The 5th International Conference on Phosphor Thermometry

Programme

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Wednesday 24th June			
8:00	Registration + tea/coffee		Reception
9:00	**Session 1: Opening, Chair Gavin Sutton**		Lecture Theatre
9:00	Gavin Sutton	Welcome and Introductions	
9:20	Graham Machin, National Physical Laboratory, Teddington, UK	**Keynote**: The international system of units, the kelvin redefinition and its impact on temperature traceability [1]	
9:50	Di Peng, Shanghai Jiao Tong University, Shanghai, China	**Keynote**: Lifetime-based Phosphor Thermometry for Global Aerothermal Measurement in Thermal Protection Research [2]	
10:20	Coffee break		Reception
10:50	**Session 2: Combustion Environments, Chair Frank Beyrau**		Lecture Theatre
10:50	Jeffrey Eldridge, NASA Glenn Research Center, Cleveland, OH, USA	Comparing environmental barrier surface temperature mapping with either a Y_2SiO_5:Er or Sc_2SiO_5:Er temperature sensing layer [3]	
11:10	Yu Huang, State Key Laboratory of Clean Energy Utilization, Zhejiang University, Hangzhou, China	Laser-Induced Phosphorescence Thermometry for Dynamic Temperature Measurement of a Film-Cooled Aero-Engine Model Combustor Liner at Elevated Pressure [4]	
11:30	Erick Johnson, University of Wisconsin-Madison, USA	Dual-Gate Aerosol Phosphor Thermometry for Low-Temperature Combustion Applications [5]	
11:50	Mohammad Rashik Niaz, Otto von Guericke University, Magdeburg, Germany	Measuring Particle Surface Temperature in Non-Premixed Packed-Bed Combustion via Lifetime-Based Phosphor Thermometry [6]	
12:15	Lunch break		Reception
13:30	Casey Broslawski, NASA Langley Research Center, 1 NASA Dr., Hampton, USA	**Keynote**: Operational Phosphor Thermography for Hypersonic Wind Tunnel Global Aeroheating Measurements [7]	Lecture Theatre
14:00	**Parallel Session 3A: Thermal Imaging I, Chair Di Peng**		
14:00	Carl Parsons, Sensor Coating Systems Ltd., Dagenham East, UK	Towards Full-Surface Thermal Mapping Using Imaging of Thermal History Coatings [8]	
14:20	Maria Lora Veneracion, DAAA, ONERA, Institut Polytechnique de Paris, 92190, Meudon, France	Phosphor thermometry of composites under flame impingement [9]	
14:40	Jeffrey Wagner, Utah State University and Sandia National Labs, USA	Full-Field Luminescent Intensity Ratio Thermography Through Motion – Uncertainty and New Methods [10]	
15:00	Ruiyu Fu, Shanghai Jiao Tong University, China	Dynamic simultaneous measurement of three-dimensional temperature and deformation in high-	

		temperature aerothermoelastic response using lifetime-based phosphor thermometry [11]	
14:00	**Parallel Session 3B: Luminescence of Organics, Chair Daniel Jaque**		F16-CS6/7
14:00	Hélène Serier-Brault, Institute of Materials Jean Rouxel, CNRS, Nantes University	808 nm near infrared excited Ho3+ and Tm3+ based metal-organic frameworks for luminescent thermometry and photothermal conversion [12]	
14:20	Antoine Lamothe, Institut Clément Ader (ICA) – IMT Mines Albi, France	Europium-doped Terbium-1,3,5-benzenetricarboxylate MOF for measuring temperature in the 20–80 K range in a micro tensile-testing set-up [13]	
14:40	Zoé Languenou Languéno, Nantes Université, CNRS, Institut des Matériaux de Nantes Jean Rouxel, Nantes, France	Distributed photonic molecular logic in lanthanide-bearing MOFs via multi-channel emission [14]	
15:00	Si Shi, University of Edinburgh, Kings Buildings, UK	A study of surface temperature measurements: transient heating and cooling of oak discs using phosphor thermometry [15]	
15:30	Coffee break & Poster session		Reception
P1	Anatolijs Sarakovskis, Institute of Solid-State Physics, University of Latvia, Latvia	Mn^{2+}/Mn^{4+} Luminescence Decay Kinetics in Aluminate Phosphors for Frequency-Domain Optical Temperature Sensing	Reception
P2	Shabnam Mohammadshahi, New Mexico State University, USA	Thermographic Phosphor Coatings for Temperature Measurement of an Impinging Jet	
P3	Humbet Nasibli, National Metrology Institute, TÜBİTAK UME, Gebze, Kocaeli, Türkiye	Spectral-Shift Phosphor Thermometry under Double-Pulsed Excitation	
P4	Henrik Kjeldsen, Danish Technological Institute, Denmark	Development of HT phosphor thermometry and calibration facility at DTI	
16:30	**Parallel Session 4A: Thermal Imaging II, Chair David Rothamer**		Lecture Theatre
16:30	Yidian Yang/Wubin Weng, State Key Laboratory of Clean Energy Utilization, Zhejiang University, Hangzhou, China	Combining of fringe projection (FP) 3D reconstruction and laser-induced phosphorescence (LIP) thermometry for application of 3D surface temperature measurement [16]	
16:50	Abbi Louise Mullins, Sensor Coating Systems Ltd., Dagenham East, UK	Exploitation of Multi-phase Spectral Emissions for Off-line Temperature Sensing Up to 1600 °C [17]	
17:10	Anthony O. Ojo, IMT, University of Edinburgh, UK	Surface temperature imaging during flame spread over PMMA using phosphor thermometry [18]	
16:30	**Parallel Session 4B: Phosphors in Flows, Chair Christopher Abram**		F16-CS6/7
16:30	Moritz Stelter, Otto von Guericke University Magdeburg, Germany	Progress towards thermographic Shake-The-Box for simultaneous 3D temperature and velocity measurements in flows [19]	
16:50	Di Luan, Key Lab of Education Ministry for Energy Machinery and Engineering, Shanghai Jiao Tong University	A Network-Enabled Particle Identification and Joint Position-Intensity Reconstruction Method for 3d Simultaneous Temperature-Velocity Measurement in Fluids [20]	
17:10	Gildas Lalizel, Institut P', CNRS , ISAE-ENSMA, Université de Poitiers, France	Film cooling flow analysis using ZnO phosphor thermometry – Spectral intensity ratio method [21]	
17:30	**Free time**		Reception
18:00	**Welcome Reception**		Reception
20:00	Close		

Thursday 25th June			
8:00	Registration + tea/coffee		Reception
9:00	**Session 5: Opening, Chair Aldo Mendieta**		Lecture Theatre
9:00	Robin Underwood, National Physical Laboratory, Teddington, UK	**Keynote**: An introduction to primary thermometry [22]	
9:30	Masazumi Fujiwara, Okayama University, Okayama, Japan	**Keynote**: Nanodiamond quantum thermometers: material development and applications [23]	
10:00	Coffee break		Reception
10:30	**Session 6: Material Synthesis and Characterization, Chair Eva Hemmer**		Lecture Theatre
10:30	Albert Adibekyan, Physikalisch-Technische Bundesanstalt (PTB), Berlin, German	Emissivity Characterisation of Engineering Materials and Thermographic Phosphors Within THERMOSI [24]	
10:50	Federico Rabuffetti, Wayne State University, Detroit, Michigan, USA	Group V Metalates as High-Temperature Thermosensitive Phosphors [25]	
11:10	Andries Meijerink, Utrecht University, The Netherlands	Sense and Sensibility in Sensing [26]	
11:30	Markus Suta, Institute of Inorganic Chemistry, Heinrich Heine University, Düsseldorf, Germany	Thermodynamic and kinetic control in luminescence thermometry – How to achieve ultra-wide performance ranges [27]	
11:50	Markus Suta, Andries Meijerink	**Round Table Discussions**: Critical points in the design of luminescent thermometers	
12:15	Lunch break		Reception
13:30	Andrea Pickel, The University of Texas at Austin, Austin, TX, USA	**Keynote**: Luminescence Thermometry Beyond the Diffraction Limit [28]	Lecture Theatre
14:00	**Parallel Session 7A: Nanoscale Applications, Chair Masazumi Fujiwara**		
14:00	Eva Hemmer, University of Ottawa, Department of Chemistry and Biomolecular Sciences, Ottawa (ON), Canada	Effect of Motion on Lanthanide Luminescence Intensity Ratios: Implications for Thermal Sensing [29]	
14:20	Angel Millán, Institute of Nanoscience and Materials of Aragón (INMA/CSIC), Zaragoza, Spain	Real-time intracellular temperature imaging and monitoring. Application to local magnetic hyperthermia therapy [30]	
14:40	Yongwei Guo, CICECO–Aveiro Institute of Materials, University of Aveiro, Aveiro, Portugal	From Brownian Motion to Protein Unfolding: Fluorescent Sensing of EGFP at the Nanoscale [31]	
15:00	Aldo Mendieta, National Physical Laboratory, Teddington, UK	Towards a Metrology Framework for Quantum-Based Nanoscale Temperature Sensing [32]	
14:00	**Parallel Session 7B: Innovation in Instrumentation, Chair Jeffrey Eldridge**		F16-CS6/7
14:00	Kenneth TV Grattan, City St. George's, University of London, Northampton Square, London, UK	Fibre optic thermometry using Fibre Bragg Grating (FBG) and luminescent techniques – making better informed choices [33]	
14:20	Gavin Sutton, National Physical Laboratory, Teddington, UK	PHOSTECH: Development of a Practical Hand-Held Phosphor Thermometer [34]	
14:40	Patrick Nau, German Aerospace Center (DLR), Stuttgart, Germany	Fiber-Coupled Phosphor Thermometry for applications in gas turbine combustion [35]	
15:00	Anna Gakamsky, Edinburgh Instrument, Livingston, UK	From Bulk to Micro Scale: Instrumentation Workflows for Phosphor Thermometry [36]	
15:30	Coffee break		Reception
16:00	**Lab tours**		

	Hosts: Gavin Sutton, Aldo Mendieta, Caroline Winters	Phosphor Thermometry, F5-L30	Assemble in Reception
	Host: Robin Underwood	Primary Thermometry, F3-L1	
	Host: Jonathan Pearce, Radka Veltcheva	Contact Thermometry, G5-L7	
	Host: Rob Simpson	Radiation Thermometry, G5-L6/L16	
17:30	Coach to river cruise – please arrive promptly		Outside Reception
18:00	**Excursion**: Thames river cruise, Turks Wharf, Kingston		
20:00	**Conference dinner**: The Wharf, Teddington		
23:30	Close		

Friday 26th June			
8:00	Registration/Feedback + tea/coffee		Reception
9:00	**Session 8: Advanced Manufacturing and Materials, Chair Caroline Winters**		Lecture Theatre
9:00	Silvia Araguas Rodriguez, Sensor Coating Systems Ltd., Dagenham East, UK	**Keynote**: Exploiting Off-line Thermographic Phosphors for Thermal Mapping of Industrial Turbomachinery [37]	
9:30	Lisa Guibbert, Univ. Toulouse, Toulouse INP, CNRS, CIRIMAT, Toulouse, France	Photoluminescence sensor for thermal history diagnostic in the 500-1000°C range [38]	
9:50	Moritz Stelter, Otto von Guericke University, Magdeburg, Germany	Surface thermometry of extruded plastics during immersion cooling [39]	
10:10	Eric R. Westphal, Sandia National Labs, USA	Toward Temperature and Pressure Measurement of Shock Compressed Materials using Phosphor Photoluminescence [40]	
10:30	Coffee break		Reception
11:00	**Session 9: Material Synthesis and Characterization, Chair Hélène Brault**		Lecture Theatre
11:00	Daniel Jaque, Facultad de Ciencias, Universidad Autónoma de Madrid, Madrid, Spain	From Errors to Information: Reliability in Luminescence Thermometry for Biology [41]	
11:20	Luís Carlos, CICECO–Aveiro Institute of Materials, University of Aveiro, Aveiro, Portugal	Where Does the Heat Go? Hyperspectral Upconversion Thermometry of Plasmonic Nanowire Networks [42]	
11:40	Carlos António Delgado Sousa Brites, CICECO–Aveiro Institute of Materials, University of Aveiro, Aveiro, Portugal	Decoding Transient Luminescence with Machine Learning: Toward Autonomous Thermometry [43]	
12:00	**Closing ceremony, Chair Gavin Sutton**		
12:30	Lunch box pick-up		Reception
13:00	Close		

Talks are 15 minutes presentation and 5 minutes discussion

Keynote talks are 20 minutes presentation and 10 minutes discussion

Awards will be given for: 1) best overall presentation/poster, 2) best early career presentation/poster.
To be selected by the members of the ICPT2026 Scientific Committee.

We would like to thank the *IOP Measurement Science and Technology Journal* and *Nanoscale & Nanoscale Advances journals* for supporting these awards.

Exhibitors

There will be an opportunity to engage with five exhibitors that closely support our phosphor thermometry community. These will be available in the NPL reception area for the full duration of the conference.

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ISOTECH 45 Years of Excellence in Temperature Calibration	**Isothermal Technology Ltd** is a global leader in temperature calibration, with more than 45 years of expertise in the design, manufacture, and application of temperature standards. Offering a wide range of products — from primary metrology standards and industrial dry block calibrators to black body calibrators — alongside a UKAS-accredited laboratory, Isotech supplies the world's leading National Metrology Institutes. https://isotech.co.uk/
LAVISION FOCUS ON IMAGING	**LaVision** - the market leader in imaging measurement technology. LaVision has been successful in the development and implementation of imaging (laser) measurement technology for more than 35 years. This universally applicable cross-sectional technology has strong applications in the fields of flow measurement technology (aerodynamics, microfluidics), combustion (efficient energy generation, process industry) as well as in spray and particle diagnostics and process engineering. https://www.lavision.de/en/
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1) There are no test alarms due today. If there is an incident, instructions will be given over the public address system. Please listen as they may ask you to stay where you are.
2) If asked to evacuate please leave immediately by the nearest exit and go to the assembly point at the front of the building. It is located on the grass between the roundabout and the perimeter fence.
3) Do not stand on the road.
4) The toilets are in the transverse corridors on both the ground and first floor.
5) Smoking is not permitted anywhere on site apart from the designated smoking point.

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