

**JTACC+V4 3rd Journal of Thermal Analysis and Calorimetry Conference
and 9th V4 (Joint Czech-Hungarian-Polish-Slovakian) Thermoanalytical Conference / JTACC+V4 2023**

**20-23 June 2023 /Balatonfüred, Hungary
Danubius Hotel Annabella**

Programme*

Tuesday / 20 June			
14:00-16:00	Registration / Lobby		
	Deák Room		
16:00-16:40	Welcome Remarks / JTAC Best Reviewer Award and JTACC-V4 Travel Grant ceremony		
	Chairs: Imre Miklós Szilágyi, Alfréd Kállay-Menyhárd, János Kristóf		
16:40-17:20	Young Scientist Award Lecture / Rahim Zahedi (Iran): Energy, exergy, exergoeconomic and exergoenvironmental analysis and optimization of quadruple combined solar, biogas, SRC and ORC cycles with methane system		
17:20-18:00	Scientific Excellence Award Lecture / Chi-Min Shu (Taiwan): Comprehensive exploration of critical safety issues in lithium-ion batteries via advanced calorimetry approach technique: thermal runaway and fire behavior		
	Terrace of Deák Room		
18:00-20:00	Welcome Reception		
Wednesday / 21 June			
8:00-8:30	Registration / Lobby		
	Deák Room		
8:30-9:10	Plenary / Michael L. Hobbs (USA): Modeling delayed thermal runaway in nitric acid-soaked cat litter mixed with radioactive waste		
9:10-9:30	Silver Sponsor Lecture: Jaroslav Kolejka (Unicam)		
9:30-10:00	Coffee Break & Poster Session 1. / Ground Floor Lobby		
10:00-10:30	Coffee Break & Poster Session 2. / Ground Floor Lobby		
	Deák Room	Club Room	Panoráma Room
	Nanomaterials, Materials science, Metals 1.	Fuels, Life, Bio, Pharmaceuticals, Geo, Instrumentation 1.	Nanofluid, Thermal conductivity, Heat transfer, Exergy, Energy conversion 1.
	Chair: Kinga Pelichowska (Poland)	Chair: Jiri Kucerik (Czech Republic)	Chair: Rudolf Pietschnig (Germany)
10:30-11:00	Invited / Liezel van der Merwe (South Africa): Thermogravimetry as a research tool during the beneficiation of diamond mine residues	Invited / Mustafa Versan Kök (Türkiye): Crude oil characterization: simultaneous TGA-DTA, TGA-FTIR and TGA-MS	Invited / Omid Mahian (China): Nanoparticles and energy systems
11:00-11:20	Hans Flandorfer (Austria): Self-healing anodes for Li-ion batteries: Phase relations in the systems Li-Zn and Li-Sn-Zn	Qinzheng Teng (China): Analysis of potassium release from paper sludge under oxygen rich combustion conditions	John Shelton (USA): Experimental study of the rheological behavior of nanofluids containing palmitic acid/silica nanocapsules synthesized by the sol gel method
11:20-11:40	Dávid Mikšik (Czech Republic): An investigation of phase behavior in the Co-Se-Sn ternary system using experiments and thermodynamic modeling	Xiaolin Wei (China): Optical observation and combustion properties during paper sludge fast heating	Charlie O'Mahony (Ireland): Determination of 3-d geometry of buried defects using angled flash thermography
11:40-12:00	Boris Contri (France): What if the protection against oxidation of certain chromia-forming alloys was not due to the chromia layer? Example of Inconel®625 oxidation in CO ₂	Yesid J. Rueda-Ordóñez (Colombia): Energy upgrading of the cocoa pod husk through torrefaction - thermal decomposition and kinetic analyses	Martin Palou (Slovakia): Effect of four-component binder on strength and microstructure characteristics of fiber-reinforced self-compacting mortars
12:00-12:20	Raj Narayan Hajra (South Korea): Identification of a new phase transformation of C36 → C14 for NbCr ₂ alloy: an experimental and First Principle calculation study	Bence Babinszki (Hungary): The effect of pyrolysis conditions on yield, thermal behaviour and volatile matter composition of biocarbon products	Róbert Sánta (Hungary): Energy analysis of U-type deep borehole ground source heat pump system
12:20-13:30	Buffet Lunch / Tagore Room Restaurant		
	Deák Room	Club Room	Panoráma Room
	Nanomaterials, Materials science, Metals 2.	Fuels, Bio, Pharmaceuticals, Geo, Calorim, Thermochem, Instrumentation 2.	Nanofluid, Thermal conductivity, Heat transfer, Exergy, Energy conversion 2.
	Chair: Maria Zaharescu (Romania)	Chair: Titus Vlase (Romania)	Chair: Róbert Sánta (Hungary)
13:30-14:00	Invited / Dirk Walter (Germany): "Small dwarfs – high toxic effects"? – Nanoparticles at the workplace and in the environment	Invited / Zsuzsanna Czégény (Hungary): Biocarbons produced under pressurized conditions: characterisation of the volatiles	Invited / Suvanjan Bhattacharyya (India): Thermohydraulic performance of water in an inclined circular tube fitted with spring tape inserts in transition flow regime
14:00 - 14:20	Harsha Uskaikar (India): Thermal and spectroscopic characterization of manganese oxide prepared by different synthesis routes	Daniel Andrés López (Germany): Improved deep neural network-driven automatic segmentation of skin's thermal radiation in moving posterior legs during cardiopulmonary exercise testing for time series data analysis	Rudolf Pietschnig (Germany): Optimizing working fluids for thermal energy storage systems using open sorption
14:20 - 14:40	Kinga Pelichowska (Poland): The effect of magnetic particles on the selected thermal properties of polyurethane-based biomaterials	Jiri Kucerik (Czech Republic): Selected applications of thermal analysis in the research of microplastics in soil	Yerzhan Belyayev (Kazakhstan): Thermal performance analysis of a heat pump assisted regenerative solar still
14:40-15:00	Jaison Jeevanandam (Portugal): Thermogravimetry analysis of free and gelatin hydrogel formulated nanocellulose extracted from non-native Arundo donax plant	Mercedes Pereira Rodriguez (Spain): Thermogravimetry as a tool to discriminate the susceptibility of different components to fibre release from the same fabric	Shijie Liu (China): Evaluation of mechanical vapor recompression system based on twisted oval tube evaporator for treatment of high salinity wastewater
15:00-15:20	Thomas Dippong (Romania): The effect of mono, di and trivalent transition metals doping on the thermal behavior, structure and morphology of NiFe ₂ O ₄ @SiO ₂	Edina Szabó (Hungary): In-depth investigation of thermal behaviour of pharmaceutical amorphous solid dispersions	Dongsheng Zhu (China): Research on safe vibration-free modular energy saving technology of high efficiency heat exchanger
15:20-15:40	Magdalena Sobiesiak (Poland): Research on the carbonization process of hybrid polymer microspheres using the TGA-EGA method - evaluation of the influence of sulphonic acid on the process	Petr Fluresek (Canada): McGill chemistry characterization (MC2) facility	Jana Čepčianska (Slovakia): Effect of supplementary cementitious materials on the whiteness and hydration heat of white cement
15:40-16:10	Coffee Break & Poster Session 3. / Ground Floor Lobby		
	Deák Room	Club Room	Panoráma Room
	Ceramics, Cements, Inorganics 1.	Fuels, Bio, Pharmaceuticals, Geo, Calorim, Thermochem, Instrumentation 3.	Nanofluid, Thermal conductivity, Heat transfer, Exergy, Energy conversion 3.
	Chair: Martin Palou (Slovakia)	Chair: Ignazio Bianco (Italy)	Chair: Stefano Vecchio Cipriotti (Italy)
16:10-16:40	Invited / Petra Sulcová (Czech Republic): 50th anniversary of the foundation of Czech group for thermal analysis	Invited / Géza Regdon, Jr. (Hungary): What is a pharmaceutical technologist pharmacist doing among thermoanalysts?	Invited / Edward Lee-Ruff (Canada): Strain and strange small ring organic molecules
16:40-17:00	Sarka Zuzjakova (Czech Republic): W-Zr thin-film metallic glasses: thermal behavior and evolution of properties	Rishabh Dwivedi (India): Experimental investigations on the thermo-mechanical characterization of Jalore granitic rocks for India's HLW disposal	Ewelina Ksepko (Poland): Thermogravimetric analysis of oxygen carriers for the application in CLC technology
17:00-17:20	Justyna Sulowska (Poland): Effect of melting behavior on the structure of sulfur-bearing glasses for use as a glassy fertilizers	Mahmoud Reda (Austria): Thermochemical properties of tin disulfide	Samy Yousef (Lithuania): Gasification of surgical masks waste and its life cycle assessment
17:20-17:40	Magdalena Szumera (Poland): Study the influence of Fe, Mo, Mn, and Zn ions on the structure and crystallisation of soil-active glasses	Lukas Fischer (Austria): Self-healing anodes for Li-ION batteries: enthalpy of mixing in the liquid system Li-Zn, and Li-Sn-Zn	Orhan Kekilcioglu (Türkiye): Thermohydraulic performance and second law efficiency analysis of a heat exchanger tube using a combination of two heat transfer enhancement techniques
17:40-18:00	Alena Akusevich (Slovakia): Study of thermal behavior and sintering ability of YAG/Al ₂ O ₃ glasses	Nader Ghaffari Khaligh (Malaysia): 2-cycloalkylsulfanyl-[1,3,4]thiadiazole-5-thiol or 5-Cyclopentylsulfanyl-3H-[1,3,4]thiadiazole-2-thione: Synthesis and Spectroscopic characterization, and single crystal XRD of new monocycle	
18:00-19:00	JTAC Forum		
Thursday / 22 June			
8:00-8:30	Registration / Lobby		
	Deák Room		
8:30-9:10	Plenary / Qiyan Xie (China): Bridge the thermal analysis and fire safety engineering: new insights and challenges		
9:10-9:30	Silver Sponsor Lecture: Laurent Zoppi (Mettler Toledo)		
9:30-10:00	Coffee Break & Poster Session 4. / Ground Floor Lobby		
10:00-10:30	Coffee Break & Poster Session 5. / Ground Floor Lobby		
	Deák Room	Club Room	Panoráma Room
	Nanomaterials, Materials science, Metals 3.	Fuels, Bio, Pharmaceuticals, Geo, Calorim, Thermochem, Instrumentation 4.	Polymer, pyrolysis 1.
	Chair: Veronika Vágólygyi (Hungary)	Chair: Juan Carlos Moreno-Pirajan (Colombia)	Chair: Hua Zhang (China)
10:30-11:00	Invited / George Kaptay (Hungary): Paradigm-shift in equilibria of nano-materials and some evidence from calorimetry	Invited / Éder TG Cavalheiro (Brazil): Thermoanalytical studies of some antioxidants	Invited / Giuseppe Lazzara (Italy): Microwax/halloysite nanotubes composites: a versatile material for conservation of cultural heritage
11:00 - 11:20	Irina M. Petreanu (Romania): Nanocomposite polyphenyleneoxide with amino-functionalized silica: structural characterization based on thermal analysis	Jose E. Delgado Liriano (France): Adiabatic hydrogenation of alkyl levulinates to gamma valerolactone	Sasan Moradi (Spain): Fully recyclable vitrimers based on ternary thiol-isocyanate-epoxy dual-curing systems
11:20-11:40	Eva Cuninková (Slovakia): Analysis of thermo-physical and mechanical properties of the 3D printing materials applicable for superconducting TORC cables	Sheng-Wei Liao (Taiwan): Hazardous characteristics of abs powder: experimental analysis and safety recommendations	Enrique Blázquez-Blaquez (Spain): Hybrid mesoporous silica with antioxidants as a feasible approach for improving thermal protection of recycled polyolefins
11:40 - 12:00	Marián Drienovský (Slovakia): Thermal analysis and oxidation behavior of Al-Co-Fe-Ni-Cu multiprincipal element alloys at high temperature	Gabe Wood (USA): Case study: calorimetry used to support scale-up of the hydrolysis of epichlorohydrin	Olivier Fischer (Canada): Thermogravimetric analysis and kinetic modeling of the pyrolysis of different biomass types by means of model-fitting, model-free and phenomenological modeling approaches
12:00 - 12:20	Martin Keppert (Czech Republic): Reactivity of precursors for geopolymerisation studied by isothermal calorimetry	Kun Fu (China): Removal of metallic radionuclides from irradiated graphite by chlorination roasting	Anna Vykydalová (Slovakia): Thermal properties of PHB/PCL investigated by using DSC and TGA
12:20-12:30	Group photo		
12:30-13:30	Buffet Lunch / Tagore Room Restaurant		
	Deák Room	Club Room	Panoráma Room
	Nanomaterials, Materials science, Metals 4.	Kinetics, Thermal hazard 1.	Polymer, pyrolysis 2.
	Chair: Thomas Dippong (Romania)	Chair: Gábor Várhegyi (Hungary)	Chair: Vianney Andrew Yiga (Sweden)
13:30-14:00	Invited / Oana Catalina Mociou (Romania): Zinc oxide: thermal analysis, structure, applications	Invited / Petru Budrugaec (Romania): Applicability of model free isothermal prediction procedures based on the Friedman method and three incremental isoconversional methods	Invited / Krzysztof Pieliowski (Poland): Thermal characteristics of polyurethane/POSS hybrid materials and nanocomposites
14:00-14:20	Veronika Vágólygyi (Hungary): Halloysite – Zn-Cu/Zn-Cu-Ti-Ni oxide composite systems as potential photocatalysts	Feng Zhang (China): Experimental investigation on the temperature distribution of corrugated steel web box girder with and without encased concrete	Laura S. Vázquez (Spain): Evaluation by DSC of the Joule curing process of carbon epoxy composites
14:20-14:40	Dániel Attila Karajz (Hungary): Combining ZnO inverse opal and ZnO nanorods using ALD and hydrothermal growth	Zuzana Cibulkova (Slovakia): Thermooxidative stability of lignin- and lignosulfonate-filled rubber compounds based on NBR and SBR	Jana Navratilova (Czech Republic): Crystallization of long-chain branched polypropylene with nucleating agents
14:40-15:00	Aatikah Meraj (Malaysia): Structural, morphological and thermal properties of kenaf microcrystalline cellulose/PBAT films for packaging applications	Kuan-Chun Chiu (Taiwan): Study of thermal stability of ionic liquids [PYR14][DCA] in different atmospheres	Csenge Vámos (Hungary): Porous polymer by solvent treatment and controlled crystallization for high solar-reflectivity and passive radiative cooling
15:00-15:20	Mohammad Jawaid (Malaysia): Effect of kenaf fibre loading on thermal and dynamic mechanical properties of bioepoxy composites	Abdelhakim Sattar (France): Kinetic analysis using isoconversional methods and fitting model of fire retardant coated on banana biocomposite reinforced by silicon carbide	Agata Paulina Węglarska (Poland): Aging and degradation processes in polymer coatings of optical fiber cables
15:20-15:40	György J. Pokol (Hungary): Thermal and spectroscopic analysis of platinum (II) complexes with glyoximes, Schiff bases	Tibor Dubaj (Slovakia): Assessing the performance of various incremental isoconversional methods	Lenka Gajzerova (Czech Republic): Morphological evolution of long-chain branched polypropylene under various processing conditions
15:40-16:10	Coffee Break & Poster Session 6. / Ground Floor Lobby		
17:30-18:30	Transfer to the Conference Dinner		
18:30-22:00	Conference Dinner in Hangvilla Restaurant / Veszprém		
22:00-23:00	Transfer to Danubius Hotel Annabella		
Friday / 23 June			
8:00-8:30	Registration / Lobby		
	Deák Room		
8:30-9:10	Plenary / Berta Barta Holló (Serbia): The role of TG-MS in the characterization of coordination compounds		
9:10-9:30	Bronze Sponsor Lecture: Ekkehard Füglein (NETZSCH)		
9:30 - 10:00	Coffee Break & Poster Session 7. / Ground Floor Lobby		
10:00 - 10:30	Coffee Break & Poster Session 8. / Ground Floor Lobby		
	Deák Room	Club Room	Panoráma Room
	Ceramics, Cements, Inorganics 2.	Energetic, Fire	Polymer, pyrolysis 3.
	Chair: Ewelina Ksepko (Poland)	Chair: Željko Jačimović (Montenegro)	Chair: Yasser Elhenawy (South Africa)
10:30-11:00	Invited / Ján Dusza (Slovakia): Development of ultra - high temperature high - entropy ceramics	Invited / László Kóti (Hungary): Thermal activation of redox-active complexes: solid phase quasi-intramolecular redox reactions as an easy route to prepare nanosized (mixed) metal oxides	Invited / Sabu Thomas (India): Engineering at the nanoscale: a strategy for developing high performance functional materials from biopolymers
11:00-11:20	Arezki Tagnit Hamou (Canada): Measurement of pozzolans reactivity with the isothermal calorimetry and other methods	Yang Xiao (China): Designation of rare-earth based PVC tube associated with fluorescent and its stabilized properties	István Sándor Czírok (Hungary): Laboratory scale production and thermal characterization of charcoals from variously tanned leathers
11:20-11:40	Blanka Kubikova (Slovakia): Phase equilibrium and phase analysis of molten lanthanide systems	Rafal Lysowski (Poland): Fe and Cu spinel based materials as potential oxygen carriers for biomass combustion	Mariusz Wądrzyk (Poland): Pyrolysis of hydrothermally pretreated carrot pomace – investigation using Py-GC-MS, Py-FT-IR, and TGA techniques
11:40-12:00		Kazem Lakzian (Taiwan): The minimum required flammable component renders an aqueous-organic mixture to be flammable	Vianney Andrew Yiga (Sweden): Pyrolysis of alkali modified rice husks: combustion, kinetics and thermodynamic parameters using thermogravimetric analysis
12:00-12:20		Guenther Carlos Krieger Filho (Brazil): Kinetic parameters and heat of reaction for tropical forest fuels	Branislav Stankovic (Serbia): The kinetics analyses of non-isothermal dehydration of poly(methacrylic acid) hydrogel by application of nucleation model
12:20-13:30	Buffet Lunch / Tagore Room Restaurant		
	Deák Room	Club Room	Panoráma Room
	Nanofluid, Thermal conductivity, Heat transfer, Exergy, Energy conversion 4.	Kinetics, Thermal hazard 2.	Polymer, pyrolysis 4.
	Chair: Mehرداد Mesgarpour (Thailand)	Chair: Chi-Min Shu (Taiwan)	Chair: Olivier Fischer (Canada)
13:30-14:00	Invited / Mohammad Ferdows (Bangladesh): Thermal investigation of hybrid nanofluid convection across moving surface	Invited / Peter Šimon (Slovakia): Two interpretations of isoconversional kinetic parameters	Invited / János Móczó (Hungary): Crystalline structure and reinforcement in natural fiber reinforced PP composites
14:00-14:20	Hsin Yu Chi (Taiwan): Using a GPU-based lattice Boltzmann method to investigate the heat convection of a lithium battery pack	Mostafa Safdari Shadloo (France): Modelling the regeneration process in soot filters using iterative lattice Boltzmann method	Ke Wu (China): Pyrolysis kinetics and volatile release of hydrothermally aged asphalt
14:20-14:40	Keng Yinn Wong (Malaysia): Is thermal-guided mobile air supply a practical measure in burn isolation wards? Potential future applications	Gábor Várhegyi (Hungary): Can varying activation energy be determined reliably from thermoanalytical experiments?	Hua Zhang (China): From plastics to carbon materials and methane by pyrolysis under autogenic atmosphere
14:40-15:00	M. Ziya Sogut (Türkiye): Low carbon approach with the low-temperature air distribution in air conditioning applications	Maciej Kaniewski (Poland): Thermal decomposition kinetics of ammonium nitrate - the issue that is yet to be fully resolved	Zoltán Sebestény (Hungary): Thermal decomposition of PVC and leather mixtures
15:00-15:30	Coffee Break & Poster Session 9. / Ground Floor Lobby		
15:30-16:00	Closing		