

INDIAN INSTITUTE OF METALS
KANPUR CHAPTER

Annual Report (2010-2011)

by

Dr. Kantesh Balani
Secretary, IIM Kanpur Chapter

Date: 23rd April. 2011

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Dear Members of the IIM Kanpur Chapter and Friends,

I take this opportunity to welcome all members and particularly, new student members to adorn the “Student Affiliate Chapter” of IIM Kanpur wing during the annual general body meeting (AGM) of IIM Kanpur chapter being organized on Apr. 23, 2011. It gives me immense pleasure to present before you the Annual Report of the Kanpur Chapter of The Indian Institute of Metals.

The current council took over in May 2010, and during the last one year we have organized several activities including a series of technical talks, assisted successful conduct of “*Materials Conclave 2010*” national symposium, the ‘Metals and Materials Quiz’ for local schools, lectures by the IIT Kanpur Faculties of Institute of Engineering and Technology to CSJM University, Kanpur B.Tech students and many more. I am very pleased to mention that IIM Kanpur chapter has been trying hard in last one year in its drive to increase the membership. This has been largely possible because of the participation of the undergraduate students of Institute of Engineering and Technology, CSJM University, Kanpur. Members of IIM Kanpur chapter have also bagged “Metallurgist of the Year”, “Young Metallurgist Award” from the Iron and Steel Ministry in conjunction with IIM Headquarters. In addition, IIM Kanpur Chapter has also bagged “*Best Chapter for Overall Performance during 2009-10*”.

EXECUTIVE COMMITTEE

In the last Annual General Body meeting of IIM Kanpur Chapter (held on May 1, 2010), the following members were elected for the executive committee of the Kanpur Chapter of The Indian Institute of Metals for the year 2010-2011:

Dr. Bikramjit Basu	Chairman (& Council Member)
Dr. Kallol Mondal	Co-chairperson
Dr. Kantesh Balani	Secretary
Dr. Krishanu Biswas	Treasurer
Dr. Pritha Choudhury	Member
Dr. Vivek Verma	Member
Dr. Gouthama	Member
(HOD, MME)	Member (Ex-Officio)

TECHNICAL TALKS

During the last financial year, the following technical talks were delivered under the joint auspices of the Kanpur Chapter of the IIM and the Department of Materials Science Engineering (MSE), IIT Kanpur.

LIST OF SEMINARS held at IIM Kanpur chapter in 2010-11 FY

MSE Departmental Talks

2010-11

1. June 10, 2010
Dr. Varshni Singh (Louisiana State University, Baton Rouge, Louisiana, USA)
Microfabrication using X-Ray Lithography and Nanostructured Diamond-Like Carbon Films
2. Date: Aug. 19th 2010
Dr. Kisor Sahu (ETH Zürich)
Effect of Ti Micro-additions on the Structure of $Al_{88-x}Y_7Fe_5Ti_x$ Glasses ($x=0, 0.5$) and finding the natural units in atomic packings
3. Aug. 23, 2010
Shobit Omar (Technical University of Denmark, Roskilde, 4000 Denmark)
Functional Ceramics for Energy-Related Applications
4. Oct.1, 2010
Dr. Kantesh Balani (delivered in the Dept. of Aerospace Engineering, IIT Kanpur)
Vacuum Plasma Sprayed Tantalum Carbide as Nozzle Insert in Aircrafts: Processing-Structure-Property Correlation
5. Oct. 4, 2010
Dr. Apurba Laha (Post doctoral researcher, Leibniz University, Hannover, Germany)
Molecular Beam Epitaxy: An Essential Tool for Nanoscale Research and Applications
6. Oct. 18, 2010
Srinivasan Swaminathan (Max Planck Institute for Iron Research, Max Planck Str. 1, 40237 Duesseldorf, Germany)
Selective oxidation during isothermal annealing of model alloys and industrial steel grades at low oxygen partial pressures
7. Oct. 28, 2011
Dr. S.K. Bhaumik (MME, IITK Alumni, NAL Bangaluru)
A View on the General Practice in Engineering Failure Analysis

8. Dec. 16, 2011
Dr. Kumar Krishnapisharody (Steel Research Centre, McMaster University, Hamilton, Ontario, Canada)
The Fluid Mechanics of Multi-Phase Interactions in Ladle Metallurgy
9. Feb. 7, 2011
Dr. Akansha Dwivedi (Department of Materials Science and Engineering, The Pennsylvania State University)
Bismuth and lead oxide based perovskite materials for high temperature sensors and actuators applications
10. Feb. 10, 2011
Dr. P. Swaminathan (Materials Science and Engineering , Johns Hopkins University)
Exothermic reactions in reactive multilayers: Nanocalorimetry
11. Mar. 26, 2011
Mr. J. Y. Choudhary, BEL Optronics Devices Limited, Pune
Image Intensifier Tubes for Night Vision
12. Apr. 19, 2011
Dr. S.G. Sankar (President, Advanced Materials Corporation, Pittsburgh, USA)
Hydrogen Storage Materials: Theory and Practical Applications

Meetings Organized

A total of 11 (eleven) official executive committees were organized, with other meetings involving sub-committees and the working at local level are not mentioned. Event organization, planning and execution were discussed in detail. As well as feedback from various ex-officio members was also taken into consideration for the event planning.

Apr. 23, 2011, 6:00 pm (PBCEC)

Agenda:

- 1) Annual General Body Meeting
- 2) Annual Report reading
- 3) Launching IIM Kanpur chapter website
- 4) Financial auditing of accounts: Year 2010-11 in GBM

Apr. 19, 2011, 5:00 pm (FB 421)

Agenda:

- 1) Discussing the execution of Annual General Body Meeting
- 2) Preparing the Annual Report for any modification/ changes
- 3) Elocution contest report at CSJM University

Mar. 31st 2011, 4:00 pm (FB 421)

Agenda:

- 1) Launching IIM Kanpur chapter website
- 2) Financial auditing of accounts: Year 2010-11
- 3) Planning General Body Meeting
- 4) Any other item

Feb. 25th 2011 10:30 am (Lab. of Biomaterials)

Agenda Items:

1. Regarding visit to KV Armapur for lecture
2. IIM Kanpur chapter website issues

Jan. 17th 2011 ~ 5: 00 PM (FB 421)

Agenda Items:

1. Technical Presentations for CSJM Students:
 - a. Basic concepts in heat, mass & momentum transfer
 - b. Composite materials
 - c. Powder processing principles
2. Upcoming event planning
 - a. Student contest

- b. Workshop, Apr. 24-29, 2011
- 3. Financial account updates: Payments & Balance
- 4. Any other item
 - 1. Updating of website.
 - 2. The award plaque was received by secretary, which will be scanned and displayed on IIM Kanpur chapter website.
 - 3. Council meeting on Feb. 26th at Trichy: To be attended.

Dec. 2nd (Thursday) at ~5:30 pm (FB 421)

Agenda:

- 1) Best Chapter Award (small chapter category)
- 2) Lectures to CSJM University students (next semester)
- 3) Planning of next semester events
- 4) Any other item

Meeting cancelled and discussion postponed to next semester.

Nov. 3rd 2010 at 5:15 pm (FB 421)

Meeting Start 5:15 pm

- 1. Nominating Prof. Pritha Choudhary for receiving the "Best Chapter Award" amongst Small Chapters category from Indian Institute of Metals on National Metallurgist Day (IIM Annual Meeting) on Nov. 14th in Bangalore.
- 2. Technical talks committed by chapter should be renewed and previous commitments to be fulfilled. Reminders will be sent to speakers.
- 3. A list of tentative titles to be collected from speakers and sent to CSJM university. As per decision from earlier meeting, students will be invited to attend lectures at IIT Kanpur campus.
- 4. Tentative talks to schools (selected on the basis of those who attended the NK Batra Memorial Quiz) will be sent by this year end, and talks will be arranged in the next semester when the school starts.
- 5. Website Issue: To be taken up and modified. Tentative target of completing this by year end.

Oct. 7th 2010 at 5:30 pm (FB 421)

Meeting Minutes:

- 1. Invitation to be sent to schools for student oriented lectures:
 - a. List of topics to be collected from earlier communications
 - b. Invitation will be sent to schools who have participated in the NK Batra Memorial Quiz
- 2. Technical topics to be presented at CSJM University.
 - a. Approval of hosting this lecture series to be obtained from Head, MSE at IIT Kanpur
 - b. Dates to be confirmed based on availability of faculty
 - c. Targeted dates: Feb-Mar. of 2011.

Aug. 5th 2010 at 4:30 pm (FB 421)

Meeting Minutes:

- a. Banner PRINTING: Three banners to be printed with new IIM Logo:
 - i. Kanpur Chapter,
 - ii. NK Batra Quiz,
 - iii. IIT Kanpur Dept.
- b. Outline of N.K. Batra Memorial Quiz:
- c. Food Packets: ~ 90-100 packets (Kallol)
- d. Certificates for the participants
- e. IIM N.K. Batra Memorial Quiz Questions
- f. Vote of thanks for the N.K. Batra memorial lecture
- g. Speaker: Prof. C.S. Upadaya from Aerospace Engineering to be requested (by Kantesh).

July 21st 2010 at 4:30 pm (FB 421)

Meeting Minutes:

1. Finalizing the speaker for NK Batra Quiz
2. IIM chapters annual session on 26th July in Kolkata
3. IIM council meeting on 27th July in Kolkata
4. Checking the updates of IIM NK Batra Memorial Quiz from Dr. Verma.
5. Outreach Auditorium booking + food
6. ASM- IIM Lecturers (Prof. Federico Rosei, Dr. Roger J. Narayan, Dr. Sam Christy, Dr. Prabir K. Chaudhury, Dr. Amit Goyal)

May 25th 2010 at 4:30 pm (FB 421)

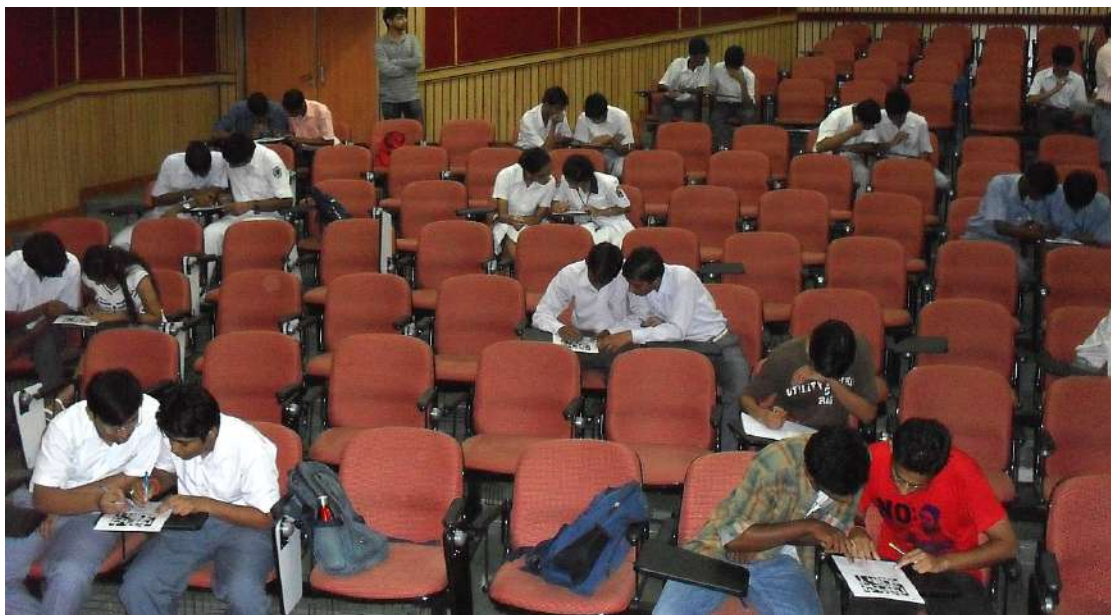
1. IIM Council meeting briefs (Attended by Bikramjit Basu on May 17/18th at Jamshedpur)
 - a. IIM Logo has been changed
 - b. Photo ID for Honorary and Life Members
 - c. NMD in Bangalore 14-16th Nov. 2010
2. Proposal of IIM HRD Center:
 - a. Kalpakkam has one with Annamalai University
 - b. Jamshedpur has one with Tata Steel
3. IIM Awards Deadline? Need nominations as well

A Report on “METALS & MATERIALS QUIZ 2010”

I would like to bring to your attention that **N. K. Batra Metals & Materials Quiz – 2010** was successfully organized by the Department of Materials Science and Engineering, IIT Kanpur and IIM Kanpur chapter on *Aug. 22, 2010* at Outreach Auditorium, Indian Institute of Technology, Kanpur.

This is the *eleventh time* in a row that the metals and materials quiz has been organized at IIT Kanpur. This year, altogether 24 teams from 15 different schools/inter colleges from in and around Kanpur participated in the competition. Following an initial elimination round, eight teams were short-listed for the final rounds.

Following an initial elimination round, eight teams were short-listed for the following rounds. Secondary elimination dropped four teams and the rest four competed in the final rounds. The team comprising *Shiuli Chatterjee* and *Shikhar Awasthi* from ***Puranchandra Vidya Niketan*** was declared as the **winner**. The winning team was awarded **NK Batra Memorial trophy** by *Professor S.C. Koria*. The team from *Padmapat Singhania Education Center* comprising of *Shivansh Trivedi* and *Ashutosh Saxena* were the *runner up*.



A view during initial elimination round of the N.K. Batra Quiz

The runner-up *Padmapat Singhania Education Center* participated in the National level Prof. Brahm Prakash Memorial Quiz competition held at the Indira Gandhi Center for Atomic Research (IGCAR), Kalpakkam (Tamilnadu) on September 18, 2010.

This year, it was a pleasure to listen to Prof. C.S. Upadhyay, a faculty member of Department of Aerospace Engineering, IIT Kanpur, who delivered a talk on “*Materials for modern aircrafts: A mechanician's perspective*”.

Audience during Prof. C.S. Upadhyay's lecture →



←Prof. C.S. Upadhyay delivering lecture

A view during Prof. C.S. Upadhyay's lecture during N.K. Batra quiz.



Report of MATERIALS CONCLAVE

Dec. 19-21st 2011

Organized by:

Dept. of Materials Science and Engineering
Indian Institute of Technology, Kanpur



IIT Kanpur Golden Jubilee Celebration

Venue : Outreach Auditorium, IIT Kanpur

The Materials Science and Engineering (MSE) Department Day celebrations hovered around three separate events under the umbrella of “**Materials Conclave 2010**”: alumni meet, ex-faculty and staff gathering and a conference on current research and trends in Materials Science and Engineering.

The alumni day began on 19th December with the Chairman’s address followed by hearty welcome from the Head, MSE (Prof. Dipak Mazumdar) while the convener served as the master of ceremony. The event started formally with the lighting of the lamp by the dignitaries. They congratulated the MSE Department and the participants and forwarded their best wishes for the success of the event. Alumni reminisced the golden period they had in IIT Kanpur and shared their experiences in diverse fields with the audience. The ex-faculty also gave suggestions for enhancing the future growth and development of the Department with their critical comments on the name change of the department from *Materials and Metallurgical Engineering* to **Materials**

Science and Engineering. The day concluded with a dinner where alumni, faculty and staff also showed their prowess in other non-academic activities like singing, dancing and games.

On the following day, a trip to Bithoor, situated on the banks of the holy Ganges, was organized where alumni, students, faculty and staff participated in large numbers. It served as an opportunity for strengthening bonds and developing lasting relationships. The general discussions over a grand lunch varied from Swami Vivekananda's thoughts to current research in materials to life after graduation. Then followed a Plenary lecture by Prof. J. Narayan on '**Frontiers in Nanostructured Materials for Next-generation Nanotechnology**' and a panel discussion on the '**Changing Face of Metallurgy and Materials Science**' where Profs. J. Narayan, V. Jayaram, H.S. Ray and S.P. Mehrotra served as panelists and Prof. E.C. Subbarao moderated the intriguing session. This post-lunch session was the limelight which energized the attendees to ponder and propel the changing face of metallurgy and materials science.

The final day was packed with intellectual talks by invited speakers from all over the world and poster presentations by students. The presentations were evaluated by eminent judges from various domains and the winners were given away prizes and certificates in appreciation of their efforts. The event concluded with a lab tour for the participants in which various laboratories in the Department showcased the research going on in their respective areas.

The event was a grand success and the efforts made by the MSE Department were lauded by one and all, as well seen through the smiles of attendees in the picture below.

A report on “lectures by the IIT Kanpur Faculties at Institute of Engineering and Technology, CSJM University, Kanpur”

This time we have the new initiative was continued where faculty members from the Materials Science and Engineering, IIT Kanpur, have delivered lectures on certain topics which were chosen by the students of UIET, CSJM Kanpur. This was definitely an excellent program under IIM Kanpur Chapter because this is a very good interface between the IIM and students of materials science and engineering. We are sure that there will be a great interests being developed in the bachelor students of materials engineering towards IIM by seeing the kind of overwhelming response from the students of UIET, CSJM Kanpur. Below are the two topics on which Prof. Sarang Ingole and Prof. Anish Upadhyaya have delivered lectures.

Prof. Sarang Ingole:

1. Diffusion in Solids

This lecture was on the basic fundamentals of mass transport in a very coherent and lucid manner on Mar. 26, 2011 at IIT Kanpur in the Department of Materials Science and Engineering.

Prof. Anish Upadhyaya:

2. Powder Metallurgy

This lecture incepted the basics of particulate joining, densification and grain coarsening during sintering of material. Intriguing concepts of surface tension and the gravitational forces affecting the microstructure were fascinating and conveyed the fundamentals of microstructural evolution in W-Cu system.



Attendees during Prof. A. Upadhyaya's lecture

Student Views on the Fundamental Lecture Series to CSJM Students

Subject: Feed back for IIM lectures

From: "SHUBHRA Bajpai" <shubhrabajpai@gmail.com>

Date: Wed, April 6, 2011 6:50 pm

To: kbalani@iitk.ac.in ([more](#))

Priority: Normal

Options: [View Full Header](#) | [View Printable Version](#) | [Download this as a file](#) | [Add to Addressbook](#)
| [View Message details](#)

Respected Sirs,

First of all I thank you all for arranging & delivering lectures for us. Though it's difficult to give feedback on the lectures taken one year before still I can recall those lectures because well delivered & understood. I find that the lectures taken by you all were really helpful not only in terms of explaining the underlying complex phenomenon of X-ray & electrons but also from its applicability point of view in our branch. Lectures were quite informative and completely cover the topic. Topics chosen were very fundamental and helped us to form our basics in material characterization. Though I feel that there was much time difference between the lectures delivered (this can be reduced in future). Also classes were on material characterization so it must be followed by demonstration of instruments. We heartily appreciate this initiative from IIM Kanpur chapter and think that different series of lectures should continue so that student can be able to build up their basics and get a feeling of what really going on in material science and metallurgical Engg. as a B.Tech level student.

Sincerely,

Shubhra Bajpai , B.tech (UIET)

Trainee Scientist

Institute of minerals & Materials Technology

Bhubaneswar

(Edited Version)

Subject: Re: IIM chapter
From: "sachin mishra" <sachinmishra351@gmail.com>
Date: Wed, April 6, 2011 11:42 am
To: "Kantesh Balani" <kbalani@iitk.ac.in>
Priority: Normal
Options: [View Full Header](#) | [View Printable Version](#) | [Download this as a file](#) | [Add to Addressbook](#)
| [View Message details](#)

Respected Sir,

In the last one year I have attended IIM lecture series by Dr Anish Upadhyaya, Dr Kantesh Balani, Dr Bikramjit Basu, Amartya Muktopadhyaya and couple of more on various topics like Powder Metallurgy, SEM, XRD techniques. All the topics were relevant as per my syllabus and definitely enhanced the understanding of the topics and their applications both simple and advanced application. Amartya's presentation gave an idea of how to approach the research work.

Yours Sincerely,
Sachin Mishra

Feedback on earlier (XRD, SEM, EDS, neutron diffraction) IIM lectures:

The first lecture that we had attended was presented by Dr. B Basu on X-ray diffraction and crystal structure analysis. In this lecture the way he explained the process of formation of XRD pattern and the manner in which such patterns can be used to determine crystallographic properties of a material such as lattice parameter, crystallinity of materials, elemental analysis, structural analysis was very clear and interesting.

In the lecture by Dr. Kantesh Balani on SEM, EDS and WDS, we became familiar with the applications of SEM for certain special cases such as fracture surface analysis. We gained knowledge about the working of detector, images obtained from various types of electrons and the differences between optical microscope and SEM. The concept of electron and neutron diffraction was also explained by Dr. Balani in his second lecture. He gave a vivid explanation of diffraction process of electrons.

In the lecture presented by Amartya Mukhopadhyaya we came to know how the fracture toughness and flexural strength of nanocomposites increases with increasing MWCNT content up to 10 wt%. The mechanism of crack bridging responsible for the increase in strength had been explained clearly.

Contributed by: (i) Pramanshu Trivedi, (ii) Rachit Sarin and (iii) Priya Asthana

A note by Family of Dept. of Materials Science and Metallurgical Engineering, UIET, CSJM University

It had been a great opportunity for us to be a part of the special student oriented seminars/lectures, organized by the IIM Kanpur Chapter for C.S.J.M.U. students.

A lot of theoretical aspects and concepts which we have gone through in our course were made clear through presentations delivered by faculty from IIT-K under the banner of IIM, Kanpur Chapter.

I would like to mention some moments which created a deep impact on our knowledge of different subjects. Such a case was that of the lecture on the diffusion in solids which was presented by Dr. S. Ingole of the department of Materials Science & Engineering (MSE), IIT Kanpur. The way he described the movement/diffusion of an atom in a solid with reference to that of a frog jump created a lively experience of the phenomenon.

Another vibrant experience had been with Dr. Anish Upadhyaya's lecture on powder metallurgy. He explained how the properties of a material can be enhanced with limited use of resources and also giving due consideration to the economic aspects.

The point of interest in his lecture was that how can we use to agglomerate a huge amount of particles (powder metallurgical principles). A material/object to a single with defined dimension and also how to make it possible to keep the size of the material upto the desired level. While decreasing the overall volume it was fantastic of the formation of a spherical ball in an atmosphere free of gravity.

To conclude with, I would like to extend my regards on behalf of all the students of Materials Science & Metallurgical Engineering, UIET, CSJM University, Kanpur to the council members of IIM Kanpur Chapter providing such a platform where we can understand and appreciate the modern trends, challenges and innovations in our field.

A Report on the “Elocution Contest” Organized at CSJM University on Apr. 19, 2011

Various topics were provided to students to speak about, from philosophical (There is a plenty of space at the bottom), to the serious ones (Brittle ceramics are tough nuts to crack), or as confusing and unclear as (It is crystal clear that not all crystals are clear!).

More than 30 students participated and it was a great experience hearing them all. Some stated hilarious instances, whereas some stood firmly on technical grounds. Some fumbled at their English, whereas some mesmerized the audience with their flair. All in all, this event was a high success and the prizes of following will be given during Annual General Body Meeting:

1. First Place with cash prize of Rs. 1000/-
2. Second Place with cash prize of Rs. 750/-
3. Third Place with cash prize of Rs. 500/-



A view of students during the elocution contest

A Report on “new website for IIM Local Chapter <http://www.iitk.ac.in/mse/IIM/>”

This is recent addition to the activities of the IIM Kanpur Chapter. We have developed the website for our local chapter and this can be browsed by a greater number of people across the globe. This provides important information of the chapter's activities. It covers the basic information required, and this website will soon be linked with IIM Headquarter at its main site.

A preview of the IIM Kanpur Chapter Website



Indian Institute of Metals

Kanpur Chapter

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IIM Kanpur Chapter received "Best Chapter Award for Overall Performance during 2009-10" Among Small Chapters
[Click Here for the Award Plaque](#)

Welcome Message by Chairman, IIM Kanpur Chapter

Dear Members of the IIM Kanpur Chapter and Friends,

At the outset, I take this opportunity to welcome all members and particularly, new student members to the newly created website of IIM Kanpur chapter. Over the years, IIM Kanpur chapter has increased its activities for the benefit of the IIM members and particularly for the student community. This website provides a glimpse of our past and present activities.

IIM Kanpur chapter regularly participates in IIM council activities and organized NMD-ATM in the year 1999. IIM Kanpur chapter in collaboration with Department of Materials Science and Engineering organized several international conferences/workshops, including Metallo in 2007, Processing, Characterization, and Properties of Advanced Engineering Materials in 2010, etc.

One of the regular activities of the chapter is to organize "Metals and Materials Quiz" for local school students. Some of the most recent activities are as follows, a) organizing technical talks, b) "Refresher course for the industry professionals", c) "popular lectures at local schools" and d) Organising lectures on fundamental topics as well as on emerging research areas for the student members of CSJM University.

I am very proud to announce that several of our members received "Young Metallurgist" and "Metallurgist of the Year" award from Ministry of Steel, Government of India. As recognition of the contribution of our chapter, IIM Kanpur chapter recently received the "Best Chapter award" during NMD-ATM at Bangalore on 14th November, 2010.

Finally, I am very pleased to mention that IIM Kanpur chapter has been very successful in last several years in its drive to increase the membership. This has been largely possible because of the participation of the undergraduate students of Institute of Engineering and Technology, CSJM University, Kanpur. In this context, I am sure that this website will be helpful for accessing all relevant information and simultaneously, will attract students and professionals to become members of IIM. I invite you to provide your valuable suggestion on IIM Kanpur chapter - website.

I thank the continuous support from all the members of IIM Kanpur chapter as well as the faculty of Department of Materials Science and

About Us

Indian Institute of Metals (IIM) Kanpur Chapter is being supported by the Department of Materials Science and Engineering, Indian Institute of Technology Kanpur and the Department of Materials Science and Metallurgical Engineering, U.P.E.T. C.S.J.M. University, Kanpur. The aim of IIM Kanpur Chapter is to promote Materials Science and Engineering education and encouraging the podium of Materials Science and Engineering awareness in the society.

IIM Kanpur chapter routinely organizes Materials Quiz (during Aug. every year), and reaches schools and colleges delivering several talks relating materials to everyday life. IIM Kanpur chapter activities also include organizing workshops and conferences, involving student-faculty interaction, and understanding lecture series for clearing the flaws in the conceptual understanding.

Join us in strengthening the Materials World!

Executive Committee of IIM Kanpur Chapter

 Chairman Prof. Bikramjit Basu Email: bikram@iitk.ac.in Ph: +91-512-259-7771	 Secretary Prof. Kantesh Balani Email: kbalani@iitk.ac.in Ph: +91-512-259-6194
 Vice Chairman Prof. Kallol Mondal Email: kallol@iitk.ac.in Ph: +91-512-259-6156	 Treasurer Prof. Krishanu Biswas Email: kbiswas@iitk.ac.in Ph: +91-512-259-6184
 Member Prof. Gouthama Email: gouthama@iitk.ac.in Ph: +91-512-259-6527	 Member Prof. Vivek Verma Email: vverma@iitk.ac.in Ph: +91-512-259-6527
 Ex-Officio Prof. Dipak Mazumdar (Head, MME) Email: dipak@iitk.ac.in Ph: +91-512-259-7328	 Member Dr. Pritha Chaudhury pritha_4@yahoo.com

FUTURE EVENTS

A workshop on “**Nano-Biomaterial CHAMPS (Characterization, Hierarchy, Advanced Material Processing and Surfaces)**” is being organized at IIT Kanpur during Apr. 25-29 2011. This workshop is arising as a result of collaboration between IIT Kanpur (contact person Prof. Kantesh Balani & Prof. Bikramjit Basu) and University of North Carolina/ North Carolina State University (contact person Prof. Roger Narayan) to further coordinate research activities among US and Indian researchers especially at IIT Kanpur.

A WORKSHOP
ON
Nano-Biomaterial CHAMPS
(Characterization, Hierarchy,
Advanced Material Processing and Surfaces)

Apr. 25-29th, 2011

Venue
PBCEC Conference Room, Visitors Hostel
IIT Kanpur, Kanpur-208016

Organized by:



Prof. Kantesh Balani & Bikramjit Basu
(Laboratory of Biomaterials, Materials Science and
Engineering, IIT Kanpur)

&

Prof. Roger Narayan
(Joint Department of Biomedical Engineering, University of
North Carolina/ North Carolina State University)

Supported by:

Indian Institute of Metals Kanpur Chapter
Material Advantage at IIT Kanpur



IIM Kanpur Chapter



Material Advantage
@ IIT Kanpur

SCOPE

OUTLOOK

- Nanocomposite materials for medical applications
- Nanostructured biomaterials for tissue engineering
- Nanoceramic biomaterials for hard tissue replacement
- Biocompatible dually porous glass

SYNTHESIS, PROCESSING & MICROSTRUCTURAL CHARACTERIZATION

- Synthesis and characterization of nanoparticles
- Electron microscopy of nanostructured biomaterials
- Nanostructured metallic thin films and multilayers
- Nanostructured, laser-textured bioceramic materials
- Three-dimensional polymeric and ceramic biomaterials for tissue culture and drug delivery
- Laser processing of nanostructured medical devices
- Nanoscale hydroxyapatite whisker/ poly-L-lactic acid composites
- Self-assembled monolayers for medical applications

MECHANICAL/ BIOLOGICAL

- Mechanical behavior of nanostructured biological materials
- Silver-containing nanohydrogels
- Attachment of antibodies to synthetic biomaterials
- Nanostructured bioceramics for non-viral gene delivery applications
- Nanoparticles for drug delivery and growth factor delivery
- Surface Coatings

The five day session will include *in-depth lectures* from eminent speakers and also will include *visits to laboratories* for real-life experimentation purview. This forum will also serve as a networking podium in developing camaraderie for future collaborations and help. These five day sessions will allow you to face the challenges with a *developed confidence* in the *arena of biomaterials*.

CHAPTER NEWS

Awards won by chapter:

“Best Chapter for Overall Performance during 2009-10” by IIM Headquarters.

Awards won by chapter members:

1. Professor Dipak Mazumdar, Professor and Head, Department of Materials Science and Engineering has been selected for the *Indian National Academy of Engineering (INAE) Chair Professorship*.
2. Professor Bikramjit Basu, Department of Material Science and Engineering, has been elected as *Editorial board member*, "International Journal of Biomaterials", published by Hindawi Publishing Corporation, USA.
3. Professor Bikramjit Basu, Department of Material Science and Engineering, has been invited to be the *Associate Editor* of the Journal "Bioceramics Development and Applications" published by Ashdin Publishing, Belgium.
4. Professor Bikramjit Basu, Department of Material Science and Engineering, has been elected member, *International Editorial Board*, Indian Institute of Metals-University Press Series.
5. Professor Bikramjit Basu, Department of Material Science and Engineering, has been awarded the *NASI-Scopus Young Scientist Award-2011*.
6. Dr. Krishanu Biswas, Department of Materials Science and Engineering, has been selected for the *IEI Young Engineers Award 2010-2011* in Materials Science and Engineering discipline.
7. Professor Bikramjit Basu, Department of Material Science and Engineering, has been selected for the Ministry of Steel funded "*Best metallurgist of the year*" award
8. Dr. Kantesh Balani received "*Young Metallurgist of the Year*" award 2010 instituted by *Ministry of Steel, Govt. of India*, on Nov. 14th 2010 during *National Metallurgist Day* celebration, Bangalore, India.
9. Dr. Vivek Verma, Department of Materials Science & Engineering, has been selected for the *Shri Ram Arora Award* for 2011.
10. Dr. Kantesh Balani received *INAE (Indian National Academy of Engineering) Young Engineer Award 2010* on Dec. 10th 2010, Visakhapatnam, India.
11. Dr. Krishanu Biswas, Department of Materials Science and Engineering, has been chosen for *INSA Young Scientist Medal 2010*.
12. Dr. Kantesh Balani bagged *National Academy of Sciences, India (NASI) Young Scientist Platinum Jubilee Award 2010*, which was presented on Dec. 4th 2010, Jaipur, India.

NEW COUNCIL OF THE IIM KANPUR CHAPTER

The IIM members of the Kanpur Chapter will be electing a new council of the executive for the year 2010-2011 during this general body meeting. Last year, it was recommended that for effective performance, the tenure of the council should be of two years, but head-office insisted that we have the election every year.

I have been the Secretary of the chapter for 2010-11. I am confident that under the leadership of the new council members, IIM Kanpur Chapter will attain new heights. To this end, I recommend that we should strongly involve the participation of both the undergraduate and postgraduate students of Department of Materials Science and Engineering, IIT-Kanpur as well as students of Materials Science Department, UIET, Kanpur University. To this end, the interaction with DMSRDE scientists, Kanpur, would be highly critical. In addition, we may need to plan for small workshops, which may be highly relevant towards the industry. Also, we need to organize more programmes involving the participation of the student community. In the past, attempts were made to demonstrate the school students some interesting experiments, related to basic principles/applications of materials. I hope that such exercise will be performed more frequently in the coming year. In the above context, the IIM local chapter requires your suggestions and active interest.

During the closer interaction with several schools an idea of organizing 'open house' for school students has been conceived. The idea is that school students of class XI and XII will visit various laboratory facilities of IIT Kanpur. It is hoped that new council members of IIM Kanpur chapter will arrange 'open house' during 2011-2012.

At last, I must mention that I have been immensely helped by the executive committee members, departmental colleagues and students in organizing as well as participating in the various activities of the local chapter throughout the past year. I wish to take this opportunity to place on record my sincere thanks to all of them.

Thank you all for your participation in IIM Kanpur Chapter activities and I do hope that our activities will grow in the days to come!

Kantesh Balani
Secretary, IIM Kanpur Chapter
April 23rd, 2011