



# International Symposium on Applications of Thermal Analysis and Calorimetry (SATAc-2021) Dec 21-22, 2021

Venue: University Department of Chemistry, Magadh University, Bodh Gaya  
*in association with*  
Indian Science Congress Association, Patna Chapter

## Programme

(Times are in IST, GMT + 5.30 hr)

### Session-1: Pre-Symposium Lecture

Date: 20<sup>th</sup> December 2021

Time: 17.00 – 19.00 (IST)

Meeting Link (Zoom): Join Zoom Meeting

<https://us02web.zoom.us/j/82355631714?pwd=Vkg0Mk5ONlducEsxTnczdDNjWTVMZz09>

Meeting ID: 823 5563 1714

Passcode: 703127

Time	Session Details	Session Chair
17.00-17.10 hrs	Chairman's remarks: Ranjit K Verma, Bodh Gaya (India)	
17.10-17.50 hrs	<b>PL-1:</b> A K Tyagi, Director, B.A.R.C., Mumbai (India) – “Metastable materials: Challenges and opportunities”	Ranjit Kumar Verma
17.50 – 18.20 hrs	<b>PL-2:</b> P K Srivastava, CDRI, Lucknow “Nanotechnology: A boon for medical science”	A K Tyagi
18.20 – 18.50 hrs	<b>PL-3:</b> Arun Pratap, MS Univ, Vadodara (India): “Role of Various Thermal Analysis Techniques in Materials Characterization”	

**Session-2: SATAC 2021, Day 1**

Date: 21<sup>th</sup> December 2021

Time: 11.00 – 20.30 (IST)

Meeting Link (Zoom): Join Zoom Meeting

<https://us02web.zoom.us/j/84613675881?pwd=SlRiZmoySk90U1pwOUhhVVI>

[BZjZ2Zz09](#)

Meeting ID: 846 1367 5881

Passcode: 215997

Time	Session Details
11.00-12.00 hrs	Inauguration: Chief Guest- Prof Vibhuti Narayan Singh, ProVC and Actg VC, Magadh University, Bodh Gaya Guest of Honour: Prof KC Sinha, VC, Nalanda Open University, Patna
12.00 – 12.30 hrs	<b>PL-4:</b> Crisan Popescu, Basic Research and Technology Development group at KAO European Research Laboratories, Darmstadt / Germany: “A tale of Hair. By Thermal Analysis”
12.30 – 13.10 hrs	<b>PL-5:</b> Tara Shankar Pal, IIT Kharagpur/University of Johannesburg, South Africa: “Surface Enhanced Raman Scattering (SERS) for Chemical Analysis”
13.10 – 13.40 hrs	<b>Oral Presentations:</b> <ul style="list-style-type: none"><li>• OP-1: Dasrath Majhi, Indira Gandhi Centre for Atomic Research, Kalapakkam: “Measurement of thermal expansion and phase transformation temperature of injection casted U–6 wt.%Zr alloy”</li><li>• OP-2: K Joseph, IGCAR, Kalapakkam, India: “Understanding thermal properties of Fe<sub>2</sub>O<sub>3</sub>-P<sub>2</sub>O<sub>5</sub>-Eu<sub>2</sub>O<sub>3</sub> glass</li><li>• OP-3: R. RAJA MADHAVAN, IGCAR, Kalapakkam, India: “Thermal expansion and specific heat capacity studies on simulated waste loaded titanium phosphate phases”</li></ul>
13.40 – 14.15 hr	Lunch Break
<b>Session-3</b>	

14.15 – 14.55 hr	<b>PL-6:</b> NOBUYOSHI KOGA, Hiroshima University, Higashi-Hiroshima, Japan:” Kinetic approach to complex reactions of solids using thermal analysis”
14.55 – 15.35 hr	<b>PL-7:</b> Peter Simon, Slovakia : “Frequent flaws in kinetic papers”
15.35 – 16.15 hr	<b>PL-8:</b> Julia Sempere, Spain: “Kinetic methods in Thermal Analysis: Traditional, Model-free & Non-Parametric”
16.15 – 16.45 hr	<b>PL-9:</b> Queenie Kwok , Canada: “Application of Thermal Techniques to the Hazard Characterization of Ammonium Nitrate and Ammonium Nitrate-Based Explosives”
16.45 – 17.00 hr	Break
17.00 – 17.40 hr	<b>PL-10:</b> Imre Szilagyi, Budapest, Hungari; “Thermal properties of carbon nanostructures and nanocomposites”
17.40 – 18.10 hr	<b>IL-1:</b> Arun Pratap, Vadodara (India): “Studies on phase transformations, thermal stability and related thermodynamic parameters using thermo-analytical techniques”
18.20 – 18.50 hr	<b>Oral Presentation</b> <ul style="list-style-type: none"> <li>• OP-4: H Jena, BARC: Structural and thermal analysis of sodium niobium phosphate glasses</li> <li>• OP-5: Venkat Krishnan: Enthalpy increment measurements of <math>[U_y Tb_{1-y}]O_{2\pm x}</math> (<math>y = 0.8</math> and <math>0.6</math>) solid solutions</li> </ul>
18.50 – 20.30 hr	<b>Oral Presentation</b> <ul style="list-style-type: none"> <li>• OP-6: Supratim Mukherjee, IGCAR (Indira Gandhi Centre for Atomic Research, Kalapakkam) HBNI, India: Performance evaluation of indigenously developed drop calorimeter for measurement of thermal properties of nuclear materials.</li> <li>• OP-7: Naina Raje, BARC: Application of Thermal Analysis for moisture determination in CO<sub>2</sub> gas cylinders.</li> <li>• OP-8: Anand Aswar: Synthesis, spectral, biological, fluorescence and thermal decomposition studies of some transitional metal complexes of tridentate hydrazone ligand.</li> <li>• OP-9: Aswar A S (Amravati, India): New tridentate Schiff base metal complexes: synthesis, physicochemical, biological and thermoanalytical behaviour.</li> <li>• OP-13: A S Singh , DMSRDE, Kanpur (India): “Synthesis and thermal analysis of silicon-containing bisphthalonitrile resin”</li> </ul>

	<ul style="list-style-type: none"> <li>• OP-14: Amit Singh, DMSRDE, Kanpur: “Synthesis and Thermal Analysis of Bis-adamantylated Resorcinol as an Antioxidant</li> <li>• OP-15: C P Patel: Thermal stability analysis of sugar alcohol for latent heat thermal energy storage system</li> </ul>
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Session-4: SATAC 2021, Day 2

Date: 22<sup>nd</sup> December 2021

Time: 09.00 – 18.30 Hrs (IST)

Meeting Link (Zoom): Join Zoom Meeting

<https://us02web.zoom.us/j/89310561521?pwd=bEovTGxPYUVWYy9YaUZLSWU4RVB1QT09>

Meeting ID: 893 1056 1521

Passcode: 314074

Time	Presentation
09.00 – 10.00 hrs	<p><b>Oral Presentation</b></p> <ul style="list-style-type: none"> <li>• OP-13: K Joseph : “Performance evaluation of indigenously developed drop calorimeter for measurement of thermal properties of nuclear materials.</li> <li>• OP-10: Navin, Vadodara: Thermal analysis of various PMMA/PS polymer blends</li> <li>• OP-11: Margi Patel, Vadodara : Crystallization kinetics of ZBLAN glass”</li> <li>• OP-12: Abhishek Singh: The effect of fiber drawing on thermal and melt behavior of gel-spun ultra high molecular weight polyethylene fibers</li> </ul>
10.00 – 10.40 hrs	<p><b>PL-12:</b> Dr. A. R. Saxena, President Elect, Indian Science Congress Association and Ex Director, DMSDRE (Kanpur): “Role of Thermal Studies in the</p>

	development of ceramic material precursors suitable for SiC polytypes”
10.40- 11.20 hrs	<b>PL-13:</b> Dr. P.K.Srivastava, Lucknow- “Bioinspired Engineering: Learning Science from Nature ”
11.20 – 13.30 hrs	<p><b>Oral Presentation</b></p> <ul style="list-style-type: none"> <li>• OP-16: Suman Shekhar: Thermal analysis of coals of different ranks</li> <li>• OP-17: Rashmi, Gaya: Thermal analysis of N-isopropylacrylamide (NIPAM) based thermoresponsive hydrogels.</li> <li>• OP-21: Naresh Kumar, Madhepura (India): “Multifunctional benzothiazole derivative Schiff base complex”.</li> </ul>
13.30 – 14.30 hrs	Lunch break
<p>Session-5 Crossroads in Chemistry</p>	
14.30 – 16.00 hrs	<p><b>PL-11:</b> JIŘÍ MÁLEK, University of Pardubice, Studentská 95, Pardubice, Czech Republic: “ Stability of chalcogenide glassy materials revealed by methods of thermal analysis”</p> <p><b>Oral Presentation</b></p> <ul style="list-style-type: none"> <li>• OP-22: Sanjay Kumar , Aurangabad (India): “Chemical constituents of different species of cassia genus”</li> <li>• OP-23: Premlatha SJ: “Cytotoxic studies on MCF-7 cell line for Aspergillus niger and Aspergillus nidulans fungal extracts from Cassia fistula leaves</li> <li>• OP-24: Dilip Kumar, Gaya College, Gaya (India): “ Structure and thermal properties of lignins : characterization FT-IR &amp; DSC.</li> <li>• OP-25:Punit Kumar, Gaya (India): “Thermal properties analysis of combined mineral wool and silica aerogel- experimental studies”</li> <li>• OP-26: M. Shamona, Tirunelveli (India): “Electronic Structure, Hirshfeld Surface</li> </ul>

	<p>Analysis and DFT study of 4-fluoro-2-[(E)-2-pyridyliminomethyl]-phenol”</p> <ul style="list-style-type: none"> <li>• OP-27: Vandana Gupta, Kalyan(India): Poultry Wastes: A Resource for Biosorption of Zn(II) and Pb(II) ions from Waste water</li> </ul>
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16.00 – 17.30 hrs	<p><b>Oral Presentation</b></p> <ul style="list-style-type: none"> <li>• OP-27: Manoj Kumar, Bihar (India): “Biological evaluation of some isoxazole compounds used in pharmaceutical industry”</li> <li>• OP-28: Deshal Yadav, CIFRI (Dhanbad, India): A Comparative Review on Thermal Behavior of Feedstocks during Gasification via Thermogravimetric Analyzer</li> <li>• OP-29: Sanjay Verma, Kanpur (India) : Science Communication through Film and Visual Display &amp; Indian Society</li> <li>• OP-30: A. K. Pandey: Synthesis , Characterization Studies on some mixed ligand metal complexes with 2,2'- bipyridine</li> <li>• Late abstracts</li> </ul>
17.30 – 18.30 hrs	Closing