

### Benefit by Attending

This Conference is the largest gathering of its kind in the world for those involved with the manufacture, transportation, storage, disposal, and use of explosives and related products. Attending will be field experts, supervisors, suppliers, service providers, manufacturers, educators, and researchers who want practical information on the latest techniques, product innovations, and research discoveries in the field. So one will be get the chance to learn from others experience and work. It will be right place for interactions and see the latest products related to HEM research and evaluation.

### Exhibits and Sponsorships

The conference will be attended by researchers, academicians, technologists, entrepreneurs and students from all over the world. A souvenir comprising collection of abstracts of technical papers, invited talks and advertisements will be released during inaugural function. It is an idea platform for all industries to advertise their products and services all over the world. It is also proposed to have an exhibition of products developed by industries as well as R&D organizations and model made by students. The industry partners are also invited to sponsor the major events of the conference.

### Registration

For online registration visit website [www.hemsichd.org](http://www.hemsichd.org). The registration fee in form of demand draft / multicurrency cheque drawn in favour of **HEMCE-2022** and payable at Chandigarh must be sent by post to **The Chairman Organizing Committee HEMCE 2022, TBRL Sector 30, Chandigarh 160 030.**

### Registration Fee

	Indian	Foreign
Delegate	Rs 10000/-	US\$ 400
HEMSI Member	Rs 8000/-	US\$ 300
Student	Rs 3000/-	US\$ 100

### Chandigarh: The City Beautiful

SOMETHING GOOD COMETH OUT OF EVIL; thus goes the Biblical saying. This legendary proverb aptly describes the birth of the city of Chandigarh, which was conceived immediately after India's Independence in 1947. With the partition in the subcontinent, Lahore, the capital of undivided Punjab fell within Pakistan, leaving East Punjab without a Capital. It was decided to build a new Capital city called Chandigarh about 240 kms. north of New Delhi on a gently sloping terrain with foothills of the Himalayas the Shivalik range of the North and two Seasonal rivulets flowing on its two sides approximately 7-8 kms apart. Chandigarh, the capital of the northern Indian states of Punjab and Haryana, was designed by the Swiss-French modernist architect, Le Corbusier. The city is well connected by Volvo buses and trains to New Delhi. It also has an international airport with connectivity to other cities and many countries.

### Conference Secretariat

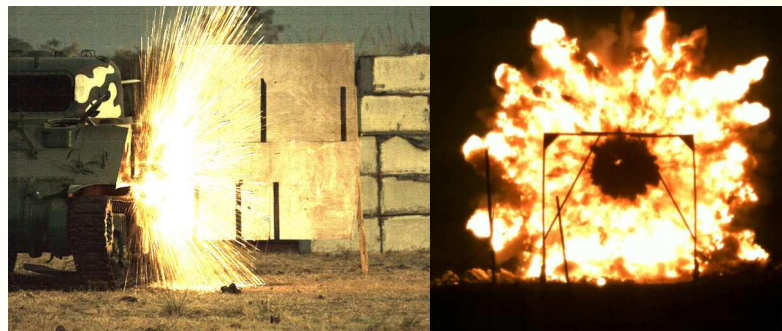
<b>Chairman Organizing committee</b> Sh Prateek Kishore, OS & Director TBRL	<b>Members</b> Sh Yashpal Singh, Sc F, TBRL
<b>Convener</b> Dr P K Soni, Sc F, TBRL Mob. : 94179-36461	Sh Balvir Kumar, Sc F, TBRL Ms Ritu Khurana, Sc F, TBRL Dr Arjun Singh, Sc F TBRL
<b>Co-convenor</b> Dr Inderpal Singh Sandhu, Sc F, TBRL Mob. : 99142-12403	Sh Madan Kumar, Sc F, TBRL Sh Anupam Anand, Sc E, TBRL Sh Subash Chander, Sc F, TBRL Sh Rajeev Kumar, Sc E, TBRL Dr Sanjeev Verma, Sc E, TBRL Ms Meenakshi Bhat Kala, Sc E Sh Manoj Atwal, TO C
<b>Website : <a href="http://www.hemsichd.org">www.hemsichd.org</a></b> <b>E mail : <a href="mailto:hemce2022@gmail.com">hemce2022@gmail.com</a>, <a href="mailto:info@hemsichd.org">info@hemsichd.org</a></b> <b>Fax : 0172-2657506</b>	



# 13<sup>th</sup> International High Energy Materials Conference & Exhibits-2022

## HEMCE 2022

May 26 - May 28, 2022



**DRDO | ISRO | DAE | ACEDEMIA | CIVIL EXPLOSIVES | INDUSTRIES**

**Organized by**  
**High Energy Materials Society of India**  
**Chandigarh – Delhi Chapter**

**In Association with**  
**Terminal Ballistics Research Laboratory, Chandigarh**  
**at**  
**TBRL Ranges, Ramgarh, Panchkula, Haryana India**

## HEMSI

High Energy Materials Society of India (HEMSI) was founded in 1983 with Headquarter at HEMRL, Pune. The principal aim of society is to propagate and promote knowledge and R&D activities in the field of High Energy Materials (HEMs) all over the world. In order to realize its objectives, HEMS organizes biennial International Conferences / Seminars. It also disseminates the latest information by conducting Workshops and courses from time to time. Scientists / Technologists / Academicians from all over the globe attend these events. The participation in these events provide the platform for interaction among the Scientists, Engineers, academia and entrepreneur from different organizations in India and abroad. Today, HEMS is a well-known society all over the world with more than 1500 active members from India and abroad. In addition to Head Quarters at HEMRL, Pune, HEMS has full-fledged regional chapters at VSSC, Thiruvananthapuram, SHAR – IIT, Chennai, DRDL, Hyderabad, TBRL, Chandigarh and SFC, Jagdalpur.

The society has organized 12 International conferences to bridge the technology gap between researchers by participation of experts from all over the world. Society is going to organize next international conference “High Energy Materials Conference & Exhibits -2022” (HEMCE -2022) at TBRL, Chandigarh, India.

## The Venue: TBRL Chandigarh

TBRL was established in 1961 as one of armament research laboratory, under the Department of Defence Research & Development with an aim to provide facilities for applied research and technology development in the fields of high explosives, detonics, shock & blast, lethality, impact & penetration and performance evaluation of warheads & other armament systems. The laboratory has the headquarter at Sector 30, Chandigarh and its technical area known as TBRL Ranges at village Ramgarh, District Panchkula, Haryana. TBRL Ranges are divided into a number of technical zones / trial areas which have been designed and spaced so as to allow conduct of experimental trials independent of each other. Each technical zone has been equipped with highly specialized instruments and diagnostics facilities, which generate critical inputs for the design and development of warheads and other armament systems. The main feature of the trial areas is that the instruments are kept in the strong RCC bunkers and explosive or ammunition are detonated in the open. This gives flexibility in operation and permits explosion of high calibre warheads, ammunition and large explosive charges with adequate safety measures. Over the last 60 years the laboratory has evolved from a test and evaluation centre to an institute with expertise and competence in technology development, simulation, design and development of different explosive devices and related systems for armament applications.

The HEMCE-2022 is being organized by HEMS Chandigarh Delhi chapter in collaboration with TBRL, Chandigarh. The conference will be organized in Manthan Auditorium at TBRL Ranges, Ramgarh, Panchkula, Haryana about 22 km from Chandigarh on Chandigarh - Yamuna Nagar Highway (NH 73). Over the last 3 years HEMS Chandigarh Chapter & TBRL has successfully organized the following events in which research organizations, academia and industries participated in a big way.

- **National Symposium on Shock Waves, 26-28 Feb, 2018**
- **Workshop on “Photonics for Detonics” 1-2 March 2019**

## The Event : HEMCE 2022

The international conference is being organized with the objective of providing a forum for interaction and exchanging the novel and innovative ideas in the field of explosives, propellants, pyrotechnics, detonics, protection, instrumentation and & allied field of high energy materials amongst the research laboratories and academia. This also aims at the creation of a researcher, industry and academia interface to consolidate large knowledge base to be utilized effectively in the design and development of new high energy materials with emphasis on eco-friendly nature and to understand the science for the benefits of society.

## Call For Papers

The Conference Committee is issuing a worldwide call for Papers to be presented at the conference and published in the Conference Proceedings. Here's your chance to share your techniques, strategies, solutions, product innovations, and research discoveries with your peers. Ideas should be submitted in the form of a 200-400 word abstract (summary) highlighting the major points of your paper. Abstracts must be submitted electronically using the web-based submission site by August 16, 2021 or through mail. The complete guidelines, instructions and deadlines can be viewed on chapter website [www.hemsichd.org](http://www.hemsichd.org). Please contact us if you did

not received confirmation with in one month of submitting your abstract.

Authors of selected papers will have to submit full text in camera ready form for publications. The detailed instructions will be posted on website. Authors are required to include new and original research material and should certify that the paper has not been presented at any meeting/ workshop/ symposium or communicated to any journal. Abstract and text should be unclassified. Responsibility to obtain requisite clearance from the institution/ sponsoring agencies rests with the author (s).

## Focus Area

- Synthesis, characterization and scale-up of advanced HEMs
- Nano energetic materials
- Insensitive and green energetic materials
- Multi-scale modelling and process simulations
- Primary explosives, initiators and detonators
- Pyrotechnics and pyro devices
- Gun propellants and Propulsion systems
- Rocket propellants and innovative propulsion concepts/systems
- High explosive formulations and devices
- Prediction, evaluation and analysis of explosive filled armament stores
- Quality control and assurance of HEMs
- Blast mitigation, damages, effects & scaling in air and underwater
- Ageing studies and shelf - life assessment of explosives/ammunitions
- Explosive detection techniques and devices
- Novel characterisation and evaluation methods of HEMs
- Advances in civil explosives
- Underground blasting and vibration
- Blast and fragmentation modelling
- Modelling and simulation
- Thermal decomposition, combustion and kinetics
- Overdriven detonation waves
- Advanced & novel experimental techniques
- Dynamic shock loading of materials
- Micro Detonics
- Warhead design & evaluations
- Detonation in gaseous media
- TNT equivalence
- Equation of state of explosives
- Explosive safety, hazard assessment, waste disposal management, environmental studies and disposal technologies of HEMs

## Peer Review Process

Abstracts will be considered by a committee of professionals using a blind review process. The Committee will determine the paper's relevance and substance based on the following criteria:

- Purpose and reason for work
- Quality and quantity of data
- Experimental procedures
- Applications
- Conclusions based on data presented

## Publication & Registration

Only papers received in the proper format by the deadline and presented at the Conference will be published in the Proceedings. Copyrights to all papers published become the property of Society. Presenters are required to register for the Conference by due date.

## Paper Presentation

The Program Committee will assign each paper to a session upon acceptance of the full paper. The paper will be assigned to a Technical Session or Poster Session. Author whose paper is assigned to Technical Sessions will have 10 minutes to present the paper and 5 minutes for questions and answers.

For papers selected for the Poster Session, author will present the poster during a 60-minute session of one-on-one discussions with conference attendees and examiners

## Author Deadlines

**March 15th, 2022 Last day for submission of abstract**

**March 31st, 2022 Notification of abstract acceptance**

**April 30th, 2022 Last day for submission of full paper**

**May 15th, 2022 Conference registration deadline for authors**