IIT Bombay designated as “Knowledge Heritage"

The Indian Institute of Technology Bombay (IITB) received the special designation of “Knowledge Heritage Centre” from UNESCO New Delhi Office, the United Nations Educational, Scientific and Cultural Organization on 12th December 2007 at a signing ceremony in New Delhi between Ms. Minja Yang, Director of the UNESCO New Delhi Office, and Prof. Ashok Misra, Director of IITB. It is a recognition for IITB’s contribution in creating a knowledge society and its rich knowledge heritage.

“UNESCO promotes international cooperation and serves as a clearing-house for the dissemination and sharing of information and knowledge, particularly in education and the natural sciences,” said Ms. Yang. “IITB was originally established with the cooperation and participation of UNESCO, and over the past 50 years it has grown in stature as an institution of national importance and a leader in higher education, research and training. UNESCO is delighted to renew and strengthen its partnership with IITB,” she added. IITB will contribute a revolving fund of Rs. 10 lakhs for the activities to be undertaken under the agreement, and both sides have pledged to cooperate to generate further resources nationally and internationally.

Prof. Misra pointed out that both IITB and UNESCO work through academic and research collaborations with national and international universities, governments and industries to meet the immediate needs of society.

The signing ceremony was attended by Mr. S. A. Rozovsky, Counsellor, Embassy of the Russian Federation; Prof. M. G. K. Menon, past Chairman of the Board of Governors of IIT Bombay; Mr. Ravi Mathur, Jt. Secretary in the Ministry of Human Resource Development; and Mr. Sanjay Narayen, Honorary Adviser to IIT Bombay, who has been the key liaison between IITB and UNESCO.

UNESCO’s New Delhi Office, which was established in 1948, operates programmes to strengthen science and technology, including ecological and earth sciences for sustainable development.

IITB was one of the early higher institutes of technology established by the Government of India to set the direction for the development of technical education in the country, at the level of their counterparts in Europe and the USA. The Institute began admitting students in 1958. The foundation stone of its campus in Powai was laid by Pandit Jawaharlal Nehru in March 1959, and IITB was declared an institution of national importance by an act of Parliament in 1961. During the first two decades of its existence, the institute received technical aid and expertise through UNESCO, primarily provided by the USSR. Today, IITB has approximately 2,100 undergraduate and 3,200 postgraduate students.
IIT Bombay 1982 Batch Pledges Rs. 4 Crores for Legacy Project

IIT Bombay celebrated its Alumni Day with great pride and fun along with a record gathering of over 400 distinguished alumni and 100 faculty members.

The highlight of the Alumni Day was the Silver Reunion of the 1982 batch who specially came together in large numbers to pledge their support to the Legacy Project announced in October 2007. The first of its kind Legacy Project was instituted with the objective of collecting funds to be given as a "Joining Bonus" to new IITB faculty. This move will help provide IITB a strong competitive edge in attracting and maintaining world-class standards of teaching and research.

The support received from the batch was overwhelming resulting in a pledged amount of Rs. 4 crore from 40 per cent of the 1982 batch. A cheque for the pledged amount was handed over to Prof. Ashok Misra, Director IITB.

Speaking on the occasion, Prof. Ashok Misra, Director, IIT Bombay, said, "The Alumni Day is a great opportunity to rekindle old memories and be a part of the IIT Bombay Golden Jubilee celebrations. We are very pleased with the response of the 1982 batch for their support towards the Legacy Project. We are committed to keep IITB at the forefront of teaching institutions here and abroad. We wish to thank all the 1982 batch alumni who so unhesitatingly came forward with their generous pledges."

On the occasion of Alumni Day, IITB also gave away Distinguished Service Awards to Dr. Dr. Pravin Narwarkar (B.Tech., 1987 & M.Tech., 1989 Metallurgical Engg. & Materials Science), Mr. Raj Menon (M.Tech., Chemical Engg., 1989), Mr. Shridhar Shukla (B.Tech., Electrical Engg., 1983), and Dr. Ajit Ranade (B.Tech., Electrical Engg., 1982) for their valuable support to IITB over the years. Speaking on the occasion, Mr. Ajit Ranade, Chairman of the IITB Alumni Association, said, "We have been very active in networking with our alumni in the last 2-3 years and our efforts have paid off well. There is tremendous support coming from all our past colleagues and we will do our best to support IITB to maintain the leadership position it deserves in the education field."

"Logic at the Crossroads: An Interdisciplinary View" to be released


The book emanated mainly from the papers presented at the 'First Indian Conference on Logic and its Relationship with Other Disciplines,' which took place at IIT Bombay, during January 8 to 12, 2005, as an initiative of the Mumbai logic circle, bringing together Indian logicians from various disciplinary backgrounds and different locations with a group of open-minded and active international colleagues.

The papers presented emphasized novel approaches and perspectives originating from research by some of the masters of logic and its interfaces with surrounding disciplines. The papers ranged from reflections on the range of mathematical proof and definability to recent developments in computational logic, as well as new interfaces between logic, information dynamics, and games. In addition, there was a wide range of presentations on schools of Indian logic. One term used nowadays for this broad view of logic is 'intelligent interaction'. This volume of the book contains a representative selection of material from the first conference.
Global Conference on India R&D 2007 – “Innovation Advantage India”

IIT Bombay participated in Global Conference on India R&D 2007 – “Innovation Advantage India”, held at Federation House, New Delhi, during 5th-6th December 2007. This conference was organised by Federation of Indian Chambers of Commerce and Industry (FICCI) in partnership with Department of Science & Technology (DST), and Council of Scientific & Industrial Research (CSIR). In conjunction with the conference an exhibition showcasing the recent achievements in Science & Technology was also organised.

Mr. Kapil Sibal, Hon’ble Minister for Science & Technology and Earth Sciences, Government of India, inaugurated the exhibition and conference on 5th December 2007. Dr. R.A. Mashelkar; Dr. R. Chidambaram, Principal Scientific Adviser to the Government of India; Dr. T. Ramesh, Secretary, Department of Science and Technology, Govt. of India; Dr. M.K. Bhan, Secretary, Department of Biotechnology, Government of India; Mr. M. Madhavan Namboiar, Additional Secretary, Department of Information Technology, Government of India; Mr. K.M. Acharya, Additional Secretary, Ministry of Human Resource Development, Government of India; Mr. Peter Davidson FEng, Senior Innovation Adviser for the UK Government, UK; and several leading Corporate chairmen, directors, technologists, scientists, R&D managers of private industries and Government establishments, from both India and abroad, attended the conference.

The conference includes various plenary and technical sessions such as Innovation-Advantage India and the Way Forward, Agriculture-The Second Green Revolution, Unleashing the Innovation Potential of Indian IT Industry, Education System for Innovation in India, Research: Role of Public-Private Partnership, and The Digital Opportunity in India.

IIT Bombay along with 11 other R&D establishments, from both private & public sectors, participated in the exhibition. IIT Bombay exhibits included various technology developments and R&D achievements. The Hon’ble Minister, several other dignitaries and delegates visited the exhibition.

MoU Signed between IIT Bombay and King Saud University, Saudi Arabia

An MoU was signed between IIT Bombay and King Saud University, Saudi Arabia on December 2, 2007. King Saud University was represented by its Rector, his Excellency Professor Abdullah Al-Othman, and IIT Bombay was represented by Professor Pradip Banerji, Dean (AIR).

Awards and Distinctions

Prof. Ashok Misra, Director, has been chosen to receive the 2008 Distinguished Alumnus Award by the University of Massachusetts, Amherst, for his “outstanding personal and professional success”.

Prof. V. Ramgopal Rao, Electrical Engineering Department, has been selected for the MRSI-ICSC Superconductivity & Materials Science Annual Prize for the year 2008 from the Materials Research Society of India.

Prof. Deepankar Choudhury, Civil Engineering Department, has received NASI Young Scientist Platinum Jubilee Award – 2007 from National Academy of Sciences, India, Allahabad. The award was presented by the President of NASI, Prof. Ashok Misra, during the 77th Annual Session on December 8, 2007, at the Food Technological Research Institute, Mysore.

Prof. V. Jothiprakash, Department of Civil Engineering, has been awarded “The Union Ministry of Water Resources – Department of Irrigation Prize” for his paper on “Comparative Study of Multi-stage Streamflow Generation Model HEC-4 and ANN Model” by the Institution of Engineers (India) at the Prize Distribution Ceremony of the 22nd Indian Engineering Congress on December 14, 2007, held at Udaipur.

Prof. Anil Kumar, Department of Chemistry, has been awarded the Scopus Young Scientist in Chemistry for year 2007. The award, instituted by Elsevier India, recognizes outstanding research based on publications, citations, etc.

Prof. K. P. Kalliappan, Department of Chemistry, has been selected to receive the B.M. Birla Prize in Chemistry for the year 2007. The Prize is given each year by the B. M. Birla Science Centre, Hyderabad, for outstanding original contributions in the concerned field by a young Indian scientist resident in India who is not more than 40 years.

Prof. T. N. Singh, Department of Earth Sciences, has been selected for the National Medal for his significant contribution in the earth sciences. The award is given by the Ministry of Mines, Government of India.
Professor A. Jaganmohan Award for Professional Development

Professor A. Jaganmohan was a faculty member of the Department of Mechanical Engineering and retired on superannuation on 31 August 1992, after serving the department over 34 years. His younger brother, Dr. Shivam Murthy, an alumnus (Chemical Engineering) of IIT Bombay, has contributed to IIT Bombay Heritage Fund for an award in his memory. The awardee, up to a maximum of two per year, will be chosen based on the goodness as a teacher. The award money (Rs. 50,000/- each) can be utilized by the awardee only for professional developments. The two awards for the inaugural year (2007) are:

Prof. U. V. Bhandarkar
Prof. K. K. Issac

Faculty Fellowships for Suman Mashruwala Lab.

As per the MoU signed by the Director and Mr. Raj Mashruwala, a distinguished Mechanical Engineering alumna, who has donated funds for setting up of the Lab, three fellowships are to be awarded to Mechanical Engineering faculty members attached to the Suman Mashruwala Advanced MicroEngineering Lab based on individual research and other academic achievements, and contributions to the Lab growth. Each awardee will be credited with Rs. 2.5 Lakhs per year for two consecutive years in his research development fund (RDF) to be utilised only for professional developments. The awards have been named in honour of three beloved teachers of Mr. Mashruwala. The awardees are:

Prof. S. K. Mitra : Prof. S. P. Sukhatme Fellowship
Prof. P. S. Gandhi : Prof. J. R. Issac Fellowship
Prof. U. V. Bhandarkar : Prof. J. G. Golovin Fellowship

Faculty News

Prof. A. K. Rastogi, Department of Civil Engineering participated in the 1st World Aqua Congress organised by Aqua Foundation at India Habitat Centre, New Delhi, from November 28 to 30, 2007. He contributed a paper entitled "Controlled subsurface recharge schemes to enhance groundwater storage in aquifers".

Prof. A. K. Dikshit, CESE, was invited by the Department of Civil Engineering, IIT Delhi, as a resource person for the QIP short term course entitled "Advancements on Solid Waste Management" organised from November 19 to 23, 2007, at IIT Delhi. He delivered lectures on "Application of GIS in Landfill Site", "Planning and Design of Municipal Solid Waste Management System for a Mega City", and "Case Study of Greater Mumbai" on November 21-23, 2007.

He was also invited as an expert for round table on "Environment and Sustainable Development" organised by Indo-Italian Chamber of Commerce and Industry, Mumbai held on December 12, 2007.

Prof. Jayendra Venkateswaran, Assistant Professor in Industrial Engineering and Operations Research, attended the IEEE International Conference on Industrial Engineering & Engineering Management (IEEM) held at Singapore from 3rd to 5th December 2007. He presented the paper "Advanced Look-ahead Based Approach (ALBA) for Distributed Simulation of Supply Chains" (co-authored with Mr. Satish Tammini). He also chaired a session on "Systems Modeling and Simulation".

Prof. Shishir K. Jha, Shailesh J. Mehta School of Management, was invited for an expert lecture on "Digital models and the limitations of copyright" at the National Workshop on Intellectual Property, at MNIT, Allahabad, on December 15, 2007. He also served as a member of National Advisory Board for the conduct of National Workshop on Intellectual Property at MNIT.

Prof. Deepankar Choudhury, Civil Engineering Department had attended the 13th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering (13ARC – 2007) at Kolkata, India which was held during 10-14 December 2007. He also presented a technical paper entitled "Analysis of waterfront retaining structures during earthquake and tsunami" on December 13, 2007, in the technical session on "Disaster Management and Mitigation".

Prof. Choudhury was invited to deliver an expert lecture at College of Engineering, Pune (COEP), on the topic "Introduction to Geotechnical Earthquake Engineering and its Applications", during short term training programme (STTP) on Earthquake Resistant Design of RC Buildings, organized by Department of Applied Mechanics, College of Engineering, Pune, on December 18, 2007.

Student News

Mr. Suhas Deshmukh, Ph.D. Scholar, Mechanical Engineering Department. His poster titled "A novel optomechantronic focused laser spot submicron scanning system for
microstereolithography” has been selected as “Best Poster” among 74 posters presented at Bangalore Nano 2007.

Mr. M. S. Chauhan and Mr. S. S. Singh, Research Scholars, CESE, participated in the round table on “Environment and Sustainable Development” organised by Indo-Italian Chamber of Commerce and Industry, Mumbai held on December 12, 2007.

4. Information Literacy and Knowledge Society

Publications

Prof. S. P. Mahulikar, Department of Aerospace Engineering, has published a paper entitled “Study of gas micro-convection, for synthesis of rarefaction and non-rarefaction effects” in Vol. 16, December 2007 issue no. 6, pp. 1543-56 of IEEE/ASME Journal of Micro-electromechanical Systems. The paper is co-authored by Prof. Hervig & Dr. Hauser from Technical University of Hamburg, and is an outcome of collaborative research sponsored by the A. Von Humbold Foundation - Germany.

Prof. Karunamay Subuddhi, Department of Humanities and Social Science, published a paper entitled “How Open and Democratic is Cyberspace?” in a yearly Journal of Sociology, New Series, Vol. 1, Department of Sociology, University of Calcutta. This is a revised version of the paper presented earlier in national as well as international conferences.

The research article “Mechanism of cell death induced by magnetic hyperthermia with nanoparticles of MnFe2-xO3 synthesized by a single step process”, by N. K. Prasad, K. Rathinasamy, Prof. D. Bahadur, Metallurgical Engineering & Materials Science, and Prof. Daul Panda, School of BioScience, I. M. A. Chem., has been written up in the news magazine Chemical Biology which draws together coverage from all Royal Society of Chemistry publications, providing a snapshot of the latest developments in Chemical Biology.

A book authored by Prof. S. M. Khopkar, Professor Emeritus, Department of Chemistry, entitled “Basic Concepts in Analytical Chemistry”, ISBN No. 80-290-096-3, has been published by New Age International Publishers Ltd. This is the third edition with more than 600 pages. The first of its kind, as it covers wide spectrum of analytical chemistry, the book is widely read by MSc./M.Phil. students majoring in the area of Analytical Chemistry.

Seminars/Colloquia/Lectures

Department of Chemistry

Prof. Samhnu N. Datta have delivered a series of seminars on “Theoretical study of the electron transfer processes involved in the Z scheme of photosynthesis”, “Theoretical and computational aspects of magnetic molecules”, “Relativistic dynamics in a strong homogeneous magnetic field”, and on “Retarded boson-fermion interaction in atomic and molecular systems” in North Bengal University during the 10-13 December 2007.

Department of Mathematics

Prof. Rohit Parikh, City University of New York delivered a colloquium entitled “What is logical consequence?” on December 31, 2007.

Prof. S.T. Yau, Harvard University, delivered a colloquium lecture titled “Spacetime with Torsion” on December 31, 2007.

Department of Metallurgical Engineering & Materials Science

Prof. Sushil K. Misra, Physics Department, Concordia University, Canada delivered a seminar on “Synthesis and characterization of polyureasilazane derived SiCN ceramics” on December 28, 2007.

Prof. Rajendra Bordia, Materials Science & Engineering at University of Washington, USA delivered two talks entitled “Constrained sintering of ceramics, composites, thin films”, and “...
Polymer derived nanostructured composite ceramics” on January 4, 2008. Mr. Laurent Roussel, Product Manager, Dual Beam, gave a seminar on “Dual Beam (FEG-SEM + FIB) Applications in Materials” on December 19, 2007.

Department of Physics

Dr. Parinda Vasa, Institute for Physik, Germany gave a seminar on “Excitons and Surface Plasmon Polaritons: What are they and why are their interactions interesting”, on January 2, 2008.

School of Biosciences & Bioengineering

Dr. Manoj Varma, Technical Advisor Consultant, Quadracpe Inc. delivered a seminar on “Micro-Analytical Platforms for Probing Biological Systems” on January 3, 2008.

Mr. Yogeshwar Kelkar, Research Scholar, Penn State University, Pennsylvania, USA, delivered a seminar on “The genome-wide determinants of human and chimpanzee microsatellite evolution” on January 8, 2008.

Industrial Design Centre

Professor B. K. Chakravarthy, gave a seminar on Design of Letterbox for India Post in the session on Social Entrepreneurs during 7th CII-NID Design Summit Leadership through Design held at BIEC, Bangalore on 13th December 2007.

Golden Jubilee Lecture

Prof. John Villadsen, Chemical Engineering, Technical University of Denmark, Denmark, delivered a Golden Jubilee lecture on “BioProcess Engineering as an Offspring of the Chemical Engineering Education” on December 20, 2007.

Workshops

The fourteenth International Workshop on the Physics of Semiconductor Devices (IWPSD-2007) was organised by the Department of Electrical Engineering, Indian Institute of Technology Bombay TIFR, Mumbai, in association with the Society for Semiconductor Devices during December 16-20, 2007. The main objective of this workshop was to bring together research workers from India and abroad.

Workshop on M. Tech Programme in Steel Technology

A workshop to take feedback from industry and government on the proposal for starting a M.Tech programme in Steel Technology at the Department of Metallurgical Engineering and Materials Science, IIT-Bombay was held during 14-12, 2007. The workshop was chaired by Prof. J. M. Vasi, Acting Director, IIT-Bombay. Many distinguished persons from steel industries such as SAIL, Tata Steel, ESSAR, ISPAT, JSW, etc. attended the workshop.

In his introductory remarks, Prof. Vasi expressed his happiness that the users' feedback is being taken when designing a new course. Professor R.D. Dusane explained the expectations that we have from our students and promised that the Department would spare no efforts in making the course a success.

In his address, Shri Pande mentioned that India is poised to become the second largest steel producer in the world by 2015. Currently, the growth in steel production and consumption is about 13 per cent, well beyond the projected 9 per cent. In this scenario, Shri. Pande welcomed the proposal and extended all the support for it from the Ministry of Steel. He highlighted the role of institutes of excellence such as IIT-Bombay in generating quality manpower for the steel sector. He also stressed the need for research and development in steel technology to become competitive and technology providers. Shri Pande promised all the support from the Ministry of Steel in starting a focused research programme in steel technology at IIT-Bombay.

Subsequently, Prof. N. B. Ballal made a detailed presentation of the course curriculum as well as the facilities, projects related to steel at IIT-Bombay. Prof. K. Narasimhan presented a note on setting up a focused research centre of excellence on steel at IIT-Bombay.

The distinguished participants from industry overwhelmingly supported the proposed M.Tech programme on steel technology. They expressed their readiness to sponsor their employees for the programme and willingness to consider recruiting upfront the students registered for the programme. The participants from industry gave their valuable suggestions on the proposed course curriculum.

The participants also welcomed the proposal on the focused research centre of excellence on steel at IIT-Bombay. The Ministry of Steel as well as industry urged IIT-Bombay to come with a detailed proposal on the steel centre.

In conclusion, Prof. Narasimhan thanked all the participants for their overwhelming support for the workshop.
universities, research institutes and industries and promote interactions and discussion on nine selected aspects of physics and technology of semiconductor devices. The workshop was organised as nine symposia to achieve its objectives.

**News from SINE**

Two entrepreneurs from SINE-incubated companies have made it in the list of top 25 entrepreneurs from Asia as determined by the US magazine "Business Week". These two entrepreneurs are Gagan Goyal, co-founder of TRI Technosolutions Pvt. Ltd., and Tohit Narwalde of Consumer Vision Pvt. Ltd. There are a total five Indians in the list.

TRI Technosolutions is in the space of education and practical learning using robotics as a platform. The company got incubated in October 2006. Consumer Vision develops a technology for real-time service personalisation for retail customers. The company got incubated in July 2006.

It is indeed a proud moment for SINE that out of five Indian entrepreneurs, two are from SINE.

**Gymkhana News**

**IIT-Bombay Swimming Club**

1) The Swimming Gala 2007 was held in the Cricket Club of India on 1st & 2nd Dec '07. Siddharth Rao Deb got the Bronze medal in the Boys Under 11 yrs, 200 yds Individual Medley. He secured a 5th position in the Backstroke event, 4th in the Breaststroke event and a joint 4th in the Freestyle event.

2) Apurva Phale secured a 5th position in the Girls Under 11 yrs, 50 yds Butterfly stroke event.

3) The 30th Annual Inter-School/Jr. College Swimming Championship was held in the Bombay YMCA on 15th & 16th Dec 2007. Siddharth Rao Deb got the Gold Medal in the Boys Under 11 yrs, 50 mtrs Breaststroke event.

**Events**

<table>
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<th>CEP Courses</th>
<th>Coordinator / Department</th>
<th>Date</th>
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<tr>
<td>1. Piping Engineering (for Larsen &amp; Toubro Ltd., Chemical Engg. Mumbai)</td>
<td>Prof. A.S. Moharir</td>
<td>January 08-21</td>
</tr>
<tr>
<td>2. Bluespec - A New way to Design SOCS and ASICS</td>
<td>Dr. Maryam Shojaii Bhagini</td>
<td>January 09-11</td>
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**Retirements**

as on 31.01.2008

- Mrs. V. S. Subbarao, Central Library
- Mrs. Jaya N. Swamy, Administration
- Shri S. S. Naik, Department of Physics
- Shri V. R. More, Department of Aerospace Engineering
- Shri R. C. Lopes, Metallurgical & Materials Science Department
- Shri V. P. Rajappan, Gymkhana
- Shri P. M. Fernandes, Department of Aerospace Engineering
- Shri D. S. Patil, Security Section
Season's Greetings and best wishes for the New Year