

Material Advantage @ IIT Kanpur Chapter

Fall Membership Challenge Drive Report

September 14, 2020 –October 14, 2020



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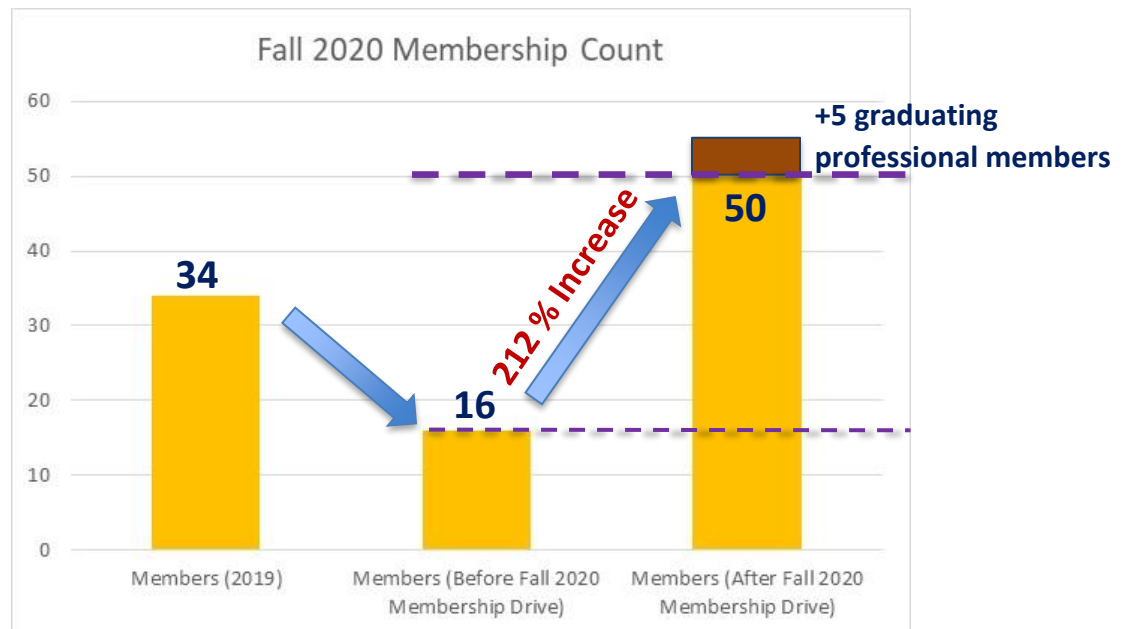
Recruitment Strategies

- Due to the prevailing pandemic situation, MA@ IIT Kanpur conducted seventeen (17) virtual events during membership drive (Sept. 14- Oct. 14, 2020) that involved Bachelors, Masters and Ph.D. students of IIT Kanpur. List of events conducted during the fall membership challenge drive are as follows:

1. Sept. 14, 2020: Introduction to MA@IITK and Unveiling the membership Drive 2020
2. Sept. 15, 2020: MA@IITK Foundation Day
3. Sept. 16, 2020: CoVID: Calamity & Inventions
4. Sept. 18-Sept. 22, 2020: Faculty Development Program
5. Sept. 20- Sept. 26, 2020: Locked Up with Hobby
6. Sept. 24, 2020: Talk on 'Research paper along with a Patent'
7. Sept. 26- Sept. 27, 2020: Workshop on ANSYS Fluent
8. Sept. 26- Oct. 03, 2020: Meme Competition
9. Sept. 28- Oct. 04, 2020: Microscopy Contest
10. Oct. 02, 2020: Talk on 'How to Write a Research Article'
11. Oct. 03, 2020: Case Study on Rail Degradation and Failure
12. Oct. 05, 2020: E-demonstration on Tribological Analysis and Instruments
13. Oct. 07, 2020: Webinar-Cum-Quiz on Material Selection & Design
14. Oct. 10, 2020: Panel Discussion on Career opportunities
15. Oct. 12, 2020: Workshop on LaTeX software.
16. Oct. 13, 2020: E-helpdesk for membership
17. Oct. 14, 2020: Lucky Draw

Outcome of the Fall 2020 Membership Challenge for MA @ IIT Kanpur

- The membership at Material Advantage @ IIT Kanpur has increased from existing 16 to **50** (*34 new recruitments*), witnessed a **~212% increase in membership**. In addition, *5 graduating batch members are continuing as professional members!*



- MA @ IIT Kanpur organized 17 events during the one-month period (Sept. 14-Oct. 14, 2020) of membership drive. This was an outcome of the *meticulous efforts taken by the entire team* over 10+ meetings wherein the ideas were born as a result of the brainstorming discussions which then perpetuated towards planning and execution into successful events. All the events were conducted via ZOOM video conferencing software.

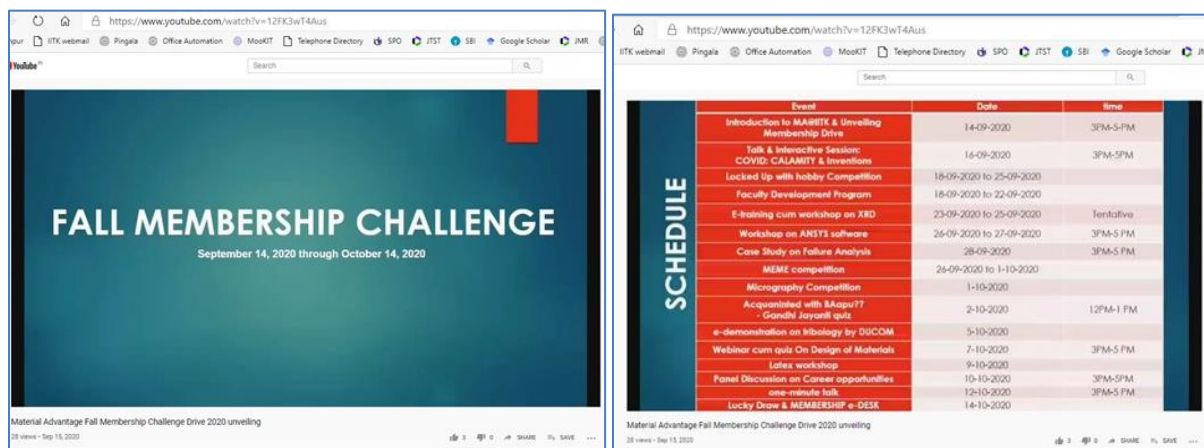
1. INTRODUCTORY SESSION & UNVEILING THE MEMBERSHIP DRIVE (Sept. 14, 2020):



The introductory session was organized on very first day of the drive i.e. **September 14, 2020** especially for the new students to make them acquainted with Material Advantage student program. A brief introduction and the perks of being a MA member were highlighted in the address by Dr. Kantesh Balani, Faculty Advisor, MA@IITK. Later, Ms. Shruti Dubey, Chair, MA@IITK, introduced the chapter and the executive team to the attendees. Material Advantage @ IIT KANPUR CHAPTER also unveiled its one-month long FALL MEMBERSHIP CHALLENGE DRIVE (14 SEPT - 14 OCT) along with the entire calendar of events scheduled. Despite the geographical distances due to pandemic the team stood united and welcomed the students in the most creative way possible. The team members clicked individual photographs with placards in hands which were collated to complete the message. Students were motivated to participate in events so as to win membership discounts and join MA@IITK.

2. MA@IITK FOUNDATION DAY CELEBRATION (Sept. 15, 2020):

MA@IITK was founded on 15th Sept. 2009 and from this year (2020) team MA@IITK started celebrating it as the FOUNDATION DAY. MA@IITK has launched its own official YouTube Channel on this very occasion with the name Material Advantage, IIT Kanpur Chapter. The link is provided: <https://www.youtube.com/channel/UCPbciGRDsFjvsCXUETWcxEG/>



Event	Date	Time
Introduction to MA@IITK & Unveiling Membership Drive	14-09-2020	3PM-5PM
Talk & Interactive Session: COVID: CALAMITY & Inventions	16-09-2020	3PM-5PM
Locked Up with hobby Competition	16-09-2020 to 25-09-2020	
Faculty Development Program	18-09-2020 to 22-09-2020	
E-training cum workshop on XRD	23-09-2020 to 25-09-2020	Tentative
Workshop on ANSYS software	26-09-2020 to 27-09-2020	3PM-5 PM
Case Study on Failure Analysis	28-09-2020	3PM-5 PM
MEME competition	28-09-2020 to 1-10-2020	
Micrography Competition	1-10-2020	
Acquainted with 8Kapu?? - Gandhi Jayanti quiz	2-10-2020	12PM-1 PM
e-demonstration on tribology by DUCOM	5-10-2020	
Webinar cum quiz On Design of Materials	7-10-2020	3PM-5 PM
Latex workshop	9-10-2020	
Panel Discussion on Career opportunities	10-10-2020	3PM-5PM
one-on-one talk	12-10-2020	3PM-5 PM
Lucky Draw & MEMBERSHIP e-DESK	14-10-2020	

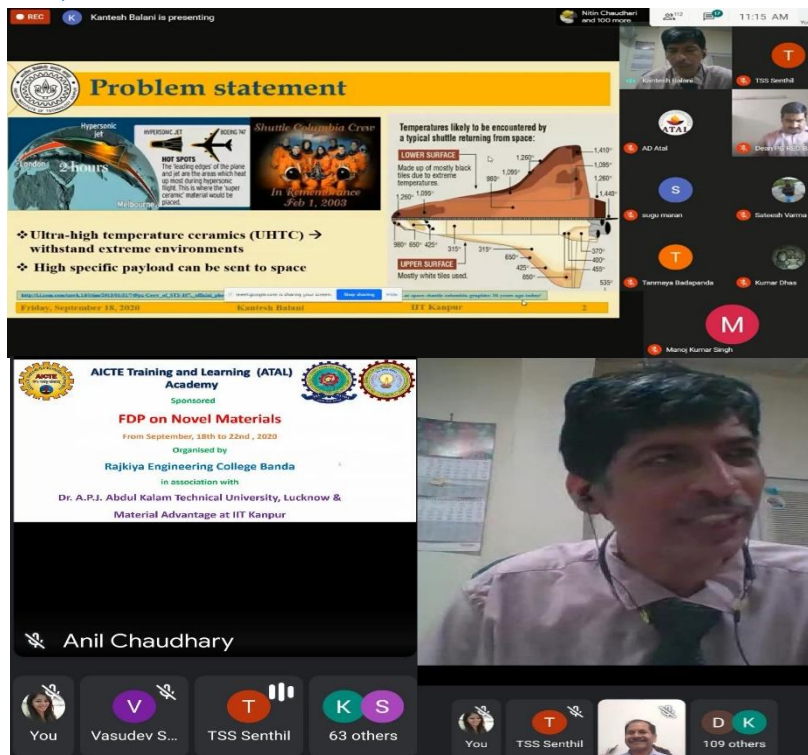


3. CoVID: Calamity & Inventions (Sept. 16, 2020):



When everyone was stuck at home and research had come to a standstill for many researchers and academicians, there were many people who were working day and night to find ways for bringing back and finding ways to accept this new normal. IITK has always been a center for many innovations that added to the esteemed image of the institute. MA@IITK brought such innovators under one umbrella during this event, where these people talked about the story of their invention even when there was a limited availability of resources and manpower. When the hurdles were pulling back than advancements, how these ideas survived and grew to such recognized inventions. The session was conducted over ZOOM on **September 16, 2020 (evening session)**. The inventions discussed were Oxygen Concentrator by Dr. S.K. Jha, Swasa N95 Face mask by Dr. Sandip Patil and Mobile masterJee by Dr. J.Ramkumar. These are the products which were highly appreciated by the honorable Prime Minister of India and it was a treat for the audience to listen about these innovations from the innovators themselves.

4. Faculty Development Program on Novel materials with REC Banda (Sept. 18- Sep. 22, 2020):



MA@IITK is associated with Rajkiya Engineering College, Banda for conduction of Faculty Development Program on NOVEL MATERIALS with speakers from various prestigious institutes such as IIT Kanpur, IIT Bombay, IIT Roorkee, etc. Although this program was intended for addressing faculty only, the organizers agreed for student participation up to 50 students on a first-come basis. It was a five day program from **September 18 - September 22, 2020**. Certificated were provided to the students who attended the workshop for all 5 days.

5. Locked Up with Hobby (Sept. 20-26, 2020):



MATERIAL ADVANTAGE @IIT KANPUR PRESENTS
Locked Up with Hobby!!
Showcasing your Talent and Win Prizes!

CATEGORIES
Vocal: Music, Singing, Harmonium, Piano, Memory, etc.
Music: Dance, Folklore, Cultural, Acrobatics, etc.
Painting: Photography, Sketching, Drawing, Painting, etc.
Others: Not included or fitting in above categories.

RULES AND GUIDELINES
• An individual can submit only one entry from each category.
• Entry length in each and every category should not exceed 10 minutes.
• Photographs entries should contain date and time stamp.
• Every submitter should be participant's own work.

SELECTION
• 50% judgement based on social media publicity* • 50% reserved for organizers.
• Number of winners from each category will be decided based on the number of entries in that category.
• Organizers reserve the right to reject any inappropriate entry.
• Prizes and Material advantage membership discount coupons for the winners.
• Participation e-certificates for all the participants.

SEPTEMBER 20 TO 26, 2020
Post your entry on our Facebook page
www.facebook.com/MaterialAdvantageIITK

Follow our page on Facebook www.facebook.com/MaterialAdvantageIITK
Post your entry on our Facebook page
Tag: #lockedupwithhobby #fallmembershallenge #materialadvantage #MA@IITK
Share it with your friends.
1 Like = 1 point • 1 share = 3 points

Consist on: <https://www.facebook.com/groups/332544444444444>
*See www.facebook.com/MaterialAdvantageIITK for more details.

Lockdown has been a challenging situation for all of us and many of us turned to hobbies to keep occupied. Some tried to revive an old hobby, some discovered new hobbies, and yet some kept their routine hobbies going. MA@IITK organized another event by the name of “Locked up with hobbies” from **September 20 to September 26, 2020**, to provide an opportunity to the students to share their lockdown hobby stories. The event was conducted online where the students posted their entries on our facebook page and judgement was based on number of likes and share each entry received. The winners were provided with e-certificates and membership discounts.

6. Talk on Research paper along with a Patent (Sept. 24, 2020):



MA@IITK organized a session on writing a research article along with a patent. This e-session was conducted by Mr. Ravi Pandey, REO, IP & Tech Transfer, SIIC, IITK on **September 24, 2020 (afternoon Session)**. The event was attended by more than 100 students. The speaker about despite, research publication has several advantages, but patent can be more useful as Patent is an additional protection. Patent provides ownership to sell the product, while paper gives an idea of the work to others to do further research. A good patent can be commercialized, licensed or routed through a Start-up and has several advantages over a paper. Patent, therefore, has more worth than Publication. In this talk the speaker disseminated the nuances of filing of a Patent application by students at IIT Kanpur.

7. Workshop on ANSYS Fluent by Mr. Zeeshan Alam (Sept. 26-27, 2020):



As a part of Material Advantage @IITK, membership drive, two-day e-workshop on Ansys fluent has been organized on **26-27 September 2020**. This workshop was conducted by Mr. Zeeshan Alam (Senior Engineer, Reliance Industries Pvt. Ltd.). Where experiments become unfeasible, simulations save the day, and when it comes to Ansys, it is the superhero of simulations. Ansys offers a comprehensive software suite that spans the entire range of physics, providing access to virtually any field of engineering simulation that a design process requires. Speaker started with the basic introduction about the Ansys and CFD followed by hands on training that included various examples that are utilized in industries like appliance cooling system, moving walls and power industries. Over 100 students had attended this workshop from all the department of Institute. An overwhelming response from the participants, therefore MA@IITK will be conducting more workshops like this.

8. Meme Competition (Sept. 26 – Oct. 03, 2020):



Meme Competition has been organized as a fun activity for IITK students. The event was conducted through Facebook at “**Material Advantage IIT Kanpur Chapter**” page. The event was based on the sarcasm that students make of the situations which they came across. The entries for this competition have been started from **September 26th to October 3rd**. The competition is being judged by the public through their reactions on the participant’s post.

9. Micrography Contest (September 28 - October 4, 2020):

Material Advantage@IIT Kanpur
presents

MICROGRAPHY CONTEST

Categories:
1.Optical Microscopy
2.SEM
3.TEM
4.Other techniques (AFM, SPM and APT)

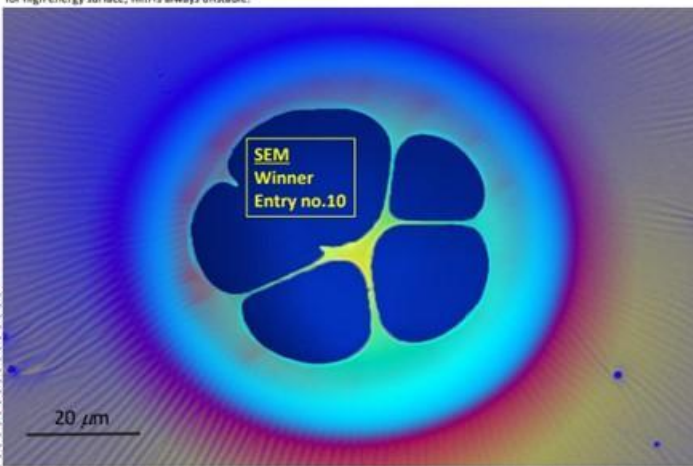
Dates
21-27 September
2020

CONTACT US:
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or visit:
<https://www.facebook.com/MaterialAdvantageIITK/>

Guidelines

- An individual can submit only one micrograph from each category.
- For each category, you need to fill a separate single form. Previous entries are not acceptable.
- Color schemes can be used as desired but sitting is strictly prohibited.
- Entry should contain a caption (within the top left description of the micrograph (max. 30 words). Do not mention your roll no., name or department anywhere in the micrograph.
- Micrographs should be of good quality with micron marker and based on the original work of the contestants.
- Winners for the best micrographs from each category will be decided on the basis of technical content, aesthetics (visual aspect) and expertise of the techniques.

In slippery system, interaction between the water drop and the solid surface determines the stability of the thin lubricating film, and for high energy surface, film is always unstable.



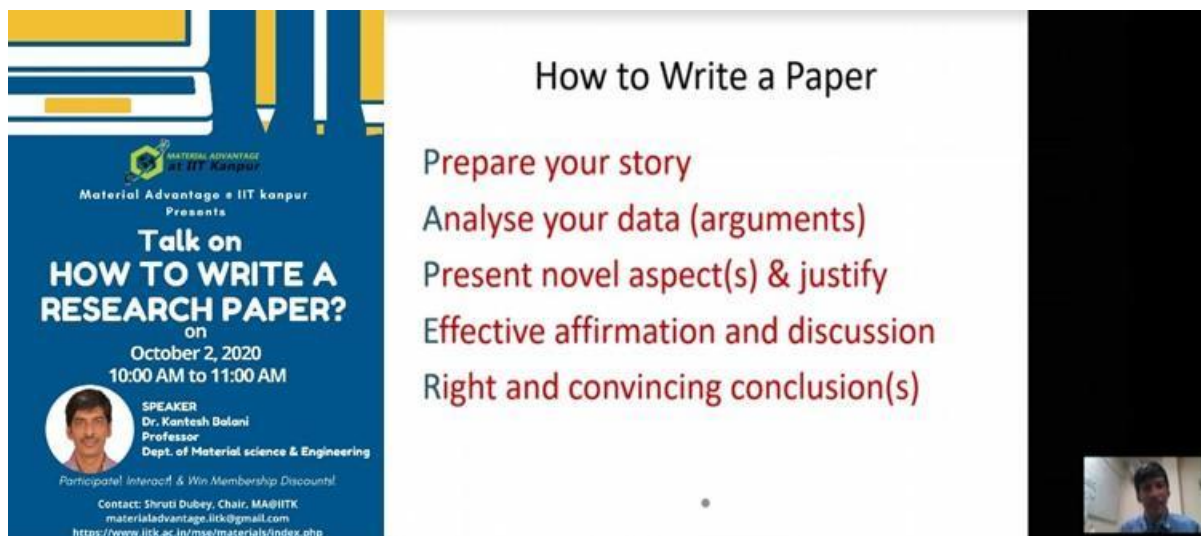
SEM Winner
Entry no.10

20 µm

Figure: Morphology of the dewetted hole underneath the water drop in slippery surfaces (solid surface coated with low surface tension fluid); (color represents the variation in the thickness of the film; EHT=20 kV; WD=5.5 mm; Zeiss)

Micrography contest was organized from **September 28th to October 4th, 2020**, in which students from different departments of the institute including Material Science and Engineering, Material Science and Programming, Mechanical Engineering, Chemical Engineering, Biological Sciences and Bio-engineering, Chemistry and Physics, participated. A total of 25 entries (micrographs) were received through online mode. The micrographs were divided into two broad categories viz Optical Microscopy and Scanning Electron Microscopy. Winners from each category were awarded with Material Advantage membership discount and e-certificates.

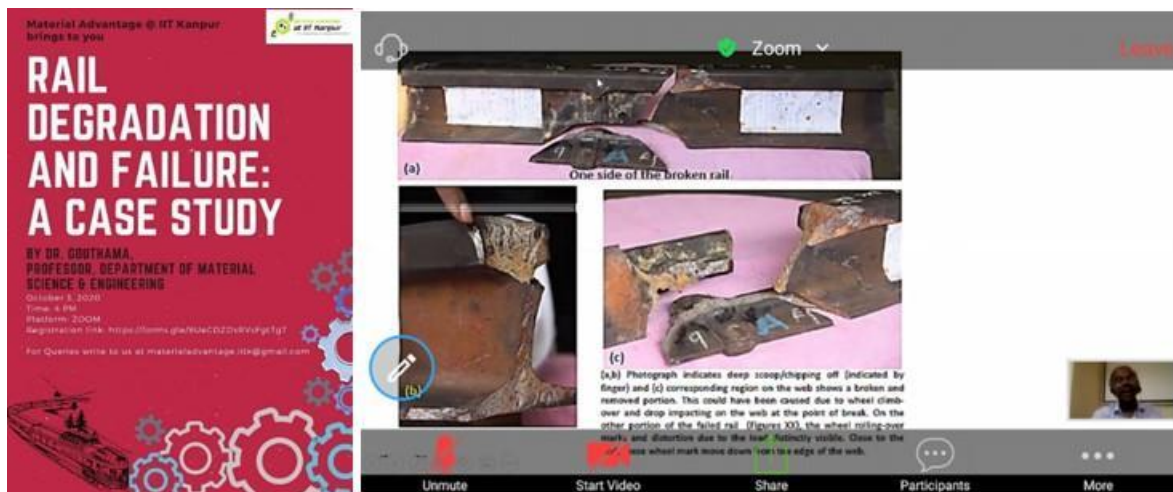
10. Talk on HOW TO WRITE A RESEARCH ARTICLE (Oct. 02, 2020):



The image shows a presentation slide titled "How to Write a Paper". The slide lists five steps in red text: "Prepare your story", "Analyse your data (arguments)", "Present novel aspect(s) & justify", "Effective affirmation and discussion", and "Right and convincing conclusion(s)". To the left of the slide is a promotional poster for the talk. The poster is blue and white and contains the following text: "Material Advantage @ IIT Kanpur Presents", "Talk on HOW TO WRITE A RESEARCH PAPER?", "on October 2, 2020 10:00 AM to 11:00 AM", "SPEAKER Dr. Kantesh Balani Professor Dept. of Material science & Engineering", "Participate! Interact! & Win Membership Discount!", "Contact: Shruti Dubey, Chair, MA@IITK materialadvantage.iitk@gmail.com https://www.iitk.ac.in/mse/materials/index.php". A small video feed of the speaker is visible in the bottom right corner of the slide.

Material Advantage @ IIT Kanpur organized an e-session on research paper writing on October 2nd, 2020 i.e Gandhi Jayanti (morning session). The session was conducted by Prof. Balani, Chapter Advisor, MA @ IIT Kanpur. Research paper writing is one thing that all of the Masters and Ph.D. students are involved with at some point of time in their academic career. The session focused on many key factors which most people tend to neglect or are unaware of. Things like preparing abstract, key conclusions, highlights, and figure files were very helpful. All these technical and formatting tips were beautifully weaved along interesting stories and take home messages which allowed everyone to follow the pace of instruction and remember the details in a proper way. Over 300 students, from across all the departments of the institute attended this session. It was a full-house.

11. Case Study on Rail Degradation and Failure (Oct. 03, 2020):



Material Advantage IIT Kanpur chapter organized a case study on Rail degradation and failure on **Saturday, 3rd October 2020**. The session was conducted by Prof. Gouthama, Department of Material science and engineering, IIT Kanpur. The case study was based on a real life rail accident that took place in 2015 and how Prof Gouthama and his team investigated the failure site to get to the root cause. In the case study Prof. Gouthama briefly explained the background of the case and also showed some pictures of rail failure. Objective was to identify the causes of failure as well as remedies for that. Through this session Prof. Gouthama explained each and every aspect of rail degradation in detailed manner. The talk was followed with a discussion session where the students interacted with the speaker.

12. E-demonstration on Tribological Analysis and Instruments (Oct. 05, 2020):



Material advantage, IIT Kanpur conducted yet another informative event named e-demonstration on Tribological Analysis & Instruments on **October 05, 2020** (afternoon session). This demonstration was conducted in association with DUCOM instruments. Dr. Debdutt Patro (Product Specialist, Marketing & Application, DUCOM) led this demonstration and exhibited various facilities to the students attending this event. This also included introduction to DUCOM's digital platform to learning- MOOHA which enables virtual access to tribological experiments. More than 50 students working in the field of tribology took part and interacted with the speaker. The participants were also provided e-certificates for attending the demonstration.

13. Webinar -Cum-Quiz on Material Selection & Design (Oct. 07, 2020):

MATERIAL ADVANTAGE IIT KANPUR CHAPTER BRINGS

WEBINAR-CUM-QUIZ

MATERIALS SELECTION: ITS ENGINEERING AND DESIGN

OCTOBER 07, 2020 | WEDNESDAY 3 PM

ZOOM LINK:

SPEAKER | DR. SHASHANK SHEKHAR
DEPT. OF MSE IIT Kanpur

CONTACT: SHUBU DUBEY (CHAIR) | MATERIALADVANTAGE.IITK@GMAIL.COM
WWW.IITK.AC.IN/MSE/MATERIALS-NEW/INDEX.PHP

Materials selection is governed by (A) function

(B) Shape and (C) Process

Function of the component is the most important parameter in driving the selection

Shape and process can be considered secondary

Selection and Design

Mechanical Design

Select type of Material

Processing

Select base material

Characterization

Structure

Properties

Performance

Search for fine tune

Macro-design

Micro-design

Keep Iterating until...

Webinar-cum-Quiz on Material Selection: Its Engineering and Design was organized on **October 7th, 2020**. This session was conducted by Dr. Shashank Shekhar (Associate Professor, MSE IIT Kanpur). This event helped students to learn the process and choose the best material that augments their designs durability, performance, and output. Ideal material selection is crucial to ensure that the product does not succumb to extreme conditions and performs well in unpredictable conditions. Over 66 students had registered for this event from Material Science and Engineering and Materials Science Program department of the Institute. Just after the webinar, there was a Quiz based on the session. Based on the number of correct answers, the top two scorers were awarded discounts in Material Advantage membership. This was a very interactive and fun event. Students enjoyed the session and gave positive feedback.

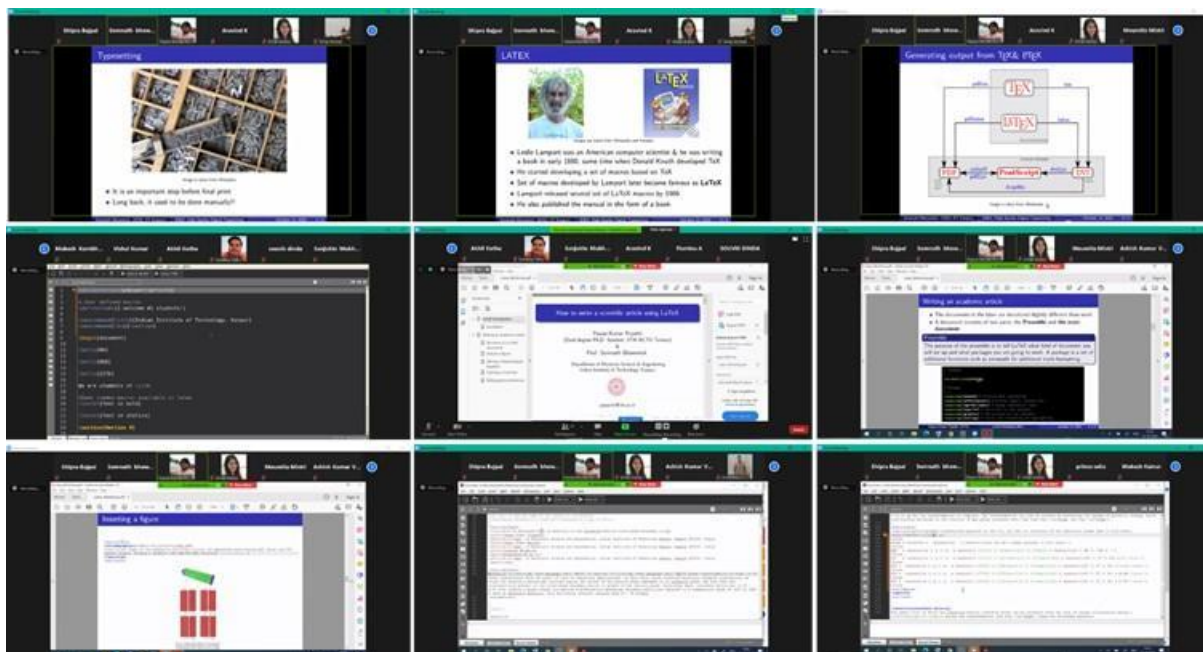
14. Panel Discussion on Career opportunities after CoVID (Oct. 10, 2020):



The COVID situation has been a roller coaster for most of us and has badly affected the research, academia, and industry. Jobs and career are facing a dull period and most of us are still in a dilemma of what the coming year 2021 has for us in terms of Career opportunities. MA@IITK conducted an interactive panel discussion session to answer all these queries on **October 10th 2020**.

MA@IITK brought professionals from different sectors viz-a-viz, academia, industry and administration/civil services, together in this session. Dr. Kantesh Balani, Chapter Advisor, himself, was the moderator for this event. The panelists were Dr. J. Ramkumar, Dr. B.B. Agarwal, Dr. S.S. Singh and Mohd. Shafiq. The event was attended by ~100 participants from all across the institute.

15. Workshop on LaTeX software (Oct. 12, 2020):



LaTeX has a prominent role in the preparation and publication of books and articles that contain complex multilingual materials. To accommodate students with the structure and to break the phobia of writing in latex, Material Advantage @ IIT Kanpur initiated a workshop on LaTeX document writing on Oct. 12, 2019 (Afternoon Session) by Dr. Somnath Bhowmik (Assistant Professor, Material Science and Engineering Department, IIT Kanpur) and Mr. Pawan Tripathi (PhD student, MSE Department, IIT Kanpur) . Both undergraduate as well as postgraduate students attended this workshop. Best performing students were awarded discounted memberships so as to catalyze them towards becoming a material advantage member during our recruitment drive.

16. E-helpdesk for membership (Oct. 13, 2020):

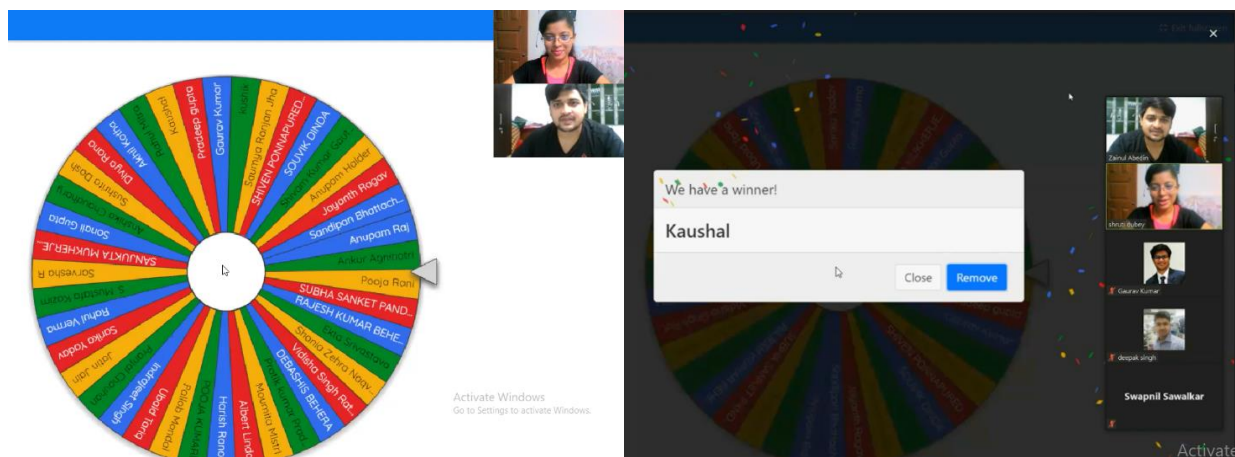


To assist the students in the registration process, an e- help desk was set up on **October 13, 2020**. Our team created an online guide which helped the students to complete the process of becoming a member and joining this family. Google feedback forms were collected after each event and based on the response our team approached nearly 300 people over telephone and emails. MA members assisted the interested students in getting their forms processed smoothly. Many students did not have credit cards to make the payment. In such cases, the existing members volunteered to make the payment using their own cards. A google registration form was generated as the last step for completing the registration process for individual members so as to make a note of all the registered members and their MA IDs.

~34 new members became associated with MA@IITK and ~16 existing members renewed their membership. We managed to increase the membership by ~212% despite the fact that entire drive was run online over a span of one month.

17. Lucky Draw (Oct. 14, 2020):

The most awaited and fun event of the entire membership drive was the LUCKY DRAW made to find one lucky MA member whose membership was sponsored by MA@IITK. The lucky draw was done live on **October 14th, 2020** by spinning a wheel using an online application. The new members were also given a warm welcome by the executive team MA@IITK. Announcement of membership discounts based on participation and merit in various events was also announced. This was a very creative way to endorse the entire drive and lit the screen with happy faces.



Lucky Draw Wheel Event on Oct. 14, 2020

Strategies Involved to Increase Membership:

- Material Advantage (MA) @ IIT Kanpur introduced its team and inaugurated the drive in the most creative way possible. We prepared a montage with all our team members holding placards saying “***WELCOME TO MA@IITK FALL MEMBERSHIP CHALLENGE DRIVE 2020***”.
- The chapter has launched a *YouTube* channel on the occasion of the **11th Foundation day** anniversary of MA@IIT Kanpur i.e. 15th September, 2020. Foundation day was celebrated for the first time.
- The major factor that engaged the students, throughout the drive, was that the participants attending maximum number of events were provided cashback on their membership fees. Also, the most proactive participants in the talks and workshops were also provided with discounted memberships based on their interaction. e-certificates and gifts were also provided to winners of various events and participants of workshops.
- The chapter popularized the drive with the help e-flyers posted all across our *Facebook* page and group and *WhatsApp* of the core team members. We also created the hashtags **#materialadvantageiitk #fallmembershipchallengedrive2020 #MaterialAdvantage**.
- Through all our events, the chapter has tried to imbibe its tag line among the students of materials fraternity. Our tagline at MA @ IITK is “The advantage is beyond materials”.
- As a part of the membership drive, Material Advantage @ IIT Kanpur conducted a telephonic campaign wherein the core team members *called around 300 students across IIT Kanpur* who attended the events conducted during the drive and spread awareness regarding the significance and perks of becoming a material advantage member. They shared their own experiences about attending conferences, getting access to various webinars etc. which motivated fellow researchers to join the platform. Undergraduate students were also made aware about the various scholarships and exchange programs which are offered by member societies. This campaign helped us a lot to convince students to join material advantage.
- The last day of the drive was much more creatively planned where we conducted spin a wheel for all the members who joined MA this year to provide a 100% and 50% cashback of membership fees to two lucky members. It was great fun and highly appreciated by everyone.