			CONV-22	Program at a Glance			
	Sunday, 5 June	Monday, 6 June	Tuesday, 7 June	Wednesday, 8 June	Thursday, 9 June	Friday, 10 June	
08:00 - 08: 40		Registration					08:00 - 08: 40
08:50 - 09:10		Opening Session	Vocanoto 3. Monda	Vormoto 6: Holoio Octomov			08:50 - 09:10
09:10 - 09:30			reynore 3. nestili Ozaip	reyllote o. neiclo Ottalide	Session 10:		09:10 - 09:30
09:30 - 06:50		Keynote 1: Kemal Hanjalic (Luikov Medal)			Thermal Systems	Session 14: Convection with	09:30 - 09:50
09:50 - 10:10			Session 5:	Session 9:		(Virtual)	09:50 - 10:10
10:10 - 10:30		Session 1:	Natural convection 1	Heat Exchangers	Vouncto 0: Zind Souhir		10:10 - 10:30
10:30 - 10:50		Forced Convection 1			Neyllote 9. Liau Sayiiii		10:30 - 10:50
10:50 - 11:10		Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	10:50 – 11:10
11:00 – 11:30			Keynote 4 : Anchasa				11:00 – 11:30
11:30 – 11:50			Pramuanjaroenkij	Variation Property		Session 15:	11:30 – 11:50
11:50 – 12:10		Session 2 : Phase Change 1		Neynote 7: Tildiz bayazıtoğlu	Session 11: Forced Convection 2	Micro/Nano Heat Transfer	11:50 – 12:10
12:10 - 12:30			Session 6: Natural Convection 2	Keynote 8 · Benefit		(Virtual)	12:10 – 12:30
12:30 – 12:50				reyllote o . nellato cotta			12:30 – 12:50
12:50 – 14:00		Welcome Coktail	Lunch Break	Lunch Break	Lunch Break		12:50 – 14:00
14:00 – 14:20		Kaynota 2: Tarranca W. Simon	Keynote 5: Nilanian Chakrahorty		Kavnota 10: Francois I anzatta		
14:20 - 14:40		regilore 2. Tellelloc W. Silloll	Neyflore 5. Milanjan Chanabolty		Neyllote 10. Hallyols Lalizetta		
14:40 – 15:00							
15:00 – 15:20		Session 3:	Session 7:		Session 12 : Thermal Process		
15:20 - 15:40		Thermal Process	Phase change 2	Free Affernoon	(Virtual)		
15:40 – 16:00							
16:00 – 16:20	Destroited	Coffee Break	Coffee Break		Coffee Break		
16:20 - 16:40	(DESEM						
16:40 – 17:00	Conference centre)	Session 4: Numerical Analysis 1 (Virtual)	Session 8 : Poster Session		Session 13 : Numerical Analysis 2 (Virtual)		
17:00 – 17:40							
			Gala Dinner				

5th International Symposium on Convective Heat and Mass Transfer, CONV-22 Izmir, June 5-10, 2022

PROGRAM

Sunday, June 5, 2022

16:00 – 18:00 Registration	
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Monday, June 6, 2022

08:00 - 08:40	Registration
08:50 - 09:10	Opening Session
09:10 – 10:10	Keynote Lecture 1: Luikov Medal Lecture
	COMPUTER MODELLING OF THERMALLY-DRIVEN MICROCLIMATE PHENOMENA <u>Kemal Hanjalić</u> Session Chair: <u>Terrence Simon</u>
	Session 1: Forced Convection 1 Session Chair : <u>Terrence Simon</u>
10:10 – 10:30	A 67 Supersonic Nitrogen and Helium Jet Impingement on a Flat Stationary Surface Joseph M. Conahan, Ozan C. Ozdemir*, Mohammad E. Taslim and Sinan Muftu
10:30 – 10:50	-
10:50 – 11:10	Coffee Break
	Session 2: Phase Change 1 Session Chair : <u>Nesrin Özalp</u>
11:10 – 11:30	A 57 Numerical Modeling of the Desublimation of CO ₂ <u>Michael Adebayo Oyinloye</u> *, <u>Sreenivasa Rao Gubba</u> , Marius-Gabriel Cojocaru, Deoras Prabhudharwadkar and William L. Roberts
11:30 – 11:50	A 15 Effect of Subcooling and Pressure Over Nucleate Pool Boiling on Micro-Drilled Surfaces <u>Tolga Emir</u> *, Mete Budakli and <u>Mehmet Arik</u>
11:50 – 12:10	A 99 The Onset of Significant Void in Subcooled Flow Boiling <u>H. Jeong</u> * and <u>W. Jaewoo Shim</u>
12:10 – 12:30	A 71 Numerical Investigation of Critical Heat Flux under the Effect of Different Operating Conditions in Flow Boiling <u>Saeid R. Angeneh</u> * and Murat K. Aktas
12:30 – 12:50	A 60 The Regularities of the Convective Heating Water Droplets at the Transient Phase Change Regime When They Slipping in the Radiating Media Gintautas Miliauskas, Žygimantas Staliulionis and Monika Maziukienė*
12:50 – 14:00	Welcome Reception
14:00 – 14:40	Keynote Lecture 2
	TURBULENCE MEASUREMENTS IN A TURBINE CASCADE FLOW <u>Terrence Simon</u> Session Chair: <u>Kemal Hanjalić</u>
	Session 3: Thermal Process 1 Session Chair: M. Ziad Saghir

	A 19
14:40 – 15:00	Investigation of Nanoscale Droplet Evaporation by Molecular Dynamics Simulations <u>Ezgi Satiroglu</u> and <u>Murat Barisik</u>
15:00 – 15:20	A 74 Study of Heptane Pool Fire in Well-Confined Military Vehicle Engine Compartment Soleh F. Junjunan, Khaled Chetehouna*, Axel Cablé, Abdulhadi Abdlgwad, Antoine Oger and Romie O. Bura
15:20 – 15:40	A 12 Drop-on-Demand Inkjet Printing Assessment of Graphene from Aqueous Graphene Dispersions <u>Elif Begum Elcioglu</u> * and Erdem Ozyurt
15:40 – 16:00	A 13 Activated Carbon Heat Sinks Alperen Günay
16:00 – 16:20	Coffee Break
	Session 4: Numerical Analysis 1 (Virtual) Session Chair: Carolina Naveira-Cotta
	A 95
16:20 – 16:35	Laminar Natural Convection of Power-Law Fluids in a Trapezoidal Enclosure Heated from the Bottom Sean P. Malkeson*, Saleh Alshaali and Nilanjan Chakraborty
16:35 – 16:50	A 76 Effect of Variable Viscosity on Natural Convection Within a Semi-Cylindrical Cavity Filled with a Heat Generating Fluid A. I. Kudrov* and M. A. Sheremet
16:50 – 17:05	A 21 Numerical Heat Transfer Analysis of Two-Phase Flow in Horizontal and Inclined Flowlines using OpenFOAM Nsidibe Sunday*, Abdelhakim Settar, Khaled Chetehouna and Nicolas Gascoin
17:05 – 17:20	A 52 Effects of the Soil Properties on Canadian Wells Performance: Numerical Simulation Islam Boukail, Louay Fenchouch, Nabil Kharoua* and Hamza Semmari
17:20 – 17:35	A 42 Convective Heat Transfer in the Brest-OD-300 Nuclear Reactor Fuel Rod <u>D. Fedorovich</u> * and I. Paramonova
17:35 – 17:50	A 39 Heat Transfer Improvements in Nanofluid Synthesis, Stability, and Thermophysical Properties: A Review B.S. Mashishi*, Z. Huan, T. Sithebe and V.R Veeredhi

	Keynote Lecture 3
08:50 – 09:30	SOLAR FUELS PRODUCTION USING HIGH TEMPERATURE SOLAR REACTORS UNDER TRANSIENT THERMAL RESPONSE
	<u>Nesrin Özalp</u> Session Chair: <u>Yıldız Bayazıtoğlu</u>
	Session 5: Natural Convection 1 Session Chair : Yıldız Bayazıtoğlu
09:30 – 09:50	A 50 Fully Developed Mixed Convection in a Plane Vertical Microchannel <u>Jacques Padet</u> and <u>Renato Cotta</u>
09:50 – 10:10	A 14 Natural Convection in a Cylindrical Enclosure with Different Internal Objects Ibrahim Jarrah and <u>Rizwan Uddin</u> *
10:10 – 10:30	A 48 Effects of Wall-Shearing on Weakly Turbulent Rayleigh-Bénard Convection <u>Ilyas Yilmaz</u> *
10:30 – 10:50	A 69 Effect of Prandtl and Richardson Numbers on Convection Heat Transfer from a Heated Circular Cylinder Immersed in a Wake of an Adiabatic Cylinder Zaher Ramadan* and Chan Woo Park
10:50 – 11:10	Coffee Break
11:10 – 11:50	Keynote Lecture 4
	THE PERFORMANCE ENHANCEMENT OF THE AGRICULTURAL POSTHARVEST COOLING SYSTEMS BY USING HEAT EXCHANGERS
	Anchasa Pramuanjaroenkij Session Chair: <u>Renato M. Cotta</u>
	Session 6: Natural Convection 2 Session Chair : Renato M. Cotta
11:50 – 12:10	A 30 Heat Transfer Rectification for Energy Managmement in Buildings <u>Abdulmajeed Mohamad</u> *
12:10 – 12:30	A 88 Natural Convection-Driven Phase Change Inside Cylindrical Annulus <u>Okan Gök</u> *, Ersin Alptekin, <u>Mehmet A. Ezan</u> and Aytunç Erek
12:30 – 12:50	A 18 Modeling of Thermal Conductivity of Bio-Based Building Composites <u>Fabian Dietrich</u> , <u>Piotr Łapka</u> ,*, Piotr Furmański, Maris Sinka and Diana Bajare
12:50 – 14:00	Lunch Break
14:00 – 14:40	Keynote Lecture 5
	PREMIXED FLAME-WALL INTERACTION AND HEAT TRANSFER CHARACTERISTICS IN TURBULENT BOUNDARY LAYERS: INSIGHTS BASED ON DIRECT NUMERICAL SIMULATIONS Nilanjan Chakraborty Session Chair: Abdulmajeed A. Mohamad
	Session 7: Phase change 2 Session Chair: Abdulmajeed A. Mohamad
14:40 – 15:00	A 16 Influence of Frost Formation on Heat Transfer Effectiveness of Extended Surfaces <u>Alper Saygin</u> *,Ceyhun Topal, Altug M. Basol and <u>Mehmet Arik</u>
15:00 – 15:20	A 47 Validation of a Heat-Pipe Experiment Using CFD

15:20 – 15:40	A 98 Numerical Investigation of the Refining Process in a Glass Melting Furnace Containing Gas Bubbles <u>Tolga Altinoluk</u> *, Altug M. Basol, M. Pinar Menguc and Adnan Karadag
15:40 – 16:20	Coffee Break
16:20 – 17:40	Poster Session Session Chair :
	Gala Dinner

Wednesday, June 8, 2022

	Keynote Lecture 6
08:50 – 09:30	DIRECT SIMULATIONS AND INVERSE PROBLEMS INVOLVING NONUNIFORMLY HEATED PALLADIUM NANOFLUIDS
00.00	Helcio Orlande
	Session Chair: <u>Jacques Padet</u>
	Session 9: Heat Exchangers Session Chair: <u>Jacques Padet</u>
09:30 – 09:50	A 20 Experimental Thermal Performance Evaluation of Plate Heat Exchanger Made from Green-Poxy Resin-Based Bio-Composite and SiC Powder Abdelhakim Settar*, Jean-Loup Sarrat, Khaled Chetehouna and Asih Melati
09:50 – 10:10	A 34 Thermal Performance Characterization of a Flat-Grooved Heat Pipe Integrated Cold Plate <u>Kaan Atak</u> , <u>Öykü Çoşar</u> , <u>A. Cem Gözükara</u> , Mustafa Ocak, Ahmet Özdemir, Mustafa Karakoç, Zafer Dursunkaya and <u>Barbaros Çetin</u> *
10:10 – 10:30	A 83 On The Correct Modeling of Flow Characteristics in Double Pipe Heat Exchangers with Inner Dimpled Tube Nur Çobanoğlu* and Ziya H. Karadeniz
10:30 – 10:50	A 35 Experimental Analysis of Shell and Tube Heat Exchanger <u>Berk Cevrim</u> [*] , Murat K. Aktas and <u>Sadık Kakac</u>
10:50 – 11:05	A 28 The Capability Study of Practical Working Fluids in the Desktop-CPU Cooling System <u>A. Pramuanjaroenkij</u> * and <u>S. Kakaç</u>
11:05 – 11:30	Coffee Break
11:30 – 12:10	Keynote Lecture 7
	NATURAL CONVECTION IN SHALLOW AND TALL ENCLOSURES
	<u>Yıldız Bayazıtoğlu</u> Session Chair: <u>Sadık Kakaç</u>
12:10 – 12:50	Keynote Lecture 8
	ANALYTICAL-COMPUTATIONAL METHODS IN ENERGY EFFICIENCY AND SUSTAINABLE ENERGIES
	<u>Renato Cotta</u> Session Chair: <u>Sadık Kakaç</u>
12:50 – 14:00	Lunch Break
	FREE AFTERNOON

Thursday, June 9, 2022

	Session 10: Thermal Systems Session Chair: Anchasa Pramuanjaroenkij, Matthias H. Buschmann
08:50 – 09:10	A 96 Effect of Thermal Interface Materials for High-Power Led Lighting Applications <u>Ömer Refik Sözbir</u> *
09:10 - 09:30	-
09:30 – 09:50	A 33 Isogeometric and Nurbs-Enhanced Boundary Element Analysis of a Heat Conduction Problem <u>Özgür Can Gümüş</u> , Besim Baranoğlu and <u>Barbaros Çetin</u> *
09:50 – 10:10	A 73 The Effect of Permanent Magnet Locatlon on the Performance of Ferrofluld Based SPNCmL <u>Selim Can Bozkır</u> *, <u>Nur Çobanoğlu</u> , Serkan Doğanay, <u>Ziya Haktan Karadeniz</u> and <u>Alpaslan Turgut</u>
10:10 – 10:50	Keynote Lecture 9
	INNOVATIVE APPROACH FOR COOLING USING WATER AND NANOFLUIDS IN MINI CHANNELS Ziad Saghir Session Chair: Anchasa Pramuanjaroenkij
10:50 – 11:10	Coffee Break
	Session 11: Forced Convection 2 Session Chair: Mehmet Akif Ezan
11:10 – 11:30	A 25 Investigation of the Thermohydraulics of an EGS Project in Turkey: Comparative Assessment of Water and CO ₂ As Heat Transfer Fluid A. C. Benim* and A. Çiçek
11:30 – 11:50	A 38 Ferrohydrodynamics in Laminar Pipe Flow <u>Matthias H. Buschmann</u> *
11:50 – 12:10	-
12:10 – 12:30	A 26 Computational and Experimental Investigation of Flow and Convective Heat Transfer along Rough Surfaces C. Özman, F. Gül, M. Diederich, A. C. Benim* and U. Janoske
12:30 – 12:50	A 86 Experimental Energy Balance of Turbulent Forced Convection in Thick-Walled Heat Generating Tube with Temperature Dependent Properties Aziz H. Altun and Eyub Canli
12:50 – 14:00	Lunch Break
14:00 – 14:40	Keynote Lecture 10
	REGENERATIVE STIRLING MACHINES FOR THE PRODUCTION OF WORK, HEATING AND COOLING: THERMO-PHYSICAL PHENOMENA AND TECHNOLOGICAL CONSIDERATIONS François Lanzetta Session Chair: M. Ziad Saghir
	Session 12: Thermal Process 2 (Virtual) Session Chair: Ali Cemal Benim
14:40 – 14:55	A 29 SVR Based Temperature Prediction of Cylindrical Tube Banks in Cross Flow Having Arbitrary Heaters Rojo Kurian Daniels, Vikas Kumar, Satyendra Singh Chouhan and Aneesh Prabhakar*
14:55 – 15:10	A 55 Effect of Nanoparticle Shape on Nanofluid Flow in Conical Helical Tube <u>Fethi M. Altunay</u> , Majdi A. M. Ali, Mehmet Gurdal [*] , <u>Hayati Kadir Pazarlioğlu</u> , Kamil Arslan And Engin Gedik
15:10 – 15:25	A 44 Entropy Study of Water in Carbon Nanotube Surface with Uneven Hydrophobicity Hamed Esmaeilzadeh, Majid Charmchi, Hongwei Sun

15:25 – 15:40	A 93 Effect of the Surface Radiation on Jet Impingement Cooling of a Concave Surface Melisa Albayrak, Bugra Sarper*, Soner Birinci, Mehmet Saglam and Orhan Aydin
15:40 – 15:55	A 51 On the Thermal Interaction Between Geothermal Boreholes with Groundwater Flows Using Asymptotic Expansion Techniques <u>Javier Rico</u> * and Miguel Hermanns
15:55 – 16:10	A 58 A Velocity-Vorticity Approach to Analyze the Solid and Porous Fins Effect on Heat Transfer Performance in a Differentially Heated Cubical Cavity Xuan Hoang Khoa Le and Mikhail A. Sheremet
16:10 – 16:30	Coffee Break
	Session 13: Numerical Analysis 2 (Virtual) Session Chair : <u>Barbaros Çetin, Ziya Haktan Karadeniz</u>
16:30 – 16:45	A 59 Numeriacal Study of The Melting Behaviour of a Biobased Phase Change Material M, Djenane*, T. Boukelia, El Wakil , Y. Kabar and M. Rebay
16:45 – 17:00	A 36 Thermal Modelling of Hydrothermal Carbonization Pilot-Scale Reactor for Bio-Waste Processing B. Morrone*, M.L. Mastellone, D. Battaglia, A. Capone and L. Zaccariello
17:00 – 17:15	A 61 Non-gray Radiation Modeling of Methanol Swirling Flame <u>N. Kumar</u> * and A. Bansal
17:15 – 17:30	A 97 Transient Behavior of Non-Uniform Pulsating Heat Pipes Under Different Heat Loads Burak Markal* and Alperen Evoimen
17:30 – 17:45	A 82 Improvement of a PV Panel Cooling by Using a Microchannel Heat Sink <u>B, Bouhabel</u> , T. Boukelia, Y. Kabar* and <u>M. Rebay</u>
17:45 – 18:00	A 43 Enhancing DCMD Efficiency For Desalination at Module Scale Through Dual Heat Recovery and Retentate Recirculation Emerson B. dos Anjos*, Abdul O. Cárdenas Gómez, Luz E. Peñaranda Chenche, João A. Lima, Carolina P. Naveira-Cotta, Renato M. Cotta and Kleber M. Lisboa
18:00 – 18:15	A 46 A Review of Flammable Gases from Human Waste Sludge as a Potential Source of Energy <u>Maryam Ghaffari</u> *, Shazia Ali, Maria Mavroulidou and Alex Paurine

Friday, June 10, 2022

-	Session 14: Convection with and without Phase Change (Virtual)
	Session Chair : <u>Barbaros Çetin, Ziya Haktan Karadeniz</u>
08:50 – 09:05	A 85 Influence of Pillar Surfaces on Enhanced Ice Plug Melting Performance in Flow Channel of Proton Exchane Membrane Fuel Cell
	<u>Sheng Xu</u> , Bifeng Yin* and Fei Dong
	A 62
09:05 – 09:20	Thermo-Fluid Analysis of Mini-channel Heat Sinks for High Flux Dissipation <u>Nabil Bessanane</u> *, Mohamed Si-Ameur and <u>Mourad Rebay</u>
	A 70
09:20 – 09:35	Natural Convection in a Porous Cavity: The Roads to Chaos Saad Adjal*, Sabiha Aklouche-Benouaguef and Belkacem Zeghmati
	A 56
09:35 – 09:50	A Numerical Investigation on the Thermo-Hydraulic Performance of Dimpled Fin Configurations in a Rectangular Channel
	<u>Pazarlıoğlu. H.K.</u> , Gürdal. M.*, Tekir. <u>M., Altunay</u> , F.M. and Arslan. K.
	A 72
09:50 – 10:05	Thermal and Dynamic Similarity Between a Transitional Spot and Fully Developed Turbulent Wall Flow <u>B. Arrondeau</u> *, S. Tardu and O. Doche
10:05 – 10:20	A 23 Experimental Comparison of Heat and Flow Characteristics of Rectangular Finned Heat Sink and Flat Plate
	Using Single Nozzle Impingement Air Jet
	Altug Karabey* and <u>Denizhan Bozdogan</u>
10:20 – 10:40	Coffee Break
	Session 15: Micro/Nanoscale Heat Transfer (Virtual) Session Chair: Matthias H. Buschmann, Mehmet Akif Ezan
	A 81
10:40 – 10:55	Aspect Ratio Influence on Natural Convection in a Rotating Differentialy-Heated Cavity S.A. Mikhailenko* and M.A. Sheremet
	A 80
10:55 – 11:10	Effect of Heat-Generated Element Location on Natural Convection of Nanofluid with Temperature- Dependent Thermal Properties in a Cavity
.0.00	Marina S. Astanina* and Mikhail A. Sheremet
	A 41
11:10 – 11:25	Enhancement of Heat Transfer Using Nanofluid in Minichannel Heat Exchanger with Cavities S. Djellouli* and EG. Filali
	A 78 Influence of a Ribbed Structure on the Pseudoplastic Nanofluid Thermogravitational Convection in a Cavity
11:25 – 11:40	with a Heat-Generated Element
11.20 11.70	<u>Daria S. Loenko</u> * and <u>Mikhail A. Sheremet</u>
	A 68 Effect of Nanoparticles in a Polar/Non-Polar Liquid of an Evaporating Thin-Film Meniscus

POSTER PRESENTATIONS

Tuesday, June 7, 2022

P 66	Calculation of Reliability on Justification Cooling of the Vver-1200 Core During the Operation of Passive Heat
F to F	Removal System Through Steam Generator Nurberk Sungur* and Irina Lvovna Paramonova
P 91	Analysis of Possibilities of Increasing Convective Heat Transfer Intensity in PEX Pipes for Applications in Ground Heat Exchangers
F to F	Piotr Łapka* and Juliusz Wachnicki
P 06 F to F	Visualizing the Evaporation/Boiling Heat Transfer of a 3D-Printed Wick For Heat Pipe Applications <u>Davoud Jafari</u> and Wessel W. Wits
P 07	
Virtual	Numerical Study of Temperature Stratification for Plate Heat Exchangers with Different Heat Transfer Areas Jeong-gyun Ham, Hong-hyun Cho, Dong-wook Oh and Gong-hee Lee*
P 08	Stability Measurements of Hybrid Magnetic Nanofluids Using a 3D Helmholtz Coil System Setup
F to F	R. Alsangur*, S. Doganay, İ. Ates, <u>A. Turgut</u> , L. Cetin and <u>M. Rebay</u>
P 100	The Modeling of Decay Heat Removal by Natural Convection from a Spent Nuclear Fuel Storage Container
Virtual	Robertas Poskas*, Kęstutis Račkaitis, Povilas Poskas and Svitlana Alyokhina
P 101	Solar Thermal Energy Storage with Phase Change Material for Domestic Active Space Heating Applications Pushpendra Kumar Shukla* and P. Anil Kishan
F to F P 104	
	Time-Resolved Tomographic PIV Measurements in the Near Field of a Confined Wake M.V. Shestakov* and D.M. Markovich
F to F P 106	Prediction of Flow Patterns of Liquid-Liquid Flows on T-Shaped Microchannels Using Machine Learning
P 106	Approaches
F to F	Anna A. Yaqodnitsyna*, Ivan A. Plohih, Alexander V. Kovalev and Artur V. Bilsky
P 107	Potential Ecodesign Requirements for Household Refrigerating Appliances: Implementation of EU Energy
	Regulation
F to F	Halil Doğacan Koca*
P 17	Numerical Analysis of Conjugate Convective-Radiative Heat Transfer in a Cavity with Two Heated Elements
Virtual	N.S. Gibanov* and M.A. Sheremet
P 84	
Virtual	Numerical Investigation of Heat Transfer in Building Brick Containing a New Bio-Based Phase Change Material Z. Guermat, T. Boukelia and Y. Kabar*
P18	Intensification of the Quenching Process by Surface Modification Zabirov Arslan, Kanin Pave, Molotova Irina, Vinogradov Michael, Gubanova Tatiana and Yagov Viktor