



# A One-Day Hybrid Symposium on ADVANCED FUNCTIONAL & ENGINEERING MATERIALS [AFEM-2022] A Composite Event on August 5<sup>th</sup>, 2022 (Friday)



Organised by TRAERF and ASM International Kanpur Chapter, Under the Aegis of SFA, Hyderabad and Aerospace Resources Panel of AR&DB, DRDO  
Symposium Venue: Defence Materials and Stores R & D Establishment (DMSRDE), DRDO, P.O. DMSRDE, Cantonment, G. T. Road, Kanpur - 208 013, U.P., India

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## Organizing Committee Product Exhibition

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Shri Abhishek Singh  
Shri Shashank Mishra  
Shri Harjeet Singh  
Shri Dev Roop Arya  
Smt. Bhavana Srivastava

## Registration Fee

**ASM Member** : Rs. 4000/-  
**Non ASM Member** : Rs. 6000/-  
**Student Member** : Rs. 2000/-  
**Industry** : Rs. 25000/-  
**Exhibition Stall** : Rs. 100000/-

## For Registration of AFEM-2022 Pl. Contact:

**Dr. Santosh Kr. Tripathi**  
Treasurer, ASM International Kanpur Chapter  
Head, Single Source Precursor Division, DoNM  
DMSRDE, DRDO, Kanpur - 208 013, U.P., India  
Email: asmiknp08@gmail.com  
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**Pay by Check / Draft in favor of ASM (I) Kanpur Chapter**  
Bank Account No. : 40277034184  
MICR Code : 208002011  
IFSC : SBIN0007199  
Bank Address : SBI, DMSRDE, Complex  
G.T. Road, Kanpur - 208013

## TECHNICAL PROGRAMME

**10:00 hrs.** Inauguration of the Product Exhibition by Lt. Gen. J. K. Sharma (Retd.)  
Declaration of Product Exhibition Open to Students (Coordinator: Shri J. N. Srivastava, DMSRDE)

**Technical Session - I : Advanced Functional Materials**  
**Chairman: Prof. L. M. Manocha; Co-Chairman: Dr. Ashish Dubey**  
**Venue: Director's Conference Hall, DMSRDE, DRDO, Kanpur**  
**Please Join us using the weblink: <https://meet.google.com/www-obtp-ytw>**

**10:15 hrs.** Welcome by Dr. S. M. Abbas, Additional Director, DMSRDE, Kanpur, India  
**10:20 hrs.** Address by Guest of Honour Dr. Kamachi U. Mudali, Trustee, ASM International, India  
**10:30 hrs.** Address by Chief Guest Dr. Samir V. Kamat, DS & DG (NS&M), DRDO, Visakhapatnam, India  
**10:45 hrs.** Introduction of Chairman and Speakers by Dr. Kingsuk Mokhopadhyay  
**11:00 hrs.** Keynote Lecture: Ultra High Temperature Ceramics for Re-entry Space Vehicles  
by Prof. Kantes Balani, IIT/K, Kanpur, India  
**11:30 hrs.** Invited Lecture: Refractory multicomponent alloys for next generation applications  
by Prof. Koteswararao V. Rajulapati, University of Hyderabad, Hyderabad, India  
**12:00 hrs.** Invited Lecture: Polymer composites of advanced functional materials for organic electronic applications  
by Prof. Rajiv Prakash, IIT(BHU), Varanasi, India  
**12:30 hrs.** Invited Lecture: Carbon Nanotubes Based Stretchable and Printable Conductive Materials  
by Dr. Debmalya Roy, DMSRDE, Kanpur, India  
**13:00 hrs.** Chairman Remarks  
**13:10 hrs.** Vote of Thanks by Dr. Ashish Dubey, DMSRDE, Kanpur, India  
**13:15 hrs.** Lunch

**Technical Session - II : Product Exhibition**  
**Chairman: Shri Hari Babu Sriavastava; Co-Chairman: Dr. N. Eswara Prasad**  
**Venue: DMSRDE Exhibition Hall, DMSRDE, DRDO, Kanpur**  
**(Coordinator: Shri J. N. Srivastava, DMSRDE)**

**14:30 hrs.** Welcome by Shri Amit Saraiya, DMSRDE, Kanpur, India  
**14:35 hrs.** Address by Guest of Honour Prof. P. Venkitanarayanan, IIT/K, Kanpur, India  
**14:45 hrs.** Address and Release of Souvenir by Chief Guest, Lt. Gen. J. K. Sharma (Retd.)  
**15:00 hrs.** Keynote Lecture: Defence Products & ToT Road Map for DMSRDE by Shri J. N. Srivastava, DMSRDE, Kanpur, India  
**15:30 hrs.** High Tea  
**16:00 hrs.** Visit to Product Exhibition

**Technical Session - III : Advanced Engineering Materials**  
**Chairman: Shri Pradeep Goyal; Co-Chairman: Dr. Shantanu Chakraborty**  
**Venue : Director's Camp Office, DMSRDE Transit Facility, G.T. Road, Kanpur**  
**Please Join us using the weblink: <https://meet.google.com/fgb-fjmy-dnp>**

**17:00 hrs.** Welcome by Dr. Ashok Kr. Tiwari, Chairman, ASM International India National Council  
**17:10 hrs.** Address by Chief Guest Shri Pradeep Goyal, President (Elect), ASM International [2023-'24]  
**17:20 hrs.** Introduction of the Speakers by Dr. Kingsuk Mukhopadhyay, DMSRDE, Kanpur, India  
**17:30 hrs.** Invited Lecture: Quantitative Fractography (QF) for Fatigue Crack Growth Analyses of Metallic Aircraft Components by Dr. R. J. H. Wanhill, Emmeloord, Flevoland, the Netherlands  
**18:00 hrs.** Invited Lecture: Additive manufacturing in Electrical Machines - The Road to Electrification  
by Dr. Priya Munagala, University of Bristol, Bristol, UK  
**18:25 hrs.** Invited Lecture: Acoustophoretic Self-assembly of Colloidal Composites for Additive Manufacturing  
by Dr. Meghana Akella, Boston Science Corporation, Boston, MN, USA  
**18:50 hrs.** Invited Lecture: On the Prediction of Long-term High Temperature Creep Life of Materials using Short-term High Temperature Creep Test Results by Prof. K. A. Padmanabhan, Anna University, Chennai, India  
**19:20 hrs.** Invited Lecture: NEP of Light Metals by Prof. C. Suryanarayana, University of Central Florida, Orlando, USA  
**19:50 hrs.** Keynote Lecture: Materials Design through Nano Engineering by Prof. P. M. Ajayan, Rice University, Houston, USA  
**20:30 hrs.** Special Lecture: Aerospace Materials - A journey of 4 Decades by Dr. N. Eswara Prasad, DMSRDE, Kanpur, India  
**21:10 hrs.** Vote of Thanks by Dr. Debmalya Roy, DMSRDE, Kanpur, India  
**21:30 hrs.** Dinner

Dr. N. ESWARA PRASAD, a B.Tech. (1985) and Doctorate (1993) from IIT(BHU) Metallurgical Engineering Department, is an Outstanding Scientist of DRDO and Director of DMSRDE, DRDO, Kanpur. His contributions to DRDO and Indian Defence are numerous. Dr. Prasad's wide range of S&T and R&D contributions on the extensive fundamental scientific research on aerospace materials have led to more than 700 publications and Rs. 1650 Cr. worth Defence Materials / Store. For these accomplishments, Dr. Prasad received 15 major awards and more than 60 honours and recognitions including FIIM, FAESI, FInSIS, FAPAM. He will be felicitated in this symposium, on the occasion of his superannuation.



Lt. Gen. J. K. Sharma (Retd.)



Hari Babu Srivastava



Dr. Samir V. Kamat



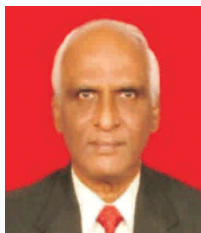
Dr. G. Satheesh Reddy



Dr. V. K. Saraswat



Dr. P. Rama Rao



Prof. V. V. Kutumbarao



Shri Pradeep Goyal



Dr. Kamachi U. Mudali



Dr. A. K. Tiwari