

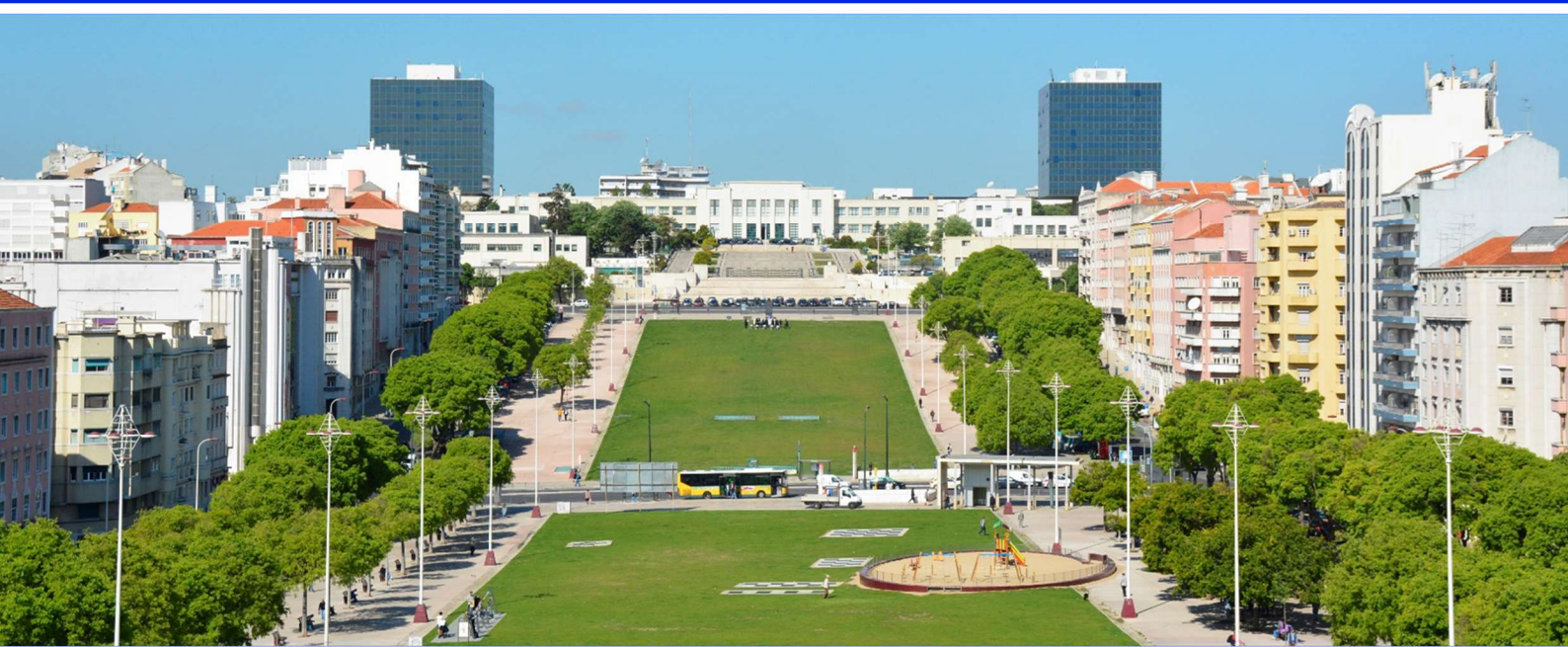


EUROTHERM 2021

8th European Thermal Sciences Conference

20-22 SEPTEMBER 2021, virtual conference

CONFERENCE PROGRAMME



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EUROTHERM 2021 PROGRAMME

Monday, 20 September 2021

09:00-09:20	Opening Ceremony Chairs: P.J. Coelho, J.S. Szymd
09:20-09:40	EUROTHERM Young Scientist Prize and Awards Chairs: S. Kabelac, J.S. Szymd, P.J. Coelho
09:40-10:10	EUROTHERM Young Scientist Prize Lecture POOL BOILING ON STRUCTURED SURFACES: HEAT TRANSFER AND CRITICAL HEAT FLUX Z. Cao Chair: A.L. Moreira
10:10-10:40	EUROTHERM Young Scientist Award Lecture MODELLING AND OPTIMISATION OF POROUS VOLUMETRIC RECEIVERS IN POINT-FOCUS SOLAR CONCENTRATION SYSTEMS G. Barreto Chair: W. Lipinski
10:40-11:25	Keynote Lecture KL-1: RECENT POLICY INITIATIVES IN RESEARCH AND INNOVATION IN THE EUROPEAN UNION Maria da Graça Carvalho Chair: P.J. Coelho
11:25-11:40	Session Break
11:40-12:25	Keynote Lecture KL-2: INVERSE PROBLEMS IN BIOHEAT TRANSFER Helcio Orlande Chair: D. Maillet

12:25-14:00	Lunch Break		
14:00-15:40	Room 1	Room 2	Room 3
	S1: Two-Phase/Multiphase Flows Chair: R. Bialecki	S2: Heat Exchangers 1 Chair: P. di Marco	S3: Convective Heat Transfer 1 Chair: O. Manca
	S1-1: TWO-PHASE FLOW MODEL OF A HORIZONTAL SYMMETRICAL IMPACTING T-JUNCTION X. van Heule , J. Van Nieuwenhuyse, M. de Paepe and S. Lecompte	S2-1: OPTIMIZATION PROCEDURE OF A NEW TYPE COUNTER-FLOW HEAT EXCHANGER R. Karvinen	S3-1: MODELLING TURBULENT HEAT TRANSFER IN ROUGH CHANNELS USING PHENOMENOLOGICAL THEORY J. Peeters
	S1-2: OIL-IN-WATER EMULSIFICATION VIA CROSS-JUNCTION MICROCHANNEL AT HIGH THROUGHPUT Y.Ji, J. Bellettre, A. Montillet and P. Massoli	S2-2: COMPARISON BETWEEN METALLIC-FOAM AND FINNED-TUBE WATER-TO-AIR HEAT EXCHANGERS C. Naldi, M. Dongellini and G.L. Morini	S3-2: EFFECTS OF INLET VELOCITY PROFILES FOR THERMAL STRIPPING PHENOMENA IN T-JUNCTIONS L. Lampunio, Y. Duan, R. Issa and M. Eaton
	S1-3: STUDY OF THE CONSERVATION PROPERTIES IN TWO-WAY COUPLED DISPERSED MULTIPHASE FLOWS USING FINITE VOLUME METHODS L. Bahramian, J. Muela and C. D. Pérez-Segarra	S2-3: HEAT EXCHANGER BASED ON PARAFFIN/EXPANDED GRAPHITE COMPOSITES FOR BREATHING AIR COOLING IN FIRE Y. Lv, J. Xiao, Y. Huang, X. Jiang and Y. Zhu	S3-3: HEAT TRANSFER IN SHALLOW CAVES: INFLUENCE OF TURBULENT CONVECTION B. Qaddah, L. Soucasse, F. Doumenc, S. Mergui, P. Rivière and A. Soufiani
	S1-4: 3D GAS-LIQUID INTERFACES AND FLOW CHARACTERISTICS OF TWO-PHASE FLOWS IN HORIZONTAL TUBES J. Zhang, B. Sunden, V. Wadekar and Z. Wu	S2-4: THERMAL PERFORMANCE MEASUREMENT OF ADDITIVE MANUFACTURED HIGH-TEMPERATURE COMPACT HEAT EXCHANGERS M. Fuchs, D. Heinrich, X. Luo and S. Kabelac	S3-4: JET IMPINGEMENT COOLING USING FLUIDIC OSCILLATORS: AN EXPERIMENTAL STUDY G. Saliba, V. Raimbault, S. Colin, A. Batikh, S. Orieux, R. Gilblas and L. Baldas
	S1-5: NUMERICAL SIMULATION OF DROP IMPINGEMENT AND BOUNCING ON A HEATED HYDROPHOBIC SURFACE N. Samkhaniani, H. Marschall, A. Stroh, B. Frohnäpfel and M. Wörner	S2-5: CONCEPTUAL DESIGN AND PERFORMANCE EVALUATION OF AN INNOVATIVE HIGH TEMPERATURE CERAMIC HEAT EXCHANGER S. Zavattoni, L. Cornolti, E. Arrivabeni, R. Puragliesi, A. Ortona and M. Barbato	S3-5: EXPERIMENTAL PRESSURE DROPS DURING THE WATER FLOW INTO POROUS MATERIALS REALIZED VIA ADDITIVE MANUFACTURING G. Righetti, C. Zilio, G. Savio, R. Meneghello, M. Calati and S. Mancin
15:40-16:00	Session Break		

	Room 1	Room 2	Room 3
	S4: Combustion and Fire Chair: M. Mendes	S5: Melting and Solidification 1 Chair: M. de Paepe	S6: Convective Heat Transfer 2 Chair: S. Murshed
16:00-17:20	S4-1: NUMERICAL ASSESSMENT OF A GAS-FIRED CONDENSING BOILER MODEL FOR RESIDENTIAL BUILDINGS APPLICATION K. Simic, I. T’Jollyn, W. Faes, J. Borrajo Bastero, J. Laverge and M. de Paepe	S5-1: NUMERICAL ANALYSIS OF THE SOLIDIFICATION PROCESS OF WATER USED AS PCM IN A RECTANGULAR LATENT HEAT THERMAL STORAGE UNIT M. Dekhil, J. Tala, O. Bulliard-Sauret and D. Bougeard	S6-1: EXPERIMENTAL INVESTIGATION OF THE THERMAL DEVELOPMENT OF TWO NANOFLUIDS IN LAMINAR FLOW A. Briclot, J. F. Henry, D. Caron, C. Popa and S. Fohanno
	S4-2: THERMAL PERFORMANCE DETERRENCE CAUSED BY PCM INCLUSION IN FIREFIGHTING GARMENTS: THE OTHER SIDE OF THE STORY A. Fonseca, S. Neves and J. Campos	S5-2: NATURAL AND FORCED CONVECTION IN HIGH TEMPERATURE PCM EMBEDDED IN A 3D PERIODIC STRUCTURE REALIZED VIA ADDITIVE MANUFACTURING G. Righetti, C. Zilio, L. Doretta and S. Mancin	S6-2: NUMERICAL STUDY OF LAMINAR FORCED CONVECTION HEAT TRANSFER IN A ROUGH MINI-CHANNEL FABRICATED BY ADDITIVE MANUFACTURING M. Kadivar, D. Tormey and G. McGranaghan
	S4-3: NUMERICAL INVESTIGATION OF FUEL FLEXIBILITY IN A SMALL-SCALE FLAMELESS COMBUSTOR P. Rijo and P.J. Coelho	S5-3: EXPERIMENTAL ANALYSIS OF PCMS EMBEDDED IN A BCC STRUCTURE MADE BY ADDITIVE MANUFACTURING A. Diani, L. Moro and L. Rossetto	S6-3: EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER ENHANCEMENT BY PULSATING FLOW IN A MINICHANNEL P. Kumavat and S. M. O’Shaughnessy
	S4-4: FIRE BEHAVIOUR OF A CARBON/NOMEX HONEYCOMB SANDWICH COMPOSITE USED IN AIRCRAFT INTERIOR V. Papadogianni, A. Romeos, K. Perrakis and T. Panidis	S5-4: EXPERIMENTAL THERMAL PERFORMANCE COMPARISON OF PURE AND METAL FOAM-LOADED PCMs M. Silvestrini, M. Falcone, F. Salvi, C. Naldi, M. Dongellini and G.L. Morini	S6.4: EXPERIMENTAL INVESTIGATION OF THE THERMAL PERFORMANCE IN ADDITIVELY MANUFACTURED MINI CHANNELS A. Nyhlén, M. Kinell and K. Nogenmyr
17:20-18:05	Keynote Lecture KL-3: CONVOLUTIVE MODELS FOR THERMAL SYSTEMS: ASSUMPTIONS, IDENTIFICATION AND LINK TO ARX MODELS Denis Maillet Chair: A. Nowak		

Tuesday, 21 September 2021

09:15-10:00	Keynote Lecture KL-4: CFD SIMULATION OF THE INTERACTION BETWEEN THE PARTICULATE PHASE AND FLUID Ryszard_Bialecki Chair: A. Nowak		
10:00-10:45	Keynote Lecture KL-5: RADIATIVE TRANSFER IN HIGH-TEMPERATURE SOLAR THERMOCHEMICAL SYSTEMS Wojciech Lipiński Chair: L. Dombrovsky		
10:45-11:00	Session Break		
11:00-12:40	Room 1	Room 2	Room 3
	S7: Boiling and Condensation 1 Chair: A.L. Moreira	S8: Heat Exchangers 2 Chair: R. Karvinen	S9: Measurement Techniques Chair: M. Mendes
	S7-1: DEVELOPMENT OF A CONTROL SYSTEM TO MAINTAIN STEADY TRANSITION BOILING Y. Haramura and Y. Kajikawa	S8-1: THE ADDITIONAL HEAT FLUX DUE TO ADHESION AT A PARTIALLY IMMERSED ROTATING DRUM HEAT EXCHANGER FOR LATENT HEAT STORAGE J. Tombrink, E. Jung and D. Bauer	S9-1: ALGORITHMS FOR THERMAL DIFFUSIVITY MEASUREMENT OF HETEROGENEOUS 1D MATERIALS BASED ON INFRARED MICROSCOPY ENHANCED ANGSTROM METHOD W. Guo, A. Chen, Y. Wu, Y. Zhu, S. Zeng and J. Yang
	S7-2: VARIATIONS OF NANOPARTICLE LAYER PROPERTIES DURING NUCLEATE POOL BOILING T. Okawa, K. Nakano and Y. Umehara	S8-2: NUMERICAL STUDY ON THE INFLUENCE OF INTERNAL HEAT EXCHANGER IN TRANSCRITICAL CO ₂ HEAT PUMPS UNDER OPTIMAL PRESSURE CONDITIONS F. Illán-Gómez, J. García-Cascales, F. Sánchez-Velasco, V. Sena-Cuevas and R. Otón-Martínez	S9-2: DEVELOPMENT OF MEASUREMENT SETUP FOR THERMAL CONDUCTIVITY AT HIGH TEMPERATURES USING THE PARALLEL HOT-WIRE J. Nonneman, K. Couvreur, A. Vancoillie and M. de Paepe

	S7-3: HEAT TRANSFER AND EXERGY ANALYSIS OF FLOW BOILING EVAPORATION IN U-BEND CHANNEL T. Jatau and T. Bello-Ochende	S8-3: IMPROVEMENT OF CONDENSATION HOOD CONDENSATION EFFICIENCY M. Tokarski, A. Ryfa, M. Rojczyk, Z. Ostrowski and A. Nowak	S9-3: A NEW METHOD FOR THERMAL CONDUCTIVITY MEASUREMENT: APPLICATION TO COMPLEX HETEROGENEOUS MATERIALS USED IN THERMAL BATTERIES T. Ledevin, M. William-Louis, L. Courty, D. Fabre and L. Faget
	S7-4: POOL BOILING PERFORMANCE OF LASER-TEXTURED SURFACES WITH TIME-DEPENDENT WETTABILITY M. Zupančič, P. Gregorčič and I. Golobič	S8-4: NANOFLUID SUSPENSIONS AS HEAT CARRIER FLUIDS IN SINGLE U-TUBE BOREHOLE HEAT EXCHANGERS A. Jahanbi, G. Semprini and B Pulvirenti	S9-4: MONTE CARLO ANALYSIS OF FREQUENCY DOMAIN THERMOREFLECTANCE DATA FOR QUANTITATIVE MEASUREMENT OF INTERFACIAL THERMAL CONDUCTANCE AT SOLID-LIQUID INTERFACES MODIFIED WITH SELF-ASSEMBLED MONOLAYERS K. Yu, R. Enright and D. McCloskey
	S7-5: THERMAL EFFICIENCY OF METAL FOAMS ON POOL BOILING L. Manetti, A. Moita and E. Cardoso	S8-5: MODELING THE TIME EVOLUTION OF GEOTHERMAL BOREHOLES DURING PEAK HEATING AND COOLING DEMANDS J. Rivero and M. Hermanns	S9-5: A COMPARISON OF POSTPROCESSING METHODS FOR HOT FILM SENSORS FOR THE HEAT TRANSFER ANALYSIS OF IMPINGING JET FLOWS P. Murphy, T. Persoons, S. O'Shaughnessy and D. Murray
12:40-14:00	Lunch Break		
14:00-15:40	Room 1	Room 2	Room 3
	S10: Boiling and Condensation 2 Chair: A. Moita	S11: Convective Heat Transfer 3 Chair: T. Panidis	S12: Computational/Numerical Methods Chair: P.J. Coelho
	S10-1: POOL BOILING OF NANOFLUIDS ON BIPHILIC SURFACES P. Pontes, E. Freitas, D. Fernandes, A. Teixeira, R. Ferreira, S. Bellmann, R. Cautela, A. Moita, V. Bahadur, J. Miranda, R. Lima, A. Ribeiro and A. Moreira	S11-1: EXPERIMENTAL STUDY OF A NATURAL CONVECTION FLOW IN A CUBIC ENCLOSURE WITH A PARTIALLY HEATED INNER BLOCK A. Weppe, F. Moreau and D. Saury	S12-1: NODE GENERATION IN COMPLEX 3D DOMAINS FOR HEAT CONDUCTION PROBLEMS SOLVED BY RBF-FD MESHLESS METHOD R. Zamolo and E. Nobile

	S10-2: HEAT TRANSFER AND CRITICAL HEAT FLUX FOR TWO-PHASE IMMERSION COOLING OF AN INVERTER POWER MODULE I. T’Jollyn, J. Nonneman and M. de Paepe	S11-2: MEASUREMENT OF SUPERCRITICAL HEAT TRANSFER TO R125 IN HORIZONTAL FLOW J. Van Nieuwenhuyse, A. De Meulemeester, M. de Paepe and S. Lecompte	S12-2: DEVELOPMENT AND VERIFICATION OF MESHLESS DIFFUSE APPROXIMATE METHOD FOR SIMULATION OF COMPRESSIBLE FLOW BETWEEN PARALLEL PLATES K. Rana, R. Zahoor, B. Mavrič and B. Šarler
	S10-3: LIFE OF A SINGLE BUBBLE GROWING WITHIN AN ELECTRIC FIELD IN MICROGRAVITY: SOME PRELIMINARY RESULTS OF THE REFERENCE MULTISCALE BOILING INVESTIGATION A. Garivalis and P. Di Marco	S11-3: RAPID THERMALIZATION BY ADAPTIVE FLOW REORIENTATION R. Lensvelt, M. Speetjens and H. Nijmeijer	S12-3: COMPARISON OF FINITE VOLUME AND ONE-DIMENSIONAL NETWORK METHODOLOGIES FOR THERMAL MANAGEMENT OF LIGHTING APPLICATIONS P. Joshi
	S10-4: BUBBLE DYNAMICS AND MECHANISTIC BOILING HEAT TRANSFER PREDICTION ON A SCORED COPPER SURFACE Z. Cao, Z. Wu and B. Sundén	S11-4: INVESTIGATING THE EFFECTS OF A NON - UNIFORM MAGNETIC FIELD ON HEAT AND FLOW CHARACTERISTICS OF A FERROFLUID S. Dalvi, T. van der Meer and M. Shahi	S12-4: IMPACT OF DOMAIN DISCRETIZATION ON THE ACCURACY OF A 2D MODEL OF PCM MODULE FOR VENTILATION APPLICATION V. Ljungdahl, M. Jradi, J. Dallaire and C. Veje
	S10-5: DECREASE OF LEIDENFROST TEMPERATURE AT QUENCHING IN SUBCOOLED LIQUIDS A. Zabirov, V. Yagov, V. Ryazantsev, I. Molotova and M. Vinogradov	S11-5: DYNAMIC LES OF THE MAGNETOHYDRODYNAMIC FLOW IN A SQUARE DUCT WITH THE VARIED WALL CONDUCTANCE PARAMETERS A. Blishchik and S. Kenjeres	S12-5: THERMAL TESTING AND ANALYSIS TECHNIQUES FOR WIRES AND WIRE BUNDLES S. Rickman, B. Furst and K. Johnson
15:40-16:00	Session Break		
16:00-16:45	Keynote Lecture KL-6: SUSTAINABLE ENERGY AND HUMAN DIMENSION M. Pinar Mengüç Chair: P.J. Coelho		

16:45-18:05	Room 1	Room 2	Room 3
	S13: Boiling and Condensation 3 Chair: A.L. Moreira	S14: Melting and Solidification 2 Chair: P. di Marco	S15: Heat Transfer in Buildings Chair: G.L. Morini
	S13-1: NUMERICAL SIMULATION OF DROPWISE CONDENSATION OVER HYDROPHOBIC SURFACES USING VAPOR-DIFFUSION MODEL N. Suzzi and G. Croce	S14-1: PRELIMINARY THERMAL CHARACTERISATION OF AN ACTIVE LATENT THERMAL ENERGY STORAGE SYSTEM USING PCM A. Egea, R. Herrero-Martín, A. García and J. Pérez-García	S15-1: INORGANIC PCMS APPLICATIONS IN PASSIVE COOLING OF BUILDINGS - A REVIEW H. Hassan and I. Lund
	S13-2: GLOBAL SENSITIVITY ANALYSIS OF A PURE STEAM DROPWISE CONDENSATION HEAT TRANSFER MODEL J. Sablowski, S. Unz and M. Beckmann	S14-2: RESEARCH ON XYLITOL CRYSTALLIZATION BY SHEARING AND SEEDING FOR ITS USE AS A PHASE CHANGE MATERIAL M. Delgado, M. Navarro, A. Lázaro, S. Boyer and E. Peuvrel-Disdier	S15-2: NANOENCAPSULATED PCM SLURRIES FOR THE DEVELOPMENT OF THERMOREGULATING GYPSUMS D. López-Pedrajas, M. Jiménez-Vázquez, A. Borreguero, F. Ramos, I. Garrido, J. Rodríguez and M. Carmona
	S13-3: DROPLET SWEEPING TO ENHANCE HEAT TRANSFER DURING DROPWISE CONDENSATION M. Tancon, M. Mirafiori, S. Bortolin, A. Martucci and D. Del Col	S14-3: AN EXPERIMENTAL STUDY OF THE TEMPERATURE EVOLUTION OF A SINGLE FIN SUBMERGED IN A PHASE CHANGING MATERIAL DURING MELTING AT DIFFERENT HEAT FLUXES R. Tassenoy, W. Beyne, W. Plas, S. Lecompte and M. de Paepe	S15-3: EXPERIMENTAL ANALYSIS OF THE THERMAL COMFORT PROVIDED BY AN ELECTRICAL HEATER AND A HEAT PUMP J. García-Cascales, F. Illán-Gómez, F. Velasco, F. Vera-García, A. Vera and F. García
	S13-4: INTERFACIAL WAVINESS DURING CONDENSATION HEAT TRANSFER A. Berto, P. Lavieille, M. Azzolin, S. Bortolin, M. Miscevic and D. Del Col	S14-4: EFFECT OF PCM FILL RATIO AND HEAT SINK ORIENTATION ON THE THERMAL MANAGEMENT OF TRANSIENT POWER SPIKES IN ELECTRONICS R. Akula and C. Balaji	S15-4: PERFORMANCE ANALYSIS OF A NEW SYSTEM FOR NIGHT COOLING OF BUILDINGS ON A FULL SCALE OFFICE ROOM - CFD STUDY M. Lança, P. Coelho and J. Viegas

Wednesday, 22 September 2021

09:15-10:00	Keynote Lecture KL-7: JOURNEY TOWARD FLEXIBLE THERMAL SUPERCONDUCTORS Sung Jin Kim Chair: M. de Paepe		
10:00-10:45	Keynote Lecture KL-8: ON THERMAL ISSUES IN BATTERIES AND FUEL CELLS FOR ELECTRIFIED VEHICLES Bengt Sundén Chair: J. Szymd		
10:45-11:00	Session Break		
11:00-13:00	Room 1	Room 2	Room 3
	S16: Micro/Nano Scale Heat Transfer 1 Chair: V. Semião	S17: Inverse Problems and Optimization Chair: H. Orlande	S18: Energy Engineering 1 Chair: G. Besagni
	S16-1: NUMERICAL APPROACH FOR FLUIDS FLOW AND THERMAL CONVECTION IN MICROCHANNELS W. Ajeeb, M. Oliveira, N. Martins and S. Murshed	S17-1: ESTIMATION OF LOCAL HEAT FLUX FOR TURBULENT FLOW IN A HELICAL COIL TUBE BY CONJUGATE GRADIENT METHOD S. Shah and A. Parwani	S18-1: A PARAMETRIC ANALYSIS OF THERMODYNAMIC LOSSES IN AN ANODE OF A SOLID OXIDE FUEL CELL T. Prokop, G. Brus, S. Kimijima and J. Szymd
	S16-2: THERMOGRAPHICAL STUDY OF GEOMETRY AND PHASE CHANGE INFLUENCE ON PDMS MICROCHANNEL LIQUID COOLING DEVICES P. Pontes, L. Martins, I. Gonçalves, A. Moita and A. Moreira	S17-2: ESTIMATION OF TRANSIENT BOUNDARY HEAT FLUX BY USING HYBRID ALGORITHM IN A TWO DIMENSIONAL LAMINAR DUCT FLOW V. Thakkar, R. Prajapati, S. Shah and A. Parwani	S18-2: HYDROGEN DIFFUSION UNDER THE EFFECT OF STRESS AND TEMPERATURE GRADIENTS Z. Zhang, C. Ayas, V. Popovich and J. Peeters

	S16-3: CONJUGATE HEAT TRANSFER FROM A MICROCHANNEL EMBEDDED IMPINGEMENT CUM FILM COOLED-FLAT PLATE A. Jaiswal, P. Mahapatra and B. Prasad	S17-3: EXPERIMENTAL ANALYSIS OF THE EVAPORATION OF A THIN LIQUID FILM DEPOSITED ON A CAPILLARY HEATED TUBE: ESTIMATION OF THE LOCAL HEAT TRANSFER COEFFICIENT L. Cattani, F. Bozzoli, V. Ayel, C. Romestant and Y. Bertin	S18-3: ROOM TEMPERATURE MAGNETO-CALORIC REFRIGERATOR: SYSTEM LEVEL ANALYSIS K. Rajamani, T. van der Meer and M. Shahi
	S16-4: OPTIMAL DESIGN OF SUBCOOLED TRIANGULAR MICROCHANNEL HEAT SINK EXCHANGERS WITH VARIABLE HEAT LOADS FOR HIGH PERFORMANCE COOLING D. Ariyo and T. Bello-Ochende	S17-4: APPLICATION OF RC DELAY TIME FOR ESTIMATION OF THERMAL PROPERTIES P. Jena and R. Gupta	S18-4: THERMO-MECHANICAL CHARACTERIZATION OF A SHAPE MEMORY ALLOY ACTUATOR FOR PASSIVE THERMALLY DRIVEN DEPLOYABLE PANEL R. Perna, M. Mameli, S. Filippeschi, F. Bucchi and F. Frendo
	S16-5: A NOVEL APPROACH TO GENERATE NON-ISOTROPIC SURFACES FOR NUMERICAL QUANTIFICATION OF THERMAL CONTACT CONDUCTANCE T. Helmig, T. Göttlich and R. Kneer	S17-5: USING STATISTICAL INVERSE METHODS FOR DETECTING DEFECTS IN ELECTRONIC COMPONENTS V. Bissuel, Q. Dupuis, N. Laraqi, J.-G. Bauzin	S18-5: EFFECT OF INPUT PARAMETERS ON ENERGY REQUIREMENTS OF PHASE CHANGE MATERIAL INTEGRATED LOCAL HEATING SYSTEM P. Shukla and P. Kishan
	S16-6: CRITICAL EVALUATION OF NANOFLUIDS AND IONANOCOLLOIDS AS HEAT TRANSFER FLUIDS E. Fabre and S. Murshed	S17-6: NUMERICAL OPTIMIZATION OF A MULTISTAGE SORPTION COMPRESSOR A. Hamersztein, A. Davidesko and N. Tzabar	S18-6: NUMERICAL SIMULATION OF FLUID STRUCTURE INTERACTION IN FREE-SURFACE FLOWS: THE WEC CASE E. Schillaci, F. Favre, P. Troch and A. Oliva
13:00-14:00	Lunch Break		
14:00-15:40	Room 1	Room 2	Room 3
	S19: Micro/Nano Scale Heat Transfer 2 / Thermophysical Properties Chair: B. Sundén	S20: Thermal Radiation 1 Chair: F. André	S21: Mass Transfer and Evaporation Chair: V. Semião
	S19-1: EFFECT OF NANOPARTICLE DEPOSITION ON THE THERMAL PERFORMANCE OF EVAPORATOR IN THERMOSYPHONS	S20-1: AN ESTIMATE OF SIZE OF COPPER NANOPARTICLES LEVITATING OVER THE MELT	S21-1: EXPERIMENTAL STUDY OF THE THERMAL MANAGEMENT PROCESS AT LOW-

	T. Donepudi, A. Korobko, J. Peeters and S. Fateh	SURFACE USING THE MEASUREMENTS OF SPECTRAL REFLECTANCE L. Dombrovsky and V. Mendeleyev	TEMPERATURE CIRCULATING CHARGING OF AN ADSORBED NATURAL GAS STORAGE SYSTEM S. Chugaev, E. Strizhenov, I. Men'shchikov and A. Shkolin
	S19-2: MEMORY AND NONLOCAL EFFECTS OF HEAT TRANSPORT IN A SPHERICAL NANOPARTICLE F. Font	S20-2: NUMERICAL SIMULATION OF COUPLED DIFFUSE RADIATION AND NATURAL CONVECTION IN A CUBIC CAVITY HEATED FROM BOTTOM G. Chanakya and P. Kumar	S21-2: EXPERIMENTAL STUDY OF HEAT TRANSFER IN ADSORBED NATURAL GAS STORAGE SYSTEM FILLED WITH MICROPOROUS MONOLITHIC ACTIVE CARBON E. Strizhenov, S. Chugaev, I. Men'shchikov, A. Shkolin and I. Shelyakin
	S19-3: FORCED CONVECTION HEAT TRANSFER CHARACTERISTICS OF AL ₂ O ₃ NANOFLUIDS IN A MINICHANNEL - AN EXPERIMENTAL STUDY D. Roque, W. Ajeeb, S. Murshed and J. Pereira	S20-3: EXPERIMENTAL STUDY OF RADIATIVE TRANSFER IN SEMI-TRANSPARENT COMPOSITE MATERIALS AT DIFFERENT TEMPERATURES F. Retailleau, V. Allheily, L. Merlat, J. Henry and J. Randrianalisoa	S21-3: PARTICLE DEPOSIT PATTERNS FROM EVAPORATION OF A SESSILE COLLOIDAL DROPLET A. Mokhtari, M. AitSaada, S. Chikh and L. Tadrist
	S19-4: EVALUATION OF STABILITY AND VISCOSITY OF [C2MIM][DCA] BASED IONANOCOLLOIDS J. Pinto, E. Fabre and S. Murshed	S20-4: A NUMERICAL METHOD BASED ON DOMAIN DECOMPOSITION TO SOLVE COUPLED CONDUCTION-RADIATION PHYSICS USING PARALLEL COMPUTING WITHIN LARGE POROUS MEDIA A. Kumar, J. Vicente, J.-V. Daurelle, Y. Favennec and B. Rousseau	S21-4: THERMAL CONDITIONS FOR THE FORMATION OF SELF-ASSEMBLED CLUSTER OF DROPLETS OVER THE WATER SURFACE A. Fedorets, L. Dombrovsky, D. Shcherbakov, M. Frenkel, E. Bormashenko and M. Nosonovsky
	S19-5: A THERMAL CONDUCTIVITY STUDY IN PECVD AMORPHOUS SILICON NITRIDE THIN FILMS M. Hadi, S. Pailhès, R. Debord, J.-L. Leclercq, E. Drouard, T. Gehin, C. Botella, V. Giordano	S20-5: ANALYSIS OF DAMAGED ALUMINA ENHANCED THERMAL BARRIER L. Brodzik	S21-5: DIGITAL HOLOGRAPHIC STUDY OF VAPOR TRANSPORT OF HEAVY HYDROCARBON FROM HEATED WELL CAVITY D. Shukla and P. Panigarhi
15:40-16:00	Session Break		
16:00-17:40	Room 1	Room 2	Room 3

	S22: Energy Engineering 2 / Electronic Cooling Chair: G. Besagni	S23: Thermal Radiation 2 Chair: P.J. Coelho	S24: Solar Energy Chair: M. Mendes
	S22-1: THERMODYNAMIC MODELING AND CONTROLLING OF A COMBINED FREE PISTON STIRLING ENGINE SYSTEM (FPSE) WITH A PERMANENT MAGNET LINEAR SYNCHRONOUS MACHINE (PMLSM) M. Majidniya, T. Boileau, B. Remy and M. Zandi	S23-1: NEW H ₂ O WEIGHTED SUM OF GRAY GASES MODEL FOR NATURAL CONVECTION FLOWS WITHIN LARGE CAVITIES X. Liu, S. Kelm, C. Yin , H.-J. Allelein	S24-1: EFFECT OF THICKNESS ON THE THERMO-HYDRAULIC PERFORMANCE OF POROUS VOLUMETRIC SOLAR RECEIVERS WITH DIFFERENT INTERNAL GEOMETRIES G. Barreto, P. Canhoto and M. Collares-Pereira
	S22-2: PERFORMANCE EVALUATION OF THERMOELECTRIC GENERATORS UNDER CYCLIC HEATING N. Williams, L. Roumen, G. McCauley and S. O'Shaughnessy	S23-2: RADIATIVE HEAT TRANSFER CALCULATION FOR MIXTURE OF GASES USING FULL SPECTRUM K-DISTRIBUTION METHOD K. Khemani and P. Kumar	S24-2: PRIMARY ENERGY SAVING POTENTIAL OF A SOLAR-DRIVEN EJECTOR COOLING SYSTEM: A CASE STUDY FOR A PORTUGUESE RESIDENTIAL BUILDING M. Dongellini, C. Naldi, C. Moser, S. Varga and G. Morini
	S22-3: ADVANCED ADIABATIC COMPRESSED AIR ENERGY STORAGE DESIGN AND MODELLING ACCOUNTING FOR TURBOMACHINERY PERFORMANCE J Roncolato, G Zanganeh, P. Jenny, M. Scholtysik, E. Jacquemoud, A. Haselbacher and M. Barbato	S23-3: BENCHMARK TEST CASES FOR NON-GRAY RADIATIVE HEAT TRANSFER CALCULATION USING FSK LOOK-UP TABLE S. Parvatikar, K. Khemani and P. Kumar	S24-3: IN-LINE MEASUREMENT OF ABSORBED SOLAR IRRADIANCE USING NANOFLUIDS E. Zanetti, A. Berto, M. Meneghetti and D. Del Col
	S22-4: AVERAGED ENERGY-BALANCE ANALYSIS OF WAVY MICRO-CHANNELS R. Durantes, J. Moon, J. Pacheco and A.Pacheco-Vega	S23-4: ASSESSMENT OF ENGINEERING GAS RADIATION METHODS IN AN INDUSTRIAL GLASS FURNACE CONFIGURATION M. Galtier, W. Woelffel, F. André, V. Solovjov, B. Webb and S. Roy	S24-4: THERMAL BEHAVIOR OF A FLAT-PLATE DIRECT ABSORPTION WITH WATER-NANOHORN MIXTURE B. Buonomo, O. Manca, R. Mariani and S. Nardini
	S22-5: NOVEL THERMAL DIODE BASED ON A MULTILAYER STRUCTURE OF PHASE CHANGE MATERIALS T. Swoboda, K. Klinar, A. Kitanovski and M. Rojo	S23-5: ASSESSMENT OF LOCAL AND NON-LOCAL TURBULENT FLOW COMPONENTS ON TURBULENCE-FLAME INTERACTION A. Er-raiy, R. Boukharfane, L. Alzaben and M. Parsani	
17:40-17:50	Closing Ceremony		

POSTERS

PS-1: LUMPED PARAMETER MODELLING OF TWO-PHASE EJECTORS: NUMERICAL IMPLICATIONS OF THE EQUILIBRIUM ASSUMPTIONS

G. Besagni

PS-2: EJECTOR REFRIGERATION: PERSPECTIVES AND COMPARATIVE ANALYSIS

G. Besagni, L. Croci, P. Bellasio and L. Colombo

PS-3: COMPUTATIONAL FLUID DYNAMIC MODELLING OF SUPERSONIC EJECTORS: COMPARISON BETWEEN 2D AND 3D MODELLING

G. Besagni, L. Croci, N. Cristiani, F. Inzoli and G. Guédon

PS-4: ELECTRICAL CONDUCTIVITY OF CONCENTRATED LiBr ETHYLENE-GLYCOL AND WATER TERNARY SYSTEM

J. Zheng, J. Chiva, J. Castro, Y. Liu and A. Oliva

PS-5: PASSIVE SYSTEM OF COOLING AND REFRIGERANT FLUID CIRCULATION, ASSISTED BY CAPILLARY PUMPING

O. Sologubenko, J. Hemrle, L. Kaufmann

PS-6: IDENTIFICATION OF RADIANT SOURCE IN AN ENCLOSURE BY REDUCED MODEL

B. Gaume, Y. Rouiz, F. Joly, and O. Quemener

PS-7: MODELLING PLANT TRANSPIRATION AND LEAF CLIMATE USING CFD

W. Plas and M. de Paepe

PS-8: A 2D NUMERICAL SIMULATION OF BINARY ALLOY SOLIDIFICATION: EFFECT OF MESH RESOLUTION ON FORMATION OF CHANNEL SEGREGATES

A. Kumar, A. Singh and A. Kumar

PS-9: THE INFLUENCE OF SOLAR HEATING UPON GROUND TEMPERATURE

A. Sousa, L. Azevedo, M. Pereira and H. Matos

PS-10: VALIDATION AND CALIBRATION OF DYNAMIC ENERGY MODELS: ENERGY AUDIT OF A PUBLIC BUILDING

S. Bergero and A. Chiari

PS-11: OPTICAL AND THERMAL ANALYSIS OF SECONDARY OPTICS IN LIGHT EMITTING DIODES' PACKAGING: *ANALYSIS OF MR16 LAMP*

M. Azarifar, C. Cengiz and M. Arik

PS-12: VELOCITY MEASUREMENTS OF INDIVIDUAL DROPLETS IN LIQUID-LIQUID TAYLOR FLOWS IN CIRCULAR CAPILLARIES

S. Zadeh, P. Walsh and V. Egan

PS-13: EFFECTS OF REFRIGERANT CHARGE IN REFRIGERATION SYSTEM ON THERMOHYDRAULIC PERFORMANCE OF MICROCHANNEL EVAPORATOR

G. El Achkar, B. Liu and R. Bennacer

PS-14: ENHANCEMENT OF REFRIGERATION SYSTEM PERFORMANCE BY REFRIGERANT CAPILLARY INJECTION IN EVAPORATOR

G. El Achkar, B. Liu, Y. Liu and R. Bennacer

