

indigenous programmes to attract foreign students are few with the exception of Hyderabad Central University and Madras University.

In the era of globalization of education, it may be time for the Indian Government to consider the situation seriously and set the policies/programmes in such a

way that maximum students can take the advantage of government scholarships and can come back to serve the country. Such collaborations not only give international exposure to students but they create better workforce, bring foreign revenue and help building mutual understanding between countries.

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2. Xinhua News Agency, 8 December 2006.
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MEETING REPORT

DAE solid state physics symposium 2011*

The symposium was inaugurated by S. Kailas (Physics Group, BARC, Mumbai), T. R. Pachamuthu (SRM University, Chennai) and S. L. Chaplot (BARC). About 748 papers were accepted for presentation at the symposium. The number of registered participants was 775 and 627 contributed papers were presented in the poster session. Six researchers were selected for the Young Achievers Award. Three awards were given for the best PhD thesis and one for MSc project. The highlights of the symposium were the theme seminars and 12 invited talks.

The theme seminar on the first day commemorating 100 years of superconductivity was coordinated by A. K. Grover (TIFR, Mumbai). K. Kadawaki (University of Tsukuba, Tsukuba) spoke on THz LASER using high- T_c superconductor $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+d}$ mesa structures. V. P. S. Awana (NPL, New Delhi) spoke on superconductivity of Fe-based pnictides and chalcogenides. Lei Shan (Chinese Academy of Sciences, Beijing) presented a talk entitled, 'Evidence for multiple nodeless gaps and electron-mode coupling from scanning tunneling spectroscopy' in the iron-based superconductor $\text{Ba}_{0.6}\text{K}_{0.4}\text{Fe}_2\text{As}_2$. Grover delivered the last talk in this session: 'A fluctuating state and the critical behaviour at the de-pinning transition in driven vortex matter in superconductors'.

S. Ramakrishnan (TIFR) spoke on 'Condensed matter at ultra-low temperature'. He gave a detailed account of the travails and tribulations of setting up of the unique facility of the microkelvin fridge that enables study of condensed matter physics in the 300 K–39 μK range. Sanjeev Kumar (IISER-Mohali) spoke on 'Novel magnetic order induced by itinerant electrons in frustrated magnets'. This was followed by a presentation by P. S. Anil Kumar (IISc, Bangalore) entitled 'Tweaking the magnetic anisotropies in magnetic films and nanostructures'.

The post-tea session comprised of an invited seminar on solid state chemistry commemorating 100 years of chemistry coordinated by S. K. Ghosh (BARC). He made the first presentation entitled 'Chemistry of molecules to physics of materials: a unified density-based view through multiscale window'. The second presentation in this theme meeting was by Pradeep (IITM, Chennai) on 'Luminescent gold quantum clusters in protein templates'. He also talked about Bovine serum albumin clusters and their ability at targeting cancer cells. T. P. Radhakrishnan (Central University, Hyderabad) talked on 'Polymer-metal nanocomposite thin films: *in situ* fabrication and applications'. He discussed trapping of Hg cluster in polymers. These polymer-metal nanocomposites seem to have unique applications from being used as bacteriocidal coatings that can get rid bacteria from a glass of water and the exemplary use of Ag-PVA composites as dip catalysts.

The second day started with a talk by C. S. Sundar (IGCAR, Kalpakkam) entitled, 'Pressure induced metallization in BaMn_2As_2 ; possible pristine compound

for new class of superconductors?' Kohlbrecher (Paul Scherrer Institute, Switzerland) talked on 'Magnetization reversal processes in composite perpendicular magnetic recording media'.

The post-tea morning session coordinated by S. K. Gupta (BARC) comprised of an invited seminar on: 'Organic semiconductor'. D. K. Aswal (BARC) spoke on 'Organic semiconductors for nano- and macro-electronics: status and promises'. This was followed by a presentation by M. Iwamoto (Tokyo Institute of Technology, Tokyo) on 'Modelling and visualization of carrier motions in organic devices by optical second harmonic generation'. Subhasis Ghosh (Jawaharlal Nehru University, New Delhi) spoke on the 'Anisotropic growth and high performance organic thin-film transistor pthalocyanin: organic FET'. A. J. Pal (IACS, Kolkata) spoke on the topic, 'From organic electronics to molecular electronics'. He showed how a layer of donor over acceptor could lead to molecular rectification. He also showed how the magnetic field can be cleverly employed to orient a monolayer of molecules on a substrate to manipulate molecular orbitals and thereby the conductivity.

In the post-lunch session, Rajesh Ganapathy (JNCASR, Bangalore) talked on grain boundary dynamics in colloidal crystals. He used fast confocal microscopy to probe the dynamics of grain boundaries. This was an audiovisual commentary on the nature of grain boundaries, not so easily visualized in real crystals. Venu Gopal (TIFR) talked on plasmonic crystals for enhancing optical properties. He showed various examples from metal-dielectric interfaces and how the material properties can

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be enhanced. Tapas Ganguli (RRCAT, Indore) gave a talk on EXAFS studies on the highly contrasted $Zn_{1-x}Be_xSe$ alloy system. In the evening there was a talk on 'Quasicrystals: and the Indian scenario' by K. Chattopadhyay (IISc, Bangalore). This was in honour of the Nobel Prize in Chemistry this year to Dan Shechtman (Israel Institute of Technology, Haifa, Israel). The presentation brought out the importance of romanticism and perseverance in the pursuit of science.

The following morning there were two talks on using NMR to study magnetic ground states. Hiroyuki Nakamura (Kyoto University, Japan) spoke on 'Spontaneous phase separation to antiferromagnetic and spin-singlet states in the square-planar cluster compound $V_4S_9Br_4$ observed by NMR and NQR'. Kajal Ghoshray (SINP, Kolkata) spoke on 'Three-dimensional spin dynamics in Co-oxynictides: NMR investigation'.

The post-tea session coordinated by A. K. Arora (IGCAR) comprised of the invited seminar on 'Glass'. G. P. Kothiyal (BARC) spoke on conventional glasses. Sevi Murugavel (University of Delhi, New Delhi) spoke on 'Ion transport mechanism in glasses: Non-Arrhenius conductivity and non-universal features'. G. K. Dey (BARC) spoke on amorphous alloys. Arora presented the concluding talk on amorphous polymorphs.

The following day started with a sad note on the news of the demise of P. K.

Iyenger, former Chairman of Atomic Energy Commission and an architect of the Indian nuclear energy programme. The announcement by Chaplot was followed by observation of silence for 2 min to pay respects to Iyenger.

Then the programmes started with the invited seminar on 'National facilities' coordinated by Chaplot. He started the session with a talk on the setting up of the 'National facility for neutron beam research (NFNBR) at Trombay'. S. K. Deb (RRCAT) talked on 'Indus synchrotron radiation source and beamlines: a national facility'. Kanjilal (IUAC, New Delhi) traced the successful operation of the pelletron at their Centre, in providing for collaborations with several universities.

A session was devoted to presentations by Young Achiever awardees: R. S. Ningthoujam (BARC) gave an enthusiastic account of his work pertaining to the synthesis of 'Nano materials light emitting display and cancer therapy applications'. He was followed by P. Saravanan (DMRL, Hyderabad); S. K. Mishra (SSPD, BARC) and S. Rayaprol (UGC-DAE-CSR, Mumbai). Dimple Dutta (BARC) spoke about her efforts on the synthesis of functional nanomaterials, with particular emphasis on the effect of size. This was followed by a talk by Soumik Mukhopadhyay (SINP/IITK).

All the three Ph D thesis awardees made presentations: A. K. Singh (JNU,

New Delhi), supervisor S. Patnaik; Shinto P. Mathew (University of Hyderabad), supervisor S. N. Kaul and T. Sadhu (TIFR) supervisor Deepak Dhar.

The morning session on the final day was chaired by G. Baskaran (IMSc, Chennai). The first talk was by Sangam Banerjee (SINP, Kolkata) entitled 'Electronic, wetting, stability and interaction properties of graphene'. This was followed by a presentation by S. Bedanta (NISER, Bhubaneswar) on supermagnetism. He talked of $Co_{80}Fe_{20}$ alloy/ Al_2O_3 composites and introduced the idea of superferromagnetic domains.

The oral presentations of Janawadkar (IGCAR) and C. V. Tomy (IITB) were interesting. There were more than 600 papers presented in the poster session.

The concluding session was livened up by the distribution of awards and certificates to the Young Achievers for the best M Sc project, best thesis and best posters. The success of a symposium depends on the local arrangements, and the local organizing committee led by C. Muthamizhchelvan and J. D. Thiruvadigal had put in yeomen effort to make the participants feel comfortable.

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