Duan</i> (Nanyang Technological University (NTU), Singapore), Martin Ryhl Kern and Wieslke Brix Markussen (Technical University of Denmark (DTU), Denmark)	NOVEL DCMD SPACER DESIGN USING TPMS STRUCTURES: FLUID FLOW AND HEAT TRANSFER CHARACTERISTICS <i>Mohamed Ali</i> , Balsam Swaidan, Rashid Abu Al-Rub and Hassan Ararat (Khalifa University, United Arab Emirates)	ANALYTICAL MODELLING OF AXIAL CONDUCTION IN THICK CIRCULAR MICROCHANNELS <i>Indrasis Mitra</i> and Indrani 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 <i>Daniel Luge</i> (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 <i>Mohammad Jafar</i> and Yasser Mahmoud (The University of Manchester, United Kingdom)	A NOVEL REDUCED-ORDER MODEL FOR TRANSPARENT HEAT TRANSFER IN THERMOPHON FOR GEOTHERMAL SYSTEMS <i>Mohammad Zolfagharroshan</i> , Ahmad F. Zuerter, Minghan Xu and Agus P. Sasmitha (McGill University, Canada)
11H00 - 11H20	A COMMON PRIMARY ENERGY PLATFORM FOR CHILLERS - DEMYSTIFYING THE FIGURE OF MERIT FOR CHILLERS PERFORMANCE <i>Xin Chao</i> , Qian Chen, mi Kum Ja and Doskhan Ybyralymkul (King Abdullah University of Science & Technology, Saudi Arabia), Faleem Akhtar (Lahore University of Management Sciences, Pakistan), Muhammad Wakil Shahzad and Muhammad Shahzad (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, <i>Hitesh Khurana</i> and Sandip Kumar Saha (IIT Bombay, India)	OPTIMIZATION OF THERMAL SWITCHES IN MAGNETOCALORIC DEVICES <i>Katja Kliner</i> , Katja Vozel and Andrej Klanovski (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 <i>Guangyu Chen</i> , Yong Shi and Hanqing Ye (University of Nottingham Ningbo China, China)	CFD ANALYSIS OF A PRECOLLER FOR HYPERSONIC PROPULSION Amit Hegde and <i>Chennu Rangannaidu</i> (Birla Institute of Technology and Science Pilani, India)	NEAR-FIELD OF CONVECTIVE PLUMES FROM A LOCALLY HEATING SOURCE IN WATER <i>Ash Nguyen</i> and Kakuta Naoto (Tokyo Metropolitan University, Japan)
11H40 - 12H00	PERFORMANCE IMPROVEMENTS OF COMBINED CYCLE POWER PLANTS IN A HOT-HUMID CLIMATE USING INNOVATIVE EXHAUST-DRIVEN HYBRID DESICCANT, ELECTOR, AND REFRIGERATION GAS TURBINE INLET AIR-COOLING TECHNIQUES Ashraf Bassyil (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 <i>Martin Doušek</i> (Czech Technical University, Czech Republic)	TRANSIENT SOLUTION OF HEAT FIELD OF CONJUGATE LAMINAR FORCED CONVECTION HEAT TRANSFER IN FUNCTIONALLY GRADED HOLLOW CYLINDER <i>Obeiyed Fadiga</i> , Efe Steve and Lee Seong (Morgan State University, United States) and Adekunle Adedala (University of Lagos, Nigeria)
12H00 - 12H00	LUNCH		
13H00 - 15H00	ENERGY CONVERSION 1 Chairs: <i>Lin Chen and Muhammad Wakil Shahzad</i>	ENERGY AND ENVIRONMENTAL SYSTEMS 1 Chairs: <i>Naoko Iwato and Yong-Du Jun</i>	MISCELLANEOUS 2 Chairs: <i>Rakesh Sharma and Alexandru Onica</i>
13H00 - 13H20	MARINE DIESEL ENGINE MULTIPLE PERFORMANCE PARAMETER CHARACTERIZATION IN VARIABLE CONDITIONS WITH THERMODYNAMIC MODELLING <i>Joscha Castaneda Larracu</i> and Zigor Uriondo Arue (AZTI, Spain), Gorika Gabiria Iribar (Marine Research, Spain) and Aingeru Basterrechea Bitorika (Basque Research and Technology Alliance (BRTA), Spain)	NATURAL CONVECTION HEAT TRANSFER IN GREENHOUSES CONTAINING ROOF AND SIDE VENTILATORS <i>Sunba Kruger</i> (University of Johannesburg, South Africa) and Leon Pretorius (University of Pretoria, South Africa)	THERMODYNAMICS-INFORMED NEURAL NETWORK FOR ACCELERATED FLASH CALCULATION IN HYDROGEN ENERGY <i>Tao Zhang</i> , Yanhui Zhang, Abdallah AlShehri, Shuyi Sun and Ibrahim Hoteit (King Abdullah University of Science and Technology, Saudi Arabia) and Clemens Katterbauer (Saudi Aramco, Saudi Arabia)
13H20 - 13H40	OPERATIONAL BEHAVIOR OF A THERMOPHON DESORBER IN A FLUE GAS-CONDENSING ADSORPTION HEAT PUMP <i>Tina Hermann</i> , Christian Schwegler (Munich University of Applied Sciences, Germany), Dominik Glöckner (SCHREDEL Energie-technik GmbH, Germany) and Marco Bauer (SCHREDEL Energie-technik GmbH, Germany)	EVALUATION OF THE CO-CAPTURE CO ₂ /O ₂ OR NO AS IMPURITIES FROM OXY-FUEL COMBUSTION PROCESSES FOR CCS <i>Sofia Teresa Blanco Arino</i> and Javier Fernández López (Universidad de Zaragoza, Spain) and Roberto Berbes Martínez (Instituto de Síntesis Química y Catalisis Homogénea, CSIC-Universidad de Zaragoza, Spain)	EXPERIMENTAL PERFORMANCE ANALYSIS OF A FUEL CELL UNIT FOR VARIOUS NATURAL GAS-HYDROGEN FUEL MIXTURES <i>Katarina Simic</i> , Jera Van Nieuwenhuyse and Michel De Paeppe (Ghent University, Belgium)
13H40 - 14H00	ANALYSIS OF A MODIFIED REVOLVING VANE EXPANDER (M-RVE) IN AN ORC SYSTEM: VALIDATION OF THE THEORETICAL MODEL <i>Ali Nazeri</i> , 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. <i>Nattalin Phunpatt</i> and Teeraphat 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 Ashraf Bassyil (Alexandria Higher Institute of Engineering and Technology, Egypt)
14H00 - 14H20	CALIBRATION AND VALIDATION OF AN INTEGRATED THERMOFLUID MODEL OF A UTILITY-SCALE ONCE-THROUGH BOILER AT FULL- AND PART-LOAD Kai Feng and <i>Peter Rousseau</i> (University of Cape Town, South Africa) and Ryno Laubscher (Stellenbosch University, South Africa)	ELECTROWETTING-CONTROLLED LIQUID PRISM HELIOSTAT FOR BUILDING NATURAL DAYLIGHTING <i>Jiangtao Cheng</i> and Kuxun He (Virginia Tech, United States)	NUMERICAL MODELLING OF THE DRYING KINETICS OF MILK DROPLETS IN A SPRAY DRYER <i>Al-M. Sedifan</i> , Mathieu Sellaer and James Hewitt (University of Canterbury, New Zealand)
14H20 - 14H40	EXPERIMENTAL RESULTS OF A PARTIAL EVAPORATED ORGANIC RANKINE CYCLE INCLUDING A TWO-PHASE AXIAL TURBINE <i>Nicolas Taverne</i> , Guillaume Thermet 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 <i>Javier Ruiz Ramirez</i> and Manuel Lucas Miralles (Miguel Hernández University of Elche, Spain), Michael Opolot and Kamel Hoaman (The University of Queensland, Australia)	SEASONAL PERFORMANCE EVALUATION OF RADIANT SENSIBLE COOLING IN HIGH AMBIENT TEMPERATURE ENVIRONMENTS <i>Omar Zaki</i> and Omar Abdokki (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, <i>Francesco Peletti</i> and Luca Visco (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 <i>Daniel Terry Waters</i> and Michael Trevor Fawcett Owen (University of Stellenbosch, South Africa) and Hanno Carl Rudolph Reuter (Hamon Thermal Energy, South Africa)	LIQUID FILM MODEL FOR PULSATING HEAT PIPES <i>Xiaolong Zhang</i> and Vadim Nikolayev (French Alternative Energies and Atomic Energy Commission (CEA), France)
BREAK			
15H00 - 15H20	NUCLEAR ENERGY 1 Chairs: <i>Pouya H Niknam and Sunita Kruger</i>	HEAT EXCHANGERS 1 Chairs: <i>Federica Faure and Francisco Vera-Garcia</i>	THERMAL MANAGEMENT AND CONTROL 1 Chairs: <i>Ashraf Bassyil and Jiangtao Cheng</i>
15H20 - 15H40	DIRECT NUMERICAL SIMULATION OF TURBULENT HEAT TRANSFER WITH LOW PRANDTL NUMBERS <i>Yanjuan Tang</i> , Houjin Zhao and Fenglei Ni (North China Electric Power University, China), Xiaowei Li and Xiaoyang Xie (Tsinghua University, China)	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)	ACHIEVING TEMPERATURE CONTROL BY DIRECT INJECTION OF LIQUID WATER IN AXIAL COMPRESSORS OF "IN-SERVICE" GAS TURBINE ENGINES George STANESCU (Federal University of Paraná, Brazil), Ene Barbu, <i>Václav Vilag</i> and Jeni Vilag (INCD Turbomotoare COMOTI, Romania)
15H40 - 16H00	LARGE-SCALE EXPERIMENTAL ANALYSIS OF STEAM SUB-ATMOSPHERIC CONDENSATION FOR ITER VACUUM VESSEL PRESSURE SUPPRESSION SYSTEM DURING LOCA EVENT <i>Alessio Peretti</i> , Michele Rauci, 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-CHIP SYSTEMS <i>João Silva Pereira</i> (Universidade de Coimbra, Portugal)	GRAPHITE FOAM STRUCTURES AS AN EFFECTIVE MEANS TO COOL HIGH-PERFORMANCE ELECTRONICS <i>Ahmed Alhussien</i> , Nabeel Al-Zurfi, Adel Nasser (University of Manchester, United Kingdom) and Qahtan Al-Aabidy (University of Kufa, Iraq)
16H00 - 16H20	DRIFT-FLUX ANALYSIS OF AN OXIDIZING NUCLEAR FUEL CHANNEL DURING LOFA <i>Eva Elias</i> , Yuri Nekhamkin, Dov Hasan and Joshua Dayan (Technion, Israel)	HEAT EXCHANGER ARRANGEMENTS IN SUPERCRITICAL CO ₂ BRAYTON CYCLE SYSTEMS: AN ANALYSIS BASED ON THE DISTRIBUTION COORDINATION PRINCIPLE <i>Jiangfeng Guo</i> , Jian Song, Konstantin S. Pervulin and Christos Markides (Imperial College London, United Kingdom)	3D PRINTING CONFORMAL COOLING CHANNELS INTEGRATED WITH LATTICE STRUCTURE FOR INJECTION MOULDING <i>Fel Duan</i> (Nanyang Technological University, Singapore)
16H20 - 16H40	DIRECT NUMERICAL SIMULATION OF THE TURBULENT CROSS FLOW CHARACTERISTICS OVER AN INLINE TUBE BUNDLE <i>Xiaoyang Xie</i> , Yunhao Luo and Xianyu Wu (Tsinghua University, China), Houjin 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 <i>Adriano Sciacovelli</i> (University of Birmingham, United Kingdom)	MODELLING HEAT TRANSFER IN AN EXTRUDER FOR RECYCLING PLASTICS INTO FILAMENTS FOR USE IN ADDITIVE MANUFACTURING Meymam Azadani (De Montfort University, United Kingdom), Esther Alkinibi (Pan African University, Nigeria), Timothy Whitehead (Life and Earth Sciences Institute, United Kingdom) and <i>Muayna Dymola</i> (Aston University, United Kingdom)
16H40 - 17H00	COMPARISON OF CONDENSATION MODELS IN STEAM-AIR MIXTURE UNDER FORCED AND NATURAL CONVECTION CONDITION USING CLUPD CODE <i>Ji-Hwan Hwang</i> and Dong-Wook Jerrg (Chung-Ang University, South Korea), Jung Jin Bang (FNC technology CO., South Korea) and Gye-Hyeon Choi (LTD, South Korea)	EXPERIMENTAL STUDY ON THE LIQUID ETHANOL TUBULAR COMBUSTION SUSTAINED BY DUAL SWIRL <i>Qing Cao</i> , Kuanyu Wang, Xiao Yu, Dingjiang 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 <i>Francisco Fernández Hernández</i> and Antonio Atienza Márquez (University of Málaga, Spain), José Miguel Peña Suárez, Juan Antonio Banderas Camalejo, Irene Fernández Jiménez and Mari Carmen González Muriano (Altra Corporation S.L., Spain)
17H00 - 17H20	LET QUENCH TESTS MODELLING EXPERIENCE AND THE PRELIMINARY MODELLING RESULTS OF QUENCH-20 TEST USING RELAP5/SCDAPSIM <i>Noura Elstamony</i> , Tadas Kalaitas and Algridas Kallata (Lithuania Energy institute, Lithuania)	NET FLOW CHARACTERISTICS INSIDE AN OSCILLATORY REACTOR EQUIPPED WITH 3 ORIFICE BAFLES José Muñoz-Cámara, <i>Damián Crespi-Llorca</i> , Pedro Vicente Coules 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 <i>Immanuel Voigt</i> (Chemnitz University of Technology, Germany)

TIME	VENUE 1	VENUE 2	VENUE 3
WEDNESDAY, 10 August 2022			
08H15 - 09H45	KEYNOTE 4 & 5 <i>Chairs: Ali Kassar and Gherhardt Ribatski</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	CONVOLUTIONAL MODELS IN TIME: A BUILDING BRICK FOR TRANSIENT HEAT TRANSFER <i>Denis Maillé (LEMTA, France)</i>		
09H45 - 10H00	HEAT TRANSFER ENHANCEMENT 1 <i>Chairs: João Pereira and Ali Nasseri</i>	HEAT EXCHANGERS 2 <i>Chairs: Adriano Sciacovelli and Chennu Ranganayakulu</i>	BREAK
10H00 - 10H20	HEAT TRANSFER OF AN ANISYMMETRIC OIL JET IMPINGING A ROTATING DISK SPRAY FLAMES IN THE COUNTERFLOW CONFIGURATION <i>Cosyey Yikinhamez, Majed Elemadi, Ram Balachandar 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>Alexandru Onop, Wolfgang Hering, Luca Spanu and Robert Stieglitz (Karlsruhe Institute of Technology, Germany)</i>	HYDRODYNAMICS 1 <i>Chairs: Peter Rousseau and Federico Faure</i>
10H20 - 10H40	ASSESSMENT OF THE EFFECT OF NANOPARTICLES CONCENTRATION ON VISCOSITY AND DENSITY OF DIFFERENT NANOFLOIDS <i>Elaine Fabre, Rui Mira and S.M. Saïed 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 Chavez-Guerrero and David Alfredo Fuentes Diaz (Universidad Industrial de Santander, Colombia)</i>
10H40 - 11H00	NUMERICAL INVESTIGATION OF TRIPLE STRUCTURES OF LAMINAR FLUJEL-RICH ETHANOL/AIR SPRAY FLAMES IN THE COUNTERFLOW CONFIGURATION <i>Zhaoping Ying and Eva Guethel (Heidelberg University, Germany)</i>	NUMERICAL THERMAL ANALYSIS OF TUBE BANK HEAT EXCHANGERS FOR SORPTION THERMAL ENERGY STORAGE (TES) SYSTEMS. <i>Yakov Garfinkel and Mir Tabbar (Ariel University, Israel)</i>	CHARACTERIZATION OF HEAT TRANSFER AND PRESSURE DROP DURING STEADY STATE FLOW IN PERIODIC OPEN CELLULAR STRUCTURES (POCS) <i>Konrad Dubil, Thomas Wetzel and Benjamin Dietrich (Karlsruhe Institute of Technology, Germany)</i>
11H00 - 11H20	TURBULENT HEAT TRANSFER IN A SUPERCRITICAL DOWNWARD FLOW <i>Kenneth Chinnembi and Shuisheng He (University of Sheffield, United Kingdom)</i>	DYNAMIC MODELING AND CONTROL OF A FLATULAR 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>	VALIDATED CFD SIMULATION OF RANDOM PACKED BED STRUCTURES FOR CHARACTERIZATION OF THEIR HYDRODYNAMIC PERFORMANCE <i>William Orlando Delgado-Diaz (Ecole polytechnique Fédérale de Lausanne (EPFL) / Hochschule Luzern (HSLU), Switzerland), Anastasia Stamatou, Philipp Schuetz and Jörg Wortschke (Hochschule Luzern (HSLU), Switzerland) and Sophia Hausener (Ecole polytechnique Fédérale de Lausanne (EPFL), Switzerland)</i>
11H20 - 11H40	INFLUENCE OF HIDDEN VARIABLES ON THE THERMAL CONDUCTIVITY OF NANOFLOIDS <i>Julia Tacke (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 RAIDA CHILLER <i>Sugun Tei Inampudi and Stefan Eibel (University of Illinois at Urbana Champaign, United States)</i>	ON HYDRODYNAMICS OF DRY SLAG GRANULATION OF LD/BOF SLAG: DEVELOPMENTS FOR NEW LIQUID <i>D.S. Kushan, Goutam Chakraborty, Biswajit Maht, Sukanta Kumar Dash, Arun Kumar Samantary and Sanat Kumar Singha (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 Difronzo, Laura Savelli and Antonio Cammi (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>Ahraf Basaly (Alexandria Higher Institute of Engineering and Technology, Egypt)</i>	ON HYDRODYNAMICS OF DRY SLAG GRANULATION OF LD/BOF SLAG: ANALYTICAL MODELING <i>D.S. Kushan, Goutam Chakraborty, Biswajit Maht, Sukanta Kumar Dash and Arun Kumar Samantary (Indian Institute of Technology Kharagpur, India)</i>
12H00 - 13H00	COMPUTATIONAL FLUID DYNAMICS 1 <i>Chairs: Chennu Ranganayakulu and Pieter Rousseau</i>	CONVECTION HEAT TRANSFER 1 <i>Chairs: Naoko Iwata and Adriano Sciacovelli</i>	ENERGY STORAGE 3 <i>Chairs: MD Mahab Alam and Paurvi H Nikam</i>
13H00 - 13H20	NUMERICAL MODELLING OF SCALE FORMATION DURING THE REHEATING OF STEEL SLABS <i>Zawoob Yunus Ahmed, Ilya T. Jolyn, Toon Deemeester, Teun denard, Steven Lecompte and Michel De Paeppe (Ghent University, Belgium)</i>	ANALYTICAL APPROACH FOR HEAT TRANSFER PROBLEM IN THE ENTRANCE REGION OF ANNUAL FLOW WITH MIXED BOUNDARY CONDITIONS CONSIDERING RADIIALLY VARIABLE VELOCITY <i>Yasemen Kuddusi (Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland) and Lutfullah Kuddusi (Istanbul Technical University (ITU), Turkey)</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 Paeppe (Ghent University, Belgium)</i>
13H20 - 13H40	NUMERICAL VISUALIZATION OF EXPLOSION AT AIR, WATER AND INTERFACE <i>Balazsar Javahbi, Tae Ho Kim and Heung Dong Kim (Kangdong National University, South Korea)</i>	INVESTIGATION OF FORCED CONVECTION HEAT TRANSFER IN HEAT SINKS WITH CLADDING CONTAINING LIQUID SODIUM <i>Mahyar Pourghasemi and Nima Fathi (University of New Mexico, United States)</i>	IMPROVEMENT ON SIMULTANEOUS THERMAL ENERGY STORAGE AND RECOVERY WITH A NOVEL LAYOUT CONSISTING OF TWO SEPARATE PHASE CHANGE MATERIALS <i>Moslem (Ryan) Morafaraj, Ann Lee and Shaokoon Cheng (Macquarie University, Australia)</i>
13H40 - 14H00	NUMERICAL THERMAL ANALYSIS OF A PCM-ENHANCED ADAPTIVE ENVELOPE PROTOTYPE <i>Melias 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 Quij-Pedrosa, Anne Maren Coll-Franch, Luis Miguel García-Gutiérrez and Antonio Soría-Verdugo (Universidad Carlos III de Madrid, Spain)</i>	ZERO-DIMENSIONAL MODELS OF REPROCCATING COMPRESSOR AND EXPANDER FOR A PIES SYSTEM <i>Natalia Wener, Federico Favre, Pedro Curto-Risso and Daniel Croza (Facultad de Ingeniería/Uruguay, Uruguay)</i>
14H00 - 14H20	NUMERICAL ASSESSMENTS OF HYDRO AND HEMODYNAMIC PARAMETERS OF A NEW VENTRICULAR ASSISTANCE DEVICE <i>Louis Mareel and Smaïne Koudri (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 ARMO 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 Ardekani Moghimi and Alison Griffiths (Staffordshire University, United Kingdom)</i>
14H20 - 14H40	A NUMERICAL STUDY OF SMOKE BURFICATION FLOW IN LARGE TUNNEL FIRES <i>Nigel Charles Dharmalingam 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>Praveen Narasu and Eva Guethel (Heidelberg University, Germany)</i>	SMART-ENERGY-SAUNA: CO ₂ -OPTIMAL CHARGING OF A THERMAL ENERGY STORAGE THROUGH MODEL PREDICTIVE CONTROL <i>Christian Kierewski, Joshua Thelen and Micho Schäfer (University of Stuttgart, Germany)</i>
14H40 - 15H00	THE IMPACT OF VARYING FAN AIRFLOW RATES ON THE COMPUTER'S PROCESSOR'S HEAT SINK <i>Rosdoff Daniel Steyn, Mostafa Mahdani and Mohsen Shairpour (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>Ester Anjojo and Filimon N. Nangol (University of Namibia, Namibia) and Paul Chisale (The Copperbelt University, Zambia)</i>	THERMO-CHEMICAL BATTERY FOR ELECTRICITY STORAGE: PARAMETRIC ANALYSIS OF THERMALLY COUPLED GAS-SOLID REACTIONS IN AN ADABATIC REACTOR <i>Rakesh Sharma, Matthias Schmitt, Marc Linder and Inga Bürger (German Aerospace Centre (DLR), Germany)</i>
15H00 - 15H20	COMPUTATIONAL FLUID DYNAMICS 2 <i>Chairs: S.M. Saïed Murshed and Rakesh Sharma</i>	MISCELLANEOUS 3 <i>Chairs: Tao Zhang and Vadim Nikoleyev</i>	MISCELLANEOUS 4 <i>Chairs: Magdalena Piasecka and Masahiro Muraoka</i>
15H20 - 15H40	DROPLET THERMALIC SPALSHING ON SOFT MICRO-PILLARED SURFACES <i>Jiangtao Cheng (Virginia Tech, United States)</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 Paeppe (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>
15H40 - 16H00	INFLUENCE OF EXTENDED SURFACES ON CONVECTION AND HEAT TRANSFER IN A SQUARE CAVITY <i>Ebrahim Momanir, Chahir Hatjeb, and Sheldon Herbst (University Of Johannesburg, South Africa)</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>Bhujana Rathaur, Lili D. Sivi and Sumana Ghosh (Indian Institute of Technology Roorkee, India)</i>
16H00 - 16H20	PERFORMANCE EVALUATION AND OPTIMIZATION OF AN ULTRASONIC SPRAY ATOMIZERS SYSTEM FOR HVAC APPLICATIONS <i>Unser Bul Barmatz, Pedro Navarro Cobacho, Manuel Lucas Miralles, Pedro Martínez Martínez, Jesús Pérez Marco and Alberto Rodríguez Martínez (Miguel Hernández University of Elche, Spain)</i>	EXPERIMENTAL STUDY OF A SOLAR DRYER FOR DRYING APPLES IN 24 H DRYING CYCLES <i>Atimpeze Mawazo, Masodi Ramokwe and Molebogeng Mthuphi (North-West University, South Africa), Petros Demissie Tegenaw (Ivo Vlaanderen, United Kingdom) and Maarten Vanierschoot (KU Leuven, Belgium)</i>	NUMERICAL INVESTIGATIONS OF A PIPE-JET WITH COIL-INSERTS <i>Hamid Rahal (California State University, United States) and Germal Cuda (COE-CSULB, United States)</i>
16H20 - 16H40	DESIGN AND SIMULATION OF PASSIVE COOLING SYSTEM FOR A TRANSIT-ORIENTED DEVELOPMENT BUILDING CORRIDOR <i>Dyandra Bahmid and Ardiansyah Yatin (Universitas Indonesia, Indonesia) and Elang Wijaya (Artech Teknik Indonesia, Indonesia)</i>	STUDY OF THE OSCILLATIONS OF A MICROBUBBLE WITH SURFACE TENSION AS FUNCTION OF TIME WITH HEAT TRANSFER AT THE SURFACE <i>Cesar Yepez, Jorge Naude, Federico Mendez and Nargarita Navarrete (Universidad Nacional Autónoma de México/PUNTA, Mexico)</i>	CONCAVE BENDING OF CONTACT LIME DUE TO POLARIZATION AND SURFACE TRAPPING <i>Jiangtao Cheng and Lei Zhao (Virginia Tech, United States)</i>
16H40 - 17H00	EFFECT OF MOIBUSTION ON THE TEMPERATURE ELEVATION AND BLOOD FLOW IN HUMAN LEG <i>Hong-an Deng and Maxim Solovchuk (National Health Research Institutes, Taiwan)</i>	ANALYSIS OF THE EXPERIMENTAL DISTRICT HEATING AND COOLING FACILITY IN ALCALÁ 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), Iñaki Gurruchaga and Daniel González (SEENQ, Spain) and María Victoria Cambrero Vázquez (Acciona, Spain)</i>	NUMERICAL SIMULATION AND EXPERIMENTAL VALIDATION OF AIR FLOW AND HEAT TRANSFER IN AUTOCLAVING PROCESS <i>Halls Terzoglou, M. Yusuf Erdem and Beytullah Gungor (Turkish Aerospace, Turkey), Zafer Gemic, Oguz Akayilmaz and Hakan Demir (Yildiz Technical University, Turkey)</i>
17H00 - 17H20	HEAT TRANSFER ENHANCEMENT IN AN IMMERSION COOLING BATTERY THERMAL MANAGEMENT SYSTEM USING LINEAR VORTEX GENERATORS <i>Vailelos Sassanis, Vailelos Sassanis, Ioannis Karathanasis and Manolis Gavaises (University of London, United Kingdom)</i>	MULTI-GPU ACCELERATED RAY TRACING USING CUDA <i>Shane Riley, Liam Diefes, Lucas Bechtold and Matthew Barry (University of Pittsburgh, United States)</i>	