



AMALGAM 2024



"Amalgam" is an annual technical event hosted by the Department of Metallurgical and Materials Engineering at IIT Madras and is commonly known as the "Material Festival". This event is a platform for students to showcase their technical prowess and creativity through various competitions, workshops, and lectures, as well as to celebrate our culture and diversity through cultural events. This year, we are proud to announce the inclusion of a national symposium as part of Amalgam. The symposium will bring together several eminent speakers from IISc, various IITs, industries and government organizations.

HIGHLIGHTS



LECTURE SERIES



NATIONAL SYMPOSIUM



COMPETITIONS



WORKSHOPS



CULTURAL NIGHTS

WHY TO PARTICIPATE?

Amalgam offers students a unique opportunity to explore the latest happenings in metallurgical and materials engineering. The event offers a variety of activities, including Industry Defined Problem, paper and poster presentation, The Ultimate Metallurgist Quiz, workshops, and more. These activities aim to enhance students' technical skills and help them understand the practical applications of their studies. Overall, Amalgam is an excellent way for students to gain valuable experience, expand their knowledge, and connect with industry professionals and other students interested in the field.

WHAT'S DIFFERENT THIS YEAR?

This year, we endeavor to conduct a large-scale Amalgam by inviting top professors, scientists and industry leaders to share their expertise. By bringing together such eminent individuals on a single platform, we aim to provide students with a comprehensive understanding of the latest industry trends and research developments.





HIGHLIGHTS FROM AMALGAM '23



- Imaging**
- High Resolution TEM (HRTEM)
 - Energy Filtered TEM (EFTEM)
 - Scanning TEM-Dark Field (STEM-DF)
 - LAADF (Low angle annular dark field)
 - HAADF (High angle annular dark field)
 - Scanning TEM-Bright Field (STEM-BF)
 - ABF (Annular Bright Field) $\ll 100\text{ nm}$
 - OBF (Optimum Bright Field)
 - Electron Diffraction (ED)
 - Convergent Beam ED (CBED)
 - Tomography
 - Holography, etc...
- Elemental / composition identifications**
- Energy Dispersive X-ray spectroscopy (EDS)
 - Energy Loss Spectroscopy (EELS)

Metallurgical and Materials Engineering Department

AMALGAM 2023

Title Sponsor

TATA STEEL
WeAlsoMakeTomorrow

Event Sponsor

murugappa **NSURE**

Ashvini Magnets **ZEISS**

TITAN COMPANY **Chennai Metco**
for your Metallurgy

ThermoFisher SCIENTIFIC **HIGH ENERGY BATTERIES (INDIA) LIMITED**

dts dynamic technology systems



DAY 1

1

DR. ANISH UPADHYAYA

PROFESSOR, IIT KANPUR

2

DR. INDRADEV SAMAJDAR

PROFESSOR, IIT BOMBAY

DAY 2

3

DR. R. RATHESH

DIRECTOR, CMET

4

DR. KANTESH BALANI

PROFESSOR, IIT KANPUR

DAY 3

5

DR. VIJAY SARATHI

GROWTH LEADER, GE

6

DR. PARAG BHARGAVA

PROFESSOR, IIT BOMBAY



COMPETITIONS - 2024



DAY 1

DAY 2

DAY 3

1

MATERIAL DEFECT IDENTIFICATION

2

ONLINE ML COMPETITION

3

QUIZ

4

INDUSTRIAL DEFINED PROBLEM

5

METALLO-QUEST

WORKSHOPS - 2024

1

COMPUTATIONAL THERMODYNAMICS

2

MATERIAL CHARACTERIZATION TECHNIQUE (SEM, TEM, XRD, APT)

3

ADDITIVE MANUFACTURING: BIOMEDICAL IMPLANTS

4

INDUSTRIAL WORKSHOP 1*

5

MACHINE LEARNING IN MATERIAL SCIENCE

6

INDUSTRIAL WORKSHOP 2*

NATIONAL SYMPOSIUM 2024

THEMES

- 1 Additive Manufacturing
- 2 Surfaces, Coatings and Films
- 3 Energy and Sustainability
- 4 Mechanical Behaviour of Materials
- 5 Functional Materials
- 6 Computation in Materials
- 7 Processing of Materials

KEYNOTE LECTURES & SESSION CHAIRS

- 1 **Dr. Kesavan D**
IIT Palakkad
- 2 **Dr. G Sivakumar**
ARCI, Hyderabad
- 3 **Dr. M Malathi**
NML- Jamshedpur
- 4 **Dr. Abhik N. Choudhury**
IISC Bangalore
- 5 **Dr. Ramakrishnan Raghavan**
DYSL, DMRL



SPONSORSHIP DECK



Title Sponsor

₹10 Lakhs

- Publicity as the Title sponsor. Will be publicized on our Website, Posters, Brochure, Symposium Abstract Booklet and Social Media.
- The logo will be printed on our merchandize T-shirts.
- Invited speaker for keynote lecture.
- 10 Complimentary registration to all events.
- Big exhibition spot.

Platinum Sponsor

₹7 Lakhs

- Publicity as the Platinum sponsor. Will be publicized on our Website, Posters, Brochure, Symposium Abstract Booklet and Social Media.
- The logo will be printed on our merchandize T-shirts.
- 8 Complimentary registration to all events.
- Exhibition spot.

Gold Sponsor

₹5 Lakhs

- Publicity as the Gold sponsor. Will be publicized on our Website, Posters, Brochure, Symposium Abstract Booklet and Social Media.
- The logo will be printed on our merchandize T-shirts.
- 6 Complimentary registration to all events.
- Exhibition spot.

Silver Sponsor

₹3 Lakhs

- Publicity as a sponsor. Will be publicised on our Website and symposium abstract booklet.
- Exhibition spot.
- 3 complimentary registration to all events.

SPONSORSHIP DECK

Symposium Sponsor

₹5 Lakhs

- Publicity as symposium goodies sponsor. Will be publicized on our Website, Posters, Brochure, and Social Media.
- 6 Complimentary registration to all events.
- Logo and company details printed on the symposium abstract booklet and registration kit.

Amalgam Networking Dinner Sponsor

₹4 Lakhs

- Publicity as a dinner sponsor. Will be publicized on our Website, Banner, Brochure, and Social Media.
- Complimentary 6 registration to all events.
- Welcome speech by the sponsor during the symposium dinner

Workshop Sponsor*

₹2 Lakh

- Publicity as a workshop sponsor. Will be publicized on our Website, Brochure, Social Media and the particular workshop's posters.
- Complimentary 4 Registration to all events.
- Offer to organize 1 workshop with a time slot of 2.5 hours .

Competition Sponsor*

₹2 Lakh

- Publicity as a competition sponsor. Will be publicized on our Website, Brochure, and Social Media.
- Publicity through the specific competition's certificate and posters.
- Welcome speech by the sponsor during the competition.

Exhibition Sponsor*

₹1 Lakh

- Publicity as an exhibition sponsor. Will be publicized on our Website, Brochure, and Social Media.
- One exhibition spot during event.



ABOUT METSA

MetSA is a student-led organization at IIT Madras, focused on promoting a strong sense of community among MME students. The group organizes various events, including Industrial Visit, Fresher's Night, Farewell, and Informal Games, to provide opportunities for students to excel academically and socially. Our flagship event is the annual technical festival Amalgam, which is a platform for MME students to showcase their talents and innovative ideas. MetSA is committed to promoting excellence and camaraderie within the department and is an integral part of the overall MME student experience.



CONTACT US



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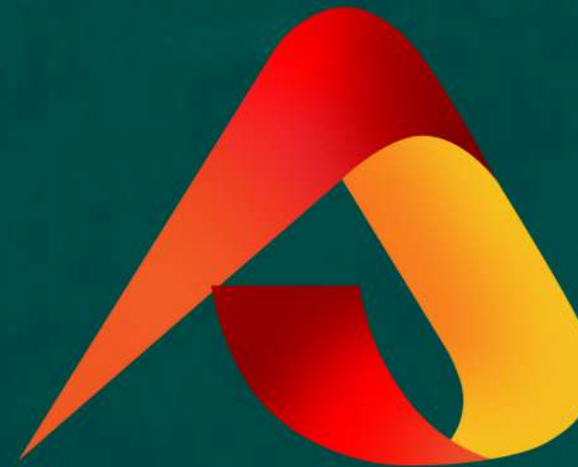
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AMALGAM 2023

VISIT US



<https://amalgam.org.in>