



**24<sup>th</sup> DAE – BRNS  
Symposium  
On Thermal Analysis**

**THERMANS – 2024**

**January 16- January 18, 2025**

**Organized by  
Indian Thermal Analysis Society (ITAS), Mumbai,**



*[www.itasindia.org](http://www.itasindia.org)*

**Venue  
Multi-Purpose Hall,  
Training School Hostel, BARC  
Anushaktinagar, Mumbai, India**

**Supported by  
Board of Research in Nuclear Sciences  
Department of Atomic Energy  
Government of India  
Mumbai**



# SCOPE OF THERMANS - 2024

Theme of the THERMANS – 2024 symposium is “**Thermal Analysis and Materials Characterization**”.

Deliberations of the symposium will cover the following topics:

## **Category A: Thermal Analysis and Thermodynamic Properties**

1. Thermodynamics and Phase Diagram Studies
2. Thermochemical and Thermophysical Properties of Materials
3. Thermal Decomposition Reaction Mechanism
4. Thermal Imaging

## **Category B: Thermal Analysis in Structural Materials, Metals & Mining**

1. Thermal Analysis of Structural Alloys and Cement
2. Thermal Analysis of Coal and Fossil Fuel
3. Thermal Analysis of Minerals

## **Category C: Thermal Analysis and Green Energy**

1. Thermal Analysis in Hydrogen Production
2. Hydrogen Storage Materials and Thermal Analysis
3. Thermal Analysis of High Energy Materials
4. Catalysts and Thermal Characterization
5. Nuclear Materials and their Thermal Behavior

## **Category D: Synthesis and Kinetics**

1. Solid State Synthesis and Thermal Characterization
2. Thermal properties of Ceramics and Cermets
3. Thermal analysis of Metastable Materials
4. Thermal Behavior of Nanomaterials and Coated Particles

## **Category E: Thermal Analysis of Soft Materials**

1. Thermal Analysis of Polymers and Polymeric Composites
2. Thermal Behavior of Pharmaceuticals and Biomaterials
3. Thermal Characterization of Glasses and MOF
4. Thermal Behavior of Hydrogels/Eutectogels/Deep Eutectic Solvents

## IMPORTANT DATES

<b>Pre-registration &amp; Abstract Submission</b>	<b>October 31, 2024</b>
<b>Acceptance of papers</b>	<b>November 15, 2024</b>
<b>Payment of registration fees</b>	<b>November 30, 2024</b>

## ADDRESS FOR CORRESPONDENCE

**Email:** [thermans2024@gmail.com](mailto:thermans2024@gmail.com), **Fax:** +91-22-25505151

**Dr. Y.K. Bhardwaj**  
**Chairman, THERMANS-2024**  
Associate Director, RC&IG  
Bhabha Atomic Research Centre,  
Trombay, Mumbai - 400085, India.  
Tel.: +91-22-6929 0178 (Off.),  
+91- 9892541409 (Mob.)

**Dr. Naina Raje**  
**Convener, THERMANS-2024**  
Analytical Chemistry Division,  
Bhabha Atomic Research Centre,  
Mumbai - 400085, India.  
Tel: +91-22-6929 3291 (Off.),  
+91-9969417188 (Mob.)

**Dr. Debabrata Chattaraj**  
**Secretary, THERMANS-2024**  
Product Development Division,  
Bhabha Atomic Research Centre,  
Trombay, Mumbai - 400085,  
India.  
Tel: +91-22-6929 6446 (Off),  
+91 9619749582 (Mob)

**Dr. Raj Kumar Mondal**  
**Treasurer, THERMANS-2024**  
Radiation Technology Development  
Division,  
Bhabha Atomic Research Centre,  
Trombay, Mumbai-400085, India.  
Tel: +91-22-6929 2460 (Off),  
+91-7506210037 (Mob.)

## ABOUT THE VENUE

Mumbai is situated on the west coast of the country and is popularly known as the financial capital of India. Mumbai city is well connected to other parts of India as well as rest of the world. People coming to Mumbai by train can alight at Mumbai CST, Dadar, Kurla, Mumbai Central, Bandra or Panvel terminus. Those travelling by flight will alight either at domestic airport at Santacruz or at Chhatrapati Shivaji Maharaj International Airport, Sahar. The venue of the workshop & symposium is the Multipurpose Hall, Training School Hostel, Anushaktinagar. Anushaktinagar is the residential colony for scientists and engineers working in Department of Atomic Energy (DAE). It is located in the north east part of Mumbai and is surrounded by beautiful hills. All the railways stations are within 20 km and the airports are less than 25 km from the venue. Prepaid taxis are available at most of the railway stations as well as airports. Those interested in travelling by local trains should alight at Mankhurd station on harbor line, which is about 2 km from the venue. Many buses run by Brihanmumbai Electric Supply and Transport (BEST) come to Anushaktinagar bus depot. Mumbai has pleasant climate during December to February with temperature range between 18°C to 25°C.

*N.B. Landmarks can be identified in the map below.*



## ABOUT THE ORGANIZING SOCIETY

The **INDIAN THERMAL ANALYSIS SOCIETY (ITAS)** was established in 1977 under the leadership of late **Dr. M.D. Karkhanavala** and is actively engaged in promoting science and technology of thermal analysis in India. ITAS is a registered public trust with its headquarters in Mumbai. The Society organizes biennial symposia and workshops on thermal analysis and publishes "ITAS Bulletin" including "Thermal Analysis Titles" listing the titles of papers on thermal analysis along with relevant citations. ITAS also supports publication of books and monographs on topics of interest to thermal analysis. Besides, the Society encourages research and development activities in the field of thermal analysis by instituting awards at various levels, which are usually conferred at the time of the biennial symposia. For additional information please see ITAS website: [www.itasindia.org](http://www.itasindia.org)

## ABOUT THE FUNDING AGENCY

**BOARD of RESEARCH in NUCLEAR SCIENCES (BRNS)** supports research and development activity in universities, institutes of higher learning and national laboratories in the fields relevant to the mandate of Department of Atomic Energy. BRNS also supports symposia, conferences, seminars and workshops in various areas of science and technology.

## AWARDS

ITAS confers various awards in different categories. The award distribution will be held during THERMANS- 2024. The details regarding different awards and the eligibility are available on the ITAS website [www.itasindia.org/thermans2024/](http://www.itasindia.org/thermans2024/). Interested candidates should strictly adhere to the deadlines mentioned on the website in this context.

## CALL FOR MANUSCRIPTS

Desirous participants may submit the contributory papers (strictly as per the template provided along with the brochure) at [www.itasindia.org/thermans2024/](http://www.itasindia.org/thermans2024/) on or before **October 31, 2024**. Please note that the papers received **online only** would be considered for participation. The Organizing Committee will decide the acceptance/rejection of papers after evaluation. Acceptance of papers will be communicated by **November 15, 2024**. Inclusion of the papers and participation of authors will be confirmed after payment of registration fee by **November 30, 2024**.

## REGISTRATION

The participants of THERMANS 2024 are requested to get registered in advance by filling the registration form available at [www.itasindia.org/thermans2024/](http://www.itasindia.org/thermans2024/). Registration fee can be credited to THERMANS 2024 account by online transfer/RTGS/NEFT/UPI. The registration fee covers symposium proceedings, conference-banquet, lunch, dinner and refreshments during the symposium period, but does not cover the accommodation charges. Bank account details are available at [www.itasindia.org/thermans2024/](http://www.itasindia.org/thermans2024/). (*Registration fee is non-refundable*)

Symposium Fee Details	
Research scholar/PhD students ( <b>ITAS Non-Members</b> )	Rs 2500/-
Research scholar/PhD students ( <b>ITAS Members</b> )	Rs 2000/-
Delegates from University/Educational Institutions and Government Departments ( <b>ITAS Non - Members</b> )	Rs 5000/-
Delegates from University/Educational Institutions and Government Departments ( <b>ITAS Members</b> )	Rs 4000/-
Accompanying person with delegates from India	Rs 3000/-
Foreign Delegates	150 USD
Accompanying person with foreign delegates	100 USD

## ACCOMMODATION

Accommodation for delegates will be available at BARC Guest Houses/Hostels, Anushaktinagar, on payment basis. Request for accommodation should be conveyed through [www.itasindia.org/thermans2024/](http://www.itasindia.org/thermans2024/) only. The requisition form for accommodation is available at [www.itasindia.org/thermans2024/](http://www.itasindia.org/thermans2024/). Accommodation for only one author per contributory paper will be provided. Accompanying persons, if any, are requested to make their own accommodation arrangement. Delegates interested to stay at private hotels can book their accommodation directly with the hotel/s, available outside Anushaktinagar.

## TRAVEL ASSISTANCE

Participants are requested to make their own travel arrangements. Only limited number of travel assistance would be made available to the research scholars/students presenting **ORAL** paper, if the participant's institute is not able to provide the same. Requests for financial assistance must be forwarded through the Director/Head of the parent institution to the Convener, Symposium Organizing Committee, THERMANS-2024, by November 30, 2024 by mail [thermans2024@gmail.com](mailto:thermans2024@gmail.com). Please note that “**On the spot, travel assistance requests will not be entertained.**”

# GUIDELINES FOR MANUSCRIPTS

The manuscripts should be prepared strictly as per the following instructions:  
File format: M.S Word (Office 2003, 2007, 2010)

- Language: English
- Paper size: A4; 1inch margins on all sides
- Text: Times New Roman, 10pt font; single line spacing; no extra spacing between paragraphs (see template for more details)
- Size: Not more than 2 pages, including tables, references and illustrations

*Two pages should be fully utilized with sufficient scientific information. Papers with insufficient information will not be considered. A template is provided at the end for ready reference.*

## Template for preparation of the Manuscript

**Category (e.g. Thermodynamics and phase diagram studies, etc.)**

**The Title of the Paper should be in this Format with Each Initial Letter in Capital Ca**

Author's Name<sup>a</sup>, Author's Name<sup>b</sup> and Author's Name<sup>\*</sup>

*<sup>a</sup>Replace this text with author's affiliations (use complete addresses)*

*Continue Here*

*<sup>b</sup>If more than one affiliation is needed, they should be indicated by superscript letters, a, b, c, etc. as shown above.*

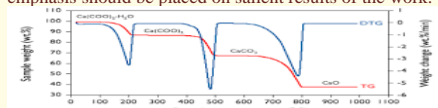
*<sup>\*</sup>Corresponding author's name should be marked with asterisk (\*) and his/her email ID, Telephone Number and Fax Number should be provided here*

### **Abstract**

*The abstract of the work should summarize the highlight of work with not more than 100 words. The text itself should be italic and justified. Leave one space between and after the abstract. The text should be typed in single columns in Times New Roman (font size 10) with single spacing, as shown in the template. Abstract with insufficient information or improper format will not be considered. Title: 12 font, Name and Affiliation: 11 font.*

The title, authors, affiliations and addresses should be centred. The name of the corresponding author should be highlighted by asterisk (\*). Leave one space each between the title, authors, addresses and content of the paper. The affiliation should include the institution, department, and country in this sequence. The text itself should be justified. Leave one space between the paragraphs. The text should be typed in two columns in Times New Roman (font size 10) with single spacing, as shown in the template.

Enough scientific information about the work should be reflected in the text and the space of **TWO** page should be completely utilized. Papers with insufficient information or improper format will not be considered. Introduction and experimental section should be kept to a minimum and more emphasis should be placed on salient results of the work.



**Figure 1. Figure caption should be in Times New Roman 10 font and figures should be imported as graphics.** Based on figure size, it should be included in a text box so that the remaining space can be utilised for providing more

discussion. The authors should ensure to provide figures with good resolution as these will be reproduced as submitted. The same is applicable for placing table, depending on the number of columns. **Figures and Tables should be embedded at appropriate places.**

**Table 1.** Table caption in Times New Roman, 10 font. Both caption and table centre aligned w. r. t. the page

<b>Heading 1 (Font 10, Bold)</b>	<b>Heading 2 (Font 10, Bold)</b>	<b>Heading 3 (Font 10, Bold)</b>
Description (Font 10, regular)	Description (Font 10, regular)	Description (Font 10, regular)
Description (Font 10, regular)	Description (Font 10, regular)	Description (Font 10, regular)

**Enough scientific information about the work should be reflected in the text and the space of TWO page should be completely utilized.**

### **References**

References are to be indicated by square brackets in the text (e.g. [1]), and given in the format shown below using "Times New Roman" font (10 pt). **Leave one space between the text and references.**

1. A. First, B. Second and C. Third, *Journal*, 12 (2007) 345.

# PRE - REGISTRATION FORM

## THERMANS-2024

Multi-Purpose Hall, Training School Hostel, BARC

Anushaktinagar, Mumbai, India

January 16- January 18, 2024

Name: .....

Institution: .....

Address for Correspondence: .....

.....

.....

Tel: (O): .....

(R): .....

Email: .....

I intend to participate in the **Symposium** and present a paper.

Tentative title of the paper: .....

.....

Paper should be considered for AWARD: #Yes / No

If yes, \* age of the participant as on January 1, 2024:.....

Date:

Signature:.....

#: Strike out whichever is not applicable

\* The proof of the age duly attested by Head of Institute should be submitted along with the pre-Registration form



# REQUEST FOR ACCOMMODATION

## THERMANS-2024

**Multi-Purpose Hall, Training School Hostel, BARC**

**Anushaktinagar, Mumbai, India**

*January 16- January 18, 2024*

**Name :** .....

**Institution:** .....

**Address for Correspondence:** .....

.....

.....

**Tel:(O):** ..... **(R):** .....

**Email:** .....

**\* I need / do not need accommodation in Guest House / Hotel.**

**I will be accompanied by:** .....

### **Travel Details:**

(a) Flight/ Train: .....

(b) Date of arrival: .....

(c) Date of departure: .....

**Date:**

**Signature:**

*\*: Strike out whichever is not applicable*

## THERMANS - 2024: PATRONS

Vivek Bhasin	BARC, Mumbai
U. Kamachi Mudali	HBNI, Mumbai

## THERMANS - 2024: NATIONAL ADVISORY COMMITTEE

C.G. Karhadkar	IGCAR, Kalpakkam
Unmesh Malshe	RRCAT, Indore
A.K. Tyagi	HBNI, Mumbai
Awadhesh Kumar	BARC, Mumbai
D.K. Aswal	BARC, Mumbai
P.A. Hassan	BARC, Mumbai
R. Tewari	BARC, Mumbai
S. Adhikari	BARC, Mumbai
S.M. Yusuf	BARC, Mumbai
A. C. Bhasikuttan	BARC, Mumbai
C.N. Patra	BARC, Mumbai
N. Choudhury	BARC, Mumbai
N. Kishor	IITB, Mumbai
S.C. Parida	BARC, Mumbai

## THERMANS - 2024: ORGANIZING COMMITTEE

NAME	AFFILIATION	NAME	AFFILIATION
R.Mishra	President, ITAS	R. Ganeshan	IGCAR, Kalpakkam
Y.K.Bhardwaj	Chairman, THERMANS-2024	R.N. Singh	BARC, Mumbai
Naina Rajee	Convener, THERMANS-2024	Ram Avtar Jat	BARC, Mumbai
D. Chattaraj	Secretary, THERMANS-2024	Rajesh Pai	BARC, Mumbai
R.K.Mondal	Treasurer, THERMANS-2024	Rimpi Dawar	BARC, Mumbai
A. Awasthi	BARC, Mumbai	Rohan Phatak	BARC, Mumbai
Abhishek Rai	BARC, Mumbai	S. Kolay	BARC, Mumbai
B. B. Kalekar	BARC, Mumbai	S. K. Rakshit	BARC, Mumbai
Dheeraj Jain	BARC, Mumbai	S. N. Achary	BARC, Mumbai
H.N. Jena	IGCAR, Kalpakkam	Salil Varma	BARC, Mumbai
K. A. Dubey	BARC, Mumbai	Sangita Pal	BRNS, Mumbai
M.K. Sapra	BRNS, Mumbai	V. Sudarshan	BARC, Mumbai
M.R. Pai	BARC, Mumbai	V.K.Aswal	BARC, Mumbai
Pradeep Samui	BARC, Mumbai	V.M.S. Verenkar	Goa Univ, Goa
P. Singh	IIT, BHU, Varanasi	Naved Malek	SVNIT, Surat