

Research Paper Presentations

Sl.N o	Title	Authors
FOCUS-3 National Conference on Speech Language Pathology and Audiological Practices held on 1st and 2nd December, 2023 at Father Muller College, Mangalore		
1.	Assessing Female Awareness of Vocal changes in polycystic ovarian syndrome and Pre-menstrual Syndrome	Gayathri SV, Maria JP, Khajeejath N, Esli S, Fathima CM, Srushti Shabnam
2.	Bi-directional lexical translational abilities in bilingual Malayalam- English young adults	Kalyani, Darshan HS, Rasika R, Omega A
3.	Attitude towards Patient-centered care in Audiology among Undergraduates, Postgraduates and Working professionals in India	Swati Goyal, Prajwal Kumar E,
4.	Broca's aphasia after aneurysmal thrombosed chronic infarct: A case report	Darshan HS, Rasika R, Devika PS, Shalini S
5.	Eliminating Tongue Thrust in Child with Mild Intellectual Disability: Role of Speech Pathologist	Ashikha AA, Achu S, Malavik MB, Sneha M, Deepthi KJ
6.	Viability of VRT a decade after vestibular schwannoma surgery and its impact on quality of life: A case report	Mayiyam Nuza, Jim Saroj Winston, Adharsh, Arjun, Nasif
7.	Temporal resolution abilities in sleeper musicians and non-Musicians for broad band and speech spectrum shaped noises	Haleem Mehazabeen U and Jim Saroj Winston
8.	Spontaneous otoacoustic emission (SOAE) in neonates and adults	Ritwik P, Pradeep KM, Sinchana H, Ishika P, Jim SW, Prajwal KE, Dhananjay R, Swati G
9.	Advances in enhancing the quality of life in individual with Communication Disorders	Thamanna Fathima, Hiba C, Akhila Rahul, Sruthi K Vinod
CRE conference on Aging: Holistic Perspective on Hearing, Cognitive Communication, Voice and Dysphagia held on 3rd -4th November, 2023, KMC, Mangalore.		
1.	A Close Look at Speech Language Pathologist's Workload: A Survey Based Study	Nihal Muneer, Srushti Shabnam
2.	Development and content validation of Coordinate Response Measure (CRM) corpus in Kannada for Informational	Dhananjay Rachana

	Masking Measurement	
3.	Correlation of type and degree of hearing loss with Tinnitus Handicap Inventory category	Haleem Mehazabeen U, Shwetha, Hiba M,
4.	Perspectives of Speech and Hearing professionals about safe listening	Yakshitha BM, Shwetha
5.	Translation of Voice Handicap Index-10 (VHI-10) to Tulu language	Nireeksha UK, Srushti Shabnam
6.	Self-perception of swallowing difficulties in the elderly: A preliminary study	Ruth MJ, Grace VP, Akhila Rahul
7.	The Early Aging Acoustic System: Effect on Temporal Processing and Speech Perception in Noise	Aysha, Mahima NC, Shreya PV, Prajwal KE, Jim SW, Swati G
8.	Impact of aging on discourse genres: A comparative study	Darshan HS
15th National Level Conference of Indian Speech Language & Hearing Association - Kerala State Branch held on 14th- 15th October, 2023 at Kozhikode.		
1.	Effect of varied straw length on the electroglottographic and acoustic measures of voice	Nihal Muneer, Nandana, Stephy, Akhila Rahul
2.	Assessment of Affective prosodic skills in Young Adults	Shalini S, Srushti Shabnam
3.	Correlation between screen time exposure and domain-specific working memory in young adults"	Devika PS, Vismaya Venugopalan, Mariyam Nuza, Darshan HS & Jim SW
4.	Cerumen impaction and it's audiological impact on pre-schoolers: A preliminary report	Jane, Jonas, Jim SW, Prajwal Kumar E and Swati Goyal
Laryngology Summit 2023 held on 13th -15th October, 2023, Sri Guru Ram Das Institute of Medical Sciences & Research, Amritsar.		
1.	Voice Outcome Post Trans-oral Thyroarytenoid Myoneurectomy in Adductor Spasmodic Dysphonia: A case series	Bennet Elsa Joseph
2.	Role of speech-language pathologists in rehabilitation of catatonic paranoid schizophrenia: A case report	Bennet Elsa Joseph, Fathimath Suhaila
54th Annual Conference of the Indian Speech and Hearing Association – New Delhi 17/02/2023 to 20/02/2023		
1.	Comparison of Diagnostic Accuracy of DSI and AVQI v.02.03 in discriminating across the perceptual levels of Dysphonia	Srushti Shabnam S., Gopi Sankar M
2.	International Outcome Inventory for Hearing aids (IOI-HA) in Hindi under the Audiology	Dhananjay Rachana. D., Rajalakshmi K.
3.	Spontaneous Oto-Acoustic Emissions (SOAE) in neonates	Sinchana Hegde,

	and adults	Ishika Prasad, Jim Winston, Prajwal Kumar, E. and Dhananjay Rachana. D.
52nd Annual Conference of the Indian Speech and Hearing Association - Chandigarh 14/02/2020 to 16/02/2020		
4.	Water Swallowing in Individuals with Repaired cleft of Palate: are they at par with their healthy peers?	Sandra Jaswika F Govekar Anisha V Thejaswi D.
5.	Qualitative & Quantitative Measures of pill Swallowing in other wiser healthy Individuals	Nimmi John M Fida Sayyed Thejaswi D
6.	Effect of Endotracheal intubation on Cepstral Indices: A cross Sectional study	Nikita Shetty Fathimath Hasna Thejaswi D.
7.	Awareness of Noise Induced hearing Loss amongst Professional Gym Instructors	Nafeesathul Afeefa Osheen Mumtaz V Archana Rai S.
8.	A survey on Awareness of Universal Newborn Hearing Screening in Nurses	Archana Rai S.
9.	Role of Word Imageability on reading in Kannada – English Bilinguals with Aphasia	Rashmi J.
10.	Vocal Fatigue in Beat Boxers: A Preliminary Study	Andria Johnson, Arpitha M Aji Thejaswi D.
11.	Analysing the type of acquired dyslexia in fluent and non-fluent Kannada -English bilinguals with aphasia	Rashmi J.
ICAS, Kasturba Medical College, Mangalore, 22/08/2019 to 24/08/2019		
12.	Intratympanic Steroid Injection for Idiopathic sudden Sensorineural Hearing Loss: A Case Study."	Nima Dorji Ram Kumar G Archana Rai S.
51st Annual Conference of ISHA Bangalore Chapter, NIMHANS Bangalore 21/09/2019-22/09/2019		
13.	Acquired dyslexia in individuals with bilingual aphasia: Implication of DRC Model	Rashmi J.
14.	Letter by Letter reading a central form of acquired dyslexia too but not pure alexia	Rashmi J.
51st Annual Conference of the Indian Speech and Hearing Association - Bangalore 08/02/2019 to 10/02/2019		
15.	Facial Emotion Recognition: can Children with Communication Disorders catch it?	Hiba Mohammed, Vaishnavi U. Calida Frieda P
16.	Raising a Child with a Disability: Coping Strategies of Parents of Children with Communication Disorders	Nafisa Amrah. Vaishnavi U. K Calida Frieda P
17.	Does early Versus Late Intervention Affect Hearing in Individuals with Cleft of Lip and Palate	Yakshitha B. M. Raksha A. Poojary

		Archana Rai S T Dattatreya
18.	Is Public Aware of New Born Hearing Screening? A Survey	Reethu Mariam Vibha Vinod Archana Rai S.
19.	Vocal Fatigue Inventory Measures in Subjects Exposed to Laboratory Chemicals	Lidiya Mathew Alina AThomas Anjana Hoode
20.	Do we Practice what we Preach? Vocal Hygiene Practices among Speech Language Pathologists	Lidiya Mathew Rahana Shiju Akhila Rahul
21.	Professionals' perception of Communication Disorders.	Jincy Koshy Ardra Haridas Akhila Rahul
22.	Social Representation of vocal hygiene in India & Bhutan; a cross-sectional survey	Akhila Rahul
23.	Social Representation of vocal hygiene in India & Bhutan; a cross-sectional survey	Srikanth Nayak
Recent trends in Assessment & Management of Individuals with Stuttering at Kasturba Medical College, 29/08/2018 to 31/08/2018		
24.	Conflict between Social Anxiety Disorder & Personality Disorder in the variation of Dysfluencies: A case study	Maya Varma R
Ni-VAT, Nitte Voice Assessment & Therapeutics at KSHEMA, Deralakatte, Mangalore. 22/02/2018 to 24/02/2018		
25.	Prevalence of Voice Disorders in a Semi -Urban Tertiary Care Hospital of Mangalore	Nikita Elsa Philip Kalpana Mutum Thejaswi D.
26.	Vocal Fatigue amongst students and Professionals in the Field of Speech Language Pathology	Theres Maria Jacob Ashna Maria Joseph Bennet E Joseph
27.	Co-relation between Vocal Fatigue Index and Voice Handicap Index – 10 in Primary School Teachers	Adheena Haridas Jinumol Thejaswi D.
28.	Vocal Habits of Gym Instructors: A Preliminary Study	Robin Joseph Maya Varma R
29.	Awareness about Vocal Fatigue and Vocal Hygiene Among Government and Private School Teachers	Jilu Ann Philip Shanimol Sebastian Shwetha
30.	Effect of Narrow Band Noise on Vocal Intensity.	Merin Shaju Alisha Sara T Archana Rai S.
31.	Social Representation of Vocal Hygiene Among Indian Population: A Cross -Sectional Survey	Akhila Rahul Jim S Winston,

32.	Self-Perception of Vocal Fatigue Amongst Clergy"	Bennet Elsa J
50th Annual Conference of the Indian Speech and Hearing Association - Kolkata 05/01/2018 to 07/01/2018		
33.	Relationship between extended high frequency audiometry and fine structure OAE	Hima P. Venu Sreelakshmi Archana Rai S.
34.	Music listening in high school, pre-university and undergraduates – A preliminary study	Sharel Lopes Spoorthi G. N Usha Shastri
35.	Awareness of the profession of audiology and speech language pathology among SSLC and 2ndpuc students	Spoorthi G. N. Sharel Lopes, Winola L. Cutinho
36.	Effect of menstrual cycle on contralateral suppression of transient evoked Oto-acoustic emission (TEOAs) in females	Drepath V. S. Anumol K. Deepak N. Raj
37.	How much is too much? Effect of volume on water swallow test	Mousira P. Soniya Thomas Thejaswi D
38.	Introduced swallow -attention interference on swallow and cognition performance in healthy young and middle-aged adult	Lekshana Umesh Shahana Thejaswi D
39.	Communication profile of Gerstmann syndrome a case study	Jinimol Thomas Mousira P. Megha Sara Thomas Maya Varma R.
3rd International Conference on Audiological Sciences held in Kasturba Medical College Mangaluru 21/09/2017-23/09/2017		
40.	Evaluating the Optimum Intensity to Administer Audiometric Weber Test	Neeraja Sunil Usha Shastri
41.	Functional Hearing Loss- a Case Profile	Hima P. Venu Archana Rai S.
42.	Extended high frequency Audiometric Finding in Benign Paroxysmal Positional Vertigo	Shwetha
49th Annual Conference of the Indian Speech and Hearing Association - Kolkatta 06/01/2017 to 08/01/2017		
43.	Relationship Between Working Memory and Identification of Phonetic Contrasts in Native Listeners	Keerthanaraj K P Mable Mathew Usha Shastri.
44.	Effects of Smoking on Outer Hair Cell Function in Young Adults: Evidences from Fine Structure DPOAE	Nahan Ashraf Mariyamath NaheemaMable M Prajakta Prabhu
45.	Speech And Language Profile in Autoimmune Encephalitis Dementia: A Rare Case Study	Adheena Haridas Jilu Ann Philip, Maya varma R. Thejaswi D
46.	Swallow Outcome and Audiological Profile in Lateral	Jigme Dorji

	Medullary Syndrome	Neeraja Sunil, Gopika K. K. Thejaswi D.
47.	Exploring The Effect of Straw on Sequential Swallow of Thin Liquids in Healthy Geriatrics	Nidhi Karkera Neeraja Sunil Thejaswi D.
48.	Influence of Attention Load While Swallowing: Does It Inhibit or Enhance the Performance?	Nikita Elsa Philip Kalpana Mutum Thejaswi D.
49.	Comparison of Sequential Swallow Between Carbonated and Non-Carbonated Thin Liquids in Healthy Young Adults	Merin Shaju Alisha Sara Thomas Thejaswi D.
50.	Effect of Fasting on Cognitive Functioning in Healthy Young Adults	Ayisha Shamooda V. Fathimath Shaniba Shruna M.S.
51.	Relationship Between Working Memory and Identification of Phonetic Contrasts in Native Listeners	Keerthanaraj K P Mable Mathew, Usha Shastri.
2nd SAARC International Conference (Laryngology Summit 2016) – Ahmedabad, Gujarat 30/09/2016 to 02/10/2016		
52.	Swallow outcome in Lateral Medullary Syndrome: A case study	Thejaswi D Neeraja Sunil Jigme Dorji
48th Annual Conference of the Indian Speech and Hearing Association - Mumbai 04/02/2016 to 07/02/2016		
53.	Cepstral analysis of vowels in children with cleft palate: observations from pre-post-surgery	Deepika K. Thejaswi D
54.	Effect of attention resource allocation on swallowing in healthy young adults	Vas Larisa Thejaswi D
55.	Effect of hot and cold temperature on 100 ml water swallow test	Sneha Beula Thejaswi D.
56.	Assessing impact of Ramadan fasting on pulmonary function	Rhea Philip Thejaswi D
57.	Investigations of risk factors for hearing loss and its outcome in universal newborn hearing screening program	P.P. Theertha Prathamesh D B
58.	Phonological process analysis in typically developing Malayalam-English bilingual kindergartner children	Athira V. V. Prathamesh D.
59.	Comprehension performance on verb forms in young children with hearing impairment	Deepika K. Prathamesh D. B
60.	Semantic examinations in children with intellectual disability: foundations from intentions and relations	Deepika K. Prathamesh D B
61.	Hand gestures in native speakers of Kannada evidence through picture-description task	Rhea Philip Prathamesh D. B
62.	Effect of socioeconomic status on parental perception of quality of life in Kannada speaking adolescents with cerebral palsy	Prajaktha A. P
CIGICON 2015 -13th Annual Conference of Cochlear Implant Group of India - SMS Medical College, Jaipur 26/09/2015 to 27/09/2015		

63.	Analyzing Leptal Characteristics of Voice in a Cochlear Implanted Child.	Thejaswi D.
64.	Levels of Stress & depression Pre and Post Cochlear Implant: A Comparative Study.	Dessai Teja D
65.	An insight into the expectations of mothers of children using cochlear Implant.	Dessai Teja D
66.	Inclusion of students with Cochlear Implant in the process of education: view of school teachers.	Winola Larona Cutinho
8th KSB ISHACON 2015 at Wayanad, Kerala		
12/09/2015		
67.	Disfluencies in English speaking young adults: a supplementary study in Indian setup.	Jomie John M Jisna Laxman Prathamesh D B
68.	Do our hands communicate? Analyzing of hand gestures in Kannada speakers.	Deepika K Reha Philip Pathamesh D B
69.	Impacts of Age and Gender on Parent Perception of Quality of Life in Kannada speaking Adolescence with Cerebral palsy.	Prajaktha Prabhu
70.	Lexical semantic organisation: A determinant for language proficiency	Jomie John M Jisna Laxman Prathamesh D. B
71.	Metalinguistic skills in monolinguals and bilinguals through metasyntactic awareness tasks and influence from bilingualism.	Sneha Beula Jomie John M Jisna Laxman Prathamesh D. B
72.	Percentage of correct consonants (PCC) as an articulatory evaluation method in children of early and late cleft palate surgery.	Chinnumol K.B. Sivapriya Nithina Alice Boban and Prathamesh D. B
73.	Perceptual and acoustic assessment in Sulcus vocalis: variations in Pre and Post therapy analysis.	P.P. Theertha, Jeeshna K. Prathamesh D. B
74.	Phonological process analysis in typically developing Kannada-English bilingual kindergarten children	Lavanya Krishnan Greeshma S S Athira V.Vinod Prathamesh D. B
75.	Rare genesis of bolus regurgitation post total Laryngectomy with Cricopharyngealmyotomy	Sivapriya M. S Thejaswi D. T Dattatreya
76.	Semantic intention analysis in children with intellectual deficit	Deepika K. Rhea Philip and Prathamesh D. B
77.	Steadiness in vowel phonation: an investigative study in persons with Parkinson's disease.	Sapna K. S. Easwari G Nithina Alice B Prathamesh D.B Santosh K.
78.	Swallowing outcome measures in 3 female siblings having Huntington's disease with chorea.	Chinju Micheal Thejaswi D. T Dattatreya
2nd International conference on Audiological sciences – Kasturba Medical College, Mangalore		
10/09/2015 to 12/09/2015		

79.	Short term Audiological outcome after Type I Tympanoplasty: Retrospective Study	Easwari G Sapna K.S. Usha Shastri
47th Annual Conference of ISHA, at Manipal 01/01/2015		
80.	Incidence And Prevalence of Hearing Impairment: Evidence from Neonatal Hearing Screening Program	Chinju Micheal Dessai Teja Deepak T Dattatreya
81.	Nature Of Conversational Hand Gestures in Native Speakers of Kannada.	Nandita J Pradeep Anupama T Anupama P.S Prathamesh D B Dattatreya T
82.	Phonological Process Development in Typically Developing Kannada-English Bilingual Pre-School Children	Maithily Rai Lavanya Krishnan Prathamesh D B
83.	Lexical Semantic Organization: A Measure for Language Proficiency Through Free Association Paradigm.	Pynshai Borlang Maithily Rai Alisha Appose Prathamesh D B T Dattatreya
84.	Effect of Bilingualism on Metalinguistic Skills; A Comparison Based on Metasyntactic Awareness.	Anu A Fathimath Nafiya Anju Sara George Prathamesh D B Lydia Missac T Dattatreya
85.	Semantic Analysis Through Intentions and Relations in Children with Intellectual Disability	Swathi Maria Francina B Shruti Ashok Prathamesh D B T Dattatreya
86.	Proverb Recognition Among Adolescent: Are They Aware??	Rajashree G Bhat Maithily Rai Thejaswi D. T Dattatreya
87.	Speech Dysfluencies in Kannada Speaking Children with Intellectual Disabilities	Maria Francina Swathi Prathamesh D B T Dattatreya
88.	Occurrence Of Dysarthria and Dysphagia in Tumefactive Demyelination – A Single Case Study	Sadaf Fareed Mereen R B T Dattatreya
89.	Articulation Assessment Using the Percentage of Correct Consonants in Children Who Underwent Early and Late Cleft Palate Surgery.	Anjitha Mathew Chinnumol K B Sivapriya M S Lydia Mary Issac T Dattatreya
90.	Effect of Task on Rate of Speech in Konkani Speaking Adults.	Winola Laron C T Dattatreya
91.	Disfluencies In Typically Developing Malayalam-English Bilingual Pre- School Children	Sukriti Kunwar Biya Mathew Hitha P Venu

		Prathamesh D B, T Dattatreya
92.	Harmonic Organization of Voice in Individuals with Septoplasty: A Pre-Post Operative Cepstral Analysis Study.	Rezwin M A Florida Pinky Thejaswi D, T Dattatreya
93.	Swallow Ability across Different Tastes: Evidence from Timed Test of Swallow.	Sukriti Kunwar Biya Mathew Thejaswi D T Dattatreya
45th Annual Conference of the Indian Speech and Hearing Association held at Chennai 01/02/2013 to 03/02/2013		
94.	Auditory working Memory Capacity in Congenitally blind Children Comparative study with Normals.	Divya V Nikita N Ashwini S A Cutinha Krupa P. T Dattatreya.
95.	Frequency of Stages of Play Development in Typically Developing Indian Children- A Comparison with western Normative Data.	Naema LS Archana R S Parineetha Shetty T. Dattatreya
33rd Annual Conference of IABMS Deralakatte, Mangalore 02/11/2012 & 03/11/2012		
96.	Test Retest Reliability of ASSR in normal Hearing Individuals.	Christina Jean Vivarthini K
97.	Effects of Working Memory Training on Speech Perception	Krupa P
98.	Development of Articulation in Tulu Language	Parinitha P. Shetty
99.	Development of Phonological Processes in Typically developing 3–4-year Kannada-English bilingual Children	Prathamesh D B
100.	Disfluencies in 3–4-year-old Typically developing Bilingual Children	Prathamesh D
Frontiers of Research on Speech and Music, Gurgaon, Haryana. 18/01/2012 to 20/01/2012		
101.	Cross Language Facilitation in Malayalam - English Bilinguals: Evidence from Semantic Priming.	Beena Mathew Thejaswi D Manjunath Narra Sneha M Varghese T Dattatreya
102.	Auditory and Visual Vigilance in Typically Developing Children.	Beena Mathew Manjunath Narra Sneha M Varghese T Dattatreya
103.	Lexical decision in Bilinguals Across Modality: Evidence from Rhyme and Word Judgement Tasks	Thejaswi D Manjunath Narra Sneha M V T Dattatreya
104.	Spectral Amplitude Measures: A Pre- and Post-operative Septoplasty Study.	Thejaswi D Manjunath Narra Sneha M Varghese T Dattatreya
4th KSB. ISHACON at Kerala		
105.	Auditory Vigilance in Children and adults: a comparative study	Beena Mathew, Manjunath Narra

		Sneha M Varghese T Dattatreya
106.	Auditory Rhyme Judgement in Typically developing Children	Thejaswi D Shana F C. A Manjunath Narra Sneha M Varghese T Dattatreya
44th Annual Conference of the Indian Speech and Hearing Association held at Hyderabad 20/01/2012 to 22/01/2012		
107.	Title: Harmonic Amplitude Measures in Septoplasty: A Pre-post Operative Study.	Thejaswi D, Rilna K. Vasu Manjunath Narra Sneha M Varghese T Dattatreya
108.	Can Spectral Amplitude Measures be used to Note Gender Difference?	Thejaswi D Anu C. C Manjunath Narra Sneha M Varghese T Dattatreya
109.	Long Term Average Spectrum (LTAS) Measures and Singing Power Ratio (SPR) in Trained and Untrained Singers	Anu C. C Anina E Daniel Manjunath Narra Sneha M Varghese T Dattatreya
110.	Cognitive Inhibition in Typically Developing Children: Evidence from Vigilance Task	Beena Mathew Caroline G Bridgit Manjunath Narra Sneha M Varghese T Dattatreya
111.	Lexical Decision in Bilingual Kannada English Children Evidence from Vigilance Rhyme and Word Judgment Tasks.	Thejaswi D Shana F. C. A Manjunath Narra, Sneha M Varghese T Dattatreya
112.	Auditory Vigilance in Children	Beena Mathew Amritha G. Manjunath Narra Sneha M Varghese T Dattatreya
International Conference- Frontiers of Research for Speech and Music (FRSM) Uthkal University, Bhuvaneshwar, Platform Presentations 07/03/2011-12/03-2011		
113.	Orthographical Facilitation of Naming Responses in Picture-Word Interference Experiments	Beena M Diliya S Manjunath. N Sneha M. V T Dattatreya
114.	Voice Low Tone to High Tone Ratio (VLHR) – As an Index to measure Nasality: A Pre and Post Operative Study.	Teja Dessai. D Thejaswi. D Manjunath. N Sneha.M. V T.Dattatreya.
115.	Reaction Time for Positive and Negative Priming in Children and Adults: A Cross Priming Study	Thejaswi D Nisha. A. J

		Manjunath. N.
116.	Effect of Speaking Rates on Voice Low Tone to High Tone Ratio to Measure Nasality	Teja Deepak. D Beena M Manjunath. N Sneha. M. V T Dattatreya.
117.	Acoustic Correlates of Stress in Tulu Language.	Teja Deepak D Manjunath. N Sneha. M. V T Dattatreya.
118.	Effect of Controlled Speaking Rates on Vowel Duration and Voice Onset Time.	Kaveri H Thejaswi. D Sneha M V, Manjunath. N
119.	Acoustic Analysis of Speech Sounds in individuals with Respect to Posterior Palatal Seal Area Implants.	Thejaswi. D Anu. C.C Manjunath. N Sneha. M. V. T Dattatreya.
Annual Conference of the Indian Speech &Hearing Association, Kolkata 21/01/2010 - 23/01/2010		
120.	Lexical Inhibitory Mechanism in Stutterers: A preliminary study.	Thejaswi. D Manjunath N
121.	Voice Low tone to High Tone Ratio (VLHR) as an index to measure nasality in cleft palate individuals.	Thejaswi. D Manjunath N Sneha M V
122.	Singing power ratio as an index to measure singing talent in trained and untrained classical singers.	Beena M Manjunath N Sneha M V Anu