**DEPARTMENT OF ELECTRONICS**

**ANNUAL REPORT 2015-16**

1. **ACADEMIC ACTIVITIES**
2. Short-term Training Programs

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| --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Theme/ Topic**  | **Co-ordinator** | **Objectives** | **Target Audience** | **Name of participants** | **Date** |
| 1 | Speech signal processing. | Prof. Ajish K Abraham | Hands on training on speech signal processing in hearing aids | Electronic Engineers/Hearing aid professionals | Faculty from AISSMS Institute of Information Technology, Pune | 20.04.15 to 22.04.15 |
| 2 | Computer Networking | Mr. S.S.Purushothama, Junior Technical Officer | Hands on training in computer network Auditing |  Engineers | M. Tech student from REVA Institute of Technology & Management, Bangalore | 25.08.2015 to 24.11.2015 |
| 3 | Induction loop system | Mr. S.R.Srinivas, Electronics Engineer | Orientation on Design and operation of Induction Loop Systems | Electronic Engineers/Hearing aid professionals | B. Tech. students from Basaveswara Engineering College, Bagalkote  | 18.01.2016 |
| 4 | Assistive Device for persons with hearing Impairment | Prof. Ajish K. Abraham | Orientation on Design of assistive devices | Electronic Engineering Students | Fifth Semester B. Tech. (E&C) students of SJCE, Mysuru | 21.12.2015to01.01.2016 |
| 5 | Recording protocol for Acoustic Analysis | Prof. Ajish K. Abraham | Orientation on analysis of speech parameters | Electronic Engineering Students | Fifth Semester B. Tech. (E&C) students of SJCE, Mysuru | 21.12.2015to01.01.2016 |
| 6 | Biomedical instrumentation in Speech & Hearing | Mr. S. R. Srinivasa, Electronics Engineer | Orientation on Operation & maintenance | Electronic Engineering Students | Fifth Semester B. Tech (E&C) students from Vidhyavardhaka College of Engineering, Mysuru | 18.01.2016 to 22.01.2016 |

1. Clinical observation -- Nil
2. Seminars/ Conferences/ Workshops / Training programs - **(Photographs attached)**

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| --- | --- | --- | --- | --- | --- | --- |
| **Sl.No** | **Theme/Topic** | **Co-ordinator** | **Objectives** | **Target Audience** | **No. of participants** | **Date** |
| 1 | Workshop on “Information & Communication Technology”  | Renuka C | To provide information on present day technology on computers, peripherals and their applications. | Newly joined students & interested staff of AIISH. | 60 | 18th July 2015 |
| 2 | A meet of “IEEE India Special Interest Group on Communications Disability”  | Ajish K Abraham | To orient the faculty of Engineering colleges in and around Mysuru about the technology needs for persons with communication disability and encourage them to initiate student projects in this area. | Staff & Research students  | 54 | 12th September 2015 |
| 3 | Camp for Repair of Hearing aids  | Manohar N | To support the hearing aid users to keep their hearing aids in working condition | Hearing aid users | 557 | 2nd to 6th November2015 |

1. Staff Enrichment / In-house training programmes -

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sl.No** | **Theme/Topic** | **Co-ordinator** | **Objectives** | **No. of participants** | **Date** |
| 1 | Techniques in soldering | Sreenivas S.R. | To provide hands on training in soldering. | 04 | 15th June 2015 |
| 2 | Speech signal analysis using PRAAT | Ajish K Abraham | To provide hands on training on various tools for speech signal acquisition and analysis | 10 | 14th October 2015 |
| 3 | Layout and instrumentation of new audiology block | Manohar N | To provide hands on training on various various parameters of speech signal  | 11 | 17th October 2015 |
| 4 | MS Office for document preparation  | Lalitha S | To provide hands on training and preparing Word and Excel document | 1 | 3rd December 2015 to 4th March 2016 |

1. Guest Lectures - **(Photograph attached)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl.No** | **Name, Designation & Institutional affiliation of lecturer** | **Topic of lecture** | **Date** |
| 1 | Mr. Bill Ash, Strategic Program Manager, IEEE Standards Association, New Jersey, USA | Development of standards for medical devices and systems to improve quality of life | 18th October 2015 |

1. Additional Academic services rendered by the Faculty and Staff
2. Invited Talks
3. Prof. Ajish K. Abraham

a. Signal processing in Digital hearing aids. Lecture delivered for M. Tech. (Biomedical Engineering) students, organized by Sri Jayachamarajendra College of Engineering, Mysuru on 15th April, 2015.

b. Instrumentation for speech language pathology. Lecture delivered for M. Tech. (Biomedical Engineering) students, organized by Sri Jayachamarajendra College of Engineering, Mysuru on 16th April, 2015.

c. Fundamentals of Information Technology & ICT Infrastructure at AIISH. Lecture delivered at the workshop on Information & Communication Technology, organized by AIISH on 18th July 2015.

d. Calibration of audiological equipments. Invited talk delivered at Baby Memorial College of Allied Medical Sciences, Calicut on 1st August 2015.

e. Harnessing Technology for addressing accessibility issues for Persons with Hearing Impairment**.** Invited talk delivered at Meet of IEEE India Special Interest Group on Communications Disability at AIISH, Mysuru on 12th September 2015.

f. Digital processing of Speech Signals. Invited talk delivered at GSSS Institute of Engineering and Technology for Women, Mysuru on 19th September 2015.

g. IoT in Medical Imaging for Assessment of Communication Disorders. Invited talk delivered at the Faculty Development Programme on IoT in Medical Imaging at National Institute of Engineering, Mysuru on1st December 2015.

h. Digital hearing aids & cochlear implants. Lecture delivered for M. Tech. (Biomedical Engineering) students, organized by Sri Jayachamarajendra College of Engineering, Mysuru on 11th December 2015.

i. Current status of the calibration for audiometers. Invited talk delivered at the National Consortium on Development of Audiometric Guidelines, organized by Department of Speech and hearing at School of Allied Health Sciences, Manipal on 4th December 2015.

j. Technological boon for enhancing education of children with hearing impairment. Key note address delivered at NCED India Annual National Conference 2016, organized by NCED India at AIISH, Mysuru on 17th February 2016.

2. Sri. G.N. Raghavendra

 a. Served as Resource person in training on e-Prime software conducted by

 Dept. of Speech Language Pathology, AIISH.

 b. Served as resource person in training on e-journal publishing conducted by

 Library and Information centre, AIISH.

1. Curriculum Development - Nil
2. Development of Materials to support Learning - Nil
3. Service in Academic bodies of other Organizations

 Prof. Ajish K. Abraham :-

1. Member, Acoustic Standards Committee, Beaureau of India Standards, New Delhi.
2. Member, Board of Studies in Electronics, University of Mysore
3. Member, Board of Examiners, University of Mysore
4. Member, Board of Examiners, University of Bangalore
5. Member, Board of Examiners, University of Kerala
6. Member, Board of Examiners, Kerala University of Health Sciences
7. Participation in committees/Taskforces and Panels set up by other organizations/agencies

Prof. Ajish K Abraham

 1. Served as the member of committee constituted to dispose of the old language

 laboratory equipments at CIIL, Mysuru on 6th July 2015.

 2. Attended the screening committee meeting for National Disability Awards 2015 at the Ministry of Social Justice & Empowerment, New Delhi on 16th October 2015.

 3. Chaired the session on Speech & Sound perception at NSA 2015 held at CSIR – National Institute of Oceanography on 8th October 2015.

4. Served as the member of expert panel in the Brainstorming Conclave on Assistive Technology, organized by National Institute of Speech and Hearing, Trivandrum on 10th March, 2016.

vi) Any other

a. Prof. Ajish K. Abraham

1. Member, International Speech Communication Association (ISCA)
2. Member, Institution of Engineers (India)
3. Life Member, Acoustical Society of India
4. Life Member, Indian Science Congress Association

b. Mrs. Kalai Selvi V.T :-

1. Member, Indian Speech and Hearing Association (ISHA)
2. **RESEARCH ACTIVITIES**
3. **Extramural Research projects**

i) Completed during 2015-16

 Title : Development of online system for hearing screening.

 Objectives : To design & develop an online system

 for hearing screening in rural areas

 Investigators : Prof. Ajish K Abraham Ms. Chandni Jain

 Funding Source : AIISH Research Fund

 Amount : 6,56,000

 ii) New research projects initiated during 2015-16

 Title : “Computerized Auditory Training for

Kannada Speaking Children

with Hearing Impairment”.

##  Objectives : To develop a language specific computer

## based auditory training software focusing on Kannada speaking children with hearing impairment.

 Investigators : Mr. Manohar N

 Funding Source : AIISH Research Fund

 Amount : 3,31,000/-

**B. Postgraduate Research Completed**

**(i) Project work of B.Tech. students from Vishweshwaraiah Technological University**

|  |  |  |
| --- | --- | --- |
| **Candidate** | **Guide** | **Topic** |
| Sanjeetha S.L., Shwetha M. K., Srilakshmi U. & Surabhi R. | S.R. Sreenivasa | Test Bench for Quality Analysis of hearing aid. |
| Spandana B.R.,. Roja G.P., Yashaswini M.K. & Sanjana Gupta | Prof. Ajish K Abraham | Stuttering severity measuring device. |
| Shilpa H.M., Vinutha M., Divyashree H.S. & Divyashree H. B. | S.R. Sreenivasa | Sound level monitoring and altering system for child coronary care unit. |

 **(ii) Project work of M.Tech. students students from Vishweshwaraiah Technological University**

|  |  |  |
| --- | --- | --- |
| **Candidate** | **Guide** | **Topic** |
| Ms. Vijayashri B. Nagavi  | Prof. Ajish K Abraham | Design and classification of velopharyngeal closure based on cineradiographic Images |
| Ms. Asharani Neelakant | Prof. Ajish K Abraham | Measurement of spectral tilt in hearing aid processed speech. |

 **C. Postgraduate Research ongoing**

 **(i) Project work of B. Tech. students from Vishweshwaraiah Technological University**

|  |  |  |
| --- | --- | --- |
| **Candidate** | **Guide** | **Topic** |
| Asha, Nandhini M.P., Priyanka R. & Ramya B | S.R. Sreenivasa | Conversion of mobile speech to text for the deaf people |
| Magline S., Apoorva B.R. & Nanditha N | Prof. Ajish K Abraham | Development of recording protocol by acoustic analysis of speech sounds using PRAAT |
| Shubha V., Siddamma T.N., Sindhu R. & Kumari V | S.R. Sreenivasa | Development of RT measurement software  |

 **(ii) Project work of M. Tech. students students from Vishweshwaraiah Technological University**

|  |  |  |
| --- | --- | --- |
| **Candidate** | **Guide** | **Topic** |
| Hariprasad B. | Prof. Ajish K. Abraham | Automated system for measurement of reaction time for speech stimuli |

1. **Research Papers Presented at National/International Conference/Seminar/Scientific Forums –**
2. By Prof. Ajish K Abraham

 a. Ajish K Abraham & Chandini Jain. (2016). Indigenous Technology for providing Hearing screening services at the villager’s doorstep. Paper presented at the Indian Science Congress, Mysore, India.

 b. Ajish K Abraham. (2016). Assistive Technology for Persons with Aphasia. Paper presented at 1st National CME on Neuro–Socio–Psycho Rehabilitation at Post Graduate Institute of Medical Education & Research, Chandigarh. India.

2. By Mrs. Kalai Selvi V.T

a. Kalai Selvi V.T & Rajarajan. (2016). Efficacy of smart phone based apps for hearing

 screening. Paper presented at 48th National Convention of the Indian Speech and Hearing Association, Mumbai.

 b. Kalai Selvi V.T. & Ajish K Abraham. (2015). Preference to RIC- A paradigm shift in hearing

 aid adoption. Paper presented at 8th National Women's Science Congress.

1. **Research Papers Published -**

i) Papers Published in National /International Journals

Vijayashri B. Nagavi, Ajish K. Abraham, M. Pushpavathi & Rathnakara S. (2015). Classification of Velopharyngeal Dysfunction in Children with cleft Palate using cinerdiogaphic Images. *International Journal for Scientifc Research & Development. 3 (4)*, 2321-0613.

 ii) Papers Published in National/International Conference/Seminar Proceedings : Nil

1. Books published : Nil
2. Book chapters published

 Ajish K Abraham (2016). ICT based outreach programs - AIISH model. In B. Panduranga Narasimharao. (Eds.). *Handbook of Research on Science Education and University Outreach as a Tool for Regional Development*. IGI Global.

1. Books/ Manuals/Seminar proceeding edited : Nil
2. Journal Editorship

Ajish K Abraham is serving as Guest editor of the Journal of Acoustic Society of India.

1. Scholarly reviewing activities

i) Journal articles

 Ajish K Abraham

 a. Reviewer for the journal - IETE Technical review.

 b. Reviewer for one chapter of the book titled " Handbook of Research on Science Education

 and University Outreach as a Tool for Regional Development" published by IGI Global.

ii) Conference papers

 Ajish K Abraham

 Reviewer for the papers submitted for speech and sound perception session in NSA 2015.

iii) Research projects

 Ajish K Abraham

 Reviewer for two projects under AIISH Research Fund.

1. **CLINICAL SERVICES**
2. General Clinical Services and Statistics of

 Various Departments

1. Speech and Language Assessment : Nil
2. Speech and Language Rehabilitation : Nil
3. Hearing Evaluation : Nil
4. Hearing Aid Trial : Nil
5. Psychological Evaluation : Nil
6. Counselling and Guidance : Nil
7. Ear Moulds : Nil

viii) Hearing Aid Issue and Electro-Acoustic Evaluation

 (ADIP Scheme, Ministry of Social justice) : a. At AIISH – 2760 hearing aids

 b. At camps – 971 hearing aids

 c. At outreach centres of Akkihebbal, Hullahalli & Gumbahalli – 89 hearing aids

ix) AIISH Hearing Aid Dispensing Scheme : 1915 hearing aids

 B) Specialized Clinical Services of Departments : Nil

 C) Clinical Support Services to patients and Family :

 i) Counselling and guidance

 ii) Certificate issued - 74 certificates to the hearing aid users for condemnation of their hearing aids.

 iii) Financial aid

 iv) Legal Advise

 v) Any other : Issue of hearing aid spares

|  |  |  |
| --- | --- | --- |
| **Sl.****No** | **Hearing aid Spares** | **Total no. of spares issued**  |
| 1 | HA cells | 37988 |
| 2 | 2 pin S cord | 1421 |
| 3 | 2 pin V cord | 128 |
| 4 | Battery Door | 41 |
| 5 | Ear hook | 69 |
| 6 | Body case | 23 |
| 7 | Wind weather protector | 13 |

 D) Clinical electronic services :

 i) Electro-acoustic Evaluation - 39 hearing aids

 ii) Hearing Aid Dispensing – 1. 3820 hearing aids under ADIP scheme

 2. 1915 hearing aids under HADU scheme

 iii) Repair of Hearing Aids – Total of 1651 hearing aids

1. Body worn hearing aids – 600
2. BTE Hearing aids – 1051
3. **EXTENSION ACTIVITIES**
4. Rehabilitation & Education through Distance Mode : Providing technical support for

 Tele-rehabilitation services of TCPD.

1. Prevention of communication Disorders : Providing technical support for

 village outreach program of POCD

1. Camps

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No.** | **Date** | **Venue of camp** | **No. of hearing aids distributed** |
| 1 | 26.03.2015 | Rotary Udupi Mid – Town, Udupi | 85 |
| 2 | 10.04.2015  | PHC Shettihalli Hobli  | 23 |
| 3 | 15.04.2015  | PHC Arakere Hobli  | 34 |
| 4 | 17.04.2015  | PHC Belagola Hobli  | 25 |
| 5 | 19.06.2015 | Srirangapatna | 21 |
| 6 | 22.06.2015 | Ganjam, Srirangapatna | 41 |
| 7 | 24.06.2015 | Srirangapatna | 20 |
| 8 | 26.06.2015 | Srirangapatna | 25 |
| 9 | 28.06.2015 | Hospet | 137 |
| 10 | 19.10.2015 | Gudamanahalli | 10 |
| 11 | 28.10.2015 | Arakere | 28 |
| 12 | 30.10.2015 | Arakere | 34 |
| 13 | 02.11.2015 | Belagola | 43 |
| 14 | 07.11.2015 | Malapuram | 34 |
| 15 | 21.01.2016, 22.01.2016 & 23.01.2016 | Chamaraj Nagar(AIISH NSS Camp) | 321 |
| 16 | 25.02.2016 | Kuttiyadi, Calicut | 90 |
|  | **TOTAL** | **971** |

1. Orientation Programs : Nil

 E) Public Lecture Series : Nil

1. **TECHNOLOGICAL CONSULTANCY SERVICES**
	1. Noise measurement of Ventilator from M/s Skanray Technologies Pvt. Ltd., Hebbal, Mysuru, on 13.04.15.
	2. Testing of Audiometric room at DDRC, Devanahalli, Bangalore Rural on 21.05.15.
	3. Electro acoustic evaluation of Hearing aid received from CDAC on 03.06.15.
	4. Noise measurement of Patient Monitoring System from Skanray Technologies Pvt Ltd., Mysore on 25.06.15
	5. Electro acoustic evaluation of 35 hearing aid received from State Commissioner for Differently Abled, KK Nagar, Chennai on 30.06.15.
	6. Noise measurement of Patient Monitoring System from Skanray Technologies Pvt Ltd., Mysore on 06.07.15 & 20.07.15
	7. Calibration of Audiometer model Inventis Piano Plus from PIKA Medicals on 08.07.15.
	8. Noise measurement of Patient Monitoring System from Skanray Technologies Pvt Ltd., Mysore on 04.08.15
	9. Calibration of Audiometer model ORBITER 922 from Dr.S. R. Chandrashekar Institute of Speech & Hearing on 05.08.15.
	10. Calibration of Audiometer make Interacoustics Model AT235 from HIMS, Hassan on 12.08.15.
	11. Calibration of Audiometer model Interacoustic AT229B from Audiology India Mysuru on 09.10.15.
	12. Electro-acoustic evaluation of hearing aid from CDAC, Kerala on 20.10.15.
	13. Electro acoustic evaluation of hearing aids from State Commissioner of Differently Disabled, Chennai 09.02.2016.
	14. Calibration of Audiometer from Department of ENT, Sri Chamarajendra Hospital & Hassan Institute of Medical Sciences on 16.03.2016
	15. Calibration of Audiometer from Pika Medicals Pvt. Ltd, on 22.03.2016.

1. **CENTRAL FACILITIES**
2. Library and Information Services
3. Public Information Activities
4. Material Development
5. **AWARDS AND HONORS RECEIVED BY FACULTY AND STAFF**
6. Mr. S. S. Purushothama, JTO received AIISHian of the year award on 9th August 2015 (AIISH Golden Jubilee)
7. Mr. Eshwara, Lab attendant received AIISHian award on 9th August 2015 (AIISH Golden Jubilee)
8. **EXTRA CURRICULAR ACTIVITIES**
9. AIISH GYMKHANA

Prof. Ajish K Abraham served as Vice-President of AIISH Gymkhana till 11th September 2015.

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| --- | --- | --- |
| **Sl. No.** | **Staff** | **Responsibility held** |
| 1 | Prof. Ajish K Abraham | Chairperson – Audio Visual committeeAnnual Day 2015 |
| 2 | Mr. Manohar N | 1. Chairperson - Transportation committee, Open Day 2015, Annual Day 2015
2. Chairperson – Audio visual & Lightning, AIISH AAWAAZ 2016
 |
| 3 | Mr. S.R.Srinivasa | 1. Member - Exhibition committee, Open Day 2015
 |
| 4 | Mr. S.S. Purushothama | 1. Member - Transportation committee, Open Day 2015
2. Member - Stage Arrangement, Annual Day
 |
| 5 | Mrs. Kalai Selvi V.T | 1. Member - Stage Arrangement, Annual Day
2. Member - Stage Arrangement, Open Day
 |
| 6 | Mr. Ravishankar M.S | 1. Member - Stage Arrangement, Annual Day 2015
2. Member - Exhibition committee,

 Open Day 2015 |
| 7 | Mr. Sadanandamurthy | 1. Member - Catering committee, Annual Day
 |
| 8 | Mr. Shivakumar | 1. Member - Stage Arrangement, Annual Day
2. Member - Stage Arrangement, Open day
 |
| 9 | Mrs. Renuka | 1. Member - Stage Arrangement, Annual Day
 |
| 10 | Mr. Raghavendra G N | 1. Member - Exhibition committee, Open Day 2015
 |

1. NSS
2. Others

|  |  |  |
| --- | --- | --- |
| **Sl. No.** | **Staff** | **Responsibility held** |
| 1 | Prof. Ajish K Abraham | Chairperson – Audio Visual committee, NCED 2016 |
| 2 | Mr. Manohar N | Chairperson - Transportation committee, NCED 2016 |
| 3 | Mrs. Kalai Selvi V.T | Member – Organizing Committee, NCED 2016Member – Stock verification committee |
| 4 | Mr. Ravishankar M.S | Member – Organizing Committee, NCED 2016Member – Stock verification committee |
| 5 | Mrs. Renuka | Member – Organizing Committee, NCED 2016 |

**IX. MAJOR EVENTS OF THE YEAR : (Photograph attached)**

1. Launch of online hearing screening system by Sri. J.P. Nadda, Hon'ble Union Minister for Health & Family Welfare, Govt. of India on 4th January 2016.

**X.** **EMINENT VISITORS :** 1. Dr. S.R.M. Prasanna, Dean, IIT Guwahati.

 2. Mr. Bill Ash, Strategic Program Manager, IEEE Standards Association, New Jersey, USA.

3. Shri. Vishwaprasad Alva, Managing Director

 Skanray Technologies, Mysuru

4. Dr. Mohan Kumar R., Vice President, Megachips corporation Inc.,

 Bangalore

5. Sri. T. V. Venkataram, Principal General Manager, BSNL, Mysore

6. Sri. M. K. Somashekar, MLA

**XI. ANY OTHER :** Nil

**अखिल भारत वाक श्रवण** [संस्थान](http://www.shabdkosh.com/translate/%E0%A4%B8%E0%A4%82%E0%A4%B8%E0%A5%8D%E0%A4%A5%E0%A4%BE%E0%A4%A8/%E0%A4%B8%E0%A4%82%E0%A4%B8%E0%A5%8D%E0%A4%A5%E0%A4%BE%E0%A4%A8-meaning-in-Hindi-English)

**ALL INDIA INSTITUTE OF SPEECH AND HEARING MYSURU – 6**

**एलेक्ट्रानिक्स विभाग**

**DEPARTMENT OF ELECTRONICS**

**एस.हेच/इ.एल.इ/2016-17**

SH/Ele/2016-17 07.04.2016

निर्देशक को प्रस्तुत / Submitted to the Director

 विषय/Sub: Annual Report for the year 2015-2016.

संदर्भ/Ref: No. SH/LIC/AR/2015-16 dtd. 21.03.2016

With reference to the above, Annual Report of Department of Electronics for the year 2015-16 is submitted here with for your kind perusal please.

 HOD – Electronics

 बिभागाध्यक्श / एलेक्ट्रानिक्स

 Director

 निर्देशक