**DEPARTMENT OF ELECTRONICS**

**Additional information for Annual report 2014-15**

1. **Design & Implementation of Audio visual system for Seminar Hall, Knowledge Park**

Four hundred seat Seminar Hall with the state - of –the art Audio-Visual systems has been setup in the Knowledge park. Three HDMI quality multimedia projectors along with a 5000 watts world class Audio amplification system are provided in the seminar hall. The stage is equipped with audio and video feedback system. Ten handheld cordless microphone and two wireless microphone have been facilitated to make the scientific programs more interactive. The entire audio visual system is digitally integrated and controlled with touch panel control system. The hall is also equipped with power outlets at each seat as a facility for charging personal gadgets such as laptops and mobile phones. The hall is fully air conditioned and acoustically treated to control the reverberation. The design and implementation of the system was done in house by the Department of Electronics.

**2. Design & Implementation of Infrastructure for Smart Classrooms, Knowledge Park**

All the class rooms in the Knowledge park has been provided with the necessary infra structure for smart class rooms. Wireless slate coupled with a document camera, high end multimedia projector, computer workstations, integrated projector controller and digital audio system have been incorporated in the smart class rooms. The new system will provide state-of –the art ICT assistance to all the faculty and students and will enhance the quality of teaching learning process at the institute. The design and implementation of the system was done in house by the Department of Electronics.

**3.Computer & Telephone network for New quarters, Knowledge park and Jayachamarajendra block**

Three new buildings – Knowledge park, Jayachamarajendra Block and Type II and III quarters were networked to the data and voice networks of the institute. Necessary systems were added to the local area network and telephone network to incorporate this. All the buildings are linked through optical fiber to the server room. Knowledge park is also equipped with Wi-Fi connectivity.

**4. 3rd Phase of upgradation of computer network from 10/100 to 10/100/1000 Mbps**

The institute was in the process of upgrading the 10/100 Mbps campus network to 10/100/1000 Mbps. The upgradation was done in phases and the last phase was completed this year. The entire network is equipped with state-of-the art manageable network switches. The upgraded network will cater to the ever increasing data communication and information transfer demands of the institute, more effectively.

**5. New Electrical Substation with 1000 kVA capacity**

To cater to the increased power demand at the institute, the 22 kVA electrical substation was upgraded to 1000 kVA capacity. The new substation is equipped with state-of –the art systems such as, OLTC transformer, automatic power factor compensation unit and world class safety and protection systems. The new substation is capable to handle the anticipated additional power demand arising from the proposed infra structure for centre of Excellence.

6. **AIISH Mysore entered into MoU with IIT Guwahati**

AIISH Mysore and IIT Guwahati have common academic interests and seek to develop collaborations and exchanges in fields of shared interest and expertise, and therefore decided to sign a Memorandum of Understanding. The MoU signed between the two institutes will trigger collaborative research in areas which include the academic fields of speech and hearing, linguistics and phonetics, and bio-medical signal and image processing

The first research initiative under this collaborative research program is to develop an option to provide inferences to the surgeon while correcting a Cleft lip or palate. An option to provide inferences to the surgeon is to analyze and process the speech signals from cleft palate population and to develop some methods that provide some visual discriminate evidences. IIT Guwahati has expertise is in speech signal processing and pattern recognition. Professionals at both the institute can work together to successfully develop this option for the surgeon.

In this collaborative research, the team from AIISH Mysore will be lead by Prof. M. Pushpavathi and Prof. Ajish K. Abraham whereas the IIT Guwahati team will be lead by Prof. S. Dandapath and Prof. S. R. M. Prasanna.

**7. National Symposium on Acoustics (NSA 2014) from 12th to 14th November 2014**

About 200 eminent acoustic scientists in the country attended the annual symposium of Acoustical Society of India – Acoustics 2014 organized on the theme “Acoustics for better speech”. Objective of this symposium was to have a deep insight on the acoustic activities in the country and to trigger future research activities in this field.

The Symposium was inaugurated by Dr. Vishwa Mohan Katoch, Secretary, Department of Health Research and Director General, Indian Council of Medical Research, New Delhi, in a function held at Seminar Hall, Knowledge park, AIISH, Mysore. Padmabhushan Dr. V. K. Aatre, Former Scientific Adviser to the Defence Minister and Former Director General, DRDO, Govt. of India was the Chief guest*.* Prof. Rais Ahmed award for outstanding contribution in speech acoustics was conferred on Dr. B. Rajashekhar, Dean of Allied Health Sciences, Manipal University. Dr. Jasmine Vasantharani received the M S Narayanan Memorial Lecture award. Dr. S.R. Savithri, Director, AIISH, Dr. V. Rajendran, President, Acoustical Society of India and Professor Ajish K Abraham, convener of the symposium were present.

The highlights of the symposium were the four plenary talks, four invited talks and two memorial lectures from eminent scientists in the country. Fifty Six research papers from areas such as Speech acoustics, sound perception, bioacoustics, vibro-acoustics, hydro-acoustics, physical acoustics, building and environmental acoustics, musical acoustics, under water acoustics, instrumentation and signal processing were presented at the symposium. Scientists and researchers from various prestigious research organizations in the country such as CSIR, DRDO, ICMR, etc. and also from various universities and other speech & hearing institutes attended the symposium.

The best paper awards for each area is as given below:-

1. **Instrumentation & Signal Processing**

Acoustic Emission Studies on Weld Defected Nuclear Grade Materials - Ranganayakulu S. V., Ravi Kiran N V S M., Shiva Raju J, and Ramesh Kumar B.

1. **Aero and Hydro-acoustics**

Fan noise Source Characterization using NAH Methods- Nagaraja Jade, and B. Venkatesham

1. **Vibro-Acoustics & Noise**

* Weakly nonlinear acoustic wave propagation in fluid filled isotopic and orthrotopic nonlinear cylindrical shells: An asymptotic analysis- Vijay Prakash S and Venkata R Sonti
* 3-D FEM as well as 1-D analysis of a three pass double-reversal muffler, Veerababu, D. and Munjal, M. L.

1. **Physical Acoustics, Underwater Acoustics & Ultrasonics**

Phase Transitions of Bulk and Nanocrystalline La1-xpbxmno3 Perovskite Manganite Materials employing Ultrasonic Velocity Measurements - K. Sakthipandi and V. Rajendran

1. **Transducers, Electro and Bioacoustics**

Assistive Technology to override poor acoustics for museum visitors with Hearing Impairment- Ajish K. Abraham, and Manohar N

1. **Speech**

F0 characteristics of Professional News-readers In Context of Varied Emotional News Items- Nishanthi Gunasekaran, Prakash Boominathan, and Jayashree Seethapathy

1. **Sound Perception**

Age Related Differences in Some Psychoacoustical abilities, Speech Perception in Noise and Working Memory- Chandni Jain, and Ajith Kumar U

1. **Musical Acoustics**

Effect of short-term musical training on auditory cortical responses- Devi. N and Dr Ajith Kumar U

Valedictory function of the Symposium was held on 14th November 2014. Dr. Manell Zachariah, French technical expert, who attended the symposium and delivered an invited talk, commented that the symposium was organized at par with the international standards. Dr. Ganesh Kumar, Vice President, Acoustical Society of India mentioned that the symposium will be written in golden letters in the history of the Society. Dr. S.R. Savithri, Director, AIISH & Dr. Mahavir Singh, General Secretary, Acoustical Society of India were present.

.