

# ICPMMM2024

## International Conference on Processing

## of Minerals, Metals, and Materials :



# BEYOND TOMORROW

**28-29 March, 2024**

## ORGANIZED BY

**Department of Metallurgical  
Engineering, Kazi Nazrul  
University, Asansol, INDIA**



*In Association With*

KNU – IIM Student Chapter,  
Kazi Nazrul University,  
Asansol, INDIA

Department of Metallurgical & Materials  
Engineering, National Institute of  
Technology, Durgapur, INDIA



VENUE : **SCIENCE CITY, KOLKATA, INDIA**



## ABOUT THE UNIVERSITY AND THE DEPARTMENT

Kazi Nazrul University (KNU), a nascent university in the heart of industrial belt in West Bengal, runs on its campus and also in its affiliated colleges Diploma, UG, PG, MPhil and PhD courses in the Faculty of Arts and Fine Arts, Faculty of Science and Technology, Faculty of Law, and Faculty of Commerce and Management. It caters to the need of over forty four thousand students every year. Within ten years of its existence, KNU has put a mark in academia by way of imparting knowledge, developing skills, and promoting entrepreneurship among students for making them competent as per needs of the society from the local to the global in various fields including research and development. Various initiatives have already been taken to internationalize the University for connecting it globally with institutions of repute. As an academic institution, KNU believes in four I's : Inspiration, Innovation, Inculcation and Integration. The Department of Metallurgical Engineering in the School of Mines and Metallurgy, KNU, started offering three years diploma in Metallurgical Engineering from 2017 and B. Tech. in Metallurgical and Materials Engineering from 2019 onwards. Both the Diploma and Degree courses are approved by AICTE. The Department has its own Board of Studies (BOS) and Board of Research Studies (BRS) with experts from eminent institutes, e.g. IITs, Jadavpur University, etc. Besides teaching, faculty members are also engaged in collaborative research with various academic and research institutes, and industries. Students undertake vocational training, internship, and research projects in various reputed organizations like IISCO, Tata Hitachi, NML, RINL, and nearby iron and steel plants.

## KOLKATA CITY

Kolkata, one of the biggest cities in India, is a perpetually ongoing festival of human existence, concurrently luxurious, refined, warm, and futuristic. A vibrant 350-year-old metropolis located on India's Eastern Coast, the capital of West Bengal thrives on contradictions and imposing spectacles. Kolkata, the City of Joy, in every sense, is the artistic, cultural and intellectual capital of the country and Kolkata boasts six Nobel Laureates as their place of birth or work. Netaji Subhash Chandra Bose International Airport, about 15km from the city centre, is well connected with other parts of India and abroad as well. Kolkata's streets are vivid, hectic, and yet, brimming with life and creativity. Driven by the indomitable spirit of the self-made middle class, the city has created a beautiful juxtaposition of old colonial-era charm with the nascent upcoming hipster culture that thrives amongst the city's millennial residents. Kolkata has a very lively nightlife and great street food that is famous all across the country. The city is lined with eateries and food stalls at every corner, where you can savour traditional Bengali food, or try out local snacks, like, Jhalmuri, or Ghugni Chaat. You just cannot miss the omnipresent sweetmeat shops all around. Weather in Kolkata in March is soothingly enjoyable, with temperature between 22-32°C and mostly bright sunny days.



## VENUE

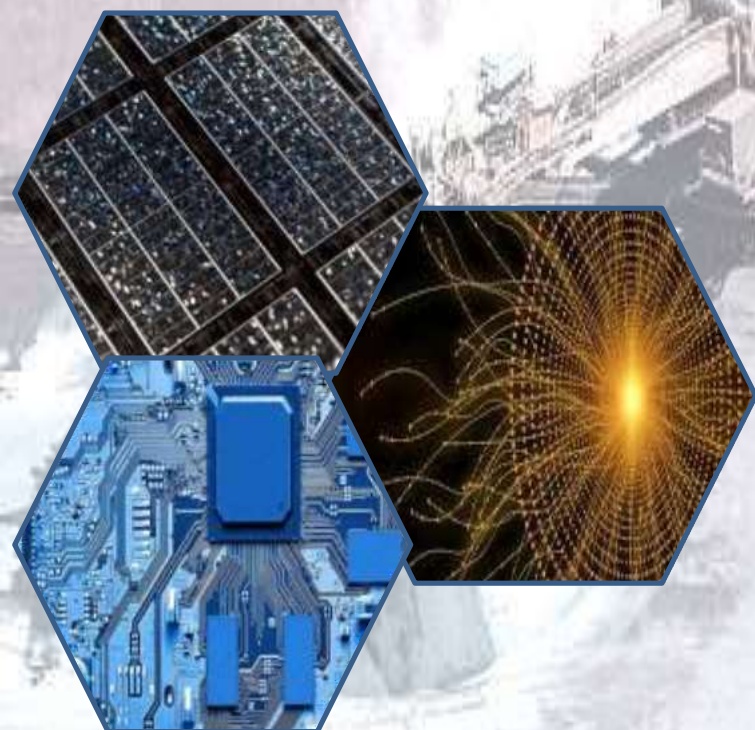
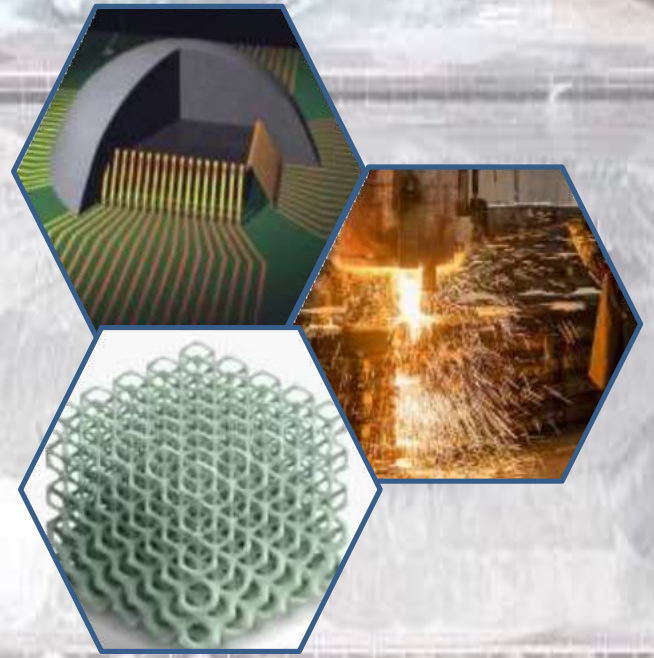
**Science City** <https://sciencecitykolkata.org.in/> is a major landmark in Kolkata. It is a unit of the National Council of Science Museums, Govt. of India, working with the objective of growth of science and technology and their application in industry, human welfare and environment. It is 6km from the nearest Metro Station, 12km from Howrah Railway Station and 15km from the international airport.



# Invitation

At the onset, we want to introduce ourselves as a fledgling Department of Metallurgical Engineering of Kazi Nazrul University, a state aided university in the eastern state of West Bengal, India. We are running AICTE approved UG courses as well as doctoral programs duly supported by required infrastructures, well qualified faculty members, close collaborations with industries and research labs, and external fundings. Our faculties are actively engaged in teaching and research and we strive to keep pace with the fast changing world of Minerals, Metals, and Materials through our research programs.

Major areas of research include but not limited to : Iron and Steelmaking, Materials Degradation, Composites, Alloy Development, Smart and Functional Materials, Nano Materials, Environmental Management in the Metals and Minerals Sector, Value Addition to Waste, Metalcraft, Structure - Property Correlation, Materials Characterization, etc. We are always open to the fast changing and fascinating world of minerals, metals and materials and we strive to keep ourselves abreast of their local and global developments. Organizing this conference is a sincere endeavour to bring the gamut of academicians, professionals, researchers, policy makers, and students to exchange views and share visions with a focus on the developments in near and far future. We cordially invite you for your active participation in this conference to make it a success.





# Call for Papers

ICPMMM2024 will cover a wide range of themes spanning the entire spectrum of activities related to minerals, metals, and materials that are of current and possible future interests to researchers and professionals from academia, research, industry, and policy makers. ICPMMM2024 will provide a knowledge sharing platform on technological advances and will promote collaborations and dialogues among leaders, experts, budding professionals, researchers, and students so that they can utilize the mutual strengths to deliberate on challenges and opportunities. The ICPMMM2024 will consist of theme based parallel sessions that will be inspiring for the professionals and students through career opportunities, technology trends, industry and society needs. The ICPMMM2024 will be structured around a few broad verticals, which would appropriately leverage invited and keynote lectures from leading experts in the related fields as well as contributory papers presentations. Overall, ICPMMM2024 programme is sure to provide the participants an enriching experience. The paper should only be submitted by Email at [icpmmm2024@gmail.com](mailto:icpmmm2024@gmail.com) and CC to [basudrprojjal@gmail.com](mailto:basudrprojjal@gmail.com). We invites contributions on the following themes as well as other relevant fields related to Minerals, Metals, and Materials.

## Broad Theme of the Conference

*“Processing of Minerals, Metals and Materials : Beyond Tomorrow”*

## Sub-Themes

\* Ore Beneficiation \* Mineralogical Characterization \* Process Mineralogy, Design and Development of Mineral Processing Equipment and Process \* Simulation of Mineral Processing Circuits \* Agglomeration of Ores \* Iron Making and Steel Making \* Green Steel \* Clean Steel \* Non-Ferrous Extractive Metallurgy \* Hydrometallurgy \* Bio- Materials \* Composites \* Material Science and Engineering \* Metallography \* Materials Property and Characterization \* Materials Testing and Control \* Microstructure Evolution \* MEMS Integration \* Meta Materials \* Ceramics \* Electrical, Optical, Magnetic Materials \* Intermetallics and Special Polymers \* Nano-materials and their Fabrication \* Numerical Modelling and Simulation \* Alternate Materials \* Material Substitution \* Computational Modeling \* Advanced Alloys \* Optical and Electronic Materials \* Microelectronics \* Electronic Packaging Materials \* High Entropy Alloys \* Ultralight Alloys \* Semi-solid Processing \* Metallic Foams \* Tribology \* Sustainable Materials \* NDT \* Life Cycle Analysis \* Thin Film Technology \* Coatings \* Pollution Abatement \* Zero Emission \* Nano-electronics \* Membrane Materials \* Catalysis \* Materials Chemistry \* Battery \* e-waste Processing \* Solar Cell \* Photovoltaic Materials \* Energy Storage \* Carbon Capture \* Hydrogen Storage \* Sintering \* Powder Metallurgy \* Atomization \* Metal Forming \* Sensors \* Devices \* Surface Engineering \* Materials in Medical Applications \* Implant Materials \* Self-healing Materials \* Thermoelectric Materials \* 3-D Smart Materials \* Carbon Nanotubes, Graphene and Composites \* Piezoelectric Materials \* Semiconductor Materials \* Ceramics, Glasses and Composite Materials \* Advanced Nanomaterials \* Renewable materials \* Functional Materials \* Dental Alloys \* Conducting Polymers \* Metal Joining \* Computational Materials Design \* Evolutionary Structural Materials \* Energy Storage and Conversion Materials \* Hybrid Materials \* Fuel Cell \* Optical fibers and displays \* Controlling and Monitoring Devices \* Solid State Ionics \* Design, Synthesis and Characterization \* Smart/Intelligent Materials in Automation and Control \* Dielectrics and Photonic Materials \* Intelligent Semiconductor Models \* Conventional Superconductors \* High-temperature Superconductivity \* Detectors, Emitters \* Thermoelectric and Energy Applications \* Additive Manufacturing and 3D Printing \* Applications of AI in Materials \* Corrosion and Degradation \* Energy Management \* Energy Audit \* Environment Impact Assessment \* Safety and Health Issues

# Call for Abstracts

The abstract, not exceeding 500 words with maximum five keywords and prepared as per the guidelines, should be submitted through Email at [icpmmm2024@gmail.com](mailto:icpmmm2024@gmail.com) and CC to [basudrprojjal@gmail.com](mailto:basudrprojjal@gmail.com). The abstract should be prepared using template provided on the conference website.

**Abstract Submission Deadline**  
**10<sup>th</sup> March, 2024**

## Guidelines for Authors

- The abstract of the Paper within 500 words with a maximum of five keywords has to be submitted first and after acceptance of the same, the full text of the paper has to be submitted.
- Domain experts will review the Abstract and the decision will be communicated to those authors whose Abstract is accepted.
- Full Text Paper should be prepared in line with the following.
- Papers should be camera-ready in MS-Word format, not exceeding 3000 words in length excluding figures, tables, appendices.
- The language of the publication is English. The mode of presentation should be in third person.
- SI units should be used wherever possible. Other units, if used, should be given only in parentheses preceded by SI units.
- Mathematical symbols should be typed and care should be taken to differentiate between similar characters (e.g. 1 and I), upper and lower case letters and superscripts and subscripts.
- Lengthy mathematical proofs and derivations and extensive test data are discouraged. If absolutely essential, they should be given as appendices.

## Publication Opportunity

All the papers will be published as book chapters in the conference proceeding. A few high quality papers, after thorough peer review, will be published by SPRINGER in SCOPUS Indexed **Journal of the Institution of Engineers (India) : Series D, a Springer journal**. The publication of a paper will be subject to the referee's decision through peer review process and submission of copyright agreement and less than 15% plagiarism report.

## Key Dates

**Abstract Submission by : 10<sup>th</sup> March, 2024**

**Registration by : 17<sup>th</sup> March, 2024**

**Full Paper Submission by : 31<sup>st</sup> May, 2024**



# Registration

**Delegates are requested to register and pay online**

CATEGORY	INR	USD
ACADEMICS	8000	300
INDUSTRY AND R&D LAB	9000	400
STUDENTS	4000	150
ACCOMPANY/ SPOUSE	4000	150

For the participants unable to attend the conference at the venue due to unavoidable reasons, special **online** sessions for presentation will be arranged

## Registration and Payment Link :

### Registration Link :

<https://docs.google.com/forms/d/e/1FAIpQLSfTLI7FJ0aLX1E4NXkPyYUgAPwo9rZiX9rN2HQztCP55IG6Jw/formResponse>

### Bank Details :

Bank Name : HDFC  
Account Name : KAZI NAZRUL UNIVERSITY  
Account No. : 50100489460550  
IFSC Code : HDFC0000324  
Branch Name : ASANSOL

### Scan and Pay



**Prospective participants are requested to visit <https://icpmmm2024.in/> for latest updates**

# Special Attraction

We would like to come forward to promote the **Dokra Art** which is an ancient and traditional **metalcraft** practiced in many parts of India, including West Bengal. Unfortunately, however, this special art form is struggling for its existence due to various socio-economic reasons. We want to create a wider awareness among various socio-economic strata to take interest in this unique metalcraft that will help the Indian metallurgical heritage survive and flourish. We are planning to give a piece of Dokra casting to each participant as a memento.

## Souvenir

During ICPMMM2024, a Souvenir will be released. The Souvenir will contain messages from Govt. functionaries and eminent professionals, special articles, event details, details about various committees, sponsors/ supporters and advertisements from various industries, organizations from India and abroad.

The soft copy of the souvenir will be provided to all the delegates attending the event. Limited high quality hard copies will be printed for distribution to Govt. agencies, Industries, R&D labs and Academic Institutions.





# Committees for ICPMMM2024

## Chief Patron

Prof Debashis Bandyopadhyay, Vice Chancellor, KNU

## Patrons

Dr Chandan Koner, Registrar, KNU

Prof Asamanja Chatteraj, Dean, Faculty of Science and Technology, KNU

## Chairman

Prof Projjal Basu, KNU

## Secretary

Dr Chanchal Biswas, KNU

## Advisory Committee

### INTERNATIONAL

- Prof Cheong Kuan Yew, USM, Malaysia
- Ts Dr Teo Pao Ter, UMK, Malaysia
- Dr Samayamutthirian Palaniandy GM, Eirich Australia/Global Product Manager
- Prof Elizabeth Makhatha, HOD, Metallurgy, Univ Johannesburg
- Mr Ram Chandra Chakraborty, MD, PSI Metals (India) Private Limited
- Dr Anrin Bhattacharya, CEO, RECYRON, Austria
- Dr Saikat Chatterjee, Tata Steel, Ijmuiden, Netherlands
- Prof Ir Dr Wong Yew Hoong, UM, Malaysia
- Dr Saikat Samanta, AGM Process & Sales, NewFer, Germany

### NATIONAL

- Prof Rajeev Ahuja, Director, IIT Ropar
- Prof Sumantra Bhattacharya, Emeritus Fellow, IIT Dhanbad
- Prof Govind S Gupta, IISc Bangalore
- Dr Ashis Bhaduri, VP Operations, TATA Bluescope Steel Pvt Ltd
- Prof Somnath Basu, IIT Bombay
- Prof Samit K Ray, IIT Kharagpur
- Mr S K Dutta, MD, Duttcon Consultant & Engineers, Kolkata
- Prof Karabi Das, HOD, Metallurgical & Materials Engineering, IIT Kharagpur
- Prof Sutapa Roy Ramanan, BITS Pilani (Goa)
- Prof D Ravi Kumar, IIT Delhi
- Dr P K Banerjee, Outstanding Scientist and Scientist-in-Charge, CIMFR, Dhanbad



## Technical Committee

Prof Kaushik Biswas, IIT Kharagpur  
Prof Bankim Chandra Ray, NIT Rourkela  
Dr Satadal Ghorai, NIT Durgapur  
Dr Tejas Ramakrishnan, McGill University, Canada  
Prof SC Patnaik, IGITS, Sarang, Odisha  
Dr Samir Ch Roy, IIT Ropar  
Dr Sandipan Roy, SRM Institute of Science & Technology, Chennai  
Dr Golap Md Chowdhury, RDCIS, Ranchi  
Prof Amitava Basu Mallick, IEST, Shibpur  
Dr Arup Kumar Mandal, NIT Durgapur  
Prof B B Panigrahi, IIT Hyderabad  
Dr Durbadal Mandal, NIT Durgapur  
Prof K Banerjee, NIT Surathkal  
Dr Arup Dasgupta, IGCAR, Kalpakkam  
Prof Rajib Dey, Jadavpur University  
Prof Indradev Samajdar, IIT Bombay  
Prof J N Roy, KNU

## Organizing Committee

### Technical & Logistics

Dr Arijit Sinha, KNU  
Dr Chanchal Biswas, KNU  
Dr Gurudas Mandal, KNU  
Mrs Barnali Sengupta, KNU  
Prof P C Chakraborti, Jadavpur  
University  
Dr Supriyo Bera, NIT Durgapur

### Hospitality

Ms Amrita Bhattacharya, KNU  
Mr Somnath Dutta, KNU  
Mr Sumit Dey, KNU  
Mr Sagir Khan, KNU  
Mr Ziyauddin Seikh, KNU

### Student Members

Mr Indrajit Ghanta, IIT Bombay  
Mr Girish Roy, KNU  
Mr Abhishek Nag, KNU  
Mr Ranjan Ghosh, KNU  
Ms Ananya Adhikary, KNU  
Ms Anuparna Das, KNU  
Ms Snehanjali Mukherji, KNU  
Mr Suresh Naskar, KNU  
Mr Swarnava Das, KNU  
Mr Rahul Samanta, KNU

### IT Support

Mr Suman Mondal, KNU



# Keynote Speakers

(confirmed so far)



**Dr. Anrin Bhattacharyya,**  
Managing Director,  
RECYRON, AUSTRIA



**Prof. Samit K. Ray,**  
Institute Chair Professor,  
Dept of Physics, IIT  
Kharagpur



**Prof. Rajeev Ahuja,**  
Director, IIT Ropar



**Dr. Ashish Bhaduri,**  
Vice President Operations,  
Tata BlueScope Steel



**Mr. Ram Chandra Chakraborty,**  
Managing Director, PSI Metals  
(India) Pvt Ltd



**Dr. D. Ravi Kumar,**  
Professor, Dept of  
Mechanical Engineering,  
IIT Delhi



**Dr. Samayamutthirian Palaniandy,**  
Global Product Manager (Tower  
Mill), Nippon Eirich Co. Ltd.,  
AUSTRALIA



**Dr. Saikat Samanta,**  
AGM/ Process &  
Sales, Newfer, Germany



**Prof. Karabi Das,**  
Professor & HOD, Dept of  
Metallurgical & Materials  
Engineering, IIT Kharagpur



**Prof. Indradev Samajdar,**  
Professor, Dept of Metallurgical  
Engineering and Materials  
Science, IIT Bombay



**TS. Dr. Teo Pao Ter,**  
Senior Lecturer, Materials  
Technology Program; Dept of  
Energy, Mineral and Materials  
Technology; Universiti Malaysia  
Kelantan (UMK), MALAYSIA



**Prof. Somnath Basu,**  
Professor, Dept of  
Metallurgical Engineering  
and Materials Science, IIT  
Bombay



**Dr. Cheong Kuan Yew,**  
Professor, School of Materials &  
Mineral Resources Engineering,  
Universiti Sains Malaysia (USM),  
MALAYSIA



# Sponsorship

Types	Fees
Gold Sponsor	INR 2,00,000 (includes 5 delegates, full page advertisement in souvenir, logo in souvenir, conference webpage & banner)
Silver Sponsor	INR 1,50,000 (includes 3 delegates, full page advertisement in souvenir, logo in souvenir, conference webpage & banner)
Dinner or 1 lunch Sponsor	INR 1,25,000 (includes 3 delegates, half page advertisement in souvenir, logo in souvenir, conference webpage & banner)
Seminar Kit Sponsor	INR 1,00,000 (includes 3 delegates, logo in souvenir, conference webpage & banner)
1 Hall Sponsor (Full Day)	INR 75,000 (includes 2 delegates, logo in souvenir, conference webpage & banner)
Other Sponsor	As discussed (logo in souvenir, conference webpage & banner)

## Sponsors and Support



**DUTTCON**  
CONSULTANTS  
& ENGINEERS PVT. LTD.

ISO 9001:2015 Certified, MSME Registered, NABL Accredited company





<https://icpmmm2024.in/>

ICPMMM2024



**Contact**

**Conference Chairman : Prof Projjal Basu  
KAZI NAZRUL UNIVERSITY, Asansol-713340**

**West Bengal, India**

**Mobile: (+91) 7406409273**

**[icpmmm2024@gmail.com](mailto:icpmmm2024@gmail.com) /**

**[metallurgy.projjal@knu.ac.in](mailto:metallurgy.projjal@knu.ac.in) /**

**[icpmmm24@gmail.com](mailto:icpmmm24@gmail.com)**

**For regular updates, please keep eye on**

**<https://icpmmm2024.in/>**

