



PROGRAM

Venue: Universitat de Lleida
Campus de Cappont
c/ Jaume II, 67
25001 Lleida

WEDNESDAY, 15 MAY 2019

8:00 – 9:20 Registration
Room: Auditorium

9:20 – 10:00 Opening Ceremony
Room: Auditorium

10:00 – 10:30 Coffee break
Room: Hall Floor Basement

10:30 – 13:10 Parallel Session 1 - Material testing and characterization
Room: Videoconference
Chair: Camila Barreneche – University of Barcelona

10:30 – 10:50	D114	Veronika Anna Sötz, Alexander Bonk, Marius de Graaff and Thomas Bauer	Micro- and Macrokinetics of the nitrite formation in 'Solar Salt'
10:50 – 11:10	G163	Marllory Isaza Ruiz, Francisco Javier Bolivar Osorio	Determination of specific heat of molten salt-based nanofluids using modulated and standard differential scanning calorimetry: A comparative study
11:10 – 11:30	N219	Rodrigo Fuentes, Héctor Saavedra, Claudio García, Diego A. Vasco	Mechanical and thermal characterization of PCM-impregnated Pinus radiata wood
11:30 – 11:50	Q164	Carolina Cárdenas-Ramírez, Maryory Gómez, Franklin Jaramillo	Identification of the mineralogical phases of a porous mineral: promising support for shape-stabilized phase change materials
11:50 – 12:10	S133	Max A.J.M. Beving, Arjan J.H. Frijns, Camilo C.M. Rindt, David M.J. Smeulders	Characterization and modelling of K₂CO₃ cycles for thermochemical energy storage applications
12:10 – 12:30	S159	Margalida Fullana-Puig, Valeria Palomba, Atef Salem, Rosa Mondragón, Angel G. Fernandez, Aran Solé, Luigi Calabrese, Christian Obrecht, Leonor Hernández, Andrea Frazzica, Luisa F. Cabeza	Sorption materials characterization and lab-scale reaction

12:30 – 12:50	Y169	Elpida Piperopoulos, Luigi Calabrese, Paolo Bruzzaniti, Vincenza Brancato, Andrea Frazzica, Luisa F. Cabeza, Edoardo Proverbio, Candida Milone	Morphological evaluation of hydration/dehydration stages of an innovative MgSO₄ filled composite silicone foam for thermal energy storage applications
12:50 – 13:10	N148	Pim Donkers, Jelle Houben, Hartmut Fischer, Bart Erich, Henk Huinink, Olaf Adan	Crystallization pressures inside a TCM reactor

10:30 – 13:10 Parallel Session 2 - Thermal energy storage in renewable energy systems I

Room: Auditorium

Chair: Tilman Barz – AIT Austrian Institute of Technology GmbH

10:30 – 10:50	A237	J.P. Solano, A. Egea, A. Zamora, A. Dahmani, Z. Benayad, F.Z. Mecieb, J. Pérez-García, A. García, R. Herrero-Martín	Experimental evaluation of heat transfer coefficient during melting of paraffin in a solar-driven shell and tube accumulator
10:50 – 11:10	B149	Florent Herbinger, Ajinkya Patil, Dominic Groulx	Characterization of Different Geometrical Variations of a Vertical Finned Tube-and-Shell Heat Exchanger
11:10 – 11:30	X202	Luisa F. Cabeza, A. Inés Fernández, Dieter Boer, Carles Mateu, Mercè Segarra, Manel Vallès	Methodology for the analysis of TES technologies towards a circular economy
11:30 – 11:50	E184	Valeria Palomba, Vincenza Brancato, Angelo Freni, Marco Manzan	Numerical simulation and experimental analysis of a latent thermal energy storage for naval applications
11:50 – 12:10	J206	Yonatan Nimrodi, Dmitry Portnikov, Yoram Kozak, Gennady Ziskind	Asymmetric melting in a vertical pipe
12:10 – 12:30	W130	Minerva Díaz-Heras, Jesús Gómez-Hernández, Juan F. Belmonte, Javier V. Briongos, José A. Almendros-Ibáñez	Experimental study and modeling of a beam-down gas-solid fluidized bed solar particle receiver
12:30 – 12:50	O123	Simone Arena, Mario Cascetta, Vittorio Tola, Giorgio Cau	Numerical investigation on a packed-bed LHTES system integrated into a smart electrical and thermal grid
12:50 – 13:10	Q195	Violeta Sánchez-Canales, Abdelrahman H. Hassan, Jose M. Corberán, Jorge Payá, Laura O'Donoghue, Miguel Ramirez	Excess electricity storage via thermal energy storage

13:10 – 15:00 Lunch

Room: Hall Floor Basement



15:00 – 16:30 Poster Session 1
Room: Hall Floor Basement

A110	Ryo Kurosawa, Junichi Ryu	The effect of multiple Li compounds addition on the reactivity and structure of Mg(OH)₂
B127	Jonas Tombrink, Henning Jockenhöfer, Dan Bauer	Examination of the heat transfer potential of an active latent heat storage concept
D136	Franziska Klünder, Hannah Neumann, Hussein Wshah, Stefan Gschwander, Thomas Haussmann	Characterization of a plate heat exchanger as latent heat storage for process heat applications
D214	Devendra Jain, Nidhi Agrawal, Bhuvnesh Kumar	Advances in Solar Thermal Applications
D228	Nathalie Chávez, Fabien Rouault, Diego Vasco	Potential savings on electricity bills of Chilean office buildings incorporating cold and heat storage units in the HVAC system
D244	Sergio Salviati, Federico Carosio, Francesco Cantamessa, L. Medina, Lars A. Berglund, Guido Saracco, Alberto Fina	Organic/inorganic composite materials for thermochemical energy storage
F126	Alexandra Gimeno-Furió, Nuria Navarrete, Rosa Mondragón, Leonor Hernández, Camila Barreneche, Luis Cabedo	Thermal stability of the black-coloured sand for concentrated solar power applications
F243	William Delgado, Anastasia Stamatiou, Simon Maranda, Remo Waser, Jörg Worlitschek	Assessment of High Power Latent Heat Storage Solutions
H115	Kai Risthaus, Matthias Schmidt, Marc Linder	Balancing Surplus Electricity and Heat Demand in Domestic Households by Thermochemical Energy Storage Based on Calcium Hydroxide
I216	Rebekka Köll, Waldemar Wagner, Wim van Helden, Harald Poscharnig	Sorption Collector - Performance increase of seasonal sorption storage systems
J112	Josep Forner-Escrig, Rosa Mondragón, Raúl Martínez-Cuenca, Roberto Palma	Phase-change-thermoelastic modelling for nanoencapsulated phase change materials
J193	Wito Plas, Wim Beyne, Kenny Couvreur, Michel de Paepe	Tracking of the phase change front of a PCM in a rectangular enclosure
K138	Mohammad Azad, Dominic Groulx, Adam Donaldson	Experimental Study of Natural Convection Onset during Phase Change Material Melting
K180	Anabel Palacios, Maria Elena Navarro, Camila Barreneche, Yulong Ding	Thermochemical Water-sorption materials screening for Thermal Energy Storage: building application

L147	Scharinger-Urschitz Georg, Walter Heimo, Haider Markus	Packed Bed Regenerator for Storing High Temperature Heat in Gravel
M212	MCarmen Guerrero Delgado, José Sánchez Ramos, Servando Álvarez, José A. Tenorio, Luisa F. Cabeza, MCarmen Pavón Moreno	Innovative solutions of prefabricated facades of concrete with pcms for nearly zero energy buildings
O120	Carolina Villada, Wenjin Ding, Alexander Bonk, Thomas Bauer	Thermodynamic simulation of molten chlorides for next-generation concentrating solar power applications
O199	Bernardo Buonomo, Anna di Pasqua, Davide Ercole, Oronzio Manca, Sergio Nardini	Numerical investigation on latent thermal energy storages with Nano-PCM partially filled with aluminum foam
Q189	Alejandro Calderón, Camila Barreneche, Mercè Segarra, A. Inés Fernández	Where is concentrated solar power (CSP) plants research going? – A Bibliometrics analysis
S197	X. Masip, Lucas Álvarez-Piñeiro, Estefanía Hervas-Blasco, Emilio Navarro-Peris, J. M. Corberán	Comparison of two different strategies for thermal energy storage in a heat pump system for domestic hot water production

16:30 – 17:00 Coffee Break
Room: Hall Floor Basement

17:00 – 19:00 Parallel Session 3 - New and enhanced materials for thermal energy storage I
Room: Videoconference
Chair: Helena Navarro – University of Birmingham

17:00 – 17:20	B117	Nuria Navarrete, Alexandra Gimeno-Furió, Leonor Hernández, Rosa Mondragón	Thermal storage and stability characterization of a Solar Salt based nanofluid containing self-nanoencapsulated phase change material
17:20 – 17:40	C109	Junichii Ryu, Aya Maruyama, Ryo Kurosawa	Reactivity enhancement of Ca(OH)₂ with chemical modification for thermochemical energy storage
17:40 – 18:00	C144	Alexandr Shkatulov, Jelle Houben, Henk Huinink	Stabilization of K₂CO₃ in expanded vermiculite for thermochemical energy storage
18:00 – 18:20	D137	Andrea Gutierrez, Marc Linder	Bromide salts for thermochemical heat upgrade and storage: Investigation of the reversibility of reactions

18:20 – 18:40	D173	Davide Burlon, Luca Lavagna, Roberto Nisticò, Matteo Pavese, Vincenza Brancato, Andrea Frazzica, Eliodoro Chiavazzo	Cement-based composite materials for water sorption heat storage: A preliminary study
18:40 – 19:00	E150	Koen Heijmans, Ionut Tranca, Silvia Nedea, David Smeulders	Ab-initio study of doped salt hydrates crystal stabilities for thermochemical heat storage

17:00 – 19:00 Parallel Session 4 - Thermal energy storage in buildings I

Room: Auditorium

Chair: Takahiro Nomura – Hokkaido University

17:00 – 17:20	F211	Rok Koželj, Žiga Ahčin, Eva Zavrl, Uroš Stritih	Latent thermal energy storage for heating and cooling of buildings
17:20 – 17:40	G201	Fabiana Frota de Albuquerque Landi, Claudia Fabiani, Anna Laura Pisello	Analysis of double PCM melting temperature for indoor applications in buildings
17:40 – 18:00	V125	José A. Tenorio, Ana Marcos, María Carmen Guerrero, José Sánchez-Ramos, Servando Álvarez and Luisa F. Cabeza	Laboratory test cells for evaluate the real performance of precast concrete façade with PCM.
18:00 – 18:20	V121	Felix Klinker, Helmut Weigl, Lukas Spiegel, Stephan Weismann	Development and testing of an energy-efficient control strategy for chilled PCM ceilings
18:20 – 18:40	X105	Ilaria Pigliautile, Benedetta Pioppi, Anna Laura Pisello	Analysis of urban thermal storage effect by means of wearable sensing techniques

21:00 Dinner at EL PALAU DE MARGALEF

** BUS Transport will be provided*

*** Leaving from Campus Capponat at 20:15 h*



THURSDAY, 16 MAY 2019

09:00 – 11:00 Plenary Session

Chairs: Gennady Ziskind (Ben-Gurion University) and Michel de Paepe (Ghent University)

Room: Auditorium

09:00 – 09:30	Q222	Leonor Hernández	Overcoming Barriers to Nanofluids Market Update: European network of Nanofluid research
09:30 – 10:00	R232	Gabriel Zsembinszki, Mercè Segarra, A. Inés Fernández, Camila Barreneche, Luisa F. Cabeza	INPATH-TES network: a reference of education on Thermal Energy Storage
10:00 – 10:30	X239	Mercè Segarra, Noemí Sogari	Iberoamerican Network for research, development and technology transfer of Renewable Energies and Environmental care (RIbERA)
10:30 – 11:00		Cristina Engel, Luis Bragança, Luisa F. Cabeza	CIRES network: Inclusive, resilient, efficient and sustainable cities

11:00 – 11:30 Coffee Break

Room: Hall Floor Basement

11:30 – 13:10 Parallel Session 5 - Prediction of material behaviour

Room: Auditorium

Chair: Valeria Palomba – CNR ITAE

11:30 – 11:50	F156	Tilman Barz, Johann Emhofer, Klemens Marx, Gabriel Zsembinszki, Luisa F. Cabeza	Phenomenological modelling of solid/liquid phase transitions in non-ideal PCM
11:50 – 12:10	G140	Felix Birkelbach, Markus Deutsch, Andreas Werner	The effect of the reaction equilibrium on the kinetics of gas-solid reactions – A non-parametric modeling study
12:10 – 12:30	S154	Serena Ditroia, Helena Navarro, Andrea Lanzini, Adriano Sciacovelli, Yulong Ding	Form Stable phase change materials (PCMs) for thermal energy storage: investigation of structure-property links with performance and costs considerations
12:30 – 12:50	W124	Henk Huinink, Leyla-Cann Sögütoglu, Jelle Houben, Pim Donkers, Hartmut Fischer, Olaf Adan	Salt hydrates for thermochemical energy storage – understanding discharge
12:50 – 13:10	X192	A. Svobodova-Sedlackova, C. Barreneche, G. Alonso, P. Gamallo, A. Ines Fernandez	Nanofluids: MD SIMULATIONS AND THERMO-CHEMICAL STUDY



11:30 – 13:10 Parallel Session 6 - Multi-scale modelling and novel concepts

Room: Videoconference

Chair: Simone Arena – University of Cagliari

11:30 – 11:50	D128	Saman Nimali Gunasekara, Michail Laios, Didier Blanchard, Viktoria Martin and Anastasiia Karabanova	Design of a bench-scale ammonia-SrCl₂ thermochemical storage system using numerical modelling
11:50 – 12:10	I122	Clément Beust, Erwin Franquet, Jean-Pierre Bédécarrats, Pierre Garcia, Jérôme Pouvreau, Jean-François Fourmigué	Multi-scale modelling of a large scale shell-and-tube latent heat steam storage system based on the model order reduction of a 3D solid-liquid phase change model
12:10 – 12:30	U200	Assunta Andreozzi, Bernardo Buonomo, Davide Ercole, Oronzio Manca	Parallel Triangular Channel System for Sensible Heat Thermal Energy Storages
12:30 – 12:50	O119	Alexis Sevault, Henning Hvål Mathisen, Erling Næss, Øyvind Skreiberg	Latent heat storage unit integrated on top of wood stoves: concept design and preliminary CFD modelling
12:50 – 13:10	Y235	Moritz Becker, Markus Eicheldinger, Manuel Würth, Stephan Gleis, Hartmut Spliethoff, Annelies Vandersickel	Experimental Investigations in a Fluidized Bed Cold Model Column for Thermochemical Energy Storage with CaO/Ca(OH)₂

13:10 – 15:00 Lunch

Room: Hall Floor Basement

15:00 – 16:30 Poster Session 2

Room: Hall Floor Basement

S270	Håkon Selvnes, Yosr Allouche, Alexis Sevault, Armin Hafner	CFD modeling of ice formation and melting in horizontally cooled and heated plates
T106	Luca Scapino, Herbert A. Zondag, Jan Diriken, Camilo C.M. Rindt, Adriano Sciacovelli	Modeling of a sorption heat storage reactor using nonlinear autoregressive neural networks
U155	Valeria Palomba, Fabio Costa, Andrea Frazzica, André Große, Ralph Herrmann	Heat transfer and dynamics characterization of porous structures for high-density adsorption storages
U161	José Miguel Maldonado, Alvaro de Gracia, Khamid Mahkamov, Carolina Costa, Murat Kenisarin, Piero Pili, Roberto Manca, Arthur Leroux, Andre Charles Mintsa, Carlo Maria Bartolini, Matteo Pirro, Kevin Lynn, David Mullen, Elvedin Halimic, Luca Cioccolanti, Alessia Arteconi, Toni Gimbernat, Teresa Botargues, Luisa F. Cabeza	Innovative concentrated solar micro organic Rankine cycle plant system for residential buildings

U208	Abdulrahman Dahash, Fabian Ochs and Michele Bianchi Janetti	Numerical Heat Transfer Modeling of Large-Scale Hot Water Tanks and Pits
U245	Muriel Iten, Shuli Liu, Ashish Shukla, João Ribau	Techno-economic assessment of an Air-Multiple PCM unit and an Air-Conditioning system for free cooling of buildings
X132	Helmut Weinsläder, Felix Klinker, Thomas Haussmann, Stephan Weismann	Monitoring of PCM-systems for buildings
X205	Konsta Turunen, Maryam Roza Yazdani, Salla Puupponen, Annukka Santasalo-Aarnio, Ari Seppälä	Heat release properties and supercooling stability of cold-crystallizing erythritol for long-term heat storage
Y129	Saman Nimali Gunasekara, Viktoria Martin, Ted Edén, Faisal Sedeqi, Miguel Tavares and Pablo Sabino Mayo Nardone	Distributed cold storages for district cooling in Sweden- The current context and opportunities for the cold supply expansion
Y131	M. Díaz-Heras; J.F. Belmonte; J.A. Almendros-Ibáñez	Solar energy concentrated on a bed of fluidized particles: experimental observations
A165	Rodrigo Martinez, Jorge A. Lovera-Copa, Mario Grageda, Luisa F. Cabeza, Svetlana Ushak	Using thermodynamic modelling for prediction of eutectic quaternary PCM mixture based on nitrate salts
K215	Manuel Würth, Moritz Becker, Stephan Gleis, Hartmut Spliethoff, Annelies Vandersickel	Experimental Investigations on a 21 kWh Fluidized Bed Reactor for Thermochemical Energy Storage with CaO/Ca(OH)₂
O269	Anastasiia Karabanova, Perizat Berdiyeva, Stefano Soprani, Rune E. Johnsen, Stefano Deledda, Didier Blanchard	Comparison between Numerical Simulation and Neutron Radiography of Ammonia Sorption in SrCl₂ for Application in Thermochemical Storage System for Waste Heat Recovery
P213	Malik BELOT, Guillaume VINAY, Quentin FALCOZ, Adrien TOUTANT, Emelyne NOEL	Heat transfer in a fixed bed of Phase Change Material particles for energy storage: a multi-scale numerical study
V203	Claudia Fabiani, Anna Laura Pisello, Elie Bou-Zeid, Jiachuan Yang	Modelling phase change materials in advanced urban canopy models
Y133	O'Neill, Poppy; Fischer, Ludger; Worlitschek, Jörg; Revellin, Rémi; Bonjour, Jocelyn	Review of Phase Change Dispersions as Heat Transfer Fluids in a Cooling Network
	Efstratios Varvagiannis, Antonios Charalampidis, Gabriel Zsembinszki, Sotirios Karellas, Luisa F. Cabeza2	Energy assessment based on semi-dynamic modelling of a photovoltaic driven vapour compression chiller using phase change material for cold energy storage

16:30 – 17:00 Coffee Break
Room: Hall Floor Basement



17:00 – 19:00 Parallel Session 7 - New and enhanced materials for thermal energy storage II

Room: Videoconference

Chair: Andrea Gutierrez – German Aerospace Center – DLR e. V.

17:00 – 17:20	F170	Alenka Ristić, Fabian Fischer, Andreas Hauer, Nataša Zabukovec Logar	Modified binder-free zeolite NaY for low-temperature sorption heat storage
17:20 – 17:40	G185	M. E Navarro, A. Palacios, C. Barreneche, Yulong Ding	Thermal conductivity enhancement of Thermochemical Energy Storage materials: study of different supporting matrixes
17:40 – 18:00	K108	Angel G. Fernández, Luisa F. Cabeza	Corrosion inhibitors for TES material at high temperature for CSP plants
18:00 – 18:20	Q168	Luigi Calabrese, Vincenza Brancato, Valeria Palomba, Andrea Frazzica, Margalida Fullana-Puig, Luisa F. Cabeza	Hydration and dehydration behavior of MgSO₄ hydrate-silicone composite foams for thermal heat storage application
18:20 – 18:40	R207	Christoph Rathgeber, Henri Schmit, Peter Hooek, Stefan Hiebler	Development of PCM based on the calculation and experimental verification of solid-liquid phase diagrams of salt hydrate mixtures
18:40 – 19:00	S220	Rebecca Ravotti, Oliver Fellmann, Ludger J. Fischer, Anastasia Stamatiou, Jörg Worlitschek	Comparison and ranking of different classes of esters as biodegradable and bio-sourced Phase Change Materials

17:00 – 19:00 Parallel Session 8 - Thermal energy storage in buildings II

Room: Auditorium

Chair: Jose Sanchez – University of Seville

17:00 – 17:20	X210	Samuel Knabl, Rebekka Köll, Waldemar Wagner, Wim van Helden	Experimental Results of a 200 kWh Thermochemical Heat Storage System for Domestic Application
17:20 – 17:40	Y229	Fabien Rouault, Diego Vasco	Simulation of latent heat thermal energy storage units paired up with a reversible air-to-water heat pump
17:40 – 18:00	O118	Tabea Obergfell, Thomas Hausmann, Stefan Gschwander	Evaluation of the influence of user behavior on PCM systems in buildings and real long term stability after up to 15 years in operation
18:00 – 18:20	D104	Carlo De Servi, Johan Van Bael, Katrijn Dirix, Virginie Harcouët- Menou, Talieh Rajabloo, Fred Spiessens, Jad Al Koussa, Ben Laenen	ATES for the cooling of Geothermal plants: simulation results and technical feasibility

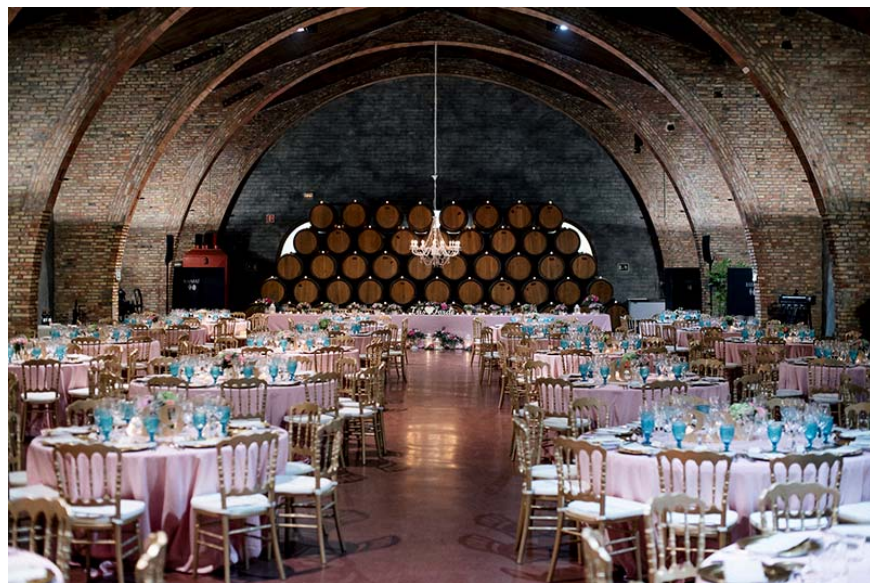
18:20 – 18:40	P158	Marta Chàfer, Álvaro de Gracia, Luisa F. Cabeza	A comprehensive study of the construction of the historic and heritage buildings. The influence of the thermal mass.
18:40 – 19:00	R178	Marilena De Simone, Gianmarco Fajilla, Adolfo Sabato	Integration of occupants' behavior in design and operation of thermal solar systems in residential buildings located in Southern Italy

21:00

Gala Dinner at *CAVES RAIMAT*

** BUS Transport will be provided*

*** Leaving from Campus Capponat at 20:15 h*





FRIDAY, 17 MAY 2014

10:00 – 11:20 Parallel Session 9 - New and enhanced materials for thermal energy storage III

Room: Auditorium

Chair: Luigi Calabrese – University of Messina

10:00 – 10:20	T135	Julio Pacio, Klarissa Niedermeier, Thomas Wetzel	High-temperature thermal energy storage concepts based on liquid metal technology
10:20 – 10:40	T162	Laura Boquera, Josep Ramon Castro, Anna Laura Pisello, Filippo Ubertini, Antonella D'Alessandro, Luisa F. Cabeza	Comparison of two cement pastes thermal stability to be used as thermal energy storage material
10:40 – 11:00	V190	Minerva Díaz Heras, Alejandro Calderón, J.A. Almendros-Ibáñez, A. Inés Fernández, C. Barreneche	Aging and fluidization test of SiC to be used as TES material and HTF in CSP plants
11:00 – 11:20	W223	Javier Gil-Font, Marie-Anne Hatte, Alexandra Gimeno-Furió, Nuria Navarrete, Rosa Mondragón, Leonor Hernández	Development, characterization and optimization of thermal oils with enhanced thermal properties through nanoencapsulated metal phase change materials

10:00 – 11:20 Parallel Session 10 - Heat transfer enhancement

Room: Videoconference

Chair: Steven Tay – Newcastle University in Singapore

10:00 – 10:20	K233	N.H.S. Tay, M. Belusko, M. Liu and F. Bruno	Experimental Investigation of Dynamic Melting of Thermal Energy Storage System using Auger System
10:20 – 10:40	R218	Víctor A. Martínez, Diego A. Vasco, Nelson O. Moraga	Numerical study of the performance of a microchannel heat sink with CuO nanoparticles and octadecane based nanoPCMs
10:40 – 11:00	X171	Amir Abdi, Viktoria Martin, Justin Chiu	Latent Heat Thermal Storage Performance with Inclined Geometry
11:00 – 11:20	M153	Mohamed Fadl, Philip C. Eames	An experimental investigation of the heat transfer and energy storage characteristics of a latent heat thermal energy storage system with a vertically-oriented multi-pass tube heat exchanger for domestic hot water applications

11:20 – 11:50 Coffee Break

Room: Hall Floor Basement



11:50 – 12:55 Parallel Session 11 - New and enhanced materials for thermal energy storage IV

Room: Auditorium

Chair: Gabriel Zsembinszki – University of Lleida

11:50 – 12:15	X182	Jelle Houben, Luc Brinkman, Henk Huinink, Pim Donkers	K₂CO₃ performance under vacuum conditions for TCM heat storage
12:15 – 12:35	Y204	Maryam Roza Yazdani and Ari Seppälä	Cold-crystallizing polyvinyl alcohol enabled erythritol for long-term thermal energy storage for thermal energy storage
12:35 – 12:55	W186	Takahiro Nomura, Hiroki Sakai, Shunsuke Cho, Kohei Kashiya, Hiroaki Koide, Tatsuya Takahashi, Takahiro Kawaguchi, Sheng Nan, Tomohiro Akiyama	Recent advance on microencapsulated phase change materials for high-temperature applications

11:50 – 12:55 Parallel Session 12 - Experimental validation of models and concepts

Room: Videoconference

Chair: Emiliano Borri – University of Lleida

11:50 – 12:15	D209	Fabian Ochs, Abdulrahman Dahash and Michele Bianchi Janetti	Planning and Constructing Cost-Effective Very Large-Scale Hot Water TES for District Heating Systems
12:15 – 12:35	T179	K. Couvreur, J. Timmerman, W. Beyne, S. Gusev, M. De Paepe, W.D. Steinmann, and B. Vanslambrouck	Experimental behavior of a 100 kWhth fin-tube latent heat storage using eutectic KNO₃-NaNO₃ as PCM
12:35 – 12:55	U113	Joan Tarragona, Cèsar Fernández, Luisa F. Cabeza, Alvaro de Gracia	Model predictive control strategy applied to a heating system with PV panels and thermal energy storage in different US climate zones

13:00 – 13:20 Closing Ceremony

13:20 – 14:30 Lunch

Room: Hall Floor Basement

****Remember to visit the EUROPE'S CORNER located behind the registration desk (Hall)***