



ITI HAS

(IT Is Happening At SASTRA)



NewsLetter from SASTRA

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MESSAGE FROM THE VICE - CHANCELLOR



Stress has been laid time and again on societal transformation and sustainable development for the growth of our nation. These can be achieved by taking our masses towards a knowledge society. Universities of our country must perforce think of finding the ways and means by doing relevant research, towards this noble goal.


SASTRA's on-going commitment to ensuring excellence in education and research has been acknowledged and highlighted by visiting experts and the media.

The International Conference on "Number Theory and Mathematical Physics" organized at Srinivasa Ramanujan Centre, Kumbakonam in December 2005 once again provided a forum for renowned academicians and research scholars from across the globe to discuss their findings. The prestigious SASTRA - Ramanujan Award of \$10,000 each, was awarded to Dr. Manjul Bhargava and Dr. Kannan Soundararajan for their outstanding contribution in Ramanujan mathematics. Dr. Alladi Krishnaswamy, the Chairman of the selection committee averred, that this award has found a place along with the top international awards like Clay Award, NSF Career Award and ICTP Ramanujan Award, among others. Dr. Arabinda Mitra, who inaugurated the conference commended SASTRA for its great contribution towards research in Ramanujan mathematics. Later in the day, at the main campus, Dr. Mitra inaugurated the 'Doctoral Club', intended to promote research in the university in various disciplines.

Our mission of providing an impressive overall learning experience to our students has borne fruit. Three of our students have won a cash award of Rs.1 lakh for the Design Contest conducted by M/s Texas Instruments.

The end of 2004 saw the worst aspects of nature and beginning of 2005 saw the best of mankind. SASTRA's role in implementing the TIFAC project of constructing the shelters at the tsunami - affected villages in Nagapatinam district, has come in for handsome praise by the media and the public.

I hope and pray that the year 2006 will be a prosperous one for our country. I wish all readers a very happy New year.


Prof. R. Sethuraman
Vice-Chancellor

INTERNATIONAL CONFERENCE ON NUMBER THEORY AND MATHEMATICAL PHYSICS

The International Conference on "Number Theory and Mathematical Physics", was held on 20th & 21st, December 2005 at the Srinivasa Ramanujan Centre (SRC), SASTRA, Kumbakonam. Dr. Arabinda Mitra, Executive Director, Indo-US Science & Technology Forum, New Delhi, inaugurated the conference.



Dr. Arabinda Mitra lighting the traditional lamp

While delivering the inaugural address Dr. Mitra said thus: "International cooperation is the way to solve the mysteries of science and technology. Research in science and technology should be



The international delegates with our Vice-Chancellor

carried out worldwide. India is now on an equal footing with the U.S. in terms of research in science and technology. The Forum provides the right platform for synergetics and cooperation in research between the two countries". It is evident that more than 150 U.S. companies have their scientists in India. Microsoft's announcement of a new project has enhanced the opportunities for the young mathematicians and scientists.

The following speakers spoke in various sessions related to Number Theory & Mathematical Physics: Dr. Alexander Berkovich, University of Florida, Gainesville, USA, Dr. Krishnaswami Alladi, University of Florida, Gainesville, USA, Dr. Evgeny Mukhin, University of Indiana, Indianapolis, USA, Dr. Kannan Soundararajan, University of Michigan, Ann Arbor, USA, Dr. Karl Mahlburg, University of Wisconsin, Madison, USA, Dr. Ken Ono, University of Wisconsin, Madison, USA, Dr. Manjul Bhargava, Princeton University, New Jersey, USA, Dr. Michel Waldschmidt, University, P. et M. Curie, Paris, France, Dr. Shigeru Kanemitsu, University of Kinki, Fukuoka, Japan, Dr. Ashok Agarwal, Punjab University, Chandigarh, Dr. Chandrashekar Adiga, University of Mysore, Mysore, Dr. Jagan, the Institute of Mathematical Sciences, Chennai, Dr. Ramakrishnan, B. Harish Chandra Institute, Allahabad, Dr. Somashekara, D. University of Mysore, Mysore. More than 100 delegates from India and abroad attended the conference.

Prof. R. Sethuraman, Vice-Chancellor, SASTRA, welcomed the gathering and Prof. P.V. Ramakrishnan, Dean Engineering, SRC,

SASTRA-RAMANUJAN AWARD

Dr. Arabinda Mitra, Executive Director, Indo-US Science & Technology Forum, New Delhi, presented the First SASTRA - Ramanujan Award to Dr. Manjul Bhargava, Professor of Mathematics Princeton University, USA and Dr. Kannan Soundararajan, Professor of Mathematics, University of Michigan, USA. The award instituted by SASTRA carries a cash award of \$ 10,000 and a citation. As two mathematicians have been selected for this award the Management of SASTRA awarded \$ 10,000 each without splitting the cash award into two.



From left Prof. R. Sethuraman, Dr. Arabinda Mitra, Dr. Kannan Soundararajan, Dr. Manjul Bhargava, Dr. Alladi Krishnaswamy & Prof. P.V. Ramakrishnan

The 7 - member award selection committee was headed by Dr. Alladi Krishnaswami, University of Florida with Dr. George Andrews, Penn State University, USA, Dr. Manindra Agarwal, IIT, Kanpur, Dr. Jean - Mar Deshouillers, University of Bordeaux, Dr. Tom Koornwinder, University of Amsterdam, Dr. James Leowky, Rutgers University and Don Zagier, Max Planck Institute for Mathematics. Dr. Alladi while announcing the award recalled the outstanding nominations by various researchers from all over the world for this award. He also added that SASTRA - Ramanujan Award has found a place along with top awards like Clay Award, NSF Career Award, in the recent issue of AMS Journal.

119th SRINIVASA RAMANUJAN BIRTH ANNIVERSARY COMMEMORATIVE LECTURE

The 119th Srinivasa Ramanujan Birth Anniversary Commemorative Lecture was delivered by Dr. Manjul Bhargava, Prof. of Mathematics, Princeton University, USA, at Srinivasa Ramanujan Centre, SASTRA, Kumbakonam on 22nd December, 2005.



Dr. Manjul Bhargava delivering the Lecture

In his note books, Srinivasa Ramanujan had written down in 1910, 54 quadratic forms which represent all positive integers. Following this, in 1993, Conway and Schneebeger had conjectured that it suffices to check "if a set of 29 integer - valued quadratic forms up to 290, are universal". While Conway had said, "he did not expect to see a proof in his life time", Dr. Bhargava and Jonathan Hanke proved Conway's conjecture and listed out 6436 integer - valued quadratic forms.

Dr. Bhargava said in his Commemorative lecture that he was very much pleased to present these results in Ramanujan's home town on Ramanujan's birthday.

DOCTORAL CLUB INAUGURATED

Dr. Arabinda Mitra, Executive Director, Indo-US Science & Technology Forum, New Delhi, inaugurated the Doctoral Club at SASTRA on 20th December, 2005.



Dr. Arabinda Mitra delivering the inaugural address

Dr. Mitra in his inaugural address commended the Doctoral Club as very unique, innovative and a model for emulation by other institutions. SASTRA has entered into the second phase of integrating education and research, he said. This will surely play a phenomenal role in India's scientific revolution.

The Doctoral Club has been created with the following objectives :

- To facilitate weekly interaction among Doctoral Scholars providing opportunities for 2 or 3 presentations each of 20 minutes followed by discussion
- To enable Doctoral Scholars to share information that will be mutually helpful in furthering research and improving the quality of research
- To foster research activities both full-time and part-time
- To provide opportunities for Staff to interact among various disciplines once a week
- To create by such meetings the desire for all the staff to take to research in their respective subjects

AWARD OF Ph.D



Smt. S. Jayalalitha, Professor, in the School of EEE obtained her Ph. D. degree from the Indian Institute of Technology (IIT), Chennai in December, 2005 for her thesis, 'Signal Analysis Techniques applied to Impulse Testing of Transformers'. She was sponsored by SASTRA to do her research at IIT as a regular candidate.

Shri K. Saravana Raja Mohan, Professor, in the School of Civil Engineering received his Ph.D. Degree from the Bharathidasan University, Trichy in October, 2005 for his thesis, 'Static and Dynamic Response Evaluation on Flyash Concrete Composites'.



Shri R. Ramasamy, Senior Lecturer, Department of Physics, obtained his Ph. D. Degree from the Bharathidasan University, Trichy in December, 2005 for his thesis, 'Analysis of Vibrational Spectra of some polyatomic molecules based on density functional theory calculations'.

ENDOWMENT LECTURE



Dr. Y.S. Rajan during his lecture

The fourth Nani A. Palkhivala Memorial Lecture was delivered by Dr. Y.S. Rajan, Principal Adviser, Confederation of Indian Industry (CII) on 4th October, 2005

He said the challenge before the educated youth is to provide empowerment for people living in poorly connected villages in the country and use them for globalisation. Since these people have no inputs and investments and are a problem in the country, it is highly important to empower them. This can be achieved by executing the Provision of Urban Amenities to Rural Areas (PURA) scheme envisaged by President A.P.J. Abdul Kalam, he opined.

In the globalisation scenario, there was a global market, which continuously exported and imported goods. Rich Indians had already globalised and they are taking part in the global market. City-urban nuclei also had a reasonable two-way interaction of market forces. But, the poorly connected villages, which are 600,000 in number, have no inputs and investments. They should be equipped to meet globalisation challenges.

Prof. S. Vaidhyasubramaniam, Dean, Planning & Development, who welcomed the gathering, described Nani Palkhivala as one of the most outstanding lawyers who protected our Constitution through his argument in several cases. Prof. K.G. Seshadri, Dean, Humanities & Sciences proposed the vote of thanks.

STUDENTS OF ARKANSAS VARSITY TO VISIT SASTRA

The students from the University of Arkansas, USA will visit SASTRA to undergo a summer term exchange programme during 2006. Dr Carol Gattis of the University of Arkansas, who visited SASTRA on 12th & 13th October 2005, formally announced that the students from the University of Arkansas would visit SASTRA during July 2006 and students

from SASTRA would also visit the University of Arkansas on a reciprocal basis.

Dr. Carol Gattis expressed appreciation for the teaching-learning mechanism at SASTRA and its efforts to create a congenial atmosphere for learning. Students after completing the first two years at SASTRA may continue to do the third and fourth years at the University Arkansas for the award of B.Tech degree. Students who are desirous of continuing their research work might study in the century - old University of Arkansas where former President Bill Clinton had been a member of the faculty. This arrangement was being made under the MoU signed by SASTRA with the University of Arkansas during the visit of the Vice-Chancellor of

MERIT SCHOLARSHIPS DISTRIBUTED



A student receives the merit Scholarship from Dr. Carol Gattis

Dr. Carol Gattis, University of Arkansas, USA, distributed the merit scholarships on 12th October 2005, to the tune of Rs.30 Lakhs to over 300 students of SASTRA. The top two per cent and three per cent to 10 percent of the students in terms of the academic performance received scholarships which is equal to 20 per cent and 10 per cent tuition fee refund respectively for the academic year 2004-05. This scholarship was distributed to all students irrespective of their parental income and community.

TIFAC - SASTRA TSUNAMI REHABILITATION PROJECT COMMENDED

'The Hindu' published an exclusive article on 26th December 2005, on the TIFAC project of constructing 39 community sheds, built in Nagapattinam District by SASTRA. The article is reproduced below :

All-round praise for TIFAC's community sheds built in tsunami-hit coastal hamlets of Nagapattinam dt.

Right from the President to the lower-rung people, all are impressed by the project.

K. Subramanian

NAGAPATTINAM: The 39 community sheds, built in the seven tsunami-hit coastal hamlets in Nagapattinam district by the Technology Information, Fore-casting and Assessment Council (TIFAC), an autonomous body of the Department of Science and Technology of the Union Government, have won the praise of one and all.

The project was executed through the TIFAC-CORE (Centre of Relevance and Excellence) of Shanmugha Arts, Science, Technology & Research Academy (SASTRA), - Deemed University, Thanjavur.

Right from President A.P.J. Abdul Kalam to the lower-rung people, all sections of the society including the tsunami-affected people in the district have appreciated the construction of the community sheds which are now being well utilized as computer training centre, tailoring centre for women, balwadi, fair price shops, fishermen's panchayat office, panchayat middle school, boat repairing centre, for conducting classes and health check-up camps, etc.

Dr. A Sivathanu Pillai, Scientist and Chief Controller of Research and Development, Defence Research Development Organisation (DRDO), who came here recently said that Mr. Kalam impressed by the TIFAC's success in the construction of community utility centres after the Gujarat earthquake, had recommended the construction of similar sheds for the benefit of the tsunami affected people in Tamil Nadu.

The TIFAC-CORE at Thanjavur was chosen among the 21 TIFAC-CORE centres in the country and entrusted with the task of carrying out the project conceived by the President.

Prof. R. Sethuraman, Vice - Chancellor, SASTRA Deemed University, told The Hindu that a team of experts from the School of Civil Engineering in SASTRA swung into action immediately and completed the entire construction of 39 community sheds in a record period of six to eight months in the seven coastal hamlets of Nambiar Nagar, Akkaraipettai, Tharangampadi, Chandrapadi, Vanagirri, Chinnangudi and Pazhayar.

The Vice-Chancellor said that the TIFAC had also donated 50 composite motorized fiberglass boats, each costing about Rs. 1.30 lakhs, to the fishermen in coastal villages in the district. The district administration, members of panchayats and women self-help groups extended co-operation for constructing the sheds, he said.

Prof. Sethuraman pointed out the SASTRA engineering team had developed some structural alignments suiting the local needs with a size of 24 feet x 20 feet based on the design approved by the Department of Science and Technology. Each shed has been built at a cost of Rs. 1.30 lakh and will last for a minimum period of about 10 years. The ceiling and the side-walls have been made of the composite material using jute-coir and rubber with structural support provided by slotted angles, he added.

(Courtesy : The Hindu)



"Reinforced Plastics", an international monthly journal published by ELSEVIER Ltd., Oxford, UK in its November 2005 issue published an article entitled "Composite help Indian tsunami victims". The article, on the use of composite material, makes a mention of the Community sheds constructed by the TIFAC-CORE of SASTRA in the tsunami affected villages, by using the material.

Shanmugha Arts, Science, Technology & Research Academy (SASTRA), Deemed University, Thanjavur - 613 402, Tamil Nadu.

BOOK BY SASTRA PROFESSOR



A book titled *Damped Wave Transport and Relaxation* written by Dr. Kal Renganathan Sharma, Professor, School of Chemical and Biotechnology, SASTRA, has been published by Elsevier, Netherlands. The book discusses the transient transport phenomena and over 2,000 equations derived from first principles. One of the equations postulated in the mid 1950s as an alternative to the Fourier's law of heat conduction was derived from microscale phenomena. The manifestation of this equation in a variety of applications ranging from drug delivery, high tissue cylinder, gel acrylamide electrophoresis, fluidised-bed combustion boiler tube sizing, CPU overheating, paper chromatography and fast reaction and diffusion is modelled. A 35-year-old paradox was resolved by the use of final conditions in time. A new substitution method has been developed to solve the transient hyperbolic PDE. A number of worked examples and exercises are given in heat, mass and momentum transfer. The thermal time lag, penetration length, conditions for sub critical damped have been derived.

The Management of SASTRA has awarded a cash prize of Rs.10,000 to Dr.Sharma as an incentive for this publication.



OVERSEAS VISIT

Prof. S. Anantha Padmanabhan, Dean, School of Civil Engineering visited the Stevens Institute of Technology, New Jersey, USA. in October 2005. He had a discussion with Professor Xiaoguang Meng, Head of the Department, Environmental Division of the University and other research scholars of the Department.

He interacted with them on Arsenic Removal, Iron Removal and Fluoride Removal. During that meeting Prof. Xiaoguang Meng presented details about the



Prof. Xiaoguang Meng, Prof. Anantha Padmanabhan with the Indian Research Scholars

Arsenic removal system which they have researched on a low cost technology basis for implementation at Bangladesh. He showed keen interest on iron removal using upflow filters and fluoride removal

PAPER PRESENTATION IN MALAYSIA

Shri G. Venkatraman, Senior Lecturer, Department of English, SASTRA, presented a research paper entitled "Competency criteria for the teachers of English for science and technology" at the international conference on "Worlds in discourse : Representations of Realities," conducted by University Kebangsaan Malaysia, (the national university of Malaysia) from November 21 to 23.

In his paper he presented the preliminary findings of his ongoing Ph.D. research on the competency development for the teachers of English working in engineering colleges. He highlighted the need for



Shri Venkatraman during the presentation

competent and willing-to-perform teachers in the world which is characterised by globalisation and liberalisation. With the explosion in English language teaching, there has been an increased demand for language teachers and the need to train them.

He pointed out that English for Science and Technology (EST) is a separate field in English Language teaching and the English teachers working in Engineering colleges need a "special set", of competencies. He presented a competency framework for them.

His trip was sponsored by SASTRA and the All India Council for Technical Education (AICTE), New Delhi. More than three hundred delegates from over twenty countries including UK, USA, Australia, India, New Zealand, Japan, Nigeria participated in the conference in which over hundred papers were

SASTRA'S M.TECH EQUIVALENT TO ANNA VARSITY'S

The M.Tech degree programmes offered by SASTRA Deemed University have been found equivalent to those offered by Anna University. Anna University's Director of Academic Studies has written a letter to SASTRA, stating that the M.Tech degree programmes in Structural Engineering, Embedded Systems, Control Systems and Instrumentation, High Voltage Engineering, Power Systems, Power Electronic and Drives, Advanced Computing, Computer Science and Engineering, and Advanced Communication Systems, VLSI Designs have mutual equivalents. "Graduates of the other M.Tech programmes which are not offered by Anna University can also seek admission to PhD programmes offered at Anna University and their degrees will be scrutinised by the PhD board and the Director (Research) may take appropriate decisions as per Anna University norms". SASTRA is the first among deemed universities whose M.Tech programmes are all found equivalent to those offered by Anna University.

SASTRA STUDENTS BAG DESIGN CONTEST AWARD

A Team of students headed by Chi. Satyendra Kumar Reddy of IV Year ECE with Chi. P.V. Surya Narayana Murthy of IV ECE, and Chi. A Krishna Chaitanya of III ECE has won the First Runner-up prize in the Texas Instruments All India Design Contest in 2005, for their design, "Virtual Transperancy". Engineering students from all over India participated in the contest. A tiered evaluation of submitted design entries was done by the experts of Texas Instruments based on, originality, business potential, manufacturability, design quality and report quality.



They received a cheque for Rs.1,00,000/- from the University Program Manager, Texas Instruments in their 2005 Developer Conference held at Bangalore on 1st December 2005.

SASTRA students bagged the award of Rs.1,00,000/- in 2004 in the same contest.

TRAINING PROGRAMME ATTENDED

Shri R. Prasanna Kumar, Senior Lecturer, School of Civil Engineering SASTRA and Shri. V. Venkat Ramyya, Lecturer, School of Civil Engineering, SRC, Kumbakonam attended a QIP Short Term Training Programme on "Recent Developments in Urban Transportation Systems Planning", conducted by Indian Institute of Technology (IIT), Bombay from 22nd to 26th November 2005. 25 participants from various Engineering Colleges in the country attended the course.

Shri K. Ramakrishnan, Senior Lecturer, School of Civil Engineering attended a Short Term Course on "Seismic Evaluation and Retrofit" conducted by the Department of Earthquake Engineering, I.I.T, Roorkee, under the National Programme on Earthquake Engineering Education (NPEEE). The Course was conducted from 19th December 2005 to 24th December 2005, in which 35 participants comprising Faculty members and practicing Engineers from all over India attended.

SASTRA HOSTS CHILDREN'S SCIENCE CONGRESS

SASTRA hosted the Tamilnadu State level Children's Science Congress 2004-2005, which was organized by the Tamilnadu Science forum on 3rd & 4th December 2005.

Dr. Narender Bhatia, Project Officer, Siksha, CII inaugurated the meet and Prof. R. Kandaswamy, Registrar, SASTRA delivered the presidential address. More than 1000 Students and 100 Teachers attended the meet. 119 science projects were presented by the students out of which 30 projects were chosen for presentation at the National Level Science Meet to be held between 27th to 31st December 2005 at Bhuvanesar.

The student participants were taken to various departments and laboratories of SASTRA.



CII - SHIKSHA - SASTRA IT PROGRAMME FOR TEACHERS

SASTRA and Confederation of Indian Industry (CII)-Shiksha will jointly offer two training programmes to school teachers, to take Information Technology tools to schools. Shri Narinder Bhatia, Project Officer, CII-Shiksha participated in a joint meeting of CII-Shiksha and SASTRA at the SASTRA campus on 5th, November 2005. Mr. Bhatia said that one training programme would be held at the main campus of SASTRA in Thanjavur and another one at Srinivasa Ramanujan Centre of SASTRA in Kumbakonam. Shiksha is a non-profit initiative of CII, aimed at bridging the digital divide. Shiksha empowers schools with technology tools free of cost and help integrate technology effectively in the teaching-learning process. Shiksha seeks to provide a platform for creative learning and sharing among schoolchildren, empower teachers with relevant information and communication technology tools and techniques.

PRESENTATION ON SCIENCE DIRECT & SCOPUS

Experts from ELSEVIER made a presentation at SASTRA campus on 7th December 2005 on their two on-line Databases - SCIENCE DIRECT and SCOPUS, in order to give an orientation to the end users viz. researchers, faculty members and the students.

Apart from SCIENCE DIRECT and SCOPUS, SASTRA subscribes to the following on-line Databases :

1. ACM
2. ASME, ASCE
3. EBSCO
4. IEEE JOURNALS
5. PROQUEST
6. CRC NETBASE



An Expert from SCOPUS explaining to our Staff & Students

DANCE PERFORMANCE IN SRI LANKA

Kum. R. Krishna Preetha of I B.Tech Bio-informatics performed Bharatha Natiyam along with a team of four members at New Kathiresan Hall, Bambalapitiya, Colombo 4 and in Negombo, Udappu, Puttalam and Sivasubramanian Temple from 8th to 11th October 2005, on the occasion of Navarathri Festival 2005.



The programme was organised jointly by South Zone Cultural Centre, Thanjavur and Ministry of Agricultural Marketing Development, Co-operative Development, Hindu Affairs and Assisting Education & Vocational Training and the Ministry and Department of Hindu Religious and Cultural Affairs, Sri Lanka.

UPCOMING EVENT

**INTERNATIONAL CONFERENCE ON
EARTHQUAKE ENGINEERING [ICEE - 2006]
25 & 26 February, 2006**



Organised by
**SCHOOL OF CIVIL ENGINEERING
SASTRA**

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