

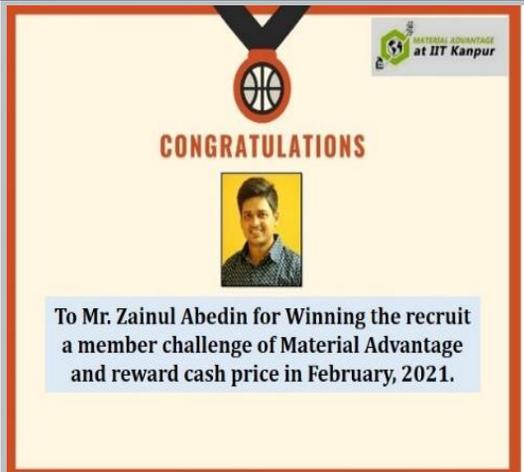
Welcome from the Head of Department

Human civilization has evolved for ages around the knowledge it acquires on materials. Starting with wood, it goes through Stone Age to Bronze Age to Iron Age. Now we are in the world of a number exciting materials, and untiring effort from material scientists all across different academia as well as industries sees farther progress in the enhanced performance of the existing material by eco-friendly processing and development of newer materials for future utilization for upgrading quality of life. Suitable training, hands-on- experimentation, and discussion on critical issues among the researchers are some basic requirements for appropriate learning and any useful development. In this regard, constitution of forum or common platform where researchers can exchange their ideas and connect each other, is of paramount importance. Among the researchers, young students form a vital component, and they also need a platform to exchange ideas and nurture their inquisitiveness. Department of Materials Science and Engineering at IIT Kanpur has been a forerunner in knowledge building in materials for the last 60 years. The progressive minds of student researchers of this department have realised the importance of such kind of forums. In this regard, Material Advantage at IIT Kanpur is one such forum. Since inception in 2009, it has progressed greatly in terms it's attracting large number of students as well as multi-faceted academic activities. This forum gives an opportunity to a student to get an advantage of association with internationally known forums, like the American Ceramic Society (AcerS), the Association for Iron and Steel Technology (AIST), The Minerals, Metals & Materials Society (TMS), and ASM International. This is very important since it allows them to reach out to other researchers in abroad too. Material advantage at IIT Kanpur manages different academic activities like technical talks, social and fun affair related to material, research skill development, programming and career development talks. Self-realization on the importance of such society by the students would only make them better and progressive. It is indeed a proud moment for all the faculty as well as staff of the Department of Materials Science and Engineering because we witness that future generation of material researchers are being shaped into shining diamonds. Contribution from Material Advantage at IIT Kanpur would always be felt.



Prof. Kallol Mondal,
HOD, MSE Dept.,
IIT Kanpur.

Awards and Achievements



CONGRATULATIONS

To Mr. Zainul Abedin for Winning the recruit a member challenge of Material Advantage and reward cash price in February, 2021.



CONGRATULATIONS

Ms. Shruti Dubey for being selected as the delegate of the President's Council of Student Advisors, "The American Ceramic Society" (AcerS) in May 2021. and as the ASM Student Board member in June 2021.

Logos: ASM INTERNATIONAL, The American Ceramic Society, MATERIAL ADVANTAGE at IIT Kanpur

Catalogue

- **Activities at MA @IIT Kanpur.**
- **Gallery of Events.**
- **Upcoming Events.**
- **Become a MA member.**
- **Benefits to MA members.**
- **Get In touch with MA@IITK.**
- **Charge Handover ceremony**
2021-2022.

During the COVID-19 imposed lockdown, multiple virtual events including workshops, webinars, understanding lectures and competition events were organized to engage our members and keep their spirits high.

Dec-31st 2020 All the MA@IITK members came together via virtual platform (ZOOM) to collectively bid goodbye to the year 2020 together with gaiety and joy.

Jan 27-30th 2021 Material Advantage @IIT Kanpur, organized an XRD workshop for MA members in collaboration with TEQIP workshop, Speaker Dr. Nilesh Gurao, and PhD scholar Mr. Mirtunjay Kumar

Jan-31st 2021 MA@IITK organized an Interactive Session on “Sponge Iron making: An Alternate Iron making Technology with Dr. B.B Agarwal, Visiting Professor, MSE Dept., IIT Kanpur as the speaker.

Mar-13th 2021 MA@IITK organised “Understanding Lecture” on magnetism promoted as “Magnet Ki Pol Khol” with Padma Shri Prof. H.C. Verma as the speaker and event had humongous participation of close 250 students

Apr-10th 2021 MA@IITK organized a materials science quiz event promoted as “MatAd quiz” in association with sponsor “the chocolate room” the IIT Kanpur outlet.

Jun-1st 2021 **Charge handover ceremony was organized at the virtual platform to welcome new team and formally handover the charge to New executive committee.**

Jun-27th 2021 MA@IITK new team organized its first team promoted as “Alum Talk: Know your core” to have student –alumni interactions on core industries and careers prospective.

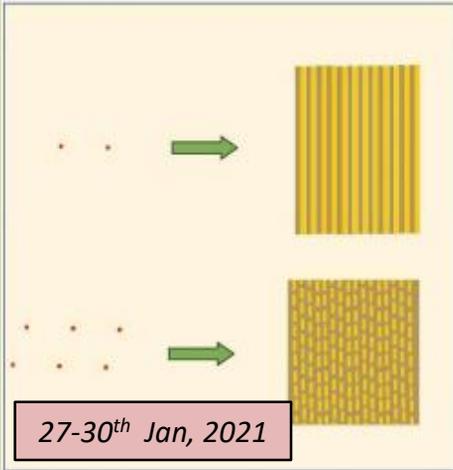
Jun-29th 2021 MA@IITK organized a Talk session on “Importance of Ecosystem Restoration” by Dr. Hishmi Husain (Tata Steel) focusing on Sustainable development Goals 2030 and solutions to protect our biodiversity.



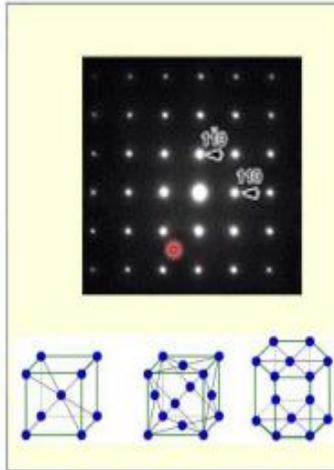
Gallery

Interference and Diffraction

XRD Workshop



27-30th Jan, 2021



16

31st Dec, 2020



Emerging Scenario in Iron Making

- Around 90% of world iron production is through Blast Furnace technology route
- Driving forces: Alternative Ironmaking technologies
 - Costly and scarce coking coal: Need to look beyond coking coal
 - possibility to use iron ore fines directly
 - Constraint in availability of large land
 - Environmental considerations
 - Eliminate pollution-intensive sintering and coke-making processes
 - Water scarcity
 - High capital cost

31st Jan, 2021

MATERIAL ADVANTAGE @IIT KANPUR BRIMS

MAGNET KI POLE KHOL

By Padma Shri Prof. H.C Verma

BREAKING A MAGNET IN TWO DOES NOT ISOLATE ITS NORTH POLE FROM ITS SOUTH POLE. EACH HALF IS FOUND TO HAVE ITS OWN NORTH AND SOUTH POLES.
WITH THE KINDS OF MAGNETIC POLES ARE EXAMINED, IT IS SHOWN THAT SOUTH AND NORTH POLES ARE OF THE SAME KINDS.

MARCH 13, 2021 | 3-5 PM
PLATFORM: ZOOM

Importance of Ecosystem restoration

Agenda 2030: Sustainable Development Goals



- Target to tackle the world's most pressing social, economic and environmental challenges
- Developed by engaging with stakeholders including businesses
- Accountability of implementation to all sectors
- Time bound targets taken

29th June, 2021



13th March, 2021

Gallery



MATERIAL ADVANTAGE
at IIT Kanpur
The Advantage in Applied Materials

MATERIAL ADVANTAGE @IITK
BRINGS

"MatAd Quiz"

A Quiz on
Material Science

Sponsored by

Shop No. 1
9793989988
0512-679-4...

10th April, 2021

MATERIAL ADVANTAGE
IIT KANPUR CHAPTER

ALUM TALK: KNOW YOUR CORE

RAGHAV MITTAL, BT-MT(Y14)
ASSOCIATE CONSULTANT
M.N. DASTUR & COMPANY.

BHAGYADHAR MOHANTY, MT(Y18),
TECHNOLOGIST IRON AND COKE
AT TATA STEEL.

ROHIT PHANSE, BT-MT(Y13)
SENIOR APPLICATION
ENGINEER
AT APPLIED MATERIALS

27th June, 2021

TIME: 5.00 PM

Upcoming Events

- *Frontier Lecture Talk* in August.
- *Logo Competition* in August.
- *Resume making Workshop* in September.
- *MA@IITK Foundation Day Celebration* in September.
- *MA@IITK Fall Membership Challenge drive* in September.
- *One-on-One Mock Interview Session* in November.
- *Happy Hour- MA@IITK* in December.
- *Annual General Body Meeting* in December.

Become a Member

Annual membership fees is US\$15 (through MA @ IIT Kanpur)

<http://materialadvantage.org/membership>

Benefits to Members

Access to various societies i.e. AIST, AcerS, TMS etc. and 500\$ cash support for attending conference from student-chapter.

<http://materialadvantage.org/>

Get in touch with us : MA@IIT Kanpur

Ms. Shruti Dubey (MA-Chair)

Email : materialadvantage.iitk@gmail.com

Facebook Page:

<https://www.facebook.com/groups/328298820600281>

Charge Handover ceremony 2021-2022

1st June, 2021



EXECUTIVE COMMITTEE 2021-2022



Shruti Dubey
Chair
dshruti@iitk.ac.in



Zainul Abedin
Vice Chair
zainulz@iitk.ac.in



Shiven Ponnupureddy
Secretary
shivenp20@iitk.ac.in



Ankur Agnihotri
Treasurer
ankura20@iitk.ac.in



Jatin Jain
Publicity Coordinator
jjainindia20@iitk.ac.in



Akhil Kotha
Web Coordinator
akhilkotha20@iitk.ac.in



Rajesh Bahera
Event Coordinator
rajeshkb20@iitk.ac.in



Pooja Rani
Spokesperson & Student Advisor
rpooja20@iitk.ac.in



Sonali Gupta
UG Coordinator
sonalig@iitk.ac.in



Pradeep Gupta
Outreach UG Coordinator
guptapradeep73094@gmail.com



Dr. Kantesh Balani
Faculty Advisor
kbalani@iitk.ac.in

Material Advantage, IIT Kanpur chapter extends a warm welcome to the New executive committee members for 2021-2022. **MA@IITK** aspires to the new executive committee to work well in the weeks and the months to come and take **MA@IITK** to the next level.

The new executive team has strived well in the first month of the tenure and has successfully organized a "Student-Alumni interaction" session and interactive talk on the "Importance of ecosystem restoration".