



IIM
Metallurgy
Materials Engineering

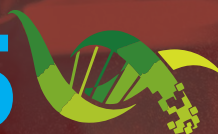


International Conference on **Advanced Materials for Sustainable Development**

28 29 March, 2025

Malaviya National Institute of Technology (MNIT) Jaipur, India

ICAMSD 2025



Organised by

Department of Metallurgical & Materials Engineering,
Malaviya National Institute of Technology Jaipur

in association with

The Indian Institute of Metals Jaipur Chapter &
Asian Polymer Association

www.icamsd2025.in

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Sajjan Jindal

President, The Indian Institute of Metals
Chairman - JSW Group



MESSAGE

Dear Delegates,

It is a pleasure to welcome you to ICAMSD-2025, organized in association with the Indian Institute of Metals (IIM) and the Asian Polymer Association (APA). This conference brings together experts to explore the role of advanced materials in driving sustainable development.

Since 1946, IIM has been at the forefront of metallurgy and materials science, fostering collaboration between academia, industry, and policymakers. As sustainability becomes imperative, material science will play a pivotal role in shaping a resilient and responsible future.

I encourage you to engage actively, exchange ideas, and seize the opportunities this platform offers. My appreciation to the organizers, participants, and partners for making this event possible.

SAJJAN JINDAL

Malaviya National Institute of Technology Jaipur



Prof. Narayana Prasad Padhy
Director and Chairman (I/c) BoG

Website: www.mnit.ac.in



Message from the Director

Dear Esteemed Delegates,

It is with great pleasure and pride that I extend a warm welcome to all of you to the **International Conference on Advanced Materials for Sustainable Development (ICAMSD-2025)** organized in association with Indian Institute of Metals (IIM) and Asian Polymer Association (APA) hosted by **Department of Metallurgical and Materials Engineering at Malaviya National Institute of Technology Jaipur (MNIT Jaipur)**. This event marks a significant milestone in our commitment to fostering collaborations and promoting cutting-edge research in the field of advanced materials and sustainability.

As an institution dedicated to excellence, we believe that this conference will serve as a platform for sharing innovative ideas, exploring new thoughts, and nurturing meaningful dialogues among scholars, researchers, and professionals.

At MNIT Jaipur, we take immense pride in our rich legacy of academic excellence. Established as one of the premier technical institutes in India, MNIT Jaipur has been at the forefront of nurturing young minds, encouraging interdisciplinary research, and contributing to the development of advanced technologies. Our state-of-the-art infrastructure, world-class faculty, and commitment to research make us an ideal host.

The conference will feature plenary lectures, keynote lectures, paper presentations and networking sessions. We look forward to the engaging discussions and the opportunity to forge lasting partnerships that will continue to shape the future of research and development in the realm of advanced materials and sustainability.

I would like to express my sincere gratitude to all our speakers, participants, and sponsors for their valuable contributions. Together, we will make this event a resounding success. We are excited to have you at MNIT Jaipur and hope that you will have an enriching and memorable experience.

Warm regards

Prof. N. P. Padhy
Director, MNIT Jaipur

Malaviya National Institute of Technology Jaipur
Department of Metallurgical and Materials Engineering



Rajendra Kumar Goyal

Professor & Head

Email: hod.meta@mnit.ac.in



Message from the Chairman, ICAMSD 2025

Dear Distinguished Participants,

It is with great enthusiasm and honour that I welcome you to the ICAMSD 2025 organized in association with the Indian Institute of Metals and Asian Polymer Association. I am excited to witness the coming together of academia, industries, and research institutions, who play a crucial role in shaping the future of sustainable development. The discussions and presentations will address the most pressing challenges of our time, particularly in relation to how advanced materials can contribute to a more sustainable and environmentally responsible future. Advanced and functional materials are at the heart of addressing modern technological and environmental challenges. These materials are key to developing sustainable systems and products that have minimal environmental impact while meeting the needs of a growing global population.

This conference is proudly hosted by the Department of Metallurgical and Materials Engineering, MNIT Jaipur. With cutting-edge laboratories and world-class faculty, the department focuses on a broad spectrum of research areas. The conference will feature a dynamic mix of plenary/invited lectures, oral contributory presentation/posters, and networking opportunities that will provide knowledge and connections to participants needed to tackle the global challenges in materials science.

I would like to express my sincere gratitude to the speakers, organizing committee, our sponsors, and all the participants who have made this event possible. Your enthusiasm and dedication to this important cause are truly inspiring. I encourage all attendees to make the most of this invaluable opportunity to engage in meaningful discussions, share knowledge, and build lasting partnerships. On behalf of the organizing committee and the department, I extend a warm welcome to you all.

Warm regards,

Rajendra Kumar Goyal

ASIAN POLYMER ASSOCIATION



Bhuvanesh Gupta
President (APA)

c/o Department of Textile Technology
Indian Institute of Technology
New Delhi-110016, India
Ph: +91 -9871639232/ 9643754864
Email: apa.asia@gmail.com
Web: www.asianpolymer.org



Message from the President, Asian Polymer Association

Malaviya National Institute of Technology Jaipur is organizing an international conference on Advanced Materials for Sustainable Development (ICAMSD 2025) on March 28-29, 2025 at Jaipur. The conference is a joint activity of MNIT, Indian Institute of Metals (IIM) and Asian Polymer Association (APA) with a vision to have a broader participation of scientists across the different segments of the science and technology. This is the first occasion that APA has joined hands with IIM to make a broader perception of the interface between the metals and the polymeric systems. We wish that the APA participation in the event would open up newer dimensions in the technological aspects of the polymeric materials. I am sure that the conference will provide an unparalleled opportunity for in-depth engagement and knowledge exchange among leaders in the various domains of science. It will serve as a pivotal forum for the discussion of cutting-edge developments and emerging trends within the international materials science community.

On behalf of APA, I extend a warm invitation to all participants and look forward to welcoming you in Jaipur. We are confident that this conference will not only be an intellectually enriching experience but also a visionary event that shapes the future of the technological evolution across different fields.

Bhuvanesh Gupta

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Programme

International Conference on
**Advanced Materials for Sustainable Development
(ICAMSD-2025)**

28-29 March, 2025

Malaviya National Institute of Technology (MNIT) Jaipur, India

**ICAMSD
2025**



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Metallurgy
Materials Engineering



Organised by

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The Indian Institute of Metals Jaipur Chapter & Asian Polymer Association

INAUGURAL PROGRAM

9:00 - 9:05

LAMP LIGHTING

9:05 - 9:10

**WELCOME BY ORGANISING SECRETARY,
DR. SWATI SHARMA**

9:10 - 9:15

**ADDRESS BY CONFERENCE CHAIR
PROF. R. K. GOYAL**

9:15 - 9:20

**ADDRESS BY APA PRESIDENT
PROF. BHUVANESH GUPTA**

9:20 - 9:30

**ADDRESS BY THE DIRECTOR & CHAIRMAN
(I/c) BOG, MNIT JAIPUR, PROF. N. P. PADHY**

9:30 - 9:40

**THEME ADDRESS BY THE GUEST OF HONOR
BRIG. ARUN GANGULI, SECRETARY GENERAL, IIM**

9:40 - 9:55

**INAUGURAL ADDRESS BY THE CHIEF GUEST
DR. KOMAL KAPOOR, CHAIRMAN & CHIEF EXECUTIVE,
NFC, DAE**

9:55 - 10:00

RELEASE OF THE CONFERENCE SOUVENIR

10:00 - 10:05

PRESENTATION OF MEMENTOS

10:05 - 10:20

**MOU CEREMONY BETWEEN
MNIT JAIPUR AND NFC, DAE**

10:20 - 10:25

**VOTE OF THANKS BY SECRETARY
DR. VIJAY N. NADAKUDURU**

10:25 - 10:30

GROUP PHOTOGRAPH



International Conference on Advanced Materials for Sustainable Development (ICAMSD-2025)

28-29 March, 2025 | Malaviya National Institute of Technology (MNIT) Jaipur, India

Day 1 (28th March 2025) Programme

Breakfast | Time: 08:15-09:00

Inauguration | (Venue- APJ Abdul Kalam) Hall | Time: 09:00-10:30

Inaugural Tea | Time: 10:30-11:00

Session 1 (11:00-12:40) Venue- APJ Abdul Kalam Hall

Innovations in Materials Development

Moderator: Abhishek Tripathi

Chairs: M. K. Banerjee, SGVU, Jaipur & Prakash Bagga, SMS Metals Pvt. Ltd., Dewas

Time	Lecture	Title/Author
11:00-11:30	PL	Challenges in special steel production in hot rolled products in India <i>Ratnaprasad Atluri, Evonith Steels, Wardha</i>
11:30-12:00	PL	Out of the box thinking towards sustainable corrosion protection <i>Kallol Mondal, IIT Kanpur</i>
12:00-12:20	IL	Recent developments in Stainless steel applications <i>Chandra Prakash Agrawal, Synergy Steels Ltd. Alwar</i>
12:20-12:40	IL	Expanding the Capabilities of X-ray Diffraction: Applications in Mineralogy and Advanced Materials <i>Dr. Komal Jain, Anton Paar India Pvt. Ltd. Gurgaon</i>

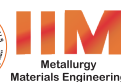
Session 2 (11:00-12:50) Venue- S Radhakrishnan Hall

Innovations in Materials Development

Moderator: Dr. Kunal J. Borse

Chairs: Bhuvanesh Gupta, President APA & Dilip R. Peshwe, VNIT Nagpur

Time	Lecture	Title/Author
11:00-11:30	PL	Nanoparticles in Hydrogels for Catalytic and Controlled Release Applications <i>Badiger M V, CSIR- NCL Pune</i>
11:30-12:00	PL	Intelligent Energy Generation and Storage: Game Changer Materials and Chemistry <i>Kale B B, MIT World Peace University Pune</i>
12:00-12:30	PL	Smart Materials: The Challenges in the 21st Century <i>Dibyendu Sekhar Bag, DMSRDE Kanpur</i>
12:30-12:50	IL	Effect of Natural Sapindus Mukorossi Treatment Process on Bio-Waste Banana Fibers: An Alternative to Chemical Treatment Processes <i>Sanjeev Kumar, PEC Chandigarh</i>



Lunch Break | Time: 12:50-13:40

Poster Session (12:50-14:45)

Session 3 (14:45-16:45) Venue- APJ Abdul Kalam Hall

Sustainable Materials

Moderator: Abhishek Tripathi

Chairs: Sushil Kumar Mishra, IIT Bombay & A. K. Bhargava, MNIT Jaipur

Time	Lecture	Title/Author
14:45-15:05	IL	Microstructure Development and Mechanical Property Assessment of Inconel 718 Fabricated by LPBF and WDED <i>Sushil Kumar Mishra, IIT Bombay</i>
15:05-15:25	IL	Development of Useful Aluminum Alloys with High-Iron (Fe) Impurity through Undiluted-Recycling <i>Kameswari Prasada Rao Ayyagari, GITAM Visakhapatnam</i>
15:25-15:37	OL	Study of rheology, durability and strength of self-compacting mortar with optimized fly ash dosage <i>Anubala Jangra, M. D. University</i>
15:37-15:49	OL	Carbonation and Permeation properties of normal concrete, self-compacting concrete and mortar with the effective usage of Fly ash, Marble powder and Stone dust <i>Md Marghoobul Haque, IIT Delhi</i>
15:49-16:01	OL	Scalability and Cost-Effectiveness of Machine Learning in Solar Air Heater Applications <i>Jailal Prabhakar Patel, MANIT BHOPAL</i>
16:01-16:13	OL	Development of porous membranes of thermoplastic polyurethane/polyphenylsulfone blends for biomedical applications and water treatment <i>Ajay Keloth, DIAT, Pune</i>
16:13-16:25	OL	Advancing Sustainable Construction Materials through Investigation of Fly Ash Blended Cement Mortar Properties <i>Soumyaranjan Panda, IIT Delhi</i>
16:25-16:37	OL	Development of Eco-Friendly Carry Bags Using TPS-PBAT with Nanofillers via Blown Extrusion Techniques <i>Chandramani Batsh, CSIR -ICT, Hyderabad</i>
16:37-16:49	OL	A Comprehensive Review on methods for Predicting Shrinkage in Recycled Concrete Aggregate <i>Moorvi, IIT Delhi</i>

Tea | Time: 16:45-17:00



Session 4 (14:45-16:45) Venue- S Radhakrishnan Hall

Additive Manufacturing

Moderator: Suresh Bandi

Chairs: Animesh Mandal, IIT Bhubaneswar & Jinesh Kumar Jain, MNIT Jaipur

Time	Lecture	Title/Author
14:45-15:05	IL	3D printed polymer blends and composites with enhanced mechanical properties <i>Kadhiravan Shanmuganathan, CSIR-NCL Pune</i>
15:05-15:25	IL	3D printing of long chain branched polypropylene and structure-property analysis <i>Harshawardhan Pol, CSIR-NCL Pune</i>
15:25-15:45	IL	Real-Time Defect Detection and Process Control in Directed Energy Deposition via Plasma Plume Monitoring <i>Ravi K R, IIT Jodhpur</i>
15:45-15:57	OL	Machine Learning Perspective of Predictive Modelling for Additive Manufacturing <i>Jasvinder Singh, PEC Chandigarh</i>
15:57-16:09	OL	Upcycling of waste polypropylene into high-grade 3D printing filaments <i>Animesh Gopal, CSIR-NCL Pune</i>
16:09-16:21	OL	Influence of Heat Treatments on Mechanical Properties of LPBF Ti-6Al-4V/Ti-6Al-2Sn-4Zr-2Mo Bimetals <i>Akhilesh Goyal, IIT Bombay</i>
16:21-16:33	OL	Tensile and thermal Properties of 3D Printed High-Performance ULTEM 1010 / Short Carbon Fibers Composites <i>Sushant Dattatray Sale, MNIT Jaipur</i>
16:33-16:45	OL	Mechanical performance of 3D printed high-performance polymer <i>Krishna Kumar, IIT Jodhpur</i>

Tea | Time: 16:45-17:00



Session 5 (14:45-16:45) Venue- VLTC-001

Advances in Steels

Moderator: Suresh Bandi

Chairs: Chandra Prakash Agrawal, Synergy Steels, Alwar & Tapan Desai, JLC Electromet, Jaipur

Time	Lecture	Title/Author
14:45-15:05	IL	Refining of Induction Melted Steel, Enhancing Quality and Efficiency <i>Prakash Bagga, SMS Metals Pvt. Ltd. Dewas</i>
15:05-15:25	IL	Deformation-Induced Martensite: Hard or Tough? <i>Avala Lavakumar, IIT Ropar</i>
15:25-15:45	IL	Waste to Wealth: Engineering a Circular Economy through Ferrous Slag Transformation <i>Prince Kumar Singh, IIT Ropar</i>
15:45-15:57	OL	An investigation into the effects of tempering heat treatment on mechanical characteristics of tool steel <i>Krishna Kumar, MNIT Jaipur</i>
15:57-16:09	OL	Influence of intercritical temperature on cryogenic toughness of 7% Ni steel <i>Gautam Mishra, IIT (BHU) Varanasi</i>
16:09-16:21	OL	Optimization of micro-alloying and composition on the strength and toughness of 0.2%C-1.5Mn steel <i>Prashant Kumar Singh, IIT (BHU) Varanasi</i>
16:21-16:33	OL	Improvement of Stretch Flangeability of Boron Steel by Interrupted Loading <i>Aman Mohhta, IIT Madras</i>
16:33-16:45	OL	Bake-hardening (BH) response of DP590 and FB590 hot-rolled steels subjected to various pre-strain levels and baking conditions <i>Saish Gulab Kumbhar, COEP Technological University Pune</i>

Tea | Time: 16:45-17:00

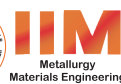
Session 6 (17:00-18:00) Venue- APJ Abdul Kalam Hall

Functional Materials

Moderator: Abhishek Tripathi

Chairs: Badiger MV, CSIR- NCL Pune & Mrityunjay Doddamani, IIT Jodhpur

Time	Lecture	Title/Author
17:00-17:20	IL	Nanofiller-incorporated reticulated vitreous carbon foam for multifunctional applications <i>T Umasankar Patro, DIAT Pune</i>
17:20-17:32	OL	Designing of Nano-heterostructures for Enhanced Photocatalytic Hydrogen Generation <i>Sudhir S. Arbuj, CMET Pune</i>
17:32-17:44	OL	Designing Bioreceptive Polypropylene for Use in Biomedical Applications <i>Chetna Verma, IIT Delhi</i>
17:44-17:56	OL	Self-healing and Shape-memory Behaviour of Poly (Ethylene-co-Methacrylic Acid)/ Thermoplastic Polyurethane Blend Materials <i>Shilpi Tiwari, DMSRDE, Kanpur</i>
17:56-18:08	OL	Plasmonic Coupling Effect of Annealed Gold Nanoarrays <i>Gaurav Pal Singh, PEC Chandigarh</i>



Session 7 (17:00-18:00) Venue- S Radhakrishnan Hall

Energy Materials

Moderator: Kunal J. Borse

Chairs: Kale B B, MIT World Peace University, Pune & Vivekananda, MNIT Jaipur

Time	Lecture	Title/Author
17:00-17:20	IL	Advanced Chemistry Cell (ACC) Research: Progress at C-MET and Future Plans <i>Milind V Kulkarni, C-MET, Pune</i>
17:20-17:32	OL	Thermal decomposition behaviour of ammonium perchlorate/LaMn_{0.4}Fe_{0.6}O₃ composition: an artificial neural networking investigation <i>Pragnesh Dave, Sardar Patel University Anand Gujarat</i>
17:32-17:44	OL	Effect of Li₂O-Al₂O₃-TiO₂-P₂O₅ Addition on Electrical Behaviour of NMC-811 Cathodes for Li-Ion Batteries <i>Kaustubh Ramesh Kambale, PEC Chandigarh</i>
17:44-17:56	OL	Electrochemical study of transition metal substituted strontium titanate <i>Tithi Sen, DMSRDE, Kanpur</i>

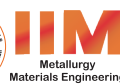
Session 8 (17:0-18:00) Venue- VLTC-001

Polymeric and Bioengineered Materials

Moderator: Suresh Bandi

Chairs: Susheel Kalia, IMA Dehradun & Kadiravan Shanmuganathan, CSIR-NCL Pune

Time	Lecture	Title/Author
17:00-17:20	IL	Hemostatic Cryogels and Hydrogels for Faster Clotting <i>Vivek Verma, IIT Kanpur</i>
17:20-17:40	IL	High Performance Organic Fibers for Defence Applications <i>Swati Chopra, DMSRDE, Kanpur</i>
17:40-17:52	OL	Development of Smart Biodegradable Mulch Film for Sustainable Agriculture <i>Atiqul Islam, CSIR - ICT, Hyderabad</i>
17:52-18:04	OL	Ultrasound assisted synthesis of ZnO-PEG-chitosan nanobiocide film using <i>Origanum majorana</i> flower extract <i>Garima Ameta, MSU, Udaipur</i>
18:04-18:16	OL	LiH-Polymer Composite Shield for Enhanced Radiation Protection in Space Applications <i>Kavita Lalwani, MNIT Jaipur</i>



Session 9 (17:00-18:00) Venue- VLTC-101

Sustainable Materials

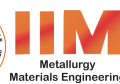
Moderator: Deepankar Panda

Chairs: Kameswari Prasada Rao Ayyagari, GITAM Visakhapatnam & Upender Pandel, MNIT Jaipur

Time	Lecture	Title/Author
17:00-17:20	IL	A review on Aluminium-rare earth based alloys <i>Animesh Mandal, IIT Bhubaneswar</i>
17:20-17:32	OL	Review of the Correlation between the Microstructure, Arc Modes, and Corrosion Behaviour of SS316L during Wire Arc Additive Manufacturing (WAAM) <i>Naveen Porwal, MNIT Jaipur</i>
17:32-17:44	OL	Fabrication of Low-Temperature Co-Fired Ceramic (LTCC) Ring Resonators by Digital Light Processing (DLP) based 3D printing Technology <i>Lalita Bari, C-MET Pune</i>
17:44-17:56	OL	3D-Printed Polycarbonate Composites Reinforced with Short Carbon Fibers <i>Tejas Dilip Rajput, CSIR NCL Pune</i>
17:56-18:08	OL	Effect of process parameters and heat-treatment on structure and mechanical properties of directed energy deposited near alphaTi6242 alloy <i>Sita Choudhary, IISC Bengaluru</i>

Departure from conference venue at 18:30

Gala Dinner | Venue: Hari Van Resort (Garden) | Time: 19.00-22:00



Day 2 (29th March 2025) Programme

Breakfast | Time: 08:15-09:00

Session 10 (09:00-10:40) APJ Abdul Kalam Hall

Innovations in Materials Development

Moderator: Abhishek Tripathi

Chairs: Kallol Mondal, IIT Kanpur, Kanpur & V C Srivastava, CSIR-NML Jamshedpur

Time	Lecture	Title/Author
09:00-09:30	PL	Machine Learning Enhanced Imaging and Materials Characterization Methods <i>Nikhil Gupta, New York University USA</i>
09:30-10:00	PL	Plasma Sprayed Ceramic Membrane for Water Filtration <i>Anup Kumar Keshri, IIT Patna</i>
10:00-10:20	IL	Role of Advanced Packaging in the Semiconductor Industry <i>Deepak Goyal, Intel Corp</i>
10:20-10:40	IL	Development of cost-effective and eco-friendly inhibitor to mitigate the corrosion due to ethanol blended petrol <i>Deepak Dwivedi, RGIPT, Amethi</i>

Session 11 (09:00-10:40) Venue- S. Radhakrishnan Hall

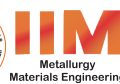
Sustainable Materials

Moderator: Suresh Bandi

Chairs: Dibyendu Sekhar Bag, DMSRDE, Kanpur and Kamendra Awasthi, MNIT Jaipur

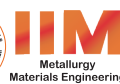
Time	Lecture	Title/Author
09:00-09:30	PL	Resource efficiency & circular economy through e-waste recycling <i>R. Ratheesh, C-MET Hyderabad</i>
09:30-10:00	PL	Advanced Next Generation Biocomposites for Designing Implant Materials <i>Kantesh Balani, IIT Kanpur</i>
10:00-10:20	IL	Development of New High temperature Ti alloys with improved properties <i>Jayaprakash Murugesan, IIT Indore</i>
10:20-10:40	IL	Advancing from Single Crystal to Polycrystalline Technologies for synthesis of Transparent Ceramics: A Roadmap for Future <i>Jagmohan Datt Sharma, PEC Chandigarh</i>

Tea | Time: 10:40-11:00



Session 12 (11:00-13:00) Venue- APJ Abdul Kalam Hall		
High Temperature Materials and Characterizations		
Moderator: Abhishek Tripathi		
Chairs: Nikhil Gupta, New YorkUniversity & Ravi K R, IIT Jodhpur		
Time	Lecture	Title/Author
11:00-11:20	IL	Crystallization Kinetics of Zr-Co-Al Metallic Glass <i>Jatin Bhatt, VNIT Nagpur</i>
11:20-11:40	IL	Microstructure and texture development in UNS S32101 lean duplex stainless steel <i>Rajesh Khatirkar, VNIT Nagpur</i>
11:40-12:00	IL	High strain-rate plastic flow behavior of Ni base superalloys through indentation experiments <i>Kumaraswamy Adepu, DIAT Pune</i>
12:00-12:12	OL	Microstructural Characterization and Phase Transformation Behaviour of Zr-1Nb Alloy during Thermo-Mechanical Processing <i>Swarup Acharya, NFC, Hyderabad</i>
12:12-12:24	OL	Micro Electro Discharge Drilling Machine: Precision Machining for Micro-Scale Applications <i>Saurabh Jain, MANIT Bhopal</i>
12:24-12:36	OL	Oxidation Fatigue Interaction Behaviour of CM247 DS LC alloy <i>Sharat Chandra, MNIT Jaipur</i>
12:36-12:48	OL	Comprehensive Exploration of Zinc Oxide Nanoparticles: Unraveling the Intricate Intermolecular Properties through Advanced Characterization Techniques <i>Brajesh Kumar Ahirwar, MANIT Bhopal</i>
12:48-13:00	OL	High temperature oxidation behaviour of powder forged IN718 oxide dispersion strengthened (ODS) superalloy <i>Suyog Digambar Gaikwad, IIT Roorkee</i>

Lunch Break Time: 13:00-14:00



Session 13 (11:00-13:00) Venue- S Radhakrishnan Hall

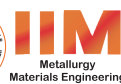
Advanced Composites

Moderator: Kunal J. Borse

Chairs: R K Goyal, MNIT Jaipur & Sanjeev Kumar, PEC Chandigarh

Time	Lecture	Title/Author
11:00-11:20	IL	Space & Aerospace Materilas: Present Trends & Future Prospectives <i>Ravi Kumar Varma, ISRO, Ahemdabad</i>
11:20-11:32	OL	Strength and Fracture Analysis of Electroless Coated SiC Reinforced Hybrid GFRP <i>Sarbjit Singh, PEC Chandigarh</i>
11:32-11:44	OL	Synergistic Photocatalytic Degradation of Textile Dye using Novel Polypyrrole-Zinc Oxide Nano composite System <i>Nandini Venkat Iyer, COEP Technological University Pune</i>
11:44-11:56	OL	Microstructural and mechanical behaviour of thermally aged Al6082/TiO₂/SiC bimodal composite <i>Subodh Kumar, MANIT Bhopal</i>
11:56-12:08	OL	Tribological analysis of T6 heat-treated Al7075 composites reinforced with ceramic and sustainable particles <i>Bhagwan Singh Lovevanshi, MANIT Bhopal</i>
12:08-12:20	OL	Impact and Post-Impact Damage Assessment of Hybrid Basalt Fiber Composites Reinforced with Flax, Hemp, and Glass Fibers via Hand Layup <i>Adarsh Chaurasiya, MANIT Bhopal</i>
12:20-12:32	OL	Influence of Dispersion Routes on the Multifunctional Properties of LLDPE/CNF Nanocomposites <i>Vaibhav Jain, IIT Delhi</i>
12:32-12:44	OL	Electrical Properties of Uncoated Ni and Carbon Coated Ni Nanoparticles Reinforced Poly(ether-ketone) Nanocomposites <i>Roshan D Gadve, MNIT Jaipur</i>
12:44-12:56	OL	Tailoring electrical and thermal properties of poly(ether-ketone) using Bamboo like-Carbon nanotubes: Prospects for EMI shielding <i>Mohini Tiwari, IIT Roorkee</i>
12:56-1:08	OL	Fabrication and characterization of in-situ A356-TiB₂ composites disc through intensive high shear mixing and centrifugal casting process <i>Sunil Manani, PEC Chandigarh</i>

Lunch Break Time: 13:00-14:00



Session 14 (11:00-13:00) Venue- VLTC-001

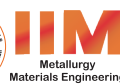
Light Metals and Alloys

Moderator: Suresh Bandi

Chairs: Kantesh Balani, IIT Kanpur, Kanpur & Swati Sharma, MNIT Jaipur

Time	Lecture	Title/Author
11:00-11:20	IL	Synthesis of Ti-Al Intermetallic by MASHS Technique and Study its MW Absorption Properties in Ceramic Matrix <i>Yojana Janu, DL Jodhpur</i>
11:20-11:40	IL	Effect of Tensile Twinning on Microstructure and Texture Evolution in AZX311 Mg Alloy under Cyclic Shear Deformation <i>Jaiveer Singh, IIT Jodhpur</i>
11:40-11:52	OL	Micro-alloying and grain refinement of Mg-alloy using friction stir processing <i>Kamal Kumar, PEC Chandigarh</i>
11:52-12:04	OL	Effect of Incident Velocity on damage of layered targets in Ballistic Applications <i>Bhonsle Chetankumar, DIAT Pune</i>
12:04-12:16	OL	Effect of Fragments shapes and materials on damage of layered Targets in Ballistic Applications <i>Kirit Prasad Gogineni, DIAT Pune</i>
12:16-12:28	OL	Effect of Angle of Obliquity on damage of layered Targets with varying thickness in Ballistic Applications <i>Saleha Haque, DIAT Pune</i>
12:28-12:40	OL	Comparison of Uniaxial and Torsional Low Cycle Fatigue Behavior of a Cu-Ni Alloy <i>Adarsh Bharti, IIT Jodhpur</i>
12:40-12:52	OL	Development and characterization of functionally graded A6061-TiB2 composites using high shear mixing and centrifugal casting technique <i>Nidhi Sindhu, MNIT Jaipur</i>

Lunch Break Time: 13:00-14:00



Session 15 (11:00:13:00) Venue- VLTC-101

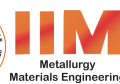
Advanced Composites

Moderator: Deepankar Panda

Chairs: Amar Patnaik, MNIT Jaipur & Sreekumar V. Madam, MNIT Jaipur

Time	Lecture	Title/Author
11:00-11:20	IL	Materials for Critical Technology and Human Space Missions <i>Prateek Bansal, ISRO, Ahmedabad</i>
11:20-11:32	OL	Strain Rate Sensitivity and Energy Absorption Characteristics of PU Foam under Effective Loading <i>Vedant Utikar, DIAT, Pune</i>
11:32-11:44	OL	Poly(ether-ketone) nanocomposites with functionalized MWCNTs for EMI shielding <i>Roshan D Gadve, MNIT Jaipur</i>
11:44-11:56	OL	Adhesives and their Various Applications <i>Meenakshi Pal, University of Rajasthan, Jaipur</i>
11:56-12:08	OL	Study on Poly(ether-ketone)/Silica Nanocomposites for Electronic Applications <i>Mandar J Joshi, Dr S and S S Gandhi College of Engineering and Technology, Surat</i>
12:08-12:20	OL	Effect of fragment mass on damage of hybrid targets in Ballistic Applications <i>Rishabh Subhash Almel, DIAT Pune</i>
12:20-12:32	OL	PEEK Composites: A Promising Structural Material for Space Radiation Protection <i>Sreedevi V V, MNIT Jaipur</i>
12:32-12:44	OL	Direct Energy Deposition-Based Composite Fabrication <i>Mohit Sharma, IIT Roorkee</i>
12:44-12:56	OL	Corrosion Resistance and wear analysis of AA7050 through TiO₂/BN Reinforcements <i>Anil Chourasiya, MANIT Bhopal</i>
12:56-13:08	OL	Analysis of corrosion behaviour and electrical conductivity of AA7075/HEAp composite <i>Pradip Kumar Verma, MANIT Bhopal</i>

Lunch Break Time: 13:00-14:00



Session 16 (14:00-16:00) Venue- APJ Abdul Kalam Hall

Corrosion and coatings

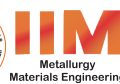
Moderator: Abhishek Tripathi

Chairs: Jagmohan Datt Sharma, PEC, Chandigarh & Randhir Kumar Singh, MNIT Jaipur

Time	Lecture	Title/Author
14:00-14:20	IL	Corrosion and Slow Strain Rate Tests of a micro-alloyed Steel and with nano-crystalline Ni-coating by Pulse Plating and Ti-6Al-4V Alloy under Applied Potentials <i>Karuna Sindhu Ghosh, NIT Durgapur</i>
14:20-14:32	OL	Influence of Silicon Addition on the Microstructure, Hardness and Corrosion performance of Al-6.5Mg Alloys <i>Kyada Tushal Kalubhai, Dr S and S S Gandhi College of Engineering and Technology</i>
14:32-14:44	OL	Examination of the corrosion inhibition properties of plant extract on the corrosion of DSS2205 in an acidic environment <i>Swati Chaudhary, RGIPT, Amethi</i>
14:44-14:56	OL	Development of inhouse inhibitor for the application in reduction of corrosion in storage of ethanol blended petrol <i>Saurabh Kumar, RGIPT, Amethi</i>
14:56-15:08	OL	Blister resistive and corrosion resistive additives for zinc primer <i>Siddharth Atal, RGIPT, Amethi</i>
15:08-15:20	OL	Synergistic effect of Al₂O₃ and MoS₂ on the corrosion behaviour of plasma sprayed aluminium matrix composite coating <i>Saurav Keshri, IIT Patna</i>
15:20-15:32	OL	Influence of Novel Thermomechanical Processing on Microstructure, Mechanical Properties, and Tribological Behaviour of Ti-6Al-4V Alloy <i>Sandeep Mahore, MNIT Jaipur</i>
15:32-15:44	OL	Impact of particle velocity on HVOF coating properties: A state-of -the -art review <i>Atirek Gaur, MNIT Jaipur</i>
15:44-15:56	OL	Corrosion Behaviour of Al_x(CoCrFeNi) high entropy alloys in 3.5% NaCl Aqueous Solution <i>Vaibhav Kathavate, MIT World Peace University Pune</i>

Tea | Time: 16:00-16:15

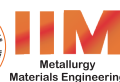
Valedictory Function | Time: 16:15-17:15



Session 17 (14:00-16:00) Venue- S Radhakrishnan Hall		
High Entropy Alloys and Powder Metallurgy		
Moderator: Kunal J. Borse		
Chairs: Jatin Bhatt, VNIT Nagpur & Vijay N N, MNIT Jaipur		
Time	Lecture	Title/Author
14:00-14:20	IL	Iron (Fe) rich medium entropy alloy: Microstructural evolution and mechanical properties <i>Vikas Chandra Srivastava, CSIR-NML Jamshedpur</i>
14:20-14:32	OL	Study the effect of different annealing conditions on phase and microstructure evolution of CoCrFeNi-Ti high entropy alloy synthesized through mechanical alloying <i>Apoorva Vashishtha, MNIT Jaipur</i>
14:32-14:44	OL	Evaluation of Microstructural and Mechanical Properties of Microwave Sintered FeNiCoCr High-Entropy Alloy reinforced with SiC Particles <i>Radha Raman Mishra, BITS Pilani</i>
14:44-14:56	OL	Monte-Carlo simulation-based study of the annealing twinning of high entropy alloys and its influence on microstructure and texture evolution <i>Lalit Kaushik IIT Jodhpur</i>
14:56-15:08	OL	Correlating Structural and Mechanical Properties of (MoNbTaW)N films as a Function of Deposition Temperature <i>Venkata Girish Kotnur, University of Hyderabad</i>
15:08-15:20	OL	Development of CoCrFeNiSi0.5 Multi Component Alloy surface coating on plain carbon steel through a novel in-situ weld surface alloying approach <i>Veera Sreenu Addepalli, Rajiv Gandhi University of Knowledge Technologies Nuzvid</i>
15:20-15:32	OL	Effect of Al on microstructure and Phase evolution of CoCrMnNiFeAlx high entropy alloy processed via mechanical alloying <i>Uday Pratap Singh Bais, MANIT Bhopal</i>
15:32-15:44	OL	Structure-Property Co-relation with Hydride Orientation in Zircaloy-4 Seamless Clad and Zirconium Lined Zircaloy-4 Duplex Clad for Water Cooled Reactors <i>Swarup Acharya, NFC, Hyderabad</i>

Tea | Time: 16:00-16:15

Valedictory Function | Time: 16:15-17:15



Session 18 (14:00-16:00) Venue- VLTC-001

Waste to Wealth

Moderator: Suresh Bandi

Chairs: Kameswari Prasada Rao Ayyagari, GITAM University, Vishakhapattanam & Yojana Janu, DL Jodhpur

Time	Lecture	Title/Author
14:00-14:12	OL	Synthesis of strategic NdF₃/PrF₃ mixed-fluorides from indigenous sources for strategic applications <i>Sai Anuraag Namuduri, C-MET, Hyderabad</i>
14:12-14:24	OL	Transforming Waste to Value: Sewage Sludge Biochar for Sustainable Dye Removal <i>Bhavana Shanmughan, DIAT, Pune</i>
14:24-14:36	OL	Sustainable Recovery of Valuable Metals from Jarosite Residue Using a Sulfationâ€œRoastingâ€œLeaching Process <i>Manorama Swain, The Maharaja Sayajirao University of Baroda, Vadodara</i>
14:36-14:48	OL	Sustainable Strategies for Recycling and Recovery of Electrical Industrial Waste <i>Ankit Bhojani, The Maharaja Sayajirao University of Baroda, Vadodara</i>
14:48-15:00	OL	Stability behaviour and thermophysical characteristics of nano-particles integrated to improve the performance of refrigeration systems- A review <i>Md Jamil Akhtar, MANIT Bhopal</i>
15:00-15:12	OL	Rice husk ash filled glass epoxy hybrids: A sustainable microwave absorbing material <i>Vaibhav Sanjay Darekar, MNIT Jaipur</i>
15:12-15:24	OL	Applications of Nanomaterials for Soft Robotics: A Review <i>Sandeep Mahore, MNIT Jaipur</i>
15:24-15:36	OL	Tribological Investigation of Fiber Orientation Effect on the Wear Performance of Bamboo Fiber and Recycled Glass Fiber Epoxy Hybrid Composite <i>Deepa Ahirwar, MANIT Bhopal</i>

Tea | Time: 16:00-16:15

Valedictory Function | Time: 16:15-17:15



Session 19 (14:00-16:00) Venue- VLTC-101

Innovations in Materials Development

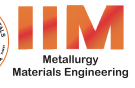
Moderator: Deepankar Panda

Chairs: Rajesh Khatirkar, VNIT Nagpur & Anup Kumar Keshri, IIT Patna

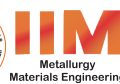
Time	Lecture	Title/Author
14:00-14:20	IL	3D Printing - Challenges and Opportunities <i>Mrityunjay Doddamani, IIT Jodhpur</i>
14:20-14:32	OL	Development of Aluminium Alloy Anode Material and a Prototype Aluminium-Air Battery <i>Utkarsh Bhadauria, VNIT Nagpur</i>
14:32-14:44	OL	Synthesis of NiO/g-C₃N₄ Based Nano-Heterostructures: An Efficient Photocatalytic System for Hydrogen Generation <i>Amol Gulabrao Kadlag, S.N. Arts, D.J.M. Commerce and B.N.S. Science College (Autonomous), Sangamner</i>
14:44-14:56	OL	Can PVP-Tuned ZIF-67 Derivatives Enhance Hydrogen Production in Seawater Splitting? <i>Manisha Jain, CSIR-NCL Pune</i>
14:56-15:08	OL	An Ultra-Fast and Facile Fabrication of Turbostratic Holey Graphene and its Electrochemical Behaviour <i>Niranjana Pandit, IIT Patna</i>
15:08-15:20	OL	Innovative Design Strategies for PP Mesh Surfaces in Infection-Resistant Healthcare System <i>Vipula Sethi, IIT Delhi</i>
15:20-15:32	OL	N-Acryloyl phenylalanine and their anti-inflammatory potential on Lipopolysaccharide-induced raw 264.7 macrophages; Systemic inflammation on a rat model <i>Divya Pareek, IIT(BHU) Varanasi</i>
15:32-15:44	OL	Synthesis, characterisation, and comparative assessment of general-purpose flexible polyurethane foam versus medical-grade polyurethane foam <i>Jay Hind Rajput, IIT Ropar</i>

Tea | Time: 16:00-16:15

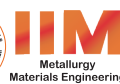
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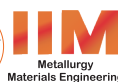
Poster Presentations



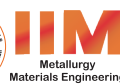
ABS ID	Name	Institution/Affiliation	Title of the Abstract
2	Rohini Verma	IIT Delhi	Development of antifouling chitosan/PEO membrane
4	Nirmal Rathore	MLS University Udaipur	Development and Characterization of Periodate oxidized Cotton Fabric for Human Healthcare system
5	Megha Yadav	MLS University Udaipur	Development of Anti-bacterial Polylactic acid Film for Biomedical applications
6	Pooja Badsara	MLS University Udaipur	Development and Characterization of Sodium Alginate-based Membranes for Wound Healing System
7	Chesta Mehta	MLS University Udaipur	Development and Characterization of Polyvinyl alcohol Nanocomposite Membranes for Drinking Water Disinfection
38	Pankaj Sharma	Jagannath university	Mechanical Characterization and Biodegradability Analysis of Bio Composite material fabricated by Using Fine Waste Wood Carbonated Powder
43	Ujjwal Sahu	VNIT Nagpur	Development of flexible CZTS based thin film solar cell
44	Nikita Uday Lote	VNIT Nagpur	Transforming Super Napier Grass into High-Capacitance Carbon for Energy Storage
48	Mohit Tiwari	IIT Indore	Surface Characteristics and Tribological Performance of Severely Surface Deformed AISI 304L Stainless Steel
54	Soumya Ranjan Behera	NIT Rourkela	Effects of Modelling of Interfacial Energy Between FCC and HCP Phase on the Stacking Fault Energy Calculations in Fe-Mn Alloy System
55	Soumya Shouvik	NIT Rourkela	Effects of Modelling of Interfacial Energy Between FCC and HCP Phase on the Stacking Fault Energy Calculations in Fe-Mn Alloy System
58	Lakshya Sharma	MNIT Jaipur	Influence of pellet basicity on properties of iron ore pellets using lime as flux and bentonite as binder
60	Devesh Singh	Dayalbagh Educational Institute Agra	Utilisation of Bagasse Ash and Rice Straw in fabrication of Eco-Friendly bricks
61	Mohit Singh	IIT Jodhpur	In-Situ Monitoring and Control of Plasma Plume in Direct Energy Deposition of Stainless Steel 316L
63	David Shalem Carey Kavuri	IIT Jodhpur	Comparative analysis of wear resistance: continuously cooled carbide-free bainitic steel vs. hardox-450 martensitic steel
64	Nishtha Veluri	Manipal Univeristy Jaipur	Oblique Angle Deposition of Ga ₂ O ₃ Thin Films by e-beam Evaporation for Self-Cleaning Window Layers in Silicon Solar Cells
66	Manoj J	IIT Jodhpur	In-Situ Temperature Monitoring and Process Control in Additive Manufacturing of Inconel 718 with Optical Emission spectroscopy
68	Mahima Prasad	Dayalbagh Educational Institute Agra	Sugar cane bagasse ash as Cement Replacement on Properties of Mortars



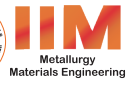
ABS ID	Name	Institution/Affiliation	Title of the Abstract
70	Rimlee Saikia	Gauhati University	Reduced Graphene Oxide Production by Silicon Thin Film Deposition using Ionized Physical Vapor Deposition
74	Rohit Bagal	DIAT Pune	Activated charcoal and foam residue-incorporated open-cell polyurethane foam: Effect on the sound absorption, flame retardancy and mechanical properties
76	Anup Malik	MNIT Jaipur	Current Trends and Emerging Technologies for Piezoelectric Materials in Biomedical Applications
77	Shashi Ranjan Pathak	MNIT Jaipur	A Review on Industrial Applications of Piezoelectric Materials
84	Soumya Shouvik	NIT Rourkela	Modelling of Interfacial Energy as Function of Thermodynamic Driving Force for Austenite to Epsilon Martensite Phase Transition to Estimate Stacking Fault Energy for Fe-Mn-C Alloy System
85	Shreyas T M	IIST Trivendram	Effect of Post-Processing Heat Treatment on Microstructural Evolution and Mechanical Properties of Additively Manufactured (LPBF) Inconel 625
91	Neha	Dayalbagh Educational Institute Agra	Wheat Straw Burning: Causes, Environmental Challenges, and Its Sustainable Use in Soil Improvement
92	Anshuman Singh Tomar	Dayalbagh Educational Institute Agra	Optimizing Strength and Sustainability: Investigating LC3 for Enhanced Rammed Earth Construction
97	Puneet Agrawal	Dayalbagh Educational Institute Agra	Sustainable Concrete Using Recycled Coarse Aggregate : A Path Toward Eco-Efficient Construction
102	Diksha Gola	Dayalbagh Educational Institute Agra	Pull-Out Performance of Headed Rebars Embedded in Plain Cement Concrete and Steel Fiber Reinforced Concrete
107	Mohammed Fahad Gauri	MNIT Jaipur	Rice husk ash as filler in epoxy: Contribution to microwave absorption performance
111	Devesh Singh	Dayalbagh Educational Institute Agra	Evaluation of GFRP Bars in Reinforced Concrete Columns: A Step Towards Durable Construction
116	Uday pratap Singh Bais	MANIT Bhopal	Phase and microstructure evolution of high entropy alloy processed via mechanical alloying
122	Gabender Singh	Dayalbagh Educational Institute, Agra	Utilisation of Bagasse ash and Rice straw in fabrication of eco-friendly bricks.
123	Madhura Makarand Darwhekar	COEP Technological University Pune	EMI shielding effectiveness of high-performance polymer-based composites
124	Parth Ravindra Nagure	COEP Technological University Pune	Study on microwave absorption properties of high performance polymer composites
130	Mukul Joshi	MNIT Jaipur	Modification of the shape memory polymer composites hybridized with functionalized graphene nanoplatelets: enhancement of mechanical, thermomechanical and thermogravimetric properties.



ABS ID	Name	Institution/Affiliation	Title of the Abstract
131	Divij Jain	MNIT Jaipur	Tribometry analysis of Ni-P-Graphene oxide/Carbon nano tubes composite coatings prepared by electroless deposition process
135	Mohd Ayan Anwar	Gurukula Kangri (Deemed to be University) Haridwar	Fabrication and Characterization of Highly Efficient Blue Organic Light Emitting Diode (OLEDs) Using TADF Emitters
143	Manu Partap Singh	NIT Kurukshetra	Self Repairing Flexible Pavements
149	Sanjeev Kumar	NIT Kurukshetra	Performance and Durability Assessment of Full-Depth Reclamation Mixes with Cement and Chemical Stabilizers
154	Rohit Narayan	NIT kurukshetra	Enhancing the Performance of Stone Mastic Asphalt Using Fiber Reinforcement
155	Gurinder Singh	PEC Chandigarh	Comparative Analysis of Metallurgical and Mechanical properties of Gas Tungsten Arc and Laser Beam welded joints of Incoloy 800HT
156	Sheetal Meena	NITTTR Chandigarh	Exploring the Microstructure and Corrosion Resistance of HAP/TiO ₂ coatings on Ti-6Al-4V alloy.
157	Nadeem Khan	The maharaja sayajirao university of baroda	A review on ultra-high-performance concrete: Utilisation and Limitations in road infrastructure
159	Amit Kumar	NIT Kurukshetra	Performance Evaluation of Bituminous Concrete with RAP and Low-Viscosity Binder
161	Manoj Yadav	NIT Kurukshetra	Effect of Gradation on Full-Depth Reclaimed Pavement Performance
164	Vishesh Katariya	MNIT Jaipur	A Study on the Effects on Tribological Properties of Al-SiCp Nanocomposites
166	Jyoti Kumari	NIT Kurukshetra	Optimization of Geocell Dimensions for Square Footings Resting on Clayey Soil
167	Ashwani Saini	CSIR-CRRI New Delhi	A review on quaternary blending of supplementary cementitious compounds as a partial replacement of cement in paving grade concrete
168	Bhuneshwar Paswan	IIT Jodhpur	Novel 2D Hematene (HM) based hybrid material Co ₃ O ₄ @HM for photo Sensing for Industrial Applications
169	Rahul Kumar Saini	MNIT Jaipur	Synthesis of AlCoCrFeMg High-Entropy Alloy via Powder Metallurgy Route
170	Khushi Kumari	Dayalbagh Educational Institute Agra	Effect of macro encapsulated PCM in building envelope: Experimental analysis
173	Supriya Kodali	University of Hyderabad	Comparative Analysis of Various Parameters for Production of High-Quality Graphene by Shear Exfoliation
174	Raj Singh	Dayalbagh Educational Institute Agra	Utilization of Marble Dust Powder as Partial Cement Replacement and the Inclusion of Moss Concrete for Sustainable Construction
175	Debabrata Das	MNIT Jaipur	A review on synthesis and properties of bulk consolidated Al-Mg/Al-Mg-Li alloys



ABS ID	Name	Institution/Affiliation	Title of the Abstract
178	Shrawan Kumar Bairwa	MNIT Jaipur	Study of aging behavior of Al-4.5%Cu alloy synthesized via powder metallurgy route
180	Pranshu Goyal	MNIT Jaipur	Resistance spot welding of SS 304
182	Amit Kumar	NIT Kurukshetra	Evaluation of Bituminous Mix Performance Using RAP and Low-Viscosity Binder
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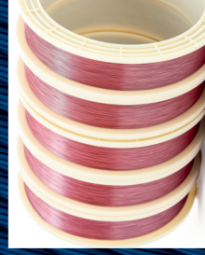
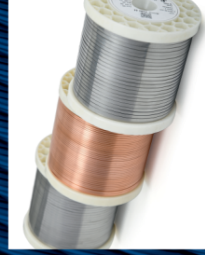
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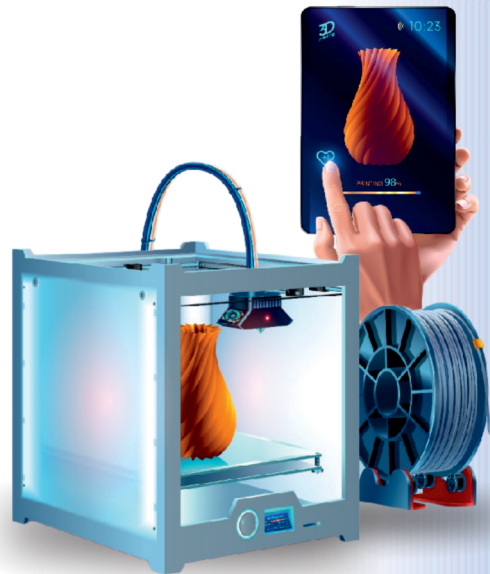
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 FOOD PRINTERS EDIBLE INK PRINTING Print on Coffee, Beer, Milkshakes, Chocolates, Muffins, Cookies, Small Cakes.	 WASH AND CURE MACHINES Printed models need to be washed to remove any uncured resin, and then cured again to ensure that the print is fully hardened and stable.	 3D PRINTER REPAIRS Wide range of cutting-edge 3D printing services to cater to all your needs. From rapid prototyping to custom manufacturing.	 STEM LABS A comprehensive for schools that are looking to implement STEAM Education using the latest technologies and tools in their curriculum.

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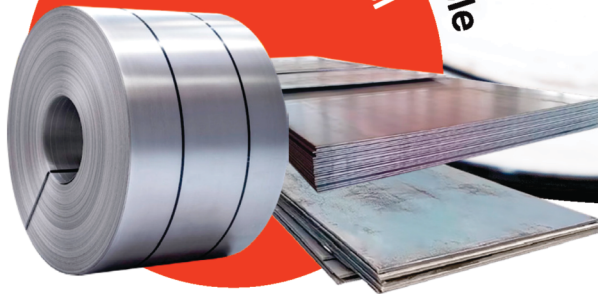
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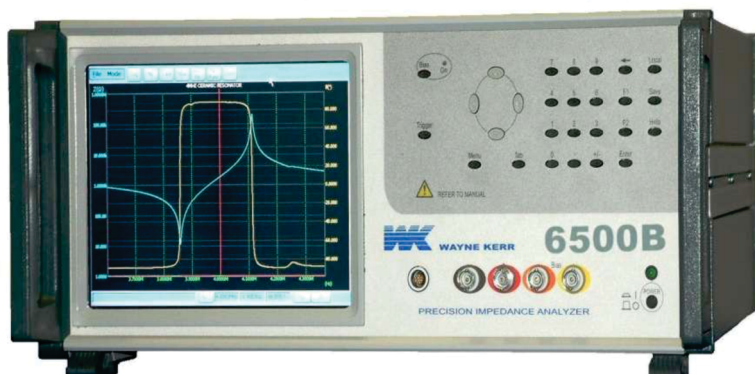


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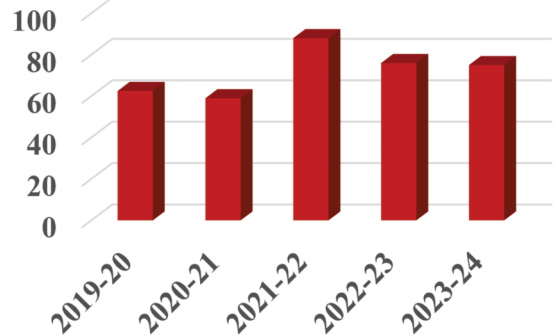
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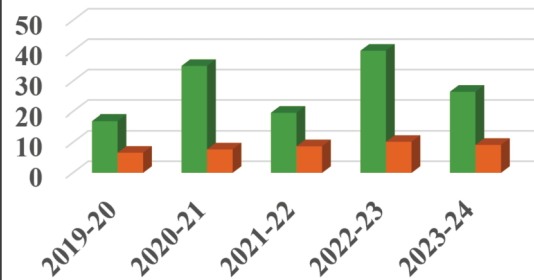
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