

RESEARCH (Last five years)

Projects

a. Intramural

SI. No.	Title of the project	Name of the Investigators (state PI and Co-I)	Sanctioning /Funding Agency	Sanctioning Fund(in Rs)	Status (completed/ Ongoing)
1	Development of a cost effective configuration for optimal quality recording for speech analysis	PI: Dr. Ajish K Abraham	AIISH research fund	Rs. 4,42,755/-	Completed
2	Development of Speech enabled Communication tool for clients with Speech Impairment in Kannada	PI: Shri. Manohar.N CI: Dr. Rajsudhakar	AIISH research fund	Rs.4,95,000 /-	Ongoing
3	Design and Development of E-Learning Platform and Faculty System	PI: Dr. Shijith Kumar C CI: Shri. Manohar.N	AIISH research fund	Rs.4,68,000 /-	Ongoing
4	Automation of Malayalam Articulation test using automatic speech recognition	PI: Dr. Ajish K Abraham & Dr. Leena Mary CI: Dr. N. Sreedevi	AIISH research fund	Rs. 6,31,492/-	completed
5	Computerized Auditory Training for Kannada speaking children with Hearing Impairment	PI: Shri. Manohar	AIISH research fund	Rs. 3,31,000/-	completed

b. Extramural

SI. No.	Title of the project	Name of the Investigators (state PI and Co-I)	Sanctioning Funding Agency	Sanctioning Fund(in Rs)	Status (completed / Ongoing)
1	ARTICULATE+ : A system for automated assessment and rehabilitation of persons with articulation disorders”.	PI: Dr. Ajish K Abraham CI: Dr. M. Pushpavathi & Dr. N. Sreedevi	IMPRINT, Ministry of Education and ICMR	Rs. 137.498 lakhs	Ongoing
2	Development and Validation of RoAS (Robot for Articulatory Simulation)	PI: Dr. Ajish K Abraham CI: Dr. N. Swapna & Shri. N. Manohar	SERB, DST	Rs.32,27,309 /-	Ongoing
3	“NASOSPEECH: Development of Diagnostic system for Severity Assessment of the Disordered Speech”	PI: Dr. Ajish K Abraham CI: Dr. M. Pushpavathi & Dr. H. S. Sathish	DBT	Rs. 59.69 lakhs	Completed

ii. Ph.D

SI. No.	Title of the Thesis	Name of the Candidate	Name of the Research guide	External/ Internal	Status (completed / Ongoing)
NIL					

iii. Dissertation

SI. No.	Title of the Dissertation	Name of the Candidate	Name of the Research guide	M.Sc/PG Diploma	Status (completed / Ongoing)
NIL					

iv. Paper published.

A. Papers published in Peer Reviewed Journals

1. Siddhanna Janai., Shreekanth, T., Chandan, M., & **Ajish K Abraham** (2021). Speech-to-Speech Conversion: An Approach to Enhance the Speech Intelligibility of Dysarthric Speaker. *International Journal of Ambient Computing and Intelligence (IJACI)*, 12(1), 184-206. DOI: 10.4018/IJACI.2021010108. ISSN: 1941-6237.
2. **Abraham, A. K.**, & Ravishankar, M. S. (2020). A case study of acoustic intervention in classrooms. *Building Acoustics*. <https://doi.org/10.1177/1351010X20975765>. ISSN: 1351-010X. 28(1)
3. Swathy, Ravi., **Abraham, Ajish K.**, Sivaramakrishnan, V., Swapna, N., & Manohar, N. (2020). Analysis of Kannada speaker's tongue profile for articulatory simulation. *Journal of Child Language Acquisition and Development*, 8(2), 22-35. ISSN: 2148-1997. DOI: http://jclad.science-res.com/archives_full_issu/Vol_8_issue_2/JCLAD_FULL_ISSUE_8_2.pdf
4. **Manohar N.**, Aishwarya Anegundi., Chalana D A., Vinuta V Pawale., Vinay G., Rudraswamy S B., A computer –Based Application for Speech Recognition in Multi-Speaker Environment to Assist Hearing Impaired People. *International Journal of Recent Technology and Engineering (IJRTE)* ISSN: 2277-3878, Volume-8 Issue-IC, May 2019
5. Pushpavathi, M., **Abraham, Ajish K.**, Mahadeva Prasanna, S R., & Girish, K.S. (2018). Impact of timing of palatal repair on speech errors in children with CLP. *Journal of Child Language Acquisition and Development*, 6(4), 122-133. ISSN: 2148-1997. DOI: <https://juniperpublishers.com/gjo/pdf/GJO.MS.ID.555928.pdf>.
6. **Abraham, Ajish K.** (2018). Efficacy of a wiener filter based technique for speech enhancement in hearing aids. *World Academy of Science, Engineering and Technology, International Science Index, Medical and Health Sciences*, 12(11), 3498.
7. Pushpavathi, M., **Abraham, Ajish K.**, Mahadeva Prasanna, S.R., & Girish, K.S. (2018). Impact of timing of palatal repair on resonance, understandability, and acceptability in children with repaired cleft lip and palate. *Global Journal of Otolaryngology*, 16(1), 11-16, DOI: 10.19080/GJO.2018.16.555928. ISSN: 2474-7556.
8. Akshay, M., Devi, N., Renuka, C., & **Abraham, Ajish K.** (2018). Need for robotic resources in speech and hearing: An Indian study. *International Journal of Advances in Science, Engineering and Technology*, 6(1), 35-38. ISSN (print): 2321 –8991.

9. **Abraham, Ajish K.**, Abhisheka, T E., and Manohar, N. (2017). Current strategies for noise reduction in hearing aids - A review. *Journal of All India Institute of Speech & Hearing*, 36, 75-82. ISSN (print): 0973-662X. DOI: http://aiishmysore.in/ka/admin/file_att/jaiish_vol_36.pdf
10. **Manohar N.**, Prashanth Prabhu P., Revathi K.R., Raghavendra G N., and Madhuri Sharma. (2017). *Benefits of computerised auditory training software for kannada speaking children with hearing impairment –parents perspective-Hearing Balance and Communication* -October 2017
11. **Manohar N.**, Prashanth Prabhu P., Revathi K.R., Raghavendra G N., and Madhuri Sharma. (2017). *Computer based auditory training programs for children with hearing impairment – A scoping review*. International archives of Otorhinolaryngology
12. **Manohar N** and Madhu R. S. *Improved noise suppression technique in Digital hearing aids* International Journal of Electronics and communication Technology, IJECT Vol. 8, Issue 1 (Jan-March 2017).
13. Renuka, C., **Abraham, Ajish K.**, Devi, N., & Swapna, N. (2017). Robotic communicative tool in speech and hearing: A review. *International Journal of Innovative Research in Management, Engineering and Technology*, 2(5), 40-43. ISSN: 2350-0557. DOI: https://www.researchgate.net/profile/Devi_N/publication/317954329_ROBOTIC_COMMUNICATIVE_TOOL_in_Speech_and_Hearing_A_review/links/5b2ca3720f7e9b0df5ba6c6a/ROBOTIC-COMMUNICATIVE-TOOL-in-Speech-and-Hearing-A-review.pdf
14. **Abraham, Ajish K.**, Chandni, Jain., & Yashaswini, L. (2016). Effect of ambient noise on puretone hearing screening test conducted in Indian rural locations. *Journal of All India Institute of Speech & Hearing*, 35, 58-65. ISSN (print): 0973-662X. DOI: https://aiishmysore.in/en/admin/file_att/jaiish_vol_35.pdf.
15. Renuka, C., & **Abraham, Ajish K.** (2016). Computer intervention module for children with hearing impairment. *International Journal of Electrical, Electronics and Data Communication* 4(10), 19-24. ISSN: 2321-2950.
16. Hariprasad, B., Shreekanth, T., & **Abraham, Ajish K.** (2016). Reaction time measurement system for the assessment of persons with auditory processing disorder. *IOSR Journal of VLSI & Signal Processing* 6(04), 50-54. ISSN: 2319 – 4197

17. Apoorva, A., & **Abraham, Ajish K.** (2016). Algorithms for the enhancement of speech signal recorded in adverse conditions. *International Journal for Scientific & Engineering Research* 7(06), 1-6.
18. Ajish K Abraham and **Manohar N.** (2016). Efficacy of an assistive device for museum visitors with hearing impairment. *Journal of All India Institute of Speech & Hearing* 34, 111-121

B. Chapters Published in Books

1. M. Pushpavathi, **Abraham, Ajish K.**, S. R. Mahadeva Prasanna, and K. S. Girish. (2020). Perceptual Judgments of Resonance, Speech Understand ability, and Speech Acceptability in Children with Repaired Cleft Palate Across Words and Sentences. In Mahavir Singh & Yasser Rafat (Eds.), *Recent Developments in Acoustics*, (pp. 75-83). Springer.
2. **Abraham, Ajish K.** (2017). ICT-Based Outreach Programs: AIISH Model. In B. P. R. Narasimharao, E. Wright, S. Prasad & M. Joshi (Eds.), *Handbook of Research on Science Education and University Outreach as a Tool for Regional Development*, (pp. 196-205). Hershey, PA, USA: IGI Global.

C. Papers Published in National/International Conference/Seminar Proceedings

1. Abraham, A.K., Sivaramakrishnan, V., Swapna, N., Manohar, N. (2021). Image-Based Assessment of Jaw Parameters and Jaw Kinematics for Articulatory Simulation: Preliminary Results. *Proc. Interspeech 2021*, 621-625, doi: 10.21437/Interspeech.2021-1155.
2. **Abraham, Ajish K.**, Pushpavathi, M., Sreedevi, N., Navya, A. & S R M Prasanna (2020). Spectral Moment and Duration of Burst of Plosives in Speech of Children with Hearing Impairment and Typically Developing Children – A comparative Study. *Proc. Interspeech 2020*, 4981-4985, DOI: <http://dx.doi.org/10.21437/Interspeech.2020-1805>.
3. **Abraham, Ajish K.**, Pushpavathi, M., Sreedevi, N., & Navya, A. (2019). Exploring Acoustic Measures of Vowels (VSA, FCR3, VAI4, VFR) in Children with Hearing Impairment. In Sasha Calhoun, Paola Escudero, Marija Tabain & Paul Warren (eds.)

Proceedings of the 19th International Congress of Phonetic Sciences, Melbourne, Australia 2019 (pp. 1064-1068).

4. Renuka, C., Swapna, N., Bhavana, P V., Prabha, L., & **Abraham, Ajish K.** (2019). Touch Screen: An interactive platform to learn arithmetic concepts for hearing impaired children attending preschool: Case Study, *2019 1st International Conference on Advances in Information Technology (ICAIT)*, Chikmagalur, India, 2019, pp. 382-388. **DOI:** 10.1109/ICAIT47043.2019.8987275.
5. Hegde, Nidhi., Bullakkanavar, Rajat., Renuka, C., Veena, R., & **Abraham, Ajish K.** (2018). A Technical Approach to Find Defects during Articulation of Phonemes. *Proceedings of 3rd International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques (ICEECCOT-2018)*.355
6. CM, V., Prasanna, S R M., **Abraham, Ajish K.**, M, P., K S, G. (2018). Detection of Glottal Activity Errors in Production of Stop Consonants in Children with Cleft Lip and Palate. *Proc. Interspeech 2018*, 382-386, *DOI: 10.21437/Interspeech.2018-1665*.
7. Jaisinghani, Priyanka., Manjula, P., & **Abraham, Ajish K.** (2018). Systematic Review on the Performance Evaluation of Speech Enhancement Strategies in Individuals with Normal Hearing and Those with Hearing Loss. *Proceedings of International Workshop on Speech Processing for Voice, Speech and Hearing Disorders, A Satellite Workshop of Interspeech 2018, 8-9, September 2018, All India Institute of Speech & Hearing, Mysuru*
8. Vikram, C M., Pushpavathi, M., **Abraham, Ajish K.**, Girish, K S., & Mahadeva Prasanna, S R. (2018). Spectro-Temporal Analysis of Stop Consonant Production Errors in Children with Cleft Lip and Palate. *Proceedings of International Workshop on Speech Processing for Voice, Speech and Hearing Disorders, A Satellite Workshop of Interspeech 2018, 8-9, September 2018, All India Institute of Speech & Hearing, Mysuru.*
9. Dubey, Akhilesh Kumar., Pushpavathi, M., **Abraham, Ajish K.**, Girish, K S., Mahadeva Prasanna, S R., & Dandapat, S. (2018). Sinusoidal model based features for analysis of hypernasality severity. *Proceedings of International Workshop on Speech Processing for Voice, Speech and Hearing Disorders, A Satellite Workshop of Interspeech 2018, 8-9, September 2018, All India Institute of Speech & Hearing, Mysuru*
10. Kalita, Sishir., Pushpavathi, M., **Abraham, Ajish K.**, Girish, K S., Mahadeva Prasanna, S R., & Dandapat, S. (2018). Relative contribution of hypernasality, consonant production errors, and voice disorders on the intelligibility of cleft lip and palate speech. *Proceedings of International Workshop on Speech Processing for Voice, Speech and*

Hearing Disorders, A Satellite Workshop of Interspeech 2018,8-9, September 2018, All India Institute of Speech & Hearing, Mysuru

10. **Abraham, Ajish K.**, & Ravishankar, M. S. (2016). Cost Effective Acoustic Solutions to Optimize Reverberation Time. *Proceedings of International Symposium on Acoustics for Engineering Applications, 17-19, November 2016, KIIT College of Engineering, Gurgaon.*
11. **Abraham, Ajish K.**, & Jain, Chandni. (2016). Indigenous Technology for providing hearing screening services to the villager's doorstep. *Proceedings of 103rd Indian Science Congress, 3-7, January 2016, University of Mysore, Mysore.*