

Program of the Third International Conference on Phosphor Thermometry (ICPT 2022)

Monday, July 18			
8:00	Registration		
9:00	Frank Beyrau	Welcome	Zoom
Luminescence Thermometers			
9:20	Markus Suta	The theoretical foundations of luminescence thermometry - The devil is in the detail	
10:00	<u>Aleksandar Ćirić</u> , Miroslav D. Dramićanin	Boosting sensitivity and precision of Lanthanide thermometers by a Luminescence Intensity Ratio squared method	
10:20	<u>Željka Antić</u> , Milica Sekulić, Jovana Periša, Aleksandar Ćirić, Ivana Zeković, Bojana Milićević, Miroslav D. Dramićanin	Enhancement of luminescence thermometry sensitivity at high temperatures using a multi-level luminescence intensity ratio method demonstrated on Y ₂ SiO ₅ :Dy ³⁺	
10:40	Coffee Break		
Surface Thermometry			
11:20	<u>Javier Camacho</u> , Søren Andersen, Mikkel Copeland, Henrik Kjeldsen, Dennis Sørensen, Thomas Henriksen	Phosphor Thermometry: Traceable surface temperature measurement down to -35°C ?	
11:40	Dave Lowe, Gavin Sutton, <u>Nicolo Pisani</u> , Eric Numkam-Fokoua	Phosphor Thermometers for Harsh Environments	
12:00	<u>Aldo Mendieta</u> , Gavin Sutton	Towards a truly traceable surface temperature calibrator based on thermographic phosphors	
12:20	Lunch Break		
Fluid Flows			
13:40	<u>Arunprasath Subramanian</u> , Gildas Lalizel, Eva Dornigac, Patrick Berterretche	2-D temperature visualisation of non-conventional film cooling arrangements using ZnO phosphor thermometry	Zoom
14:00	<u>Luming Fan</u> , Patrizio Vena, Bruno Savard, Benoit Fond	Experimental and numerical investigation on the accuracy of phosphor streak velocimetry	
14:20	<u>Moritz Stelter</u> , Fabio J.W.A. Martins, Frank Beyrau, Benoît Fond	Combined three-dimensional temperature and velocity measurements using thermographic phosphor tracers in turbulent gas flows	
14:40	<u>Zhichao Deng</u> , Jörg König, Christian Cierpka	A combined temperature and velocity measurement technique based on temperature sensitive tracer particles using an LED and a low-speed camera	
15:00	Coffee Break		
Applied Thermometry			
15:40	<u>Gavin Sutton</u> , Sofia Korniliou, Andreu Aurik	Luminescence and infrared thermal imaging during the heat treatment of engineering alloys	

16:00	<u>Joel López Bonilla</u> , Gunar Boye, Henrik Graichen, Frank Beyrau, Benoît Fond	Optimization of frequency-domain phosphor thermometry and application to temperature imaging on a pressed pouch cell battery during charging and discharging	Zoom
16:20	<u>Dustin Witkowski</u> , David Rothamer	Thermal conductivity measurements of single and multilayer materials using phosphor thermometry with inverse heat transfer modelling	
18:00	Conference Dinner / Barbeque at venue		

Tuesday, July 19			
Thermal History & Pressure Measurement			
9:00	Jörg Feist	Industrial Applications of Thermal History Sensors	Zoom
9:40	Cheng Weilun, Yongzeng Li, Xu Liu, Yingzheng Liu, <u>Di Peng</u>	Irreversible structural and luminescence property changes in YSZ:Eu subjected to annealing and potential application in thermal history sensing	
10:00	<u>Joseph Counte</u> , Silvia Araguas-Rodriguez, Marta Ferran-Marqués, Solon Karagiannopoulos, Jim Hickey, Jörg Feist	Quantifying Extended Thermal Cycling Impacts on the Thermal Sensing capabilities of Thermal History Coatings	
10:20	<u>Lixia Yang</u> , Yating Fu, Di Peng, Zhaofeng Chen	Synthesis and characterization of YSZ:Eu,Er for simultaneous pressure and temperature measurements in high-temperature environment	
10:40	Coffee Break		
Lifetime-based Thermometry			
11:20	<u>Di Peng</u> , Weilun Cheng, Yongzeng Li, Xu Liu, Yingzheng Liu	Lifetime-based phosphor thermometry for global heat flux measurement in a hypersonic rarefied tunnel under strong background radiation	Zoom
11:40	<u>Tao Cai</u> , Kyung Chun Kim	Adaptive Window Technique for Lifetime-based Temperature and Velocity Simultaneous Measurement using Thermographic Particle Tracking Velocimetry with Single Camera	
12:00	<u>Henrik Feuk</u> , Sebastian Nilsson, Mattias Richter	Temperature Resolved Decay Time Components of Mg ₃ FGeO ₆ :Mn using Maximum Entropy Method	
12:20	Lunch Break		
Imaging Thermometry			
13:40	<u>Daniel Avram</u> , Ioana Porosnicu, Andrei Patrascu, Carmen Tiseanu	Thermal imaging using lifetime thermometry by monitoring both the rise and decay time	
14:00	<u>Hassan Khodsiani</u> , Chinmay Hegde, Frank Beyrau, Benoît Fond	Phosphor thermometry to measure the surface temperature of cooled particles inside a packed bed	
14:20	Wojciech Piotrowski, Linda Dalipi, Karolina Elzbieciak-Piecka, Artur Bednarkiewicz, <u>Benoît Fond</u> , Lukasz Marciniak	A 2D temperature imaging system based on two low-power low-cost LEDs for excitation and a single low speed camera for detection	

14:40	<u>Joseph Burnford</u> , Anthony Ojo, Hamish Simpson, Brian Peterson	2D phosphor thermometry to image temperature evolution during laser ablation	
15:00	Coffee Break		
High Temperatures & Combustion			
15:40	Craig Worley, Dustin Witkowski, <u>David Rothamer</u>	A quantitative characterization and calibration technique for high-temperature aerosol phosphor thermometry	Zoom
16:00	<u>Sebastian Nilsson</u> , Henrik Feuk, Mattias Richter	A Survey of High Temperature Phosphors for Combustion Applications to 1900 K	

Wednesday, July 20				
9:00	Michael Hilfer	Organic Pressure and Temperature Sensitive Paints – Overview, applications and intersections with anorganic PSP/TSP	Zoom	
Applications				
9:40	Meiling Tan, Feng Li, Ning Cao, Hui Li, Xin Wang, Chenyang Zhang, Daniel Jaque, <u>Guanying Chen</u>	Accurate In Vivo Nanothermometry through NIR-II Lanthanide Luminescence Lifetime		
10:00	<u>Joan J. Carvajal</u> , Paulí Figueras, M. Cinta Pujol	Internal temperature sensing in lentil root seedlings with Yb, Er:NaYF ₄ nanoparticles		
10:20	<u>Albenc Nexha</u> , Kliton Cikalleshi, Thomas Kister, Stefano Mariani, Barbara Mazzolai, and Tobias Kraus	Fluorescent flying seed-like robots with lanthanide emitters for environmental temperature monitoring		
10:40	Coffee Break			
Applied Thermometry II				
11:20	<u>Linda Hansen</u> , Eric Westphal, Alan Kastengren, Caroline Winters	Temperature-dependent x-ray diffraction of thermographic phosphors		
11:40	<u>Sofia Korniliou</u> , Gavin Sutton, Martin Kelly, Michael Homer, Graeme Taylor, Graham Machin, Robert Bernard, Ben Clowes	Phosphor thermometry for long-term dry storage of special nuclear materials		
12:00	<u>Eric Westphal</u> , Linda Hansen, Alan Kastengren, Steven Son, Terrence Meyer, Caroline Winters	X-ray Scintillation of ZnO:Zn and ZnO:Ga for Thermometry		
12:20	<u>Guangtao Xuan</u> , Ebert Mirko, Simson Julian Rodrigues, Christian Lessig, Nicole Vorhauer-Huget, Benoît Fond	Multi-point temperature measurements in packed beds of opaque particles using phosphor thermometry with an image-based signal separation technique		
12:40	Lunch Break			
14:00	Closing			

Talks are 15 minutes presentation and 5 minutes discussion

Invited talks are 30 minutes presentation and 10 minutes discussion