



ASHA KIRAN

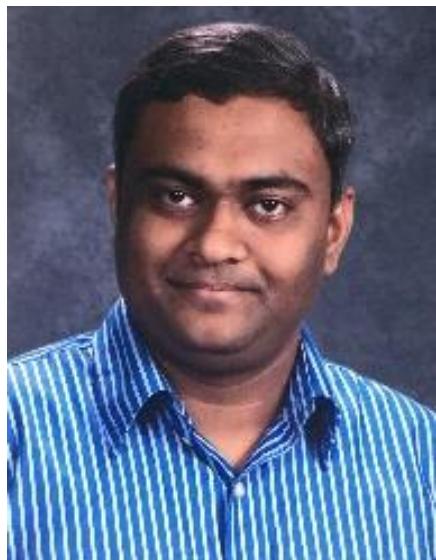


The Annual Newsletter of the Asian Indian Caucus (AIC) 2019

Celebrating our 25th Anniversary

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President's Message



Dear AIC Members,

Namaste!

The AIC was established in 1994 to address the professional, clinical and educational needs of persons of Asian Indian origin residing in the United States in the area of communication sciences and disorders. The AIC has evolved over the years and continues to positively impact the lives of the Asian Indians and beyond. This year, we are excited to celebrate the 25th anniversary of the AIC!

Our caucus has made appreciable progress on various fronts over the past year. This progress would not have been made possible but for the great enthusiasm and support from our dynamic executive team – Dr. Ranjini Mohan (Vice President -Professional Development), Dr. Shriya Basu (Vice President -Public Relations), Dr. Anusha Sundarrajan (Secretary) and expert guidance from Dr. Akila Rajappa, (President of the AIC January 2017-December 2018). Our Editorial team consisting of Dr. Sivapriya Santhanam and Mrs. Reethee Madonna Antony has done an exemplary work to bring this amazing newsletter ASHAKIRAN 2019 to you this year!

The AIC has collaborated with ASHA over the past year and developed diversity recruitment brochures [Make A Difference: Make A Change](#) targeting Asian Indian high school students and individuals in the USA. These informative brochures emphasize the value of pursuing a career as an audiologist or speech-language pathologist and also giving back to the community as a professional. We encourage our caucus members to order the materials through this [link](#) and share with their families and friends, counselors at high schools and colleges, career events, and with colleagues. We hope for an increased diversity in the field of audiology and speech-language pathology in our country.

This year, ASHA is celebrating 50th anniversary of the Office of Multicultural Affairs (OMA). In association with this celebration, The Multicultural constituency groups (MCCGs) along with SIG 14 will be presenting a seminar titled "[1476: The Shared Mission & Unique Perspectives of the ASHA Multicultural Constituency Groups & SIG 14](#)" on Friday, Nov 22nd, 2:00 PM at the ASHA Convention. We invite all our AIC members to join this seminar.

We also strongly encourage our caucus members to identify themselves as a bilingual service provider with ASHA. <https://www.asha.org/Members/Self-Identify-as-a-Bilingual-Service-Provider/> As a professional, you'll be able to provide quality services by communicating in the client's native language.

The AIC has been awarding clinician and student scholarships since 2016 to individuals who conduct or present a research in the areas of speech-language and communication pertaining to Asian Indian Population. So far, we have awarded thirteen scholarships over the past three years. We are sincerely grateful to Mr. Prasanna Eemani, CEO, Zenith Rehabilitation Services, California, for his continuous support in sponsoring our "Asian Indian Caucus –Zenith Rehab Student Clinician Scholarships". We hope to sustain the annual scholarship funding efforts through [generous donations](#) from sponsors and professionals, and encourage many students and clinicians for their work with the Asian Indian population.

Our main future goals include:

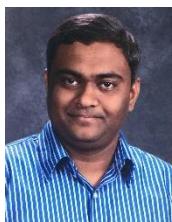
- 1) Building a resource repository of speech-language test materials in South Asian languages which can be used by clinicians across the USA
- 2) Increasing visibility and networking of the AIC and the members
- 3) Fundraising efforts to support research pertaining to Asian Indian population in the USA.

We, the AIC executive members are eager to meet you all at the ASHA Convention, Orlando, Florida!

Thank you,

Prabhu Eswaran M.S., CCC-SLP
President (Jan 2019-Dec 2020)

AIC Executive Board



Prabhu Eswaran,
M.S., CCC-SLP

President, Prabhu Eswaran is an ASHA certified school-based speech-language pathologist in Los Angeles, California. He has over fifteen years of clinical experience in working with the early childhood and school-aged population. His areas of interest include child language disorders, communication disorders in culturally and linguistically diverse populations and technology in special education. He is actively involved in various community activities and camps relating to communication disorders in the Southern California region. He has served in the AIC board under various capacities since 2013. Prabhu can be contacted at prabhuslp@gmail.com



Ranjini Mohan,
Ph.D., CCC-SLP

Vice President (Professional Development), Ranjini Mohan is an Assistant Professor at Texas State University in the Dept. of Communication Disorders. Her research interests include understanding the neural bases of cognition and language in typically aging adults and those with neurogenic diseases. She has clinical experience working with adults in acute, sub-acute, and outpatient settings, both in the U.S. and in India.



Shriya Basu, Ph.D.

Vice President (Public Relations), Shriya Basu is a researcher in fluency disorders and is currently pursuing her Clinical Fellowship at Miami, Florida, with EBS Healthcare. She received her Ph.D. in Speech, Language, and Hearing Sciences from the University of Minnesota with a minor in Cognitive Sciences. Shriya is originally from Kolkata, India and an alumnus of JSSISH, University of Mysore, and SOAHS, Manipal University. Her research interests include fluency, language and cognition. Her past and current research projects are aimed at understanding the multi-dimensional model of stuttering: more specifically, the cognitive and linguistic variables in children and adults who stutter. Shriya has also worked extensively in clinical population with adult language disorders in India as a lecturer in Ali Yavar Jung National Institute of Speech and Hearing Disabilities, Eastern Regional Center, Kolkata and was instrumental in the development of Western Aphasia Battery-Bangla.



Anusha Sunderrajan,
Ph.D., CCC-SLP

Secretary, Dr. Sundarraj is an Assistant Professor at the Department of Speech, Language, Hearing Sciences at San Francisco State University, California. She received her bachelor's and master's degrees in Audiology and Speech-Language Pathology in India. She earned her Ph.D. in Speech Language Pathology and a minor in Gerontology at Purdue University in 2016. Her research interests center around understanding the physiology of aging voice using aerodynamic and acoustic measures. She is specifically interested in understanding how the healthy young and old larynx responds to the effects of unhealthy, and excessive use of the laryngeal mechanism. She has extensive clinical experience working with children with developmental disabilities in schools and private practices both in the U.S. and in India.



Siva priya Santhanam,
Ph.D., CCC-SLP

Chief Editor, Siva priya Santhanam is an Assistant Professor at the Dept. of Speech, Language, Hearing Sciences at Metropolitan State University of Denver, Colorado. She is the developer of the Integrated Supports for Students with Autism in College (ISSAC) program at her university. Her research interests include developing innovative methods of intervention to support communication in young children and adults with autism spectrum disorders, supporting parent-child interactions in families of children with developmental disabilities, and multicultural service delivery in speech-language pathology.



Reethee Madona Antony,
MPhil, CCC-SLP

Associate Editor, Reethee Madona Antony, is an Assistant Professor in the department of Speech-Language Pathology at Misericordia University, Pennsylvania. She is an alumnus of Sri Ramachandra University and is completing her doctoral dissertation at the Graduate Center of City University of New York (CUNY). Her areas of interests include neurogenic communication disorders, neural encoding of speech sounds using cortical evoked potentials, non-native speech perception, and multilingualism.



Akila T. Rajappa,
Ph.D., CCC-SLP, BCS-S

President Advisor, Akila T. Rajappa, is an Assistant Professor at Department of Communicative Sciences and Disorders (CSD) program at College of Health Sciences, East Stroudsburg University of Pennsylvania. Dr. Rajappa is passionate about teaching and researching scientific topics related to neuroscience, medical speech pathology, psychophysics and research methods. Her primary research interests are two-fold, basic science and clinical research. In terms of basic science, her interests lie in understanding neural mechanisms of airway protective disorders (cough/swallow) and exploring sensory perception of upper airway stimuli, specifically cough stimuli through the science of psychophysics. In terms of clinical practice, she is interested in evaluating evidence-based practice (EBP), community out-reach and service-learning initiatives in speech, swallowing and cough rehabilitation for aging, stroke and neurodegenerative disease population. Dr. Rajappa has been a practicing clinician for many years across many clinical settings and is a Board-Certified Specialist in Swallowing and Swallowing Disorders (BCS-S). She is also interested in clinical service delivery in multicultural population and has served in the capacity of President of Asian Indian Caucus (AIC), a multicultural constituency group of American Speech-Language & Hearing Association (ASHA). Outside of school and work, Dr. Rajappa enjoys performing Bharatanatyam, a form of Indian classical dance, swimming and spending quality time with her family.

Editor's Message

Namaste!

It is my pleasure to bring to you this year's ASHA Kiran, the yearly newsletter put forth by the Asian Indian Caucus (AIC) at ASHA. Please join us in celebrating our **25th anniversary!** Our caucus has grown this year as you can see the names and happy faces of our new executive board members, Anusha, Reethee, and Shriya! Welcome ladies! 😊 We are so thrilled to have you on board!

This year, we have TWO stellar scholars, Dr. Namasivayam and Dr. Krishnamurti, who we feature in our Spotlight Section. Dr. Namasivayam's work and life will inspire you to get out there and be the best version of yourself. More than a decade ago, he inspired me to pursue my dreams. Nothing has changed; the man hasn't aged one bit in his thinking, and his wisdom and zeal for life is surely contagious. In this Spotlight section, Dr. Namasivayam asks us to be the best in everything we do and urges us to dream big. I bet you will feel like a you just drank a double-shot espresso after you read his responses!

Dr. Krishnamurti's discipline and dedication to research and teaching motivates me to do more! My first encounter with him was at an ASHA convention several years ago. While I was struggling to decide what my next steps were going to be after graduation, Dr. Krishnamurti encouraged me to believe in my abilities. I then went on to pursue my post-doctoral work in autism. I vividly remember what he said, "If you can make it all the way from India to the US alone, you can definitely do anything else you set your mind to. Do NOT doubt your abilities! Just go for it! You can do it all!" Thank YOU! I can only imagine how fortunate his students are to be working with him. As you read his responses, you will be amazed by his long, successful, and steadfast journey! One can only guess how difficult it must have been to move to a new country when we did not have even internet access in India. We salute you, Dr. Krishnamurti, for your unrelenting efforts, resilience, positive attitude, and your continued commitment to excellence in everything you do!

Our research contributors are two extraordinary women scholars! Dr. Anu Sharma, along with Dr. Glick, a talented post-doctoral researcher in her lab, walk us through the cognitive effects of hearing loss. They lucidly explain how the ear and the brain are connected and share strategies for managing the effects of age-related hearing loss on the brain. Subsequent to this article, you will find the work of Dr. Lata Krishnan and her team of collaborators in India. This article is certainly a page-turner! Community projects always rejuvenate us; it reminds us of the very reason we decided to work with individuals with communication disorders and their families. Dr. Lata Krishnan and her team of researchers, clinicians, and students have certainly thought outside the box! The impact of their work crosses borders. Dr. Krishnan, watch out for more admirers and followers of your fabulous study abroad program!

While we are busy working at our desk, we fail to notice the magnitude of work done by our colleagues in other countries. In the first article in this section, Ms. George walks us through her journey as an audiologist making incremental changes in the healthcare system and the lives of clients and families in Bahrain. I especially enjoyed the positive approach of this article and the way Ms. George so unassumingly describes



her initiatives, her effort, and her impact on the community in Bahrain. You have certainly moved some mountains here, Sherin! Ms. Sunassy then takes us through her experiences starting out as a clinician in Mauritius and transitioning to work in two different countries. The efforts she has taken to learn more, collaborate, and stay updated with current clinical developments, is certainly applaudable! Ms. Gopinath describes her challenges working in a new country and brings our attention to the changing climate of the field of audiology in the Middle East. She promises us that the journey is worth all the effort! This section culminates with an article by Ms. Asha from Bangladesh. We congratulate Ms. Asha and her team as they work hard to establish the field of speech-language pathology and audiology in their country. We totally appreciate the amount of effort it takes to start and sustain a meaningful program. It is easy to work in places where resources are plenty, but one requires creativity and resilience to exceed expectations in low-resource conditions. Therefore, each one of our international contributors are truly trailblazers!

I hope you enjoy reading the work of our all our contributors, and if these articles bring a smile or a drop of tear, please take a minute to write to our contributors – congratulate them and give them your support. Feel free to write to me at ssanthan@msudenver.edu if anything you read got you thinking. **If you are interested in contributing to the ASHA KIRAN AIC newsletter in 2020, please write to me.**

On behalf of the AIC executive board, I sincerely thank each one of our contributors! I know you have many priorities and demands both personally and professionally, and we truly appreciate you taking the time to share a slice of your work with us through this year's AIC newsletter. As you continue to inspire others, we wish you the very best in your endeavors!

Hearty congratulations to all our scholarship winners this year! Congratulations, Ruhee, Barnali, and Srividya, for your commitment to excellence in your work! Scholarship winners from previous years, thank you so much for the lovely note you sent us! Shine on!

As AIC grows, we have been working with high school students across the country to create increased awareness about the sister-professions, speech-language pathology and audiology. We are working toward revamping our website and other exciting initiatives. To learn more, please stop by our [2019 Annual Meeting](#) during the ASHA convention this November.

As I wrap up this message, I want to thank our sponsor, Mr. Prasanna from Zenith Rehab for his consistent support to AIC. My deepest gratitude to my like-minded, unrelenting, positive, and never-whiny partner, Reethee Madona Antony! As editors of this AIC newsletter, we have spent several days (and nights) in discussions and brainstorming sessions. I especially admire her determination and commitment to work long hours while caring for a newborn! Yes! Join me in congratulating Reethee as she mothers her second adorable baby boy! 😊 Thank you, Reethee! I couldn't have done this without you! My sincere thanks to all members of our AIC executive board and our new president, Mr. Prabhu Eswaran – this is a purposeful team!

Thank you,
Siva priya Santhanam & the AIC Executive Board

AIC Spotlight

This year's AIC Spotlight features two inspiring scholars in our fields:
Dr. Aravind Namasivayam, and Dr. Sridhar Krishnamurti.

Dr. Aravind Namasivayam

Dr. Aravind Namasivayam, PhD, Reg. CASLPO, S-LP(C) is a research associate in the Oral Dynamics Lab at the University of Toronto, Canada. He is a consultant research scientist with the PROMPT Institute, Santa Fe, New Mexico. He also holds an adjunct faculty status at the University of Toronto, Canada. Dr. Namasivayam's current clinical and research interests include developmental speech sound disorders, stuttering, sensory-motor integration, and motor skill learning.

Email: a.namasivayam@utoronto.ca

Please share with us your professional journey. How did you get to where you are today from your early years of education in India?

Oh my! Long story! I did my BSc at Dr. M.V. Shetty Speech and Hearing (1992-95), and then MSc Speech and Hearing at AIISH (All India Institute of Speech and Hearing) (1995-97). There, I had the good fortune of working with Dr. Savithri ma'm who inspired me to get into fluency disorders. And since I was always interested in physiology, I moved into speech motor control and fluency. Luckily, I read about the works of Drs. Hermann Peters, Pascal van Lieshout, and Wouter Hulstijn at the AIISH library one day. These were legends and pioneers of speech motor control, and the ones who started the international speech motor conference in the Netherlands. So, I really wanted to do a Ph.D. with them. So, I emailed Dr. Peters (wait, hand wrote letters back then haha 😊) in the Netherlands who said they did not have funding and asked me to



contact Dr. Pascal van Lieshout who had just moved to Canada in 1998. The rest you can say is history; I have been working with Dr. Van Lieshout at the University of Toronto for 20 years now on speech motor control across various disorders and age ranges. For a brief time (1997-1999), given my interest in auditory physiology I was also working as the first clinical specialist for Cochlear Ltd., Australia (via a company in Bangalore). We set up the first 9 Cochlear implant clinics in India, and trained the Audiologists etc., and thus got the ball rolling on cochlear implants in the region.

What or who has been your inspiration?

I am thankful for so many people who have mentored me, inspired me, and shaped me to be who I am. Just to name a few in academia: Jyothi ma'm (my first BSc. teacher at Dr. M.V. Shetty College), Dr. Savithri ma'm, Dr. Pascal van Lieshout, Dr. Paula Square (first Chair at University of Toronto), Dr. Lawrence Shriberg (University of Wisconsin-Madison), and Dr. Robert Chen (Motor disorders, Division of Neurology, Toronto Western Hospital). I think they are all my role models and inspiration, and I try and integrate what I see in them: their work ethic, quality of work, attention to detail, integrity, way of thinking, kindness, oversight, management, passion, and compassion. But I also take day-to-day inspiration from students, classmates, colleagues, and employers; this list goes in the 100s, but I am thankful for all their support and input.



ASHA 2015

What is your advice to students, clinicians, and researchers from India who are novices to the profession and are trying to make a career internationally?

My general advice (and my teaching philosophy) goes like this:

“whatever you do ...you should be the best at it (in the whole world; not in your class, not in your school, not in your city, but the whole world)”.

It's not if you are good at something, you must be the ONLY one who can do it! That's how good you should try to become. Also, important to remember, it's not where you start that matters its where you want to go.

So, Dream Big! And then set goals for that dream, draw out an action plan, and do one thing in that plan a day/week towards that goal and before you know it you will be living your dream!



Received Excellence in Applied Research Speech, Language, and Audiology Canada (SAC) Award, 2016

personal and professional interests?

I think it all comes down to passion. When you are passionate about something, it doesn't feel like work. I work hard (15-hour days x weeks on end without any holidays/weekend breaks, when in the zone) and then when I finish the task (like submit a grant or paper for publication), I take time off to travel and do other stuff. Somedays, I train Muay Thai to decompress, to clear my head and oxygenate my system. Martial art is Martial Zen; it is about mindfulness. **Work hard and take breaks – Simple!**

Would you please share any significant experiences from your trips outside North America?

It really warms the heart to see: hope in clients faces, happiness in children (despite their hardships), eagerness to learn in S-LPs attending international workshops, the hospitality of different cultures, learning and networking experiences at conferences, and solving local/culturally different S-LP practice issues. S-LP is a very rewarding profession no matter where you are or where you go!

For the curious admirers out there, what is one thing you wouldn't tell us about yourself if we didn't ask?

Also, if you are planning on training someone like your student or research assistant, train them well, and don't hold back on knowledge. Because you never know; they might end up being your therapist when you get a stroke or something (you will only want the best treatment, right?). **Train the next generation like an investment.** Everything I know, I try and transfer from my memory bank to theirs!

You enjoy traveling, fitness, wildlife, and martial arts. Is that right? May be not in that order. Which is your favorite? How do you do manage your time while exploring so many



Talk at Brazil



Black Belt in Karate

I am an official/registered Muay Thai coach in Canada, and I teach Wednesday night 7-8pm at a local martial arts gym (come train please)! Second, I am queasy about worms – can never put live bait on a fishing hook, ever!

On an even lighter note, do you have a favorite food - something you'd love to eat any time of the day? And do you cook? 😊

I love green salad (Haha 😊 jus joking); my fav is having samosas and peanuts (with mint and tamarind chutney) with coffee on a Sunday morning. I could have that every morning if I can.

If there is anything else that we may have missed in terms of your contributions to the field and/or your contributions to the Indian community both in North America and India, would you please share?

As a doctoral student in 2003, we (a few friends and I) noticed the gaps in support for the profession in underserved communities including developing countries such as India. So, I co-found www.Hear2Speak.org. Hear2Speak.org, a volunteer-run and non-profit organization, was formed with the aim of improving the quality and accessibility of speech, language, and hearing health care services. We oversaw projects that focused on both professional development and client-centered services for underserved people with communication disability in both developed and developing countries. Hear2speak.org has since grown to over 300 active members and representatives in over 16 countries. The organization has established student branches at the University of Toronto Scarborough, and at the Department of Speech-Language Pathology at the University of Toronto. For more than a decade, a core team of volunteers and myself have successfully completed key projects in 7 different countries. Most notably, management of human resources and volunteer services at the 9th Special Olympics in Nagano (Japan, 2005).

We spearheaded the establishment of the first clinical S-LP placement/education partnership between the University of Toronto and Sri Ramachandra University in Chennai (India, 2009), raised funds for the set-up of a hearing aid mold-making centre in Blantyre (Malawi, 2009), the procurement of clinical AV (audio-visual) equipment to facilitate University of Toronto S-LP clinical placements in Aga Khan University Hospital in Nairobi (Kenya, 2011), language translation of S-LP outcome measures in Athens (Greece, 2013; in collaboration with the Holland Bloorview Kids Rehabilitation Hospital), the procurement of rehabilitation Audiology equipment and speech tests for the University of Kelaniya in Sri Lanka (2017), and more recently in 2018, they raised funds to support the first graduating class of Speech-Language Pathology at the Addis Ababa University in Ethiopia in collaboration with the Toronto Addis Ababa Academic Collaboration (TAAAC).

My most recent focus is on the challenges and frustrations of busy clinicians to engage in evidence-based practice, hence founded the Speech Research Centre Inc. (website launching in Jan 2020). Speech Research Centre Inc. is a knowledge translation and implementation science group with the aim of making evidence-informed practice accessible to frontline clinicians worldwide. The new centre supports speech-

language pathologists and Audiologists in accessibility and dissemination of research and in the development of best-practices. The centre has provided advanced training (via in-person workshops) on the assessment and intervention of speech sound disorders in children to over 500 clinicians in the last year in the North and South America.

AIC Spotlight

Dr. Sridhar Krishnamurti

Dr. Sridhar Krishnamurti, Ph.D, CCC-A, Professor of Audiology in the Department of Communication Disorder and also serves as Au.D program coordinator. Prior to his appointment as assistant professor at Auburn in 1996, Sridhar Krishnamurti completed a clinical fellowship in audiology at the Massachusetts Eye and Ear Infirmary at Harvard Medical School. He currently serves on the research grants review panel for the Alzheimer's Association and is also on the review board of several agencies and journals including Ear and Hearing, American Journal of Public Health, and Journal of the American Academy of Audiology.



Dr. Krishnamurti has authored and co-authored journal articles and book chapters that cover the areas of electrophysiology, aging, hearing conservation, auditory processing disorders, and hearing aids.

Sridhar's awards include the 1999 New Investigator Research Award from the American Academy of Audiology, the 2011 Auburn University Alumni Undergraduate Teaching Excellence, and the 2012 Auburn University Faculty Research award. Dr. Krishnamurti has served as the past-continuing education administrator for Audiology Special Interest Divisions 6-9 and a Fellow of the American Academy of Audiology.

You have had a successful and thriving career. Please share with us your professional journey and tell us how you got to where you are today from your early years of education in India.

I started out in Mysore, and I think my favorite part is doing my masters there and after that, I moved to Madras and I spent about three years there before I moved to do my Doctorate. I am particularly grateful to my sister Sudha for all her inspiration and my father for my writing skills, it has shaped me into what I am today. In India, I worked in a clinical setting Apollo Hospital, Voluntary Health Services hospital in Madras, and helping in a ENT hospital that was very dear to me with Dr. Sadasivan, who did a lot of Stapedectomy and so I really had a deep desire to study Audiology because of him more than anything else. I completely gave up speech and came to Kent State University by accident.

There was no internet in those days, so I applied through the US Consulate in Chennai, and they gave me a directory and they had no idea about our field. I randomly picked Ohio State, Kent State, and Boston University. Kent was the first one to offer me funding to come and study for my Ph.D. Another thing that actually kindled my interest was that Professor Bob Pierce surprised me, by calling me all the way from Ohio and I thought this was amazing as somebody was taking time to do that. He called and talked to me, and I wasn't very eager to go, and told him I had a job and that I had no interest if I had no funding. I was kind of blunt about it, but he offered me the funding. Then, I got a fellowship at Massachusetts Eye and Ear Infirmary (MEEI) and sat in some lectures after my work in the evening which kindled my interest into academia. One of my friends who live here in Auburn invited me and I visited the place after the 1996 Olympics held in Atlanta. In 1996 Fall, they offered me a position here. I left Boston and came here, and I have not left anywhere. This is my 23rd year in Auburn. I have been actively involved not only in teaching but also with Department of Defense. So, we look at speech communication in noise, hearing protection, now we are looking at cognitive effort and workload. That's a hot topic in the military!

You are a renowned scholar in audiology, and you head two labs at Auburn University - the Electrophysiology Lab and the Auditory and Hearing Science Lab. Please share with us your experiences in this role. Also, if you could give us insights into how you faced challenges in directing the two labs, that would be of interest to our readers.

Sure! The focus is on the electrophysiology lab and traditionally our research has focused on cortical evoked responses mostly pertaining to P300 and P1, N1. For P300, we look primarily at how being engaged in two different tasks will affect your ability to process sound. For example, a visual and auditory task going on at the same time and how does that focus your ability to attend one thing over the other that's one thing we have been working on more recently. The other one is P1, N1 using a software called HearLab that was developed in Australia. My primarily focus is on the adults with hearing aids and another one is to see the effectiveness of cortical evoked responses to see the benefits from amplification. The other one that is more recent and dearer to me now is pupillometry which measures the diameter of the pupil under stressful conditions. So, basically checking the sympathetic and parasympathetic response by presenting sounds to study stress, listening effort and listening fatigue. If you have to pay more effort you need two things to happen. You need to have more resources available to you and the load has to be manageable. The other one is speech in noise. We have looked at young vs old and their ability to respond to speech in a noisy background. So, one interesting thing we are finding in both studies is age itself is not a huge factor as some of the older people are more persistent and are able to keep focus and they do better than even younger people. **It's not age necessarily, it's the individual's ability to persist that seems to be very important.**

In the other lab, most of that has to do with music perception and we are looking at how musicians and non-musicians differ in terms of psychoacoustics using behavioral and electrophysiological measures. So, we have a string orchestra group which is usually made up of middle to high school students and we are taking that group and comparing them to children who do not have musical training. There are two theories in this, one believes that musicians are better than non-musicians simply because of the nature of training. The other one believes that is not the case and these are more innate. In the past, we have also looked at other psychoacoustic things mostly pertaining to speech intelligibility. I would say between spatial release of masking and music those are two big areas we are focused on.

Most of my time (apart from actively teaching) is spent on managing the students to ensure that we are getting the work done every week and also managing the graduate program which takes a lot of work. That's

something I have learned: how to manage the students (in the last 23 years) and be careful in handling them and not make their life miserable! I think am a much better teacher now and a better manger than I used to be. When I came here, I didn't have a startup fund like how we are providing the new people when they come here for jobs. We had an old Cadwell evoked potential equipment that was pretty much standing on its last leg when I came to Auburn. I literally had to open it several times and there were some computer boards inside and I had to figure out which board did what which was a trial and error learning and I didn't even know how to work it and so I had a tough time. It was a difficult experience but that was unique because I have never done anything like that, as I have to learn how to fix things. Life becomes a lot easier has you move forward. The pressure goes down, but you are working harder and harder to improve your research and I would say we are still trying to do that.

My biggest challenges in the last decade has been teaching students how to read literature, how to write, how to do the research, and how to publish and present their findings; so, those are four different things I know. First part is critical reading as I call it, which is usually not too bad in the students. Second is the writing part. Thinking is easier to teach than writing skills, but often students are very driven and disciplined.

Please share any significant mentoring experience(s) you've had – experiences that you have enjoyed.
 My favorite job is working with undergraduates and teaching a large undergraduate class that we have. Most of them don't have a clue or have zero interest in what we do and yet I am somehow able to inspire about a small percentage of students to become audiologist. I don't know what and how inspire them. "If you become the teacher that you are, you are never the teacher that you were, and you become the teacher you are". You will become a better teacher when you understand your students better! The most enjoyable moment is when I was nominated for teaching excellence award. Auburn is a big football university. When you get a big award here, they put you in the middle of the stadium where 100,000 people are watching you. About 2013, I think, this is from an undergraduate student who never worked in the lab. She wrote a letter to the committee, she nominated me and the next thing you know I was selected in the university among I think 5 or 6 people for the teaching award. It was an amazing experience! To this day I don't know much about the girl and all I know is she did is she nominated, and they selected me. So, that was an amazing experience because going in the middle of the field and it was an incredible atmosphere you know!

When you reflect on your professional and personal achievements, what do you think motivated you? Who inspired you? And what continues to motivate and inspire you today?

The answer that I am going to give you is from Mysore days and nobody will dispute that. The most brilliant and admired teachers in Mysore in during those days that was Dr. M.N. Vyasmurthy. He taught audiology to almost anybody who came to Mysore and he was an amazing teacher! What I remember the most about him is he comes to the class and draws a head and he will draw ears right and left and he will teach us using those ears! He will write all kind of numbers there and he will draw masking pictures and he will teach in the simplest way that will be inspiring and you will feel like OH MY GOD!!! That concept that you never understood from reading so many books, but the moment he got in there he puts it in your mind. So, there are these famous Vyasa Murthy's notes that have recycled their way through about probably for at least 20-25 year in AIISH, Mysore. There are these recycled notes that I still have Vyasa Murthy's notes. If I will ever have a doubt, I will surely get an answer in that. **I think he is the India's best Audiology teacher ever!!!** I think we should create a **Vyasmurthy award** and give it to only an excellent teacher! **I am yet to see a teacher like Vyasmurthy!**

What advice do you have for all the early clinicians, researchers, and educators who are trying to build their career in audiology? If you could share your insights on how you face/faced professional challenges along the way, it would be very helpful!

My first thing is as a student don't just get into the business of memorizing things or take your teachers words and cram. **Don't be a replica of the teacher!** Try to generate your own questions and hypothesis and by that, I mean you figure out somethings that you want to go after, and you want some underlying hypothesis for everything. So, if you are doing 'x', then you should have a hypothesis for 'x'. "I am doing this because this is going to do this". I didn't have that mindset when I came here, but I had to develop that mindset. I think people can develop upfront then you can become a good teacher, a good researcher and a good clinician because all three of those that we are talking about, they all involve asking questions and testing those with hypothesis. *For clinicians, each patient is a research question, I think.* I am fan of writing the questions down first and then go the literature. **Don't forgot that you are a student all the time, even when you are a professor! The definition of a scholar is somebody who is learning all the time, not necessarily somebody who is teaching all the time.**

Where do you see the field of audiology in 10 years from now – in terms of developments in hearing science and technology?

That's a very good question! Right now, the focus is on technology but as we go forward technology alone will not solve the problems of the people that we help. One of the key things we need to learn is not teach people how to do things, but we have to teach people why they should do something. If you teach them why to do something, then they will learn how to do something. Also, constant updating is required and that's a big challenge in the years ahead. Audiologists think they can dispense hearing aids and make a living; that's a dangerous thing to associate with. If they just rely on programming the hearing aid and giving it to the patients that's not enough. Cognition has to come bigger into the hearing aids. The only person who initiated this but passed away very early is Dr. Gatehouse. Cognition is going to be the main reason why audiologists are sought after tomorrow, as it serves an important point to look at aging and hearing aids.

Moving on to explore your lighter side, I remember you sharing an incident about your daughter's interest in Tennis. What sports interests do YOU continue to explore? Are there other interests besides sports and audiology that you'd like to share?

Deep love for tennis definitely! When I was in Boston, I drove to US Open tennis. I always wanted to see Wimbledon and Flushing, so half my dream has been achieved, the other half is still unachieved. Tennis is still a big thing for me. I tried to teach my daughter tennis, but unfortunately that didn't go too far. She moved on to gymnastics and she did well. In the last two years, she has gotten into golf. That's a very very tough sport. I had no idea because it looks so easy, but it is so hard to hit that ball and get it towards the hole. It takes a whole day actually, they go from morning to evening to play sixteen holes and by the end of the day, your feet are actually like crushed. And mentally, it is a more difficult sport I think, golf. My latest is American football. Now, I go to every possible Auburn game, so we get season tickets.



Sports is a big equalizer in life. **If you have any kind of sports training, you are a much more well-rounded person, I think you appreciate things a lot more.**

Some people are just purely academic nerds and have zero interest in whatever sport. I think they are missing out. I am especially a fan of team sports. Besides, cooking definitely is an interest. When I started, I didn't even know when you put jeera, when you put dhal? I had no earthly idea. So, a lot of it was like doing a chemistry experiment, most of the time, when I started out. I feel cooking is a way to improvise and be innovative. I don't get to read that much but I did have a deep interest. I think my literature knowledge has improved because of my daughter.

Do you have any favorite books that you'd recommend others to read? (no books on audiology please) 😊

Shakespeare, the English is high, but the plots are incredible. So, for example the tragedies that Shakespeare wrote, I think one should read all of those. Obviously, Hamlet and Macbeth are the two famous ones. Othello and King Lear, those are the next two big time tragedies. *I would strongly urge people to not forget the English literature that we are so rich in, because they are so powerful.* My favorite book from India is **Freedom at Midnight**, about India's freedom. **I think every Indian should read that one.** It was not written by an Indian though. It was written by two French people: Larry Collins and Dominique Lapierre. Freedom at Midnight about India's freedom, absolutely, incredibly, oh! I mean, depressing book. It is the most depressing book, I think, that I have read but it is also the most fantastic book that I have ever read!

If there is anything else that we may have missed in terms of your contributions to the field and/or your contributions to the Indian community both in the United States and India, please do share.

I think the connection between Indians who come to study here is sound maybe in speech but is not sound in audiology. So, for speech many of them go to ASHA conference and are actively involved in ASHA KIRAN. But in audiology, since we don't go to ASHA that much, we don't have our connection with all our people. So, I really miss that. I think one thing that we need to do is create like what you're doing here which is put it in newsletter, but also we need to find some sort of symposium where we all can meet and it doesn't have to be done every year. Then, we can talk about some of these things; we can even invite people to give talks but may be not make it like continuing education but more of interpersonal communication. Maybe we need to have a social forum or something, not professional, nothing to do with professional; it should be all social; it can be held in different places. My wish more than anything else!

Research Summaries



Anu Sharma, Ph.D.

Anu Sharma did her B.Sc. at Topiwala National Medical College, Mumbai and her PhD at Northwestern University, Evanston, IL. She has served in faculty positions at Arizona State University, University of Texas at Dallas, and currently at the University of Colorado, Boulder. In her primary area of research, she examines the effects of auditory deprivation on the brain, and the neuroplastic changes in the brain as a result of intervention with hearing aids and cochlear implants. Her research on the neuroplasticity of hearing loss is funded by the National Institutes of Health. She directs the Brain and Behavior Laboratory at the University of Colorado.

Hannah Glick, Au.D., Ph.D.

Hannah Glick is a cognitive neuroscientist and an Audiologist who is passionate about improving the lives of people with hearing loss across the age spectrum. She received her PhD in 2019 working with Anu Sharma at the University of Colorado, Boulder. Her research interests include examining the impact of hearing loss on neuroplasticity and cognitive function in adults and children and the effects of audiological intervention on neurocognitive outcomes. Hannah Glick is involved in academic research at the University of Colorado as well as industry research at Advanced Bionics, where she develops new hearing technologies and objective tools for monitoring outcomes in cochlear implant recipients. She envisions a world where every person with hearing loss has access to the tools, technology, and support they need to reach their maximum potential.



The Ear-Brain Connection: Understanding Neuroplasticity to Improve Outcomes in Age-Related Hearing Loss

In 2018, the World Health Organization estimates 466 million people worldwide have a meaningful hearing loss that impairs communication, 93% of which are adults. It is estimated that 1 out of 3 adults over age 65 years will show signs of hearing loss, and this statistic rises with advanced age (WHO, 2018). Although hearing loss is unevenly and unequally distributed across race, gender, and socioeconomic status, it remains one of the leading burdens of disease across the globe (Mathers & Loncar, 2006).

Age-related hearing loss or *presbycusis* is characterized by a bilateral, sensorineural hearing loss. It comes on very gradually which oftentimes makes it difficult to notice at first. Adults with hearing loss may adapt by listening harder, focusing more intensely, or “filling in the gaps” (Pichora-Fuller et al., 2016). They may begin to avoid listening situations that are difficult, which over the long run may contribute increased social isolation and loneliness. When age-related hearing loss does become noticeable, it is often dismissed as a “normal” sign of aging. By the time an adult has acknowledged their hearing loss, it may have taken a significant physical, social-emotional, and cognitive toll. As a field, Audiologists are just beginning to understand the widespread impact of hearing loss on the brain. In this article, we review the impact of hearing loss on the aging brain, and how brain-based tools may be used to guide intervention, treatment, and rehabilitation of age-related hearing loss.

Auditory deprivation may cause structural changes in the brain. Auditory brain regions show signs of atrophy in age-related hearing loss, as well as accelerated rates of atrophy over time compared to adults with normal hearing. For example, neuroimaging studies indicate that age-related hearing loss is associated with accelerated regional volume loss, particularly over the right temporal lobe (Lin et al., 2014). Adults with hearing loss also exhibit faster regional volume loss in regions of the auditory cortex responsible for auditory perception (Lin et al., 2014). Such structural changes may be more pronounced as the severity of hearing loss worsens (Peelle et al., 2011).

Changes in brain function are also apparent in age-related hearing loss. *Sensory neuroplasticity* refers to the brain’s ability to adapt and change to changes in sensory input during development and across the lifespan. In our laboratory, we use a non-invasive, relatively inexpensive neuroimaging method call electroencephalography (EEG) to evaluate how hearing loss affects neuroplasticity in the auditory cortex in adults and children. We present sounds (typically speech), visual stimuli, or vibrotactile stimuli to listeners with normal hearing and listeners with hearing loss and measure neural activity in response to these stimuli via a cap of hundreds of electrodes placed on the scalp. We can evaluate where in the brain these responses are coming from through statistical modeling and analysis. What we find is that even in early-stage, mild-moderate hearing loss, auditory stimulation results in reduced activity over regions of the auditory cortex relative to normal hearing adults (Campbell & Sharma, 2013). Further, listeners with mild-moderate hearing loss show recruitment in additional cortical regions (e.g. frontal cortex, areas typically involved in cognitive functioning) during passive auditory listening tasks (Campbell & Sharma, 2013). Beyond these changes, likely due to reduced input to auditory cortex, adults with hearing loss exhibit more extensive recruitment of the regions of the auditory cortex in response to visual and vibrotactile stimulation, a phenomenon referred to as *sensory cross-modal re-organization* (Campbell & Sharma, 2014; Cardon & Sharma, 2018).

While listening may be automatic and effortless for people with normal hearing, hearing loss (particularly in adverse listening situations like background noise) may require increased effort and cognitive resources to

understand and process, potentially limiting the resources available for other downstream tasks such as memory (Pichora-Fuller et al., 2016). While an average day of listening with hearing loss may be exhausting, compound this effect over a decade. This is the average amount of time an adult with hearing loss waits before seeking treatment (Davis et al., 2007). Indeed, cognitive deficits are apparent in age-related hearing loss. Adults with hearing loss are also 2-5 times elevated risk of developing dementia (Lin et al., 2011a). Research also indicates that adults with hearing loss show cognitive impairments in many sub-domains such as global cognitive function, processing speed, executive functioning, and working memory, relative to normal hearing individuals (Lin et al., 2011a, 2011b; Ford et al., 2018; Loughrey et al., 2018; Thompson et al., 2017). The strong association between hearing loss and cognitive decline thus warrants significant concern from a public health perspective.

The exact causal mechanisms underlying the relationship between hearing loss and cognitive decline is not well understood, but researchers are beginning to examine whether intervention with hearing aids or cochlear implants may promote more typical cortical sensory functioning and provide cognitive benefit in some patients. Preliminary results are hopeful. **Figure 1 (below)** shows cortical brain activity in an adult with mild-moderate, age-related hearing loss before and after fitting with bilateral hearing aids elicited by a visual stimulus (Glick & Sharma, 2018). While visual stimulation before hearing aid fitting elicited cortical activity in occipital regions and temporal regions (including areas of the auditory cortex), evidence of cross-modal re-organization, within several weeks of hearing aid fitting, temporal regions (including areas of the auditory cortex) were no longer being recruited to process visual information, suggestive of a reversal in cross-modal re-organization. Correspondingly, hearing aid treatment resulted in improved auditory performance in background noise and improvements in cognitive function on the Montreal Cognitive Assessment (MoCA), a global cognitive function screening measure. While this is data from a single case study and should be interpreted cautiously, similar findings have been reported following cochlear implantation in single-sided deafness (Sharma et al., 2016). We are currently evaluating the long-term effects of well-fit hearing aids on cortical neuroplasticity and cognitive function in a larger sample of adults with early-stage, mild-moderate age-related hearing loss.

Effects of Hearing Aid Use on Visual Cortical Cross-Modal Re-Organization in Mild-Moderate Hearing Loss

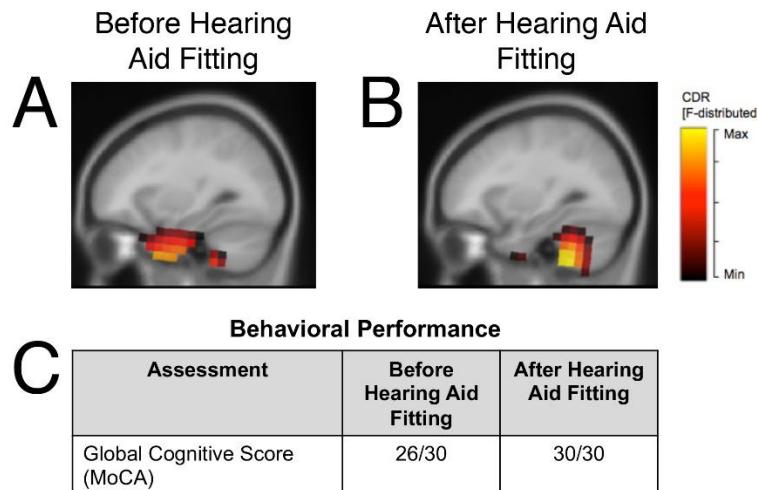


Figure 1. Cross-modal recruitment by vision in mild-moderate bilateral sensorineural hearing loss before and several weeks after hearing aid fitting. **Panel A.** Prior to hearing aid fitting, the adult shows recruitment of temporal (auditory) cortex for visual processing in addition to occipital (visual) cortical areas, suggestive of cross-modal re-organization by vision. **Panel B.** Within several weeks of hearing aid use, we see a reversal of

cross-modal recruitment and expected activation of cerebellar/occipital areas to a visual motion stimulus.

Panel C. Behavioral performance on a global cognitive function assessment (MoCA) administered before and after hearing aid fitting. Within several weeks of hearing aid fitting, this adult showed increased global cognitive function scores. Adapted from Glick & Sharma (2018).

Not all adults who receive intervention with hearing aids or cochlear implants achieve the same level of success with their devices. Differences in underlying brain patterns may at least partially explain differences in performance outcomes in adults with hearing loss who receive audiological intervention. **Figure 2** shows cortical brain activity in response to an auditory speech stimulus in an adult with bilateral hearing aids with good aided speech perception in noise (1 dB SNR on the QuickSIN, in the normal range) and an adult with bilateral hearing aids with poor speech perception in noise (8 dB SNR on the QuickSIN, indicating a mild deficit in background noise). Both adults had a similar normal sloping to moderately-severe sensorineural hearing loss bilaterally. You can see that the poorer performing adult exhibits greater recruitment of visual cortex, while the better performing adult shows activity restricted to areas of the auditory cortex in the temporal lobe. Differences in cortical activation patterns between good and poor cochlear implant performers have been previously described in the literature (Campbell & Sharma, 2016; Doucet et al., 2006).

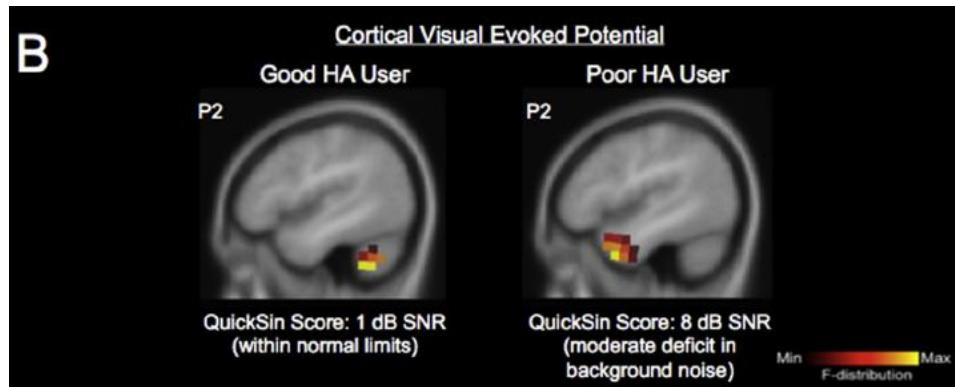


Figure 2. Panel B. In response to an auditory speech stimulus, the hearing aid user with better speech perception (1 dB SNR on the QuickSIN, in the normal range) shows activation restricted to temporal (auditory) cortical regions. In contrast, the hearing aid user with poorer speech perception in noise (8 dB SNR on QuickSIN) shows activation of visual processing regions indicative of cross-modal compensatory recruitment of additional brain networks involved. Both users had worn hearing aids for at least 18 months (Modified from Glick and Sharma, 2018)

Despite the high prevalence of hearing loss, only 3% of people across the world with clinically significant hearing loss have hearing aids or cochlear implants (WHO, 2018). Major barriers to hearing healthcare access and affordability complicates the hearing healthcare landscape for aging adults in the United States and across the world (Barnett et al., 2017). Currently, there exists no universal hearing screening recommendations for adults or best practice guidelines for the education and management of age-related hearing loss, particularly in its early stages.

Arguably the most amazing aspect of the brain is its capacity to adapt and change across the human lifespan and as the result of sensory deprivation, injury, disease, dysfunction, and learning. Whether we are activating a cochlear implant, fitting a hearing aid, or providing aural rehabilitation, the core of Audiology relies on the fundamental principles of neuroplasticity.

With a better understanding of the effects of hearing loss on the brain—as it relates to healthy aging—this may lead to the development of tools that revolutionize how we treat and manage hearing loss. While conventional audiometric testing is still considered the “gold standard” for diagnosing hearing loss, this article highlights the potential for brain-based tools and/or cognitive screening measures to be incorporated into the Audiology clinic. Such tools may help decide *when* intervention should be recommended, evaluate *if* a chosen intervention method is working, and *whether* additional rehabilitation or support to promote optimal outcomes should be provided after treatment. In summary, better hearing may begin with a better understanding of the brain.

References

- Barnett, M., Hixon, B., Okwiri, N., Irungu, C. (2017). Factors involved in access and utilization of adult hearing healthcare: A systematic review. *Laryngoscope*, 127(5): 1187–1194.
- Campbell, J., Sharma, A. (2013). Compensatory changes in cortical resource allocation in adults with hearing loss. *Frontiers in Systems Neuroscience*, 7, 1–9.
- Campbell J., Sharma, A. (2014). Cross-Modal Re-Organization in Adults with Early Stage Hearing Loss, *PLoS ONE*, 9(2): e90594.
- Campbell, J., Sharma, A. (2016). Visual Cross-Modal Re-Organization in Children with Cochlear Implants. *PLoS ONE*, 11(1), e0147793.
- Cardon, C., Sharma, A. (2018). Somatosensory cross-modal re-organization in adults with age-related, early-stage hearing loss. *Frontiers in Human Neuroscience*, 12(172).
- Davis, A., Smith, P., Ferguson, M., Stephens, D., Gianopoulos, I. (2007). Acceptability, benefit and costs of early screening for hearing disability: a study of potential screening tests and models. *Health Technology Assessment*, 11(42).
- Doucet, M. E., Bergeron, F., Lassonde, M., et al (2006). Cross-modal reorganization and speech perception in cochlear implant users. *Brain*, 129, 3376–3383.
- Ford, A. H., Hankey, G. J., Yeap, B. B., Golledge, J., et al. (2018). Hearing loss and the risk of dementia in later life. *Maturitas*, 112:1–11.
- Glick, H. & Sharma, A. (2017). Cross-modal plasticity in developmental and age-related hearing loss: Clinical Implications. *Hearing Research*, 343, 191–201
- Glick, H., & Sharma, A. (2018). Cortical neuroplasticity in hearing loss: Why it matters in clinical decision making for children and adults. *Hearing Review*.
- Lin, F. R. (2011a). Hearing loss and cognition among older adults in the United States. *The Journals of Gerontology, Series A: Biological Sciences and Medical Sciences*, 66(10): 1131–6.
- Lin, F., Ferrucci, L., Metter, E., An, Y., Zonderman, A. et al (2011b). Hearing loss and cognition in the Baltimore Longitudinal Study of Aging. *Neuropsychology*, 25, 763–770.
- Lin, F., Ferrucci, L., An, Y., Goh, J., Doshi, J. et al (2014). Association of hearing impairment with brain volume changes in older adults. *Neuroimage*, 90, 84–92.
- Loughrey, D. G., Kelly, M. E., Kelley, G. A., Brennan, S., Lawlor, B.A. (2018). Association of Age-Related Hearing Loss with Cognitive Function, Cognitive Impairment, and Dementia: A Systematic Review and Meta-analysis. *Journal of the American Medical Association: Head & Neck Surgery*, 44(2), 115–126.
- Mathers, C. D., Loncar, D. (2006). Projections of Global Mortality and Burden of Disease from 2002 to 2030. *PLoS Medicine*, 3(11): e442.
- Peelle, J. E., Troiani, V., Grossman, M., Wingfield, A. (2011). Hearing loss in older adults affects neural systems supporting speech comprehension. *Journal of Neuroscience*, 31, 12638–43.
- Pichora-Fuller, M. K., Kramer, S. E., Eckert, M. A., Edwards, B. Hornsby, B. W., et al. (2016). Hearing

- impairment and cognitive energy: The framework for understanding effortful listening (FUEL). *Ear & Hearing*, 37(S1): 5-27S.
- Sharma, A., Glick, H., Campbell, J., Torres, J., et al. (2016). Cortical plasticity and re-organization in pediatric single-sided deafness pre- and post- cochlear implantation: A case study. *Otology & Neurotology*, 37(2): e26-34.
- Thompson, R. S., Auduong, P., Miller, P.A., Gurgel, R. K. (2017). Hearing loss as a risk factor for dementia: A systematic review. *Laryngoscope Investigative Otolaryngology*, 2(2): 69-79.
- World Health Organization [Internet]. WHO global estimates of prevalence of hearing loss. Available online at: <https://www.who.int/pbd/deafness/estimates/en/>.

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SLHS in India: Preparing, planning and executing a successful short-term study abroad program

Introduction:

A search on Asha EdFind shows 171 speech and hearing programs in the USA that mention study abroad (SA) opportunities (retrieved August 14, 2019 from <https://find.asha.org/ed#sort=relevancy>), which is a significant increase from 77 in 2017 (Krishnan, Masters, & Simpson, 2017). As more and more universities offer SA programs, it is imperative that they prepare and plan carefully in order to execute successful SA programs.

The SLHS in India program was created in 2017 to fill the need for a SA program in the Speech, Language, and Hearing Sciences (SLHS) department at Purdue University after the previous program to Zambia had to be discontinued. Both these programs were developed using a service-learning (SL) model. SL is a form of experiential learning (Dewey, 1938) in which students engage in hands-on service in a community while pursuing academic learning



objectives (Bringle & Hatcher, 1996) with the goal of mutual benefit to the community and the students.

Program development:

Keeping the SL model in mind, the first step in preparing for a SA program is to identify local community partners. For the SLHS in India program, several community partners were identified via previous connections in India and by reaching out to new contacts. One educational institution, the National Institute of Speech and Hearing, whose faculty had previously visited Purdue, expressed interest in a collaborative program. Two other primary community partners identified were non-profit organizations: Audiology India and the Organization for the Development of People.

Once initial community partners are identified, the next step in planning a SL program is to meet the community partners and discuss their needs. This step is crucial in order for the program to be mutually beneficial. Local professionals are the experts in the country and knowledgeable about local conditions, culture, clinical protocols, patient attitudes, etc. Their input guides the planning of program activities, and professionals from abroad cannot and must not assume that they know what is best for the local conditions. For the SLHS in India program, this step was accomplished via an exploratory trip of faculty from Purdue to India to meet with local professionals at these institutions and agencies in 2017.

The program curriculum was then developed and planned based on needs identified by the community partners that match the course objectives. Communication with the various community partners is ongoing year-round and program activities are organized and evolve as the needs change. The SLHS in India SA program has two broad learning objectives: 1) increasing intercultural competence; i.e. for participating Purdue University students to learn about and adapt to a different culture, and 2) clinical learning; i.e., for students to observe and participate in clinics.



Over the two years of the SLHS in India program (2018 and 2019), 21 Purdue students have participated ranging from freshman (first year Bachelor's) to graduate (II-year Doctor of Audiology) students. The program includes the following components:

1. Initial orientation meetings about once a month in the spring semester between February-April. These meetings include obtaining baseline data on student intercultural competence, completing required forms, starting to learn about India, etc.
2. Assignment of Indian student “buddies” who start communicating with each other in March and then spend a week getting to know each other in India.
3. Daily pre-departure classes for about two weeks prior to departure. These classes include learning topics (e.g. history, geography, economy etc. of India), cultural

activities and discussions, and clinical activities to prepare undergraduate students to participate in clinics. Typically, for most undergraduate students, this is their first opportunity to participate in clinics.

4. Daily program activities in India, details of which can be read at our blog at
<https://slhsinindia.wordpress.com/>

5. Reflective exercises including nightly debriefings in India to discuss the day's activities, challenges, learning etc., daily student journals reflecting on the day's activities, a blog post, and a final reflection at the conclusion of the program.

Community partner involvement, planning, and benefits:

National Institute of Speech and Hearing (NISH): NISH is a comprehensive multi-purpose institute focusing on the early identification, intervention, rehabilitation and education of individuals with disabilities (<http://www.nish.ac.in/>). Since its inception in 1997, NISH has made significant contributions to improve the quality of life of individuals with communication disorders and has made a pioneering effort in implementing various programs for individuals with disabilities across the state of Kerala. NISH hosts a unique inclusive campus which has students and staff with diverse abilities. It is also an educational institution that offers Bachelor's and Master's degrees in Audiology and speech-language pathology and has the distinction of being the only institution in India to offer Bachelor's programs in Indian Sign Language (ISL) to Deaf students.



Planning: As this was the first time that NISH was collaborating with a foreign university there was a lot of groundwork needed to make this program a successful experience for both groups of students and faculty members, and for the mutual benefit of both the institutions. Following the exploratory visit by Purdue faculty in the summer of 2017, a Skype meeting was arranged in November 2017 to discuss the feasibility of initiating the study abroad program and its expected outcomes. After the Skype session there were a series of brainstorming sessions held at NISH to discuss all the tiny details from the day the Purdue team arrived at NISH till their departure. Back and forth e-mail communications between NISH and Purdue faculty continued for months to finalize the details.

Planning involved things ranging from pairing each Purdue student with a NISH student buddy, to making arrangements for a WiFi router and dongle, and carefully selecting menus so that Purdue students could try authentic Kerala cuisine. Prior to beginning buddy interactions, a session was held for the NISH student buddies regarding the clinical exposure of their Purdue buddies, differences in the way clinical sessions were carried out, and their responsibilities during the Purdue visit. Buddies started their virtual interactions months

before their visit, so they opened up to each other and were looking forward to interacting with them in person upon arrival at NISH.

An elaborate hourly schedule was prepared for the 6-day program, starting with an orientation, meeting the buddies, ISL interaction, and tour of NISH facilities on the first day. The rest of the week included clinical observations in various departments and units as well as participating in an outreach clinic (hearing assessment camp) allowing students and faculty from both universities to work together as a team and learn clinical skills from each other. The final day included a cultural program and feedback session.

Enrichment sessions for NISH faculty were held on objective hearing aid verification and early hearing detection and intervention, as well as a series of discussions to facilitate research publication at NISH.

Based on the experience from 2018, a few changes were incorporated for the 2019 program:

1. An introduction about Purdue University, and US culture and cultural events was incorporated for the benefit of NISH students and faculty.
2. Some clinical observations were planned using recorded therapy sessions explained by NISH faculty to facilitate discussion, overcome language barriers, and not disrupt the clinical sessions.
3. A school screening was arranged to provide the opportunity to work as a team in a school environment.



Benefits to NISH:

NISH has had institutional as well as individual benefits from the collaborations with the SLHS in India program. Based on the information learned regarding objective hearing aid verification starting with a talk including case examples in 2017, NISH procured an instrument and upgraded our hearing aid fitting protocol to match with international standards. NISH now has a pediatric amplification unit that uses objective verification for hearing aid fittings for children below three years of age. NISH students and faculty have benefited from the interactions with the Purdue students and faculty and gained clinical insights and learned about differences in clinical protocols.

international standards. NISH now has a pediatric amplification unit that uses objective verification for hearing aid fittings for children below three years of age. NISH students and faculty have benefited from the interactions with the Purdue students and faculty and gained clinical insights and learned about differences in clinical protocols.

Benefits to Purdue University:

One of the most beneficial aspects of the collaboration with NISH has been the student buddies. Having NISH buddies has allowed Purdue students to learn about and experience both clinical and cultural differences in India from someone who is about their age and has a similar background and interest in speech and hearing. The clinical observations at NISH have been eye-opening as the Purdue students realized that state-of-the-art clinical facilities are available in India. Students also benefitted from the clinical observations because they have had little exposure to the variety and severity levels of clients. Additionally, the participation in the hearing screenings was an invaluable experience that fostered skills in teamwork, flexibility, organization, and communication.



Audiology India (Ai):

Ai is a non-profit organization that focuses on promoting ear and hearing healthcare in India by providing audiological services to underserved and financially deprived individuals (<http://Audiologyindia.org/>). Ai started as an informational website in 2009 and was registered as a non-governmental organization (NGO) in Mysore in January 2011. Ai

programs focus on four aspects: conducting community-based hearing rehabilitation camps in collaboration with local partners; conducting research to evaluate and improve the quality of Audiology services in India; conducting campaigns to increase awareness about hearing and hearing impairment; and providing consultation regarding ear and hearing health care. To date Ai has provided more than 2500 hearing screenings/assessments and more than 750 hearing aids to individuals in need.



Planning:

Most Ai events are in collaboration with local student volunteers and organizations, and the SL program with Purdue University was a new experience. Ai organized clinics at local schools and health camps that allowed Purdue students to work collaboratively with local students and volunteers. In 2018, students provided hearing screenings to 135 school children at a government aided school and to more than 40 adults at a health camp. Purdue students rated the clinic days as their favorite days of the 3-week program in India. Thus in 2019, Ai organized four clinics that provided hearing screenings to more than 650 school children at three different schools and a hearing assessment camp where more than 80 individuals were tested. Additionally, in 2019 Ai also arranged for the Purdue team to provide a presentation on typical language and strategies to facilitate language development to a group of preschool teachers. Finally, in the spirit of cultural learning in addition to clinical activities, Ai organized two cultural activities for the Purdue students in 2019: a yoga session and an opportunity to attend a classical dance (Bharathanatyam) recital.

Cautious planning and preparation is very important for the success of such collaborative events. Special attention was given to factors such as choosing activities that involve minimal language use, having facilitators to support communication, arranging food etc. Ai staff communicated with and/or visited each school prior to the screening day to ensure appropriate facilities such as the availability of quiet rooms and obtain a roster of the children to ensure the screenings could be carried out smoothly.

Benefits to Ai:

The program was beneficial in many ways including: i) cultural exchange between students; ii) improvements in clinical service activities with the help of feedback received; iii) benefit to the local community as services could reach a larger number of individuals.

Benefits to Purdue University:

Purdue students gained extremely valuable skills from these clinical activities including learning how to interact with diverse patients in an unfamiliar environment, how to communicate and instruct for hearing screenings using minimal words and gestures, and being flexible and adaptable. They also gained confidence and independence in clinical skills, problem solving and clinical decision-making. They also gained skills in making an oral presentation to an audience. The cultural activities were an added bonus as they were a great addition to the immersive cultural experience throughout the three weeks.

Organization for the Development of People (ODP):

ODP is a non-profit organization started in 1984 that focuses on integrated human development of socially and economically disadvantaged, underprivileged and marginalized sections of society, with particular emphasis on women and small, marginal and landless farmers (www.odpmysore.org). ODP programs include women's empowerment, natural resource management, livelihood enhancement, health and sanitation, and capacity building.

Planning:

During both years of the program, ODP arranged for Purdue student accommodations on their campus, and ODP staff provided a presentation on the extent of their work including in the areas of women's empowerment, watershed projects, training facilities etc. Additionally, ODP organized a field visit to one of the villages outside Mysore where they work. This provided students an opportunity to interact with members of self-help groups and observe first-hand the outcomes of the watershed projects such as rainwater harvesting, bunds, ponds, check dams and gabion dams, that have positively impacted drought prone areas and improved small farmer livelihood. The Purdue team also provided a presentation to ODP staff each year: in 2018 on typical language and strategies to facilitate language development and in 2019 on disabilities.

Benefits to ODP:

The benefits to ODP staff were that they learned new information on unfamiliar topics that raised their awareness about child development and disabilities, were thought provoking, and potentially useful for field workers who work directly with families in the villages.

Benefits to Purdue:

Having accommodations on the ODP campus provided a truly immersive experience for the Purdue students. The field visit to the village was a huge cultural learning experience, as they not only saw the poverty and life in rural India, but also experienced and learned about how some of ODP's work has positively impacted the village community and empowered women to speak up and improve their own lives. Students also gained skills in preparing for and making an oral presentation to an audience unfamiliar with the topics being presented.



Conclusion:

Over six years of SL SA programming in two different countries The SLHS SA programs have demonstrated increases in student intercultural competence, as well as community partner benefits (Krishnan, Richards & Simpson, 2016; Masters & Krishnan, 2015, 2016; Krishnan, Masters, Holgate, Wang & Calahan, 2017; Krishnan, Masters & Simpson, 2017; Krishnan, 2019). However, far too little attention has been paid to the possible negative effects of short-term programs and “voluntourism” abroad (e.g. Epprecht, 2004; McGloin & Georgeou, 2016; Schroeder et al., 2009). Negative effects may include increasing hardships on the local community (e.g. water shortage), economic impacts such as heightening economic inequities, and perhaps most significantly “voluntourism reinforces the dominant paradigm that the poor of developing countries require the help of affluent westerners to induce development” (McGloin & Georgeou, 2016, pp1). Therefore, we cannot emphasize enough the importance of institutional and program leader support and preparation, student and community preparation with emphasis on working with local professionals and community partners, to develop sustainable long-term programs that minimize negative effects and have a positive impact on both the local community and the students studying abroad.

References:

- ASHA EdFind retrieved August 14, 2019 from <https://find.asha.org/ed#sort=relevancy>
- Bringle, R. G., & Hatcher, J. A. (1996). Implementing service learning in higher education. *The Journal of Higher Education*, 67, 221–239.
- Dewey, J. (1938). Experience and education. New York, NY: Collier.
- Epprecht, M. (2004). Work-study abroad courses in international development studies: Some ethical and pedagogical issues. *Canadian Journal of Development Studies/Revue canadienne d'études du développement*, 25(4), 687-706.
- Krishnan, L. (2019). Lata A. Krishnan on Study Abroad and Intercultural Learning. Available at <https://hubic1.org/publications/37/1>
- Krishnan, L. A., Masters, C., Holgate, H., Wang, C., & Calahan, C. A. (2017). Structured study abroad enhances intercultural competence. *Teaching and Learning in Communication Sciences & Disorders*, 1, 5.
- Krishnan, LA., Masters, C. & Simpson, JM. (2017). Community Involvement and Benefits from an International Service Learning Program. *ASHA Perspectives*, Vol. 2 (SIG 7), 5-12. doi:10.1044/persp2.SIG7.5
- Krishnan, L. A., Richards, K. A. R., & Simpson, J. M. (2016). Outcomes of an international Audiology service- learning study-abroad program. *American Journal of Audiology*, 25, 1–13.
- Masters, C. & Krishnan, LA. (2016). Study Abroad and Student Learning: Tales from Zambia. *The Hearing Journal*, 69 (11), pp 28,30,48. doi: 10.1097/01.HJ.0000508365.66299.d5
- Masters, C. & Krishnan, LA. Studying Abroad: Zambia. (2015). *ADVANCE for Speech and Hearing Online Edition, Dec. 14, 2015*. Available at <http://speech-language-pathology Audiology.advanceweb.com/Features/Articles/Studying-Abroad-Zambia.aspx>
- McGloin, C., & Georgeou, N. (2016). ‘Looks good on your CV’: The sociology of voluntourism recruitment in higher education. *Journal of Sociology*, 52(2), 403-417.
- Schroeder, K., Wood, C., Galiardi, S., & Koehn, J. (2009). First, do no harm: Ideas for mitigating negative community impacts of short-term study abroad. *Journal of Geography*, 108(3), 141-147.

International Trailblazers



Sherin George, MASLP

Sherin is an audiologist at the King Hamad University Hospital, Bahrain. She has extensive clinical experience in both India and the Middle East. She recently moved to Canada and will be continuing her clinical work there.

My Audiological Journey in the Middle East

Known as the ‘Land of Pearls’, Bahrain is located in the Middle East’s Persian Gulf to the east of Saudi Arabia. It is a small nation with a total area of just 293 square miles, making Bahrain the third smallest nation in Asia, after Maldives and Singapore. Bahrain’s population is 1,642,043 (2019) including roughly 666,172 non-nationals. The country is divided into five governorates – the Capital, Northern, Southern and Muharraq. I was recruited from India, in 2011, as a pioneer faculty to start the audiological services at a university hospital in the Governorate of Muharraq.

Audiology is considered as more of a technical science than a specialty in this part of the world. Audiologists are usually sought after by the ENT to perform tympanometry and basic audiometry tests like pure tone audiometry, only because it is illegal for an ENT to perform these tests according to the local health authorities. And that’s where the scope ends in most scenarios and where my quest to explore further/my journey/story began.

I was fortunate to work in a department where most of the ENT consultants were trained either in the UK or in Australia. Hence, they were exposed to the culture of ENT working hand-in-hand with Audiologists for complete management of a patient that has any ear-related concerns. This encouraged me to build the audiological services with standards that were similar to those of international standards like ASHA (US) and NHS (UK) with also keeping the local culture in mind.

One of the many challenges I have faced here as an Audiologist is the lack of awareness of the scope of Audiology in a hospital. This could only be solved by educating the doctors of other specialties of the reach of audiological services like Pediatrics and Neonatology. In order to kick start this initiative, my first attempt

was with the Department of Pediatrics and Neonatology. By explaining and discussing the importance of newborn hearing screening, I was not only able to bring about awareness among all the physicians and nurses about such a practice, but it also helped me setup a newborn hearing screening protocol in the hospital with the full support of the department of Neonatology, Pediatrics, and ENT. **We started our newborn hearing screening program at the NICU (Neonatal Intensive Care Unit) in 2012**, and after its successful establishment, as part of the discharge policy in the hospital, we expanded the newborn hearing screening to the healthy babies in the post-natal wards of the Mother and Child care unit. I can, with great pride, say that we have come to a point where all babies born in the hospital, receive a hearing screening either at discharge or within a few days from discharge as a mandatory protocol.

With the establishment of newborn hearing screening protocol, I was able to identify a few babies with congenital hearing loss. This introduced me to my next challenge - the lack of awareness among the parents regarding rehabilitation. Parents and families had no knowledge about early identification and intervention. I believe this stems from lack of counseling from the part of the Audiologists. Patients are not sufficiently well-informed about their hearing impairments, the options following a diagnosis, or even given any realistic expectations about hearing aids/cochlear implants. Fortunately, I do not have a major language barrier as most Bahrainis have sufficient knowledge of English. Patients were gradually being empowered with the new understanding of what to expect at a hearing aid dispensing center and with a hearing aid. The journey of wearing a hearing aid has become less of a taboo to families that we were able to take care of from the beginning of their rehabilitation. This also encouraged hearing aid dispensing centers to be more sensitive to the needs of the user and also encouraged patients to actively follow up with the ENT/Audiology regarding the hearing aid usage. Other ways in which I have attempted at improving awareness was by conducting school hearing screening programs, distribution of brochures and posters that is displayed through the hospital premises and also the use of social media platforms.

With the passing of years, it became evident that Audiology was no longer a side show. The Audiology team expanded from a one-man band to a three-member team. The department of ENT and Pediatrics were more inclined to seek the professional opinion of the Audiologist before making any further decisions. With the constant support of the ENT, I was able to take the department of Audiology to the next level; this time in terms of infrastructure. As mentioned before, since Audiology was not a priority, the only infrastructure provided to us was a portable tympanometry and a low budget audiometer with a standalone audio booth the size of a telephone booth. With the help of sound engineers, in 2017, I was able to remodel the room to international standards expected of any audiological setting. From a single room setting, my team was able to branch out to other rooms that could accommodate vestibular assessment, pediatric hearing testing, and adult hearing testing. We now serve as a reference standard for other hospitals that plan on establishing their audiological services.

This step up paved way for me to look at my next project which was to concentrate on rehabilitation. Up until then, my team and I had established ourselves as a center that could provide an accurate diagnosis and refer patients to other centers that could take care of rehabilitation. I had published my findings in the local scientific magazine (George, 2016) to demonstrate that we were identifying significant number of babies with the established newborn hearing screening protocol. The publication and the improved infrastructure helped me secure financial support to start a cochlear implant and BAHA (Bone Anchored Hearing Aid) implantation program. We associated ourselves with major companies that dealt with cochlear implants and BAHA to establish training and technical support system for our department to ensure our patients received excellent operative, post-operative, and rehabilitative services. **We achieved yet**

another proud milestone when we implanted our first BAHA in 2017, and the first cochlear implant earlier this year. We continue to have a steadily growing list of patients that require implantable devices.

As my team and I develop an implantable device program at the hospital, I am researching a strategy to implement the ototoxicity screening at the National Oncology Center. A brief presentation was given to the faculty of oncology regarding what the screening is about, its significance, and how it will be implemented. Currently we are waiting for the arrival of the oto-acoustic emissions (OAE) screening device. We hope to have a test run done before the end of the year. By establishing the ototoxicity screening protocol in the oncology center, we could potentially provide early detection and management of any irreversible hearing loss.

Despite all these accomplishments, there is still more to be achieved in terms of establishing the newborn hearing screening as a mandatory protocol in all hospitals and primary health centers in the governorate of Muharraq. There is still a need to educate parents and teachers on early signs of hearing impairments. All this can be realized with focus on achievable goals, consistent hard work, and perseverance. It is worth mentioning that the constant support I have received from my senior management has also been crucial for the success in all my ventures.

References:

- Worldometers.info. (2019). *Bahrain Population (2019)* - Worldometers. [online] Available at: <https://www.worldometers.info/world-population/bahrain-population/> [Accessed 31 Jul. 2019].
George, S. (2016). Newborn Hearing Screening. *Bahrain Medical Bulletin*, 38(3).



Bhavana Sunassy

Bhavana is a speech-language pathologist with experience working in two countries, Mauritius and Reunion. She currently works in her private practice as a Speech Language Pathologist.

Bhavana can be contacted at bhavsunassy@hotmail.com.

My Journey as a Speech-Language Pathologist in Two Countries

My name is Bhavana, and I am of South Indian origin, born and brought up in Mauritius island. I hesitated for a long time to choose my profession, and I accidentally met a Speech-Language Pathologist in Mauritius who was so passionate about her job that I started inquiring about it and decided to enroll in different universities in India. The Speech, Language, Hearing Sciences program was not available in universities in Mauritius (and that is still the case), and since I have relatives in Chennai, South India was my first choice. I haven't regretted my choice since the day I joined the SLHS department at Sri Ramachandra University and continue enjoying my profession till date as each day is different. I have been lucky to have wonderful teachers who have inculcated my curiosity and passion for this profession. My batch mates, seniors, and juniors have played a major role during my student years, away from home and I am still grateful to them for their contribution in numerous ways.

After my graduation in 2009, I returned to Mauritius and started working in a variety of places from 2009 to 2013. I worked at the Centre for Autism Spectrum Disorder with a multidisciplinary team, a Non-Governmental multidisciplinary setting in Mauritius. I visited primary schools through the Ministry of Education to screen children with oral and written language delay or difficulties and provided speech-language. I also worked at the Society for the Welfare of the Deaf, a school for children between 3 to 12 years of age with hearing impairment. Having a variety in my case load every day and having to use different techniques and strategies with these clients has helped me to be more efficient and productive in my work.

In 2013, after my marriage, I moved to Réunion island, a French territory in the Indian Ocean. Having my equivalency done was a battle as I had to obtain my work permit from another European country before being able to submit my documents to start afresh as a Speech-Language Pathologist. Unfortunately, the job of an Audiologist is taken care of by ENT doctors. So, there are no Audiologists at Réunion. In 2015, I finally obtained my work permit, and was able to start my private practice. Since 2015, I have been managing my own private practice providing consultations and working in collaboration with doctors in schools, special educators, teachers, other paramedical professionals, and most importantly, parents. I have a varied case load: clients with dyslexia, dysorthography, Down syndrome, autism spectrum disorder, aphasia, stuttering, and delayed language with or without associated medical conditions.

Working in Réunion was challenging initially as French is the native language used by families in this island. Although I am fluent in French, I had to familiarize myself with new assessment tools for the French population. Because I completed my education in English, and worked in Mauritius with English-speaking families, making the shift to provide intervention and conduct assessment in French was initially challenging. Nevertheless, working in a French-speaking environment has helped me be more culturally sensitive, and has helped me extend my knowledge of assessments and intervention tools available in French. I have also had the opportunity to complete several CE (Continuing Education) programs that are offered by lecturers from Paris. There is a population of around 118,422 citizens in the east of the Réunion island, and we are only 12 speech language pathologists in this part of the island. We are overwhelmed about how to provide adequate high-quality services to all individuals who need them. Each clinician in the private sector has a waiting list for about 2 years, and it is unfortunate having to let a child in need go without any care as we all know that the prognosis is better when we begin intervention early. **In the last few years, we have had to find different ways of reaching out to a population in need, and we began**

a Parent Counseling Workshop. Speech-language pathologists reach out to a group of parents whose children have similar developmental profiles and provide regular counseling sessions on what parents can do at home until they get access to a service provider.

It is surprising to note how much can be done at home by parents if they are supported well and are provided the right resources. Parents are often so busy with their jobs that children are left on their own. One of the biggest difficulties that I have come across is the indulgence on ‘screen time’ at home. Children who are glued to their screens all day lose several opportunities during the day to interact with their parents. I recently worked with a parent of a 7-year-old child who had challenges in producing complete sentences and difficulty in narrations. The young girl had been spending the majority of the day on a tablet since she was 2 years old. She hardly engaged in any conversational exchanges with her parent. It was a tough task to counsel the parents as they didn’t see anything deviant about their lifestyle and their engagement with the child. After several sessions of counseling, regularly monthly visits, and education about the importance of language stimulation and positive parent-child interactions, gradual changes were becoming evident. Within 3 months, it was astonishing to notice the child’s significant progress. Her vocabulary expanded. Her utterance length was longer, and she was more confident at narrating her daily activities, and she demonstrated improved pragmatic skills. I was amazed to see how parents could facilitate clinicians’ work by being involved and motivated in their child’s progress. There was surely more work to be done, but it was already very encouraging for me and the family. **I strongly emphasize the importance of providing home-based interventions and support for families in low-resource settings.** I believe that parent training and parent coaching cater to the needs of a wider population and help address the needs of children in the crucial early years of development. Clinicians can hence shorten their waiting list, and discharge clients and their families within a shorter time frame while also providing educational resources and home-based intervention tools for the families.

“You cannot make people learn. You can only provide the right conditions for learning to happen” - Vince Gowmon

References

- Comparateur de territoire- Département de La Réunion 974
Retrieved from :
ville-data.com/nombre d-habitants/ Saint André 974
ville-data.com/nombre d-habitants/ Saint Benoît 974
ville-data.com/nombre d'habitants/ Sainte Suzanne 974



Divya Gopinathan

Divya works as consultant Audiologist and Speech Language Pathologist at Dr. Thomas ENT Center in Qatar for the past 13 years. She graduated from Sri Ramachandra Institute of Higher Education and Research and has been practicing in the State of Qatar since 2007. She is one of the initial practitioners to have introduced advanced diagnostic modules in the country with additional certification for vestibular and balance disorder management from the Hamad Medical Corporation. She is also a certified Counselling Psychologist. Her special interests include analysis in vestibular and balance disorders and pediatric audiological assessment.

Socio-Cultural Influences in Speech and Hearing Practices

It has been 13 years since I embarked on this exciting journey, freshly churned out from my alma mater. In a community where cultural implications play a very important role, my crusade has been a definite learning experience growing day-by-day. The Middle East, I had heard before my travel to this part of the world, was secluded and withdrawn from seeking medical services or opening up to the rest of the world. To a very great extent, it was true!

My first tryst, when I started my career, was that of the language. Thankfully, my job course didn't require much of an interaction directly with the patients. Being in a diagnostic audiology setting, all I had to do first was to learn basic communication and instructions. In private hospitals, audiological services were quite primitive. Advanced audiological solutions were available in the Government hospital, but the wait times were extremely long and impractical. Language was again a major concern during intervention sessions. There was a lack of native-language-speaking therapists, and that impacted intervention services.

Another challenge for me was to adapt to the socio-cultural expectations of the place. People were not always open to accepting medical advice. Consanguineous marriages were rampant, and early identification was almost absent. The government did have early identification programs for neonates, but as they weren't mandatory, many children were brought in for services at an older age. Gender bias was obvious in the population, and that was quite difficult to handle as well.

The scenario has changed over time. The growing literacy rate in the country and strong steps taken by the Government, have brought about drastic and phenomenal progress in child welfare and maternal health. A new sector for the rehabilitation of the physically able population has been formed. Even in the private sector, many institutions have begun focusing exclusively on audiology and speech-language services. **This part of the world has embraced globalism with whole-heartedness still preserving their cultural identity.** I have noticed that they have extracted and added whatever was necessary for their progress but have continued to stay true to their cultural values and integrity. This progress has become a positive aspect for practitioners moving in from other parts of the world and has made things easier for them.

I am thrilled to see that the language barrier, which was one of my greatest challenges, isn't a challenge anymore. People are more open to accepting of differences. The acceptance has made our service delivery less effortful.

From my experiences, the practice of audiology and speech-language pathology in this part of the world is as enriching as it is in any other section of the world. The cultural acceptance and the embracing nature of the community has made our service provision easy. When early-career professionals contact me inquiring about the work scenario, I smile and say with confidence that they are welcome, and that they would never regret the decision.

Nurvin Jahan Asha

Nurvin is a Clinical Speech & Language Therapist at the Centre for the Rehabilitation of Paralysed (CRP), Bangladesh. She received her undergraduate (B.Sc.) and graduate (MS) degrees in Speech and Language Pathology at the University of Dhaka, Bangladesh. Her recent research project focuses on Bangla core vocabulary words used in AACs. She has published articles internationally. Primarily, she works with adults and the elderly with dysphagia, dysphonia, cognitive deficits, motor speech disorders, and aphasia. Recently, she has begun working in long-term acute care in stroke rehabilitation unit (SRU) in-patient settings.



Speech and Language Therapy in Bangladesh

Centre for the Rehabilitation of the Paralysed (CRP) has been providing bachelor's degrees in Speech and Language Therapy (SLT) since July 2004 in affiliation with the University of Dhaka. CRP is the first institute to run such a programme in an academic institution named Bangladesh Health Professions Institute (BHPI). The speech-language therapy programme is a 4-year-long programme with a 1-year compulsory internship at CRP and a training institute for health professionals in Savar, Dhaka. The 10th batch of students graduated this year and have started their internships.

The department of Speech and Language Therapy receives support from different countries around the world. Many experts from Canada, Australia, UK, and USA have helped with training and establishment of the new profession in Bangladesh. Speech and language therapists from these countries regularly work as volunteers in CRP and support the department.



In Bangladesh, similar to other countries, speech and language therapists work in hospitals and in the community. They work with people of all ages to help with speech, language, communication and swallowing difficulties. Common work settings include community health centers, government and private hospitals, mainstream and special schools, home-health, and private practice.

Most hospitals in Bangladesh include both an outpatient and inpatient unit, and clinical services are provided in both the adult and pediatric units. We treat a wide range of speech, language, communication, and swallowing disorders in these units. We are also developing our AAC services in Bangla.



Our team members have been attending various international and national training and workshops on speech-language therapy. Recently, one of our team members attended a workshop on Langmore Foundation FEES course & Laryngectomy rehabilitation course at Tata Memorial Hospital, Mumbai, India.

Notes from 2017 & 2018 AIC Scholarship Winners

Larissa Nonis, B.Sc. (Speech, Language and Hearing Sciences), Faculty of Medicine, University of Kelaniya, Sri Lanka

Receiving this scholarship reinstated that, “the universe does conspire to help those who really want to follow their dreams”, and you made one of my greatest dreams as an SLP a reality by offering me the “AIC-International Student Scholarship”. I’m very thankful for it. Through my visit to the ASHA convention in Boston, Massachusetts, I was able to participate in sessions on areas that I had always wanted

to widen my knowledge on. Currently, I’m utilizing these

learnt techniques and new-found knowledge in my sessions for children who access government facilities in Sri Lanka. New toys and equipment were added to my tool kit making therapy more fun and interesting for my clients. I’m also working on publishing my research study in an AAC journal with the help of Professor Blackstone, Dr.Dada, and Dr.Muttiah. I was also able to create a few valuable contacts and found a few interesting masters programs as well which would be the steppingstone to my next greatest dream.



Barnali Mazumdar, Doctoral Candidate, Louisiana State University, Baton Rouge, Louisiana

First, I would like to convey my gratitude to the AIC member for honoring me with their Zenith Rehabilitation Services-Student Scholarship for the last two consecutive years at ASHA Convention. Receiving this scholarship helped me to pursue several research projects which required me to hire Bangla-speaking linguists. This new team worked on analyzing the language samples we gathered from native Bangla speakers. Involvement of multiple linguists was necessary for reliability purposes.

Being a linguist and a native Bangla speaker, I aimed to pursue a research topic on aphasia (a post-stroke language disorder). My goal was to ultimately use my findings to help Bangla speakers recover from their speech deficits. Hence, for my M.Phil. research, I decided to adapt an English aphasia battery in Bangla. As I completed the project, however, I realized that the existing linguistic differences between Bangla and English might affect the validity of the adapted test. To appropriately understand the linguistic difficulties that Bangla-speaking aphasia patients experience, it is necessary to develop a culture- and language-specific aphasia assessment for native Bangla speakers. Developing a comprehensive aphasia assessment from scratch is a much larger project that I aim to develop in the future.



Therefore, my short-term goal is to develop a culture-specific picture description task (PDT) for Bangla speakers.

The existing literature on aphasia reported the involvement of different visuo-graphic variables within picture stimulus affects the picture comprehension as well as the language output of the people with aphasia (PWA). Therefore, prior to developing a PDT, it is necessary to identify the appropriate stimulus item which can elicit representative language samples from PWA. Hence, I conducted a study using different picture stimuli on native Bangla speakers to identify the impact of visuographic variables on spontaneous language production. To transcribe and code the elicited language samples and to report inter-rater reliability of transcription and coding, I needed to appoint Bangla-speaking linguists. The AIC scholarship fund of 2017 and 2018 enabled me to accomplish this project which was necessary to develop this study and identify a suitable picture for Bangla PDT. We prepared a manuscript based on our findings and submitted it to an internationally recognized journal for publication. In short, it would have been difficult for me to achieve my goals in a timely manner without these AIC Student Scholarships.

Bangla is the 6th largest language community, with approximately 250 million speakers worldwide. This demographic has a high stroke incidence of 545 strokes per 100,000 individuals. Among Bangla-speaking stroke survivors, 40% develop aphasia, which indicates the presence of a significant number of Bangla-speaking PWA. Despite this fact, Bangla is sparsely represented (0.08%) in the existing aphasia literature. Therefore, the successful completion of this project will increase the 0.08% representation, arming future researchers with Bangla literature for cross-linguistic projects.

The funds provided by the AIC scholarships changed the course of this study. As a result, my team and I were able to further this study to help improve the diagnosis and treatment of aphasia in Bangla aphasia patients. Furthermore, the final outcome of this research will significantly improve the cross-linguistic aphasia research globally. Due to the huge impact these scholarships had on this project being able to move forward, I am very thankful for the support I received from AIC.



Dr. Vidya Ramkumar, Associate Professor, Department of Speech, Language and Hearing Sciences, Sri Ramachandra Institute for Higher Education and Research, Chennai, India

I am Dr. Vidya Ramkumar, working as an Associate professor, at the Department of Speech, Language and Hearing Sciences, Sri Ramachandra Institute of Higher Education and Research, Chennai, Tamil Nadu, India.

In the last decade I have worked on several electronic- and mobile-health applications of tele-technology in reaching hearing testing and rehabilitation of individuals with hearing loss, and speech and language pathology services to remote locations in India.

Based on my experience in reaching services to rural communities using tele-technology in South India, I was invited as a part of a team of ASLPs (Prof. Roopa Nagarajan, Dr. Savita H, Dr. Subramaniyan B.) to deliver a short course on Alternate Models of Service Delivery in Regions with Limited Resources: Emerging Strategies at the ASHA convention in Boston, 2018. I applied for the AIC scholarship to support (in-part) my maiden attendance at the ASHA convention. I believed it was important to

share the lessons learnt at this large gathering of ASLPs from North America and other countries, to teach, learn, and receive critical feedback.

I would like to thank the Scholarship Committee and the Executive Board of AIC for recognizing my work on "Tele Audiology applications in reaching services to people in remote rural regions in Tamil Nadu, India" and for offering me the "AIC-International Clinician Recognition Award".

I delivered two presentations at the short course; one on "Integration of tele-technology for diagnostic confirmation of ear and hearing status in rural communities", and the other on "Utilization of tele-technology to outreach service". The lessons shared were very well received and recognized by professionals at this gathering. The experience of attending and presenting at this forum was a unique opportunity for me, in sharing our expertise in developing locally relevant strategies to reach ear and hearing care to remote rural locations. This helped to validate some of our practices. There were several other ideas that emerged during the discussions, which were useful for consideration in the Indian context. Networking at the conference helped me build several international contacts. I once again thank the AIC for considering me for the award, and in being instrumental in supporting (in-part) my participation at the ASHA convention 2018.

Deepa Bhat Nair, Consultant Speech Pathologist and Head, DBN ComDEALL (Mumbai), India

Attending the ASHA convention that year (2017) helped in many ways. For starters, I took back several clinical strategies that are now implemented with the children at my center. In addition, I share them with professionals from other disciplines as well as ours and parents of children with disabilities during training workshops I conduct across the country. At the conference, I got the opportunity to interact with Dr. Patricia Prelock and Dr. Tiffany Hutchins. I also attended several sessions by Michelle Garcia Winner. This helped to further strengthen and expand my understanding of pragmatic interventions for children on the spectrum. Concepts such as zones of regulation, Theory of Mind Inventory, milestones of pre-attending skills that I picked up, have been passed on to fellow clinicians, and are helping many of the children my team works with.

It was interesting to interact with fellow professionals during the presentation of our paper titled, "Pragmatic language interventions for siblings of children with autism: The Indian experience." We found that many of the concerns and challenges clinicians had were similar to what we experienced in India despite the huge cultural differences. Clinicians who attended were keen to know about specific interventions we had used, and talked about assessment procedures they were using. It was a fruitful interaction.

As for research, I am currently the Co PI in a DST (Department of Science & Technology) funded project where we are looking at Gesture development in siblings of children with autism and maternal multi-modal inputs. Dr. Prathibha Karanth is the PI and Dr. Mili Mathews is also a Co PI. I appreciate the support from the AIC which came at a timely hour.



2019 Zenith AIC Scholarship Awardees

Hearty Congratulations!!!

Student Category

Ms. Ruhee Keshwani, Graduate Student, University of Arkansas
Poster “Self-reflection and Critical Thinking in International Student Clinical Education”

Ms. Barnali Muzumdar, 3rd time recipient
Doctoral Candidate, Louisiana State University
Poster “Comparing Language Samples Based on High-Context Color Photograph Compared to Line Drawing”

Clinician Category (International)

Ms. Srividya Asuri, AIC-International Clinician Recognition Award
Posters
“Speech Perception Comparison in Children With Cochlear Implants & Normal Hearing Using Minimal Pair Test”
“Comparison of Acoustic Analysis of Vowels in Children with normal-hearing vs. with Cochlear implants”

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The Asian Indian Caucus - AIC ASHA invites you to the
2019 Annual Meeting

Thursday, November 21st, 2019
7- 8 pm

Rosen Plaza, Salon 11 Orange County Convention Center
9800 International Dr,
Orlando, FL 32819

Best Wishes from 2019-20 Executive Committee

Contact us at: asianindiancaucus@gmail.com