



IISc Alumni

Newsletter of IISc Alumni Association

IIScAA Wishes You



Volume 4 Issue 4 December 2011

A Happy New Year 2012

State-of-the-art Infrastructure

Soon after the centenary celebrations, Indian Institute of Science undertook the construction of many new buildings in the campus. After decades of existence, some of the old departments had become increasingly inadequate to meet the demands of present day requirements in carrying out research, teaching and other activities. Many other infrastructural facilities also had to be built to meet the fast-growing Institute programmes and also its population. As of now, the construction activities cover about 1.5 million square feet, out of which 50% has been completed. In what follows, a brief note is presented on four buildings which have so far been completed and become functional.

Centenary Visitors House

In order to meet the ever growing demand on accommodation by short and long term visitors to the Institute, a centenary visitor's house of area 85000 square feet has been constructed. It is a ground plus 3 floor structure incorporating 108 apartments, all with built-in wardrobes, kitchen cabinets, etc. There are sixteen double bed room apartments, 20 single bed room apartments and 72 studio apartments. It is also provided with a common kitchen and dining for 54 persons. The main entry to this building is located in the block of common kitchen and general dining at upper ground floor level leading to reception area. This building was commissioned on 3-10-2009.



Centenary Visitors House

Aerospace Engineering Department

The new Aerospace Engineering building has been designed and built to resemble the top of an aeroplane if viewed from above. The special feature is the galvalume sheet roofing over double height display area and the front wing including the connecting bridge. The whole building enjoys plenty of natural lighting provided by large openings and courtyards. This 106000 square feet building has left and right wings connected to a central wing through a central lobby. The main laboratories are in left and right wings of ground floor, faculty laboratories and rooms are situated in the first and second floors. The building has 32 faculty laboratories and 34 faculty rooms together with seminar halls, conference room, library etc. Total connected load to this building is 1150 KVA. The Aerospace Engineering building was inaugurated by Shri Ratan Tata on 19-03-2010.



Aerospace Engineering

The new Aerospace Engineering building is located on one side of the runway. The three new aerodynamic laboratories have been constructed on the otherside of the run way. The department uses the runway for flight testing mini and micro unmanned air vehicles. They are : 1) high speed wind tunnel complex of size 24mX48m, 2) low speed aerodynamic laboratory of size 35m X43m, and 3) hypersonic and shock wave research laboratory of size 30m X 70m. The last two laboratories have also been provided with 27.5m span, 10 ton capacity EOT cranes. Total connected electrical power to the aerodynamic testing facilities is 3600 KVA. These aerodynamic research facilities were inaugurated by Dr. A.P.J. Abdul Kalam on 8-11-2011.

The chairman of Aerospace Engineering strongly feels that the new building has given impetus for enhanced teaching and research by the faculty of the department. The JATP (Joint Advanced Technology Projects) and the STC (Space Technology Cell) have also been shifted to the new building which helps in the integration of their activities with that of parent Aerospace Engineering activities. The new building can accommodate more than 200 students with the complete facility for conducting experimental and theoretical research work 24X7 and throughout the year.

Physical Sciences Building

The new Physical Sciences building comprises of lower and upper ground floors, and first and second floors.



Physical Sciences

President's Desk

Dear colleagues,

As this Newsletter reaches you we would have bid adieu to the year 2011 and will be looking forward to our journey to a Prosperous, Fruitful, Happy New Year 2012.

In 2011 we have seen many of the Institute alumni achieving great honours & awards. To mention a few, Prof. Sriram Rajagopal Ramaswamy (Physics), receiving the Infosys Prize 2011, Prof. Upadrasta Ramamurty (Materials Engineering), and Prof. K. Narayanaswamy Balaji (Micro Biology & Cell Biology) receiving the Shanti Swarup Bhatnagar Award and Prof. S. Ranganathan (Materials Engineering) receiving the RQ 14 Distinguished Fellowship, an international award.

You may be aware this year Dr. Danny Shechtman received the Nobel Prize in Chemistry (the first Metallurgist to get a Nobel Prize) for his work on Quasicrystals. In fact, Prof. S. Ranganathan also worked in the same field and published papers in the same time but went unnoticed. Achievement of our alumni many time are so near to create international excitement but so far to receive the great award. I fervently wish IISc is making solid platform to create many Nobel Laureates and look forward to participate in such an excitement. The new initiatives taken by the Institute are well in this direction.

As I write this, our nation is passing through a turbulent situation where every citizen of India is wondering whether in this great land of Dharma, Adharma is rising its ugly head. I appeal to all the alumni with their high intellect to participate in the nation building and set a right goal and path to the future.

V Babu Sathian

The main entry is located at the upper ground floor level leading to a spacious double-high lobby which branches into another lobby serving as a common entry point to all class rooms and seminar halls. The laboratories are so grouped that each wing consists of two laboratories and six faculty rooms typically. This 130000 square feet, Ground plus 2 floor building has 78 faculty rooms, 30 laboratories, together with workshop, UPS room, computer room and other supporting infrastructure facilities. The building was inaugurated by Shri Kapil Sibal on 1-5-2010.

The Chairman of Physics Department points out that the new building provides spaces for teaching and large modern laboratory spaces for research that are significantly and qualitatively better than what the Physics department had earlier. The high ceiling lobby area that surrounds the class rooms and the new auditorium is particularly nice. The modern auditorium which can comfortably seat 140 people, the adjacent discussion area, and the nearby dining area in the basement provide excellent environments for holding conferences and discussion meetings, and the department has already hosted 2 international meetings, and several more are in the offing. The Centre for High Energy Physics is also housed in the same building, and this very much facilitates the interaction between people from the two departments.

Centre for Nano Science and Engineering

IISc decided to build a centre for Nano Science and Engineering, a subject of great current interest. The Nano Science

Editorial

Dear readers,

On behalf of the Editorial Board I wish all the Readers - "A Very Happy & Prosperous New Year 2012".

This issue brings forth a pen-picture architecture of four new buildings, designed and constructed by arduous efforts of people who made it possible. To us it's a significant milestone in the 100 years of history. There are three more buildings coming up which will be delineated in later issues. The juxta position of these buildings is befitting its surroundings. They add new dimension to the ambience and the ecosystem existing on the campus. The enhanced new infrastructure provided creates new avenues for researchers and students worthy of bringing fruitful innovations. Of course, in the past 50 years of Institute's history there have been many contributions and breakthrough in various fields by many people, specially, a few of them who have done world class work and touched Nobel Prize. We sincerely hope they will bring many such laurels in the second century of the Institute.

To cite a couple of contributions :

Prof. C. N. R. Rao is a major contributor to the worldwide research into superconductivity and currently works mainly on multiferroics and nanomaterials.

Prof. G.N. Ramachandran, along with Gopinath Kartha, elucidated the three-dimensional structure of collagen using fibre diffraction and model building. Another seminal contribution of Prof. G.N. Ramachandran along with C. Ramakrishnan and V. Sasisekharan is the development of contact criteria for the proximity of non-bonded atoms and this development enabled proposition of allowed conformational space for peptides and proteins. This contribution, which made a profound impact in structural biology, is referred popularly as "Ramachandran map".

Please feel free to express your views about our newsletter by E-mail : iiscaanlg@yahoo.com

H K Anasuya Devi



building proved to be very challenging for design and construction. The ground plus 3 floor, 94000 square feet building is a state-of-the-art building built to very stringent requirements. It has special features like vibration isolation, a large clean room of 14000 square feet with double height, false floor and false ceiling; characterization laboratory and many modular laboratories-physical, chemical, biological, electrical and optical; and an auditorium besides other features like centralized air-conditioning system, false ceiling in corridors, fire protection system etc. The National Nanofabrication Centre was inaugurated by Dr. R. Chidambaram on 5th January 2011; and the nano-characterization facility by Dr. V. K. Saraswat on 14-7-2011.

K S Subba Rao

GATE

Entrance examinations and admissions are a challenging and interesting aspect of IISc students and faculty. Graduate Aptitude Test in Engineering (GATE) is an all India level exam conducted on behalf of Ministry of Human Resources Development by a team of faculty from IISc/IITs (GATE Committee). Apart from admissions, recently several public sector undertakings have chosen GATE as basic requirement for their recruitments, and also some Foreign Universities have shown interest in students qualifying GATE for their admissions.

In the last few years there has been tremendous rise in the number of students taking GATE. This year about 10 lakhs final year BE/B.Tech students have registered for GATE to be held on 29 January 2012 (online) and 12 February 2012 (offline). The examination spreads over morning and afternoon sessions in disciplines, ranging from architecture to life sciences. The GATE committee

deals with the confidential operations, selecting the examination centers, sending our faculty to conduct the examination at various centers etc. The IISc zone includes Karnataka and half of Andhra Pradesh. We send about 150 faculty to oversee the conduct of exam at various centers.

GATE is evolving and recently there were several reforms. Some interesting features of GATE are linked questions, common data questions and question with numerical answers. GATE Score is a number that can be used to compare performance of students across several disciplines. A notable reform recently is online mode where instead of bubbling the circles, the students click on a computer screen the answers to various options. It is challenging and interesting for IISc faculty to involve in examination and admission process such as GATE. Interviews for research admissions are another exciting aspect of admissions at IISc.

T Srinivas

Recent Visit to Chitradurga IISc Campus



IISc Alumni Association organised a visit to the new IISc campus at Chitradurga on 18th December, 2011. Over 65 members including alumni, their spouses and children were present and was a day trip in 2 luxury buses. The group of people included little boys Vigyan (3 years), Manohar (3+ years) to alumnus Mr. C.D. Sankar Sastri (80 years). The trip was partially funded by the Alumni Association and the rest paid for by the members.

The new campus site spans 1500 acres and is located in Khudapura Village, Challakere Taluk in Chitradurga District, approximately 200 kilometers from Bangalore. The new IISc campus is surrounded by space for new campuses of DRDO (4000 acres) that has a 27 km long wall circling around their campus, BARC (1500 acres) and ISRO (200 acres).

The new campus currently is running a High School Science Teachers training program through its Talent Development Center



(TDC) convened by Prof. M.S. Hegde. The TDC has already trained over 800 government school teachers since inception and is expected to add another 300 teachers by March 2012. Mr. Babu Sathian (Alumni Association President) presented a bouquet to Prof. M.S. Hegde thanking him for hosting us and for providing us lovely lunch. Wg. Cdr. H.R. Parthasarathy (President-elect) and Prof. Munjal (Advisor) were present.

It was an exciting visit, and we all felt great to walk through the land that will soon be home to IISc's new campus and personally I would love to fast forward to year 2020 and beyond when this area of 8000 acres will be buzzing with some great research, innovation and this spot being added to global science map.

Sivakumar N

Awards and Recognitions

- Prof. C N R Rao, Former President, JNCASR - Ernesto Illy Trieste Science Prize, 2011
- Prof. Govindasamy Mugesh, Professor, IPC - AstraZeneca Excellence in Chemistry Award 2011
- Prof. Upadrasta Ramamurty, Materials Engg. Department - Shanti Swarup Bhatnagar Award 2011
- Prof. K Narayanaswamy Balaji, MCBL Department - Shanti Swarup Bhatnagar Award 2011
- Prof. Sriram Rajagopal Ramaswamy, Physics Department - Infosys Prize 2011

IIScAA Science Forum – Popular Lecture Series

The Seventeenth Lecture (September 17, 2011)

Topic : Lightning and its Effects on Human, Power Systems and Aerospace Vehicle

Speaker : Prof. G. R. Nagabhushana, Retd. Prof., Dept. of High Voltage Engg, IISc

Moderator : Shri. A. Raja Rao



The Eighteenth Lecture (October 22, 2011)

Topic : War and Peace : Conflict and Cooperation in an Insect Society

Speaker : Prof. Raghavendra Gadagkar, INSA SN Bose Research Professor, Centre for Ecological Sciences & Chairman, Centre for Contemporary Studies, IISc

Moderator : Prof. K.P. Gopinathan



The Nineteenth Lecture (November 26, 2011)

Topic : Technology Policy Perspectives for Aerospace Activities of the Future

Speaker : Prof. N. S. Venkataraman, Former Dean & Director, MIT, Anna University and Former Director, ACM, TIFAC, DST, GOI

Moderator : Air Vice Marshal R. Krishnan



Upcoming Lectures

- Dr. Anil Kakodkar, DAE Homi Bhabha Chair Professor at BARC on "Sustainable Energy Security for India : Challenges & Options", Saturday, January 21, 2012
- * Dr. Ramji Raghavan, Chairman of the NGO Agastya International Foundation on "Sparking curiosity, creativity and leadership in disadvantaged children", Saturday, February 18, 2012

Link to videos :

<http://mmcr.iisc.ernet.in:8008/cgi-bin/nwayfiles.py>

In the Folder Name, please select IIScAA and click on Search.

You can view the videos of the Lectures by clicking on Flash, Quicktime, VLC

H R Parthasarathy

IIScAA Activities

Dear members,

Greetings and Best Wishes from IISc. Alumni Association.

At the outset, wish you all " A Very Happy & Prosperous New Year 2012".

The Seventeenth, Eighteenth and Nineteenth Lectures of "IIScAA Science Forum – Popular Lecture Series" were delivered by Prof. G. R. Nagabhushana, Prof. Raghavendra Gadagkar and Prof. N. S. Venkataraman respectively.

The Breakfast Meet was organized on Sunday, December 4, 2011 at the Lawns of the IISc Main Guest House. More than 100 alumni along with their spouses attended the meet. This Breakfast Meet was sponsored by our Executive Committee Members, Mr. Sivakumar N. and Mr. G. Suthindran Rao.

The Picnic-cum-Visit to IISc Campus at Challakere was organized on Sunday, December 18, 2011. About 65 alumni with their family participated in this programme.

L N Satapathy



IISc Alumni Association is proposing a friendly cricket match among Alumni in Gymkhana Ground on 29th January 2012 (Sunday). If you would like to play and/or assist in organizing this event including sponsorship, please provide your details.

For further details, please contact :

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