

Dear Metalumnus,

While I have much to convey since the last newsletter in 2013, let me first alert you to the forthcoming IISc Alumni Global Conference from June 26-28 at IISc. This meeting follows the earlier one in Santa Clara and I hope our alumni will be a strong presence on this occasion. You can find more information at <http://iiscp.iisc.ernet.in/global/> and please do write to me if you need any information.



On our faculty front, we have 2 additions; **Abhik Choudhury** in phase field modelling as well as **Vijay Sethuraman** in electrochemistry. Abhik, with a dual degree graduate (materials and computer science) from IIT-M and PhD from Karlsruhe,

will greatly strengthen our modelling effort. Vijay, who graduated in electrochemical engg. from CECRI, Karaikudi, followed by a PhD in chemical engg. from South Carolina, fills a long-standing gap in electrochemistry .



For the new building on the site of the old ore-dressing and electrometallurgy bay, all the major civil works are complete, the lift is being installed and we hope the building will be handed over in another 4-5 months. Needless to say, the cost of equipping laboratories still remains

and I urge you to contribute generously to the KP Abraham appeal under which we have received pledges of nearly 30 lakhs to date (<http://materials.iisc.ernet.in/web/2014/01/pledges-received-prof-k-p-abraham-memorial-fund/>).

The 1963 and 64 BE batches held a combined reunion in January of 2014, keeping alive the tradition of

golden jubilee get together. In addition, the 1989 BE batch celebrated a silver reunion last year.



1962 and 63 batches with family and faculty



1989 BE batch (from left: Kumar, Anbu, Anand and Suresh Sundararaj)

The last 18 months have seen a number of visitors, including Brahm Prakash Chair professors, Do Hyang Kim (Yonsei University), Narendra Dahotre (Univ. North Texas), Yunzhi Wang (Ohio State University), Tamas Ungar (Eotvos University) and Aaronson Chair professor Eun Soo Park (Seoul National Univ.)

The department is headed for a bit of belt tightening in the next financial year. Government funds to academia will not see significant increases while the future of many completed programmes, such as the UGC Networking Resource Centre and the Centre for Advanced Study, remains uncertain. It seems likely that the Institute as a whole might be entering a new phase of resource generation in which industries and alumni must play an increasingly significant role. Our department alumni have set benchmarks through their contributions to the various endowments, some of which I have alluded to earlier as well as the Manish Narayan Fund which continues to support the travel of 10-12 students every year to international conferences.

In December 2014, we had our Department reviewed by an international panel consisting of Prof. Subhash Mahajan (Special Advisor to the Chancellor, University of California - Davis), Prof. Brian Cantor (Vice Chancellor, University of Bradford), Prof. P.M. Ajayan (Chair, Department of Materials Science and Nano Engineering, Rice University) and Prof. G. Sundararajan (Professor of Metallurgical and Materials Engineering, Indian Institute of Technology – Madras and Director, ARCI)

Over two days, the review panel held meetings with faculty members in small, thematic groups as well as with undergraduate, masters and PhD students. The panel also met Prof. Anurag Kumar, Director, IISc, and Prof. K. Chattopadhyay, Chairman, Division of Mechanical Sciences, IISc.

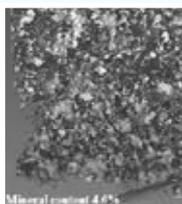
The report of the panel is awaited, and will form the basis for a wide-ranging discussion among the faculty on implementing its recommendations.

RESEARCH SNIPPETS

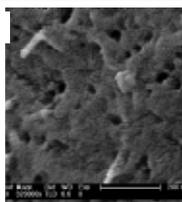
Praveen Kumar and his group have been using electromigration to develop an inexpensive tip based lithography process that doesn't need UHV, high current sources or special attachments. It is scalable from a few nm to a few tens of μm



Kaushik Chatterjee and co-workers have shown that graphene incorporated in polymer composites can be used to promote stem cell function and minimize bacterial function for bone tissue regeneration in 3D scaffolds.



Suryasarathi Bose and his group have developed anti-bacterial membranes for water purification using polymer blends and functional nanoparticles. They exploit blends of PVDF and PMMA that exhibit crystallization-induced phase separation when cooled from the melt and then selectively etch of the phases to yield nanoporous structures that enable high flux and antifouling behaviour.



Ashok Raichur's group have shown how controlled drug-delivery through polyelectrolyte capsules can dramatically enhance tumour suppression in cancerous organs of mice.



ALUMNI NEWS

Rajan Ambat (PhD 1996) is now Professor in Corrosion and Surface Engineering at Technical University of Denmark; **Subhash Mahajan (BE 1961)**, Professor at the University of California in Davis and Coordinating Editor of Acta Materialia was awarded the Institute of Metals/Robert Franklin Mehl Award; **S. Ranganthan (BE 1961)**, emeritus professor at IISc, has received the Lifetime Achievement Award 2014 of Indian National Academy of Engineering and the NASI-Senior Scientist Platinum Jubilee Fellowship; 2013: **Zafir Alam (PhD 2013)**, scientist at Defence Metallurgical Research Laboratory, won the Acta Student Award 2014 for his paper "Tensile behavior of a free-standing Pt-aluminide (PtAl) bond coat" **Ramamoorthy Ramesh (BE, 1988)**, Professor of MSE and Physics, won the TMS 2014 John Bardeen Award; **Baldev Raj (PhD 1990)**, President, INAE, has been selected for the Eminent Engineer Award of the Engineering Council of India.

The Institute is pleased to welcome its alumni back to its campus this June, when the IISc Alumni Global Conference. After two previous editions at Santa Clara (2007) and Chicago (2012), this edition of the Alumni Conference is being held in the J.N. Tata Auditorium right inside IISc during 26-28 June, 2015. The day before the event begins, the Department of Materials Engineering will host an Alumni Get-Together in the afternoon of 25 June 2015.

Please mark your calendars, and plan to arrive at least one day early so we get to meet you in the Department!

Please see the Conference website for more details.

<http://iiscp.iisc.ernet.in/global/>