#### VITA

#### ANU SHARMA, Ph.D.

**Professor** 

Dept. of Speech, Language and Hearing Sciences Institute of Cognitive Science Center for Neuroscience University of Colorado at Boulder

#### Address:

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## **EDUCATION**

Northwestern University, Evanston, IL

Post-doctoral research, Auditory Neuroscience Laboratory

Ph.D. in Audiology and Hearing Science

M.A. in Audiology and Hearing Science

University of Bombay, Bombay, India

B.Sc. in Audiology and Speech Language Pathology

# **PROFESSIONAL EXPERIENCE**

University of Colorado at Boulder, Boulder, CO

2006-Present, Professor, Speech Language and Hearing Science, Center for Neuroscience and Institute for Cognitive Science

2016-2017 Interim Chair, Department of Speech Language and Hearing Science

The University of Texas at Dallas, Dallas, TX

2001-2006 Associate Professor, School of Behavioral and Brain Sciences

Callier Center for Communication Disorders

Arizona State University, Tempe, AZ

1995-2001, Assistant Professor, Department of Speech and Hearing Science

#### **PROFESSIONAL QUALIFICATIONS**

Certificate of Clinical Competence (CCC) in Audiology

#### **SELECTED HONORS**

Member of the NIH Blueprint for Neurosciences panel on harnessing neuroplasticity for clinical applications workshop, April 2009

Outstanding contribution by a young scientist award at the International Evoked Response Study Group, 12th symposium, Trento, Italy 1991.

Selected Keynote Addresses: Marion Downs Lecture at the American Academy of Audiology Convention, Washington DC, 2005; British Academy of Audiology Convention, Torquay, U.K. December 2005; A.G. Bell Talk of a Lifetime, Washington DC July 2007; National Early Hearing Detection & Intervention Conference, New Orleans 2008; Ted Evans Lecture, British Society of Audiology, Manchester, U.K. 2010; International Conference on Newborn Hearing Screening; Conference, Lake Como, Italy 2010; British Academy of Audiology, Manchester, U.K 2012; First Family Centered Early Intervention Conference Austria, 2012, 3<sup>rd</sup> Carel du Toit Ndiyeva Conference, Cape Town, South Africa, 2014, International Evoked Response Study Group, Busan, Korea, 2015, Marion Downs Lecture at the American Academy of Audiology Convention, Indianapolis, 2017

Callier Scholar, University of Texas at Dallas, 2003-2005

- 2002 Best in Audiology -Literature citation for the most thought provoking article in diagnostic audiology (Sharma et al., *Ear Hear* (23) 6, 2002), Cited in The Hearing Journal, 2002.
- 2006 Best in Audiology Literature citation for All-Round Favorite article in diagnostic audiology (Sharma A, et al., *JAAA* 16(8):564-73 2005). Cited in: The Hearing Journal, 59(6):32-46, 2006.
- 2007 Best in Audiology- Literature citation for best special edition in diagnostic audiology. (Edited by Anu Sharma; Special Issue on central auditory system development and plasticity. *International Journal of Audiology* 46(9) 2007. Cited in Hearing journal 2008, 61(6): 30-34
- 2008 King, Campbell, Sharma et al., *Clin Neurophys* 119(12) 2855-61, 2008; Reviewed as a recommended paper of 2008 by Jean Francois Demonet in the journal FT1000 Medicine which highlights new findings in Medicine and Neuroscience. (Jean-Francois Demonet: Faculty of 1000 Medicine, 18 Nov 2008) <a href="http://www.f1000medicine.com/article/id/1126847/evaluation">http://www.f1000medicine.com/article/id/1126847/evaluation</a>).
- 2011 Sharma, A, Cardon G\*, Henion K and Roland P. (2011). *Intl J of Audiology*, 50: 98-106, 2011; featured as one of the top highlights of pediatric audiology of 2011, *The Hearing Journal* (12/2011)

#### TRAINING GRANT

Jenkins H and Kinnamon S (Co-Principal Investigators) Institutional Training in Otolaryngology Research T32DC012280. Award Duration: 2013-2023.

Sharma Role: Faculty Mentor

# **RESEARCH GRANTS**

- Sharma A (Co-Principal Investigator with Dye, M). Neuroplasticity in young deaf adults: Effects of Cochlear Implantation and Sign Language Exposure. *National Institutes of Health R01DC016346*. Total amount: \$2,604,026. Award Duration 2017-2022
- Sharma A (Co-Principal Investigator with Grigsby, J). The effectiveness of therapy via telemedicine following cochlear implantation. *National Institutes of Health* U01DC013529 Total amount \$3,605,839. Award Duration 2013-2018. No cost extension until 2020.
- Sharma A (Principal Investigator) and H. Glick (Co-investigator). Cross-modal re-organization and audiovisual processing in hearing aid use. *Hearing Industry Research Consortium* \$139,441 Award Duration 2018-2022.
- Sharma A. (Principal Investigator). Central auditory development in hearing impaired infants. *National Institutes of Health. NIDCD* R01 DC06257. Award duration 2004-2012; total amount \$2,403,891
- Sharma A. (Principal Investigator) Two ARRA supplements for R01DC006257. Award Duration 2009-2011 Total Amount \$ 327,480
- Sharma A. (Principal Investigator). Central auditory system plasticity in implanted children. *National Institutes of Health. NIDCD* R01 award. Award duration 2001-2008, total amount \$884,875
- Sharma A (Co-investigator/ later consultant). A portable research interface for cochlear implants. *NIDCD* contract award. 2006-2009. P.I. Phillip Loizou
- Sharma A. (Principal Investigator). Optimal age for cochlear implantation in children. *American Hearing Research Foundation*. Award duration 2000-2002, \$20,000
- Sharma A. (Principal Investigator). Plasticity of central auditory pathways in cochlear implant users. *National Organization for Hearing Research*. Award duration 2001-2002 \$10,000
- Sharma A. (Principal Investigator). Developmental changes in the speech-evoked N100 cortical auditory potential. Faculty *Grant-in-Aid program*. *Council for Research and Creative Activities, Arizona State University*. Award duration 1996-1997. \$7,000

# RESEARCH AWARDS FOR STUDENT ADVISEES

- 2016 Hannah Glick-New Century Doctoral Scholarship Award from the American Speech Language Hearing Association (ASHA) foundation. \$10,000
- 2013 Garrett Cardon- New Century Doctoral Scholarship Award from the American Speech Language Hearing Association (ASHA) foundation. \$10,000
- 2013-2105 Garrett Cardon –F-31 NIH NRSA Mentored Student Dissertation Fellowship Award
- 2012-2014 Julia Campbell-F-31 NIH NRSA Mentored Student Dissertation Fellowship Award
- 2012- Julia Campbell-Mentored Student Research Award, *American Auditory Society sponsored* by NIH.

- 2012- Garrett Cardon-Mentored Student Research Award, *American Auditory Society sponsored* by NIH.
- 2011 Julia Campbell- Inaugural Plural Publishing Doctoral Research Award presented through the Council on Academic Programs in Communication Sciences and Disorders (CAPSCD) \$3000
- 2010 Julia Campbell- New Century Scholar Award from the American Speech Language Hearing Association (ASHA) foundation. \$10,000
- 2010 Garrett Cardon-Student Research Forum Award, American Academy of Audiology
- 2009 Garrett Cardon-Graduate Student Scholarship Award, American Speech Language Hearing Association \$4000
- 2008 Julia Campbell-Award for Student Research Presentation at the Mountain Neuroscience Group Regional Meeting, Denver, CO
- 2008 Julia Campbell-First Place Student Research Award at the annual convention of the Colorado Academy of Audiology
- 2005 Katrina Agung -New Century Scholar Award from the American Speech Language Hearing Association \$10,000
- 2002 Phillip Gilley-Student Investigator Research Award, American Academy of Audiology

# **SCIENTIFIC PUBLICATIONS** (\* denotes graduate student of Dr. Sharma).

- Cardon G\* and Sharma A (In press) The Effect of Amplification on Cortical Synchrony in Children with Auditory Neuropathy Spectrum Disorder. Hearing Balance and Communication.
- Cardon G\* and Sharma A (2021) Cortical Neurophysiologic Correlates of Auditory Threshold in Adults and Children with Normal Hearing and Auditory Neuropathy Spectrum Disorder. American Journal of Audiology, (30): 28-42, <a href="doi:oio:rig/10.1044/2020">doi:oio:rig/10.1044/2020</a> AJA-20-00062
- Campbell J\* and Sharma A (2020). Frontal Cortical Modulation of Temporal Visual Cross-Modal Reorganization in Adults with Hearing Loss. Brain Sciences, 10 (8) 498.
- Glick H\* and Sharma A (2020). Cortical Neuroplasticity and Cognitive function in Early-Stage Mild-Moderate Hearing Loss: Evidence of Neurocognitive Benefit from Hearing Aid Use. Frontiers in Neuroscience. 14:93. doi: 10.3389/fnins.2020.00093
- Sharma A and Kyong, Jeong-Sug (2020) Exploring the Neurodynamic Signals of the Deafened Brain: Factors Influencing Cochlear Implant Outcomes *Editorial* Clinical and Experimental Otorhinolaryngology, Volume (13)3, 211-212. DOI: https://doi.org/10.21053/ceo.2020.00500
- Sharma, A., Glick, H\*. (2020). Cortical Neuroplasticity in Hearing Loss. In Flint P., Haughey B., Lund V., Robbins K, Thomas, R, Lesperance, M and Francis H, (Eds.), Cummings Otolaryngology, 7th Ed. Elsevier, pp1996-2010.
- Lomber, S., Butler, B. E., Glick, H\*., Sharma, A. (2020). Cross-modal neuroplasticity in deafness: Evidence from animal models and clinical populations. In K. Sathian & V. S. Ramachandran (Eds.) Multi-sensory Perception: From Laboratory to Clinic. Elsevier.
- Cardon G\* and Sharma A (2019) Somatosensory Cross-Modal Reorganization in Adults with Age-Related, Early-Stage Hearing Loss. Frontiers in Human Neuroscience, 12:172. doi: 10.3389/fnhum.2018.00172

- Cardon G\* and Sharma A (2019) Somatosensory cross-modal re-organization in children with cochlear implants. Frontiers in Human Neuroscience, 13, June 2019, <a href="https://doi.org/10.3389/fnins.2019.00469">https://doi.org/10.3389/fnins.2019.00469</a>
- Sharma, A., Glick, H\*. (2019). Cortical development and neuroplasticity in deafness. In V. Diamante & N. Pallares (Eds.), Cochlear Implants. Edimed.
- Whitson H, Cronin-Golumb A, Cruikshanks K, Gilmore G, Owsley C, Peelle J, Recanzone G, Sharma A, Swenor B, Yaffe K and Lin F (2018). American Geriatric Society and National Institute of Aging Bench to Bedside Conference: Sensory Impairment and Cognitive Decline in Older Adults. Journal of the American Geriatric Society, 66 (11)2052-2058.
- McKnight, R. J\*., Cardon, G\*., Glick, H\*., Sharma, A. (2018). Effects of stimulus rate on auditory brainstem response in auditory neuropathy spectrum disorder. Hearing, Balance, & Communication, 16(1), 1-12
- Glick H\*and Sharma A (2017) Cross-modal plasticity in developmental and age-related hearing loss: Clinical Implications. Hearing Research, 343: 191-201
- Campbell J\* and Sharma A (2016) Distinct visual evoked potential morphological patterns for apparent motion in school age children. Frontiers in Human Neuroscience, doi.10.3389/fnhum. 2016.00277
- Campbell J\* and Sharma A (2016) Visual cross-modal re-organization in children with cochlear implants. *PloS One*. DOI:10.1371/journal.pone.0147793.
- Sharma, A, Glick, H\*. (2016). Cross-modal re-organization in clinical populations with hearing loss. Brain Sci. 2016, 6, 4; doi:10.3390/brainsci6010004
- Sharma, A, Glick, H\*, Campbell, J, Torres, J, Dorman, MF, Zeitler, DM. (2016). Cortical Plasticity and reorganization in pediatric single-sided deafness pre- and post-cochlear implantation: A case study. Otology & Neurotology, 37(2):E26-34.
- Sharma, A, Glick, H\*, Deeves, E, Duncan, E. (2015). The P1 biomarker for assessing cortical maturation in pediatric hearing loss: A review. Otorinolaringologia, 65(4): 103-114.
- Sharma A and Cardon G\* (2015) Cortical development and neuroplasticity in Auditory Neuropathy Spectrum Disorder. Hearing Research. doi: 10.1016/j.heares. 2015.06.001.
- Sharma A, Campbell J\* & Cardon G\* (2015) Developmental and cross-modal plasticity in deafness: Evidence from the P1 and N1 event-related potentials in cochlear implanted children. Intl Journal of Psychophysiology doi: 10.1016/j.ijpsycho.2014.04.007
- Staniswalis J, Dodoo C, Sharma A (2015) Local principal differential analysis: Graphical Methods for functional data with covariates. Communication in Statistics: Simulation and Computation doi. 10.1080/03610918.2015.1043387
- Campbell, J\*., & Sharma, A. (2014). Cross-modal re-organization in adults with early stage hearing loss. PLoS ONE, 9(2), e90594.
- Nash-Kille A\* and Sharma A (2014) Inter-trial coherence as a marker of cortical phase synchrony in children with sensorineural hearing loss and auditory neuropathy spectrum disorder fitted with hearing aids and cochlear implants. Clinical Neurophysiology. Jul;125(7):1459-70. doi: 10.1016/j.clinph.2013.11.017
- Nash-Kille A\*, Gilley P and Sharma A (2014) Cortical organization and variability in unilateral auditory neuropathy spectrum disorder: A case study. Hearing Balance and Communication. 2(1):41-51, doi: 10.3109/21695717.2013.876159.

- Gilley P.M., Walker N.K., Sharma A. (2014). Abnormal oscillatory coupling in children with language-learning problems and auditory processing disorder. Seminars in Hearing, 35(1):15-26.
- Cardon G\* and Sharma A (2014) Developmental plasticity of the central auditory system: Evidence from deaf children fitted with cochlear implants. *Development of Auditory and Vestibular Systems*, 4<sup>th</sup> edition. Raymond Romand & Isabel Varela-Nieto (eds). Elsevier Press.
- Campbell J\* and Sharma A (2013). Compensatory changes in cortical resource allocation in adults with hearing loss. Frontiers in Systems Neuroscience, 7:71. doi: 10.3389/fnsys.2013.00071
- Sharma A, Glick H\*, Campbell J\* and Biever A (2013). Central auditory development in children with hearing loss: clinical relevance of the P1 CAEP biomarker in hearing impaired children with multiple disabilities. Hearing, Balance and Communication.
- Cardon G\* and Sharma A (2013). Central auditory maturation and behavioral outcome in children with auditory neuropathy spectrum disorder who use cochlear implants. International Journal of Audiology 52(9):577-86.
- Sharma A and Mitchell (2013) The impact of deafness on the human central auditory and visual systems. Kral A., Popper, A. N., and Fay, R. R. (eds). Deafness. Springer Science+Business Media, LLC, New York.
- Sharma A, Glick H\* and Durkee L\* (2103). Cortical plasticity and re-organization in hearing loss. Proceedings of the 2013 International Symposium on Auditory and Audiological Research, Copenhagen Denmark.
- Kral A and Sharma A (2012). Developmental neuroplasticity in deafness. *Trends in Neuroscience* 35(2):111-22
- Cardon G\*, Campbell J\* and Sharma A (2012). Plasticity in the developing auditory cortex: Evidence from children with sensorineural hearing loss and Auditory Neuropathy Spectrum Disorder. Journal of the American Academy of Audiology. 23(6):396-411
- Roland P, Martin K, Booth T, Campbell J\* and Sharma A (2012). Assessment of cochlear implant candidacy in patients with cochlear nerve deficiency using the P1 CAEP biomarker. Cochlear Implants International. 13(1):16-25
- Sharma, A., Nash, A\*. and Dorman, M. (2012). Development cortical, plasticite et reorganisations cerebrales. Les Cahiers de l'Audition, 25(2), 30-35.
- Cramer SC, Sur M, Dobkin BH, O'Brien C, Sanger TD, Trojanowski JQ, Rumsey JM, Hicks R, Cameron J, Chen D, Chen WG, Cohen LG, deCharms C, Duffy CJ, Eden GF, Fetz EE, Filart R, Freund M, Grant SJ, Haber S, Kalivas PW, Kolb B, Kramer AF, Lynch M, Mayberg HS, McQuillen PS, Nitkin R, Pascual-Leone A, Reuter-Lorenz P, Schiff N, Sharma A, Shekim L, Stryker M, Sullivan EV, Vinogradov S. Harnessing neuroplasticity for clinical applications. *Brain*. (2011) Jun;134 (Pt 6):1591-609. (2011). [Based on a workshop sponsored by the NIH Blueprint for Neuroscience Research in April 2009]
- Sharma, A, Cardon G\*, Henion K and Roland P. (2011) Cortical maturation and behavioral outcomes in children with auditory neuropathy spectrum disorder. *International Journal of Audiology*, 50: 98-106, 2011
- Sharma A and Dorman M (2011) Central auditory development, plasticity and re-organization after cochlear implantation: Evidence from evoked potential and brain imaging studies. Zeng, F.-G., Popper, A. N., and Fay, R. R. (eds). *Auditory Prostheses: New Horizons*. Springer Science+Business Media, LLC, New York.

- Campbell, J\*, Cardon G\* and Sharma A (2011) Clinical application of the P1 cortical auditory evoked potential biomarker in children with sensorineural hearing loss and auditory neuropathy spectrum disorder. *Seminars in Hearing* Vol 32:2: 147-155; 2011
- Sharma A and Campbell J\* (2011) A sensitive period for cochlear implantation in deaf children. Journal of Maternal-Fetal and Neonatal Medicine 24 v(1): 151-153.
- Campbell J\* and Sharma A (2011) The P1 CAEP Biomarker: A case report. Special volume on the proceedings of the Xth European Symposium on Pediatric Cochlear Implantation. pgs 297-302.
- Cardon, G\*., Sharma, A. (2011) Cortical auditory evoked potentials in auditory neuropathy spectrum disorder: clinical implications. American Speech Language and Hearing Association Special Interest Publication: *Perspectives on Hearing and Hearing Disorders in Childhood*.
- Gilley P\*, Sharma A, Mitchell T, and Dorman MF (2010). A sensitive period for auditory-visual integration in children with cochlear implants. *Restorative Neurology and Neuroscience*: Special issue on development and plasticity of multisensory functions. Roeder B and Wallace M (eds);28(2):207-18..
- Gilley P\* and Sharma A (2010) Functional brain dynamics of evoked and event-related potentials from the central auditory system. *Hearing and Hearing Disorders: Research and Diagnostics*. 2010; 14: *12 20*.
- Sharma, A, Nash A\* and Dorman A (2009) Cortical development, plasticity and re-organization in children with cochlear implants. *J Commun Disord*. Jul-Aug;42(4):272-9.
- Le Bel R\*, Pineda J and Sharma A (2009). Motor, Motor-Auditory-Visual Integration: The Role of the Human Mirror Neuron System in Communication and Communication Disorders. 2009 *J Commun Disord* Jul-Aug;42(4):299-304.
- Gilley PM\*, Sharma A, and Dorman MF (2008) Cortical reorganization in children with cochlear implants. *Brain Research* 1239, 56-65. 2008.
- King K\*, Campbell J\*, Sharma A, Martin K, Dorman M, Langran J\*. (2008) Representation of VOT in cortical auditory evoked response of young children. *Clin. Neurophys.*119(12) 2855-61. 2008.
- Nash, A\*., Sharma, A., Martin, K., and Biever, A. (2008). Clinical applications of the P1 cortical auditory evoked potential (CAEP) biomarker. A Sound Foundation Through Early Amplification: Proceedings of a Fourth International Conference. Chicago, IL.
- Sharma A, Gilley PM\*, Dorman MF, Baldwin R. (2007) Deprivation-induced cortical reorganization in children with cochlear implants. Int J Audiol.46(9):494-9, 2007
- Sharma A, Gilley PM\*, Martin K, Roland P, Bauer, P and Dorman M. (2007) Simultaneous vs. sequential bilateral implantation in young children: Effects of central auditory system development and plasticity. *Audiological Medicine* Vol 4 (5) 218-223, 2007
- Dorman MF, Sharma A, Gilley P\*, Martin K, Roland P. (2007) Central auditory development: evidence from CAEP measurements in children fit with cochlear implants. J Commun Disord. 2007 Jul-Aug;40(4):284-94. 2007
- Bauer P, Sharma A, Martin K and Dorman M. (2006) Central auditory development in children with bilateral cochlear implants. *Archives of Otolaryngology Head and Neck Surgery*, Vol 132, 2006
- Gilley PM\*, Sharma A, Dorman M and Martin K. (2006) Abnormalities in central auditory maturation in children with language-based learning disabilities. *Clin. Neurophysiol.* 117 (9): 1949-56, 2006

- Gilley PM\*, Sharma A, Dorman M, Finley CC, Panch AS and Martin K. (2006) Minimization of cochlear implant stimulus artifact in cortical auditory evoked potentials. *Clin. Neurophysiol.* 117(8):1772-82, 2006
- Sharma, A and Dorman M. (2006) Central auditory development in children with cochlear implants: clinical implications. *Adv Otorhinolaryngol*. 64:66-88, 2006
- Sharma, A, Martin K, Roland, P, Bauer, P, Sweeny, M, Gilley, P\* and Dorman M (2005). P1 latency as a biomarker for central auditory development in children with hearing impairment. *Journal of the American Academy of Audiology*, 16: 568-577, 2005
- Sharma, A, Dorman M and Kral A (2005). The influence of a sensitive period on central auditory development in children with unilateral and bilateral cochlear implants. *Hearing Research*, 203,134-143, 2005
- Gilley, P\*, Sharma, A, Dorman M and Martin K (2005). Developmental changes in refractoriness of the cortical auditory evoked potential. *Clinical Neurophysiology*, 116(3), 648-657, 2005
- Sharma, A, Tobey E, Dorman M, Martin K, Gilley P\* and Kunkel F (2004). Central auditory maturation and babbling development in infants with cochlear implants *Archives of Otolaryngology-Head and Neck Surgery* Vol 130 (5) 511-6, 2004
- Sharma A, Dorman M and Spahr A\* (2002). A sensitive period for the development of the central auditory system in children with cochlear implants: Implications for age of implantation. *Ear and Hearing Vol 23 (6)*, 532-539, 2002
- Sharma A, Dorman M and Spahr A\* (2002). Rapid development of cortical auditory evoked potentials after early cochlear implantation. *NeuroReport*, Vol 13 (10), 1-4, 2002.
- Sharma A, Dorman M, Spahr A\* and Todd N. Early cochlear implantation allows for normal development of cortical auditory pathways. *Annals of Otology, Rhinology and Laryngology*, Vol 111 (5), 38-41, 2002.
- Sharma, A and Dorman, M. The effect of age of cochlear implantation on the development of the central auditory pathways. *Perspectives on Hearing and Hearing Disorders: Research and Diagnostics*. Vol 6 (2), 2002
- Sharma A, Marsh C\* and Dorman M (2000). Relationship between N1 evoked potential morphology and perception of voice-onset-time. *Journal of the Acoustical Society of America*, 108 (6), 3030-3035, 2000.
- Sharma A and Dorman M (2000). Neurophysiologic correlates of cross-language phonetic perception. *Journal of the Acoustical Society of America* 107(5), 2697-2703, 2000.
- Sharma A and Dorman M (1999). Cortical Auditory evoked potential correlates of categorical perception of voice-onset time. *Journal of the Acoustical Society of America*, 106 (2), 1078-1083, 1999.
- Sharma A and Dorman M (1998). Exploration of the perceptual magnet effect using the mismatch negativity event-related potential. *Journal of the Acoustical Society of America*, 104, 511-517, 1998.
- Sharma A, Kraus N, McGee T & Nicol T (1997). Developmental changes in P1 & N1 auditory responses elicited by consonant-vowel syllables. *Electroencephalography and Clinical Neurophysiology*, 104, 540-545, 1997.
- Kraus N, McGee T, Carrell T, Sharma A. Neurophysiologic bases of speech discrimination. Ear and Hearing Special Issue, eds: Naatanen R and Kraus N. Williams and Wilkins: Baltimore 1995.

- Sharma A, Kraus N, McGee T, Carrell T, Nicol T (1993). Acoustic vs. phonetic representation of speech stimuli as reflected by the mismatch negativity event-related potential. *Electroencephalography and Clinical Neurophysiology*, 88, 64-71, 1993.
- Micco A, Kraus N, Koch D, McGee T, Carrell T, Sharma A, Nicol T and Wiet R (1995). Speechevoked cognitive P300 potentials in cochlear-implant recipients. *American Journal of Otology* 16, 514-20, 1995.
- Kraus N, McGee T, Carrell T, Sharma A, Nicol T. Mismatch negativity to speech stimuli in school-age children. Perspectives of Event-Related Potentials Research (EEG Suppl. 44), eds: Karmos G, Molnar M, Csepe V, Czigler I and Desmedt J. Elsevier: Amsterdam 1994.
- Kraus N, McGee T, Micco A, Sharma A, Carrell T, Nicol T (1993). Mismatch negativity in school-age children to speech stimuli that are just perceptibly different. *Electroencephalography and Clinical Neurophysiology*, 88, 123-130, 1993.
- Kraus N, Micco A, Koch D, McGee T, Carrell T, Sharma A, Wiet R, Weingarten C (1993). The mismatch negativity cortical evoked potential elicited by speech in cochlear-implant users. *Hearing Research*, 65, 118-124, 1993.
- Kraus N, McGee T, Carrell T, Sharma A, Micco A, Nicol T. Speech-evoked cortical evoked potentials (1993). *Journal of the American Academy of Audiology*, 4, 238-248, 1993.
- Kraus N, McGee T, Carrell T, Ferre J, Hoeppner J, Sharma A, Nicol T (1993). Mismatch negativity in the neurophysiologic/behavioral evaluation of central auditory processing deficits: A case study. *Ear and Hearing*, 14, 223-234, 1993.
- Kraus N, McGee T, Sharma A, Carrell T, Nicol T (1992). Mismatch negativity event-related potential elicited by speech stimuli. *Ear and Hearing*, 13, 158-164, 1992.

# **OTHER PUBLICATIONS**

- Glick H\*and Sharma (2021) The Brain on Hearing Aids: Can treatment with hearing aids improve neurocognitive function in age-related hearing loss. Hearing Review
- Glick, H\*. Sharma, A. (2019). The ear-brain connection: Understanding neuroplasticity to improve outcomes in age-related hearing loss. American Speech-Language Hearing Association Asian Indian Caucus Newsletter.
- Glick, H\*, Sharma, A. (2018). Cortical neuroplasticity in hearing loss: Why it matters in clinical decision-making for children and adults. Hearing Review.
- Campbell, J\*. & Sharma, A. (2010). An objective measure of central auditory development in hearing impaired infants: Clinical implications. *American Speech-Language-Hearing Association Kiran: Publication of the Asian-Indian Caucus*, Issue 2010:4-7.
- Sharma A and Nash A\* (2009) Brain maturation in children with cochlear implants. Invited feature in the *ASHA leader* publication of the American Speech Language Hearing Association.
- Sharma A and Dorman M. (2007) Developing a clinical biomarker of central auditory maturation: Case Study. Short Course Presentation of the *Association of Research In Otolaryngology*. Pg 29. Translational Research In Otolaryngology, Association for Research in Otolaryngology. Denver, CO, February.
- Sharma A and Dorman M. (2005) The clinical use of P1 latency as a biomarker for assessment of central auditory development in children with Hearing Impairment. Invited feature in *Audiology Today* (17)3, 18-19.

## SELECTED INVITED PRESENTATIONS (SINCE 2000)

10<sup>th</sup> Turkish Congress on Audiology & Speech Disorders (Virtual presentation), December 2020

City University of New York Colloquium (Virtual presentation), December, 2020

Florida Combined Otolaryngology Meeting (Virtual presentation), November, 2020

Coalition for Global Hearing Health (Virtual symposium), October, 2020

International Hearing Society Conference (Virtual presentation), July, 2020

Cognition and Audition (Virtual Webinar), May, 2020

American Auditory Society, Scottsdale, March 2020.

Argentina Association of Audiology Conference, Buenos Aires, Argentina, September, 2019

Conference of the International Association of Logopedics and Phoniatrics, Taipei, Taiwan, August, 2019

Keynote: I Jornada Internacional de Procesamiento y Sinaptopatía Auditiva, Santiago, Chile, July 2019

Keynote: International Conference on Cognitive Hearing Science for Communication, Linkoping, Sweden, June 2019

Oticon International Symposium on Hearing loss, Tokyo, Japan, May 2019

Symposium on Age-Related Hearing Loss, American Academy of Geriatric Society, Atlanta, March 2019

Johns Hopkins Cochlear Center for Public Health and Hearing, March 2019

International Meeting in Audiology (ASHA 34th edition), Iguazu Falls, Brazil April 2019

Symposium on Age-Related Hearing loss and Cognitive Decline-Association of Research in Otolaryngology, Baltimore, February, 2019

Ultimate Mid-Winter Otolaryngology and Audiology Meeting, Vail, February 2018

International Hearing Research Symposium, Santiago, Chile, March 2018

Symposium at the Departamento Otorrinolaringología, Universidad de Chile, Santiago, Chile, March, 2018

Keynote Presentation: BARNAS Conference, Oreboro, Sweden, March 2018

Seminar at the National Institutes of Deafness and Communication Disorders (NIDCD) at the National Institute of Health, May 2018

European Society of Pediatric Otorhinolaryngology Conference, Stockholm, Sweden June 2018 Presentation at Oticon Headquarters, Denmark, June 2018

Seminar at The Center for Hearing Research, University of California, Irvine, June 2018.

International Multisensory Research Forum, Toronto, June 2018.

International Conference on Infant Studies, Philadelphia, July 2018

Workshop on Reading Language and Deafness, San Sebastian, Oct, 2018 Keynote Presentation Hearing Conference, Iguazu Falls, Argentina, October 2018

Keynote Address: Marion Downs Lecture. American Academy of Audiology. Indianapolis, April 2017

25 years of Cochlear Implant in Columbia Conference, Bogota, Columbia, August 10-12, 2017 U13 Bench to Bedside Conference American Geriatric Society and National Institute of Aging, Bethesda, October 2-3, 2017

Invited Symposium on Hearing Loss and Cognitive Decline, Society for Neuroscience, Washington DC, November 13, 2017

Invited Symposium on Age-Related Hearing loss

Center for Kommunikation og Velfærdsteknologi, Odense, Denmark, March 10, 2017

6<sup>TH</sup> Nordic Conference, Fredericia, Denmark, March 9, 2017

Kaiser Permanante Audiology Conference, Oakland, May 15, 2017

Symposium at the International Multisensory Research Forum, May 22, 2017

Audiology Research Conference, Medtron, Tel Aviv, Israel, June 28, 2017

Symposium at the American Cochlear Implant Alliance San Francisco, June 27, 2017

Georgia Academy of Audiology, Atlanta, GA, January 2017

1st Hearing and Speech Institutes Conference, Cairo Egypt, November 16, 2016

Annual Convention of the American Doctors of Audiology, San Diego, November 12, 2016

St. Lukes Health System Conference, Boise, Idaho, November 3, 2016

Keynote Address: Maryland Academy of Audiology, October 6, 2016

Plenary Address: Nordic Audiological Society, Trondheim, September 12, 2016

Cochlear Implant Conference, Seoul National University, Seoul, Korea, July 15, 2016

Multimodal and Multilingual Outcomes in Deaf Children, Stockholm University, Stockholm, Sweden, June 13-15, 2016

Neural Plasticity Workshop: Insights from Deafness and Language, University College London, June 1-3, 2016.

Oticon Hearing Conference, Florida, May, 2016

University of California San Francisco Benioff Children's Hospital Conference, April 2016

American Academy of Audiology Conference, Phoenix, 2016

Lasker Foundation/International Retinal Research Foundation Initiative on Amblyopia, Howard Hughes Medical Institute, Virginia, March 2016

Geers Foundation Conference, Berlin, Germany February, 2016

Starkey Hearing Expo, Las Vegas, January 2016

12th Wullstien Symposium on Cochlear Implants, Wurzburg, Germany, December 2015

Closing the Auditory Loop Conference in Hannover, Germany, Oct 2015

Jean Piaget Society, Toronto, CA, June 2015

Keynote: International Evoked Response Audiometry Study Group, Busan, Korea May, 2015

Special Symposium on Cochlear Implants, Acoustical Society of America, Pittsburg, May 2015

European Federation of Audiology Societies, Istanbul, Turkey, May 2015

Society for Research in Child Development, Philadelphia, March 2015

Ultimate Mid-Winter Otolaryngology and Audiology Meeting, Vail, February 2015

14th Symposium on Cochlear Implants in Children, Nashville, TN, Dec 11-13, 2014

VII Semana del Implante Cochlear, Buenos Aires, Argentina, November 30, 2014

Auditory Cortex Conference, Magdeburg, Germany, September 13-17, 2014

9th Inner ear Disease and Cochlear Implantation Symposium, Izmir, Turkey, Sept 3-5, 2014

International Conference on Hearing Aids (IHCON) Lake Tahoe August 13-17, 2014.

Keynote Address: 3<sup>rd</sup> Carel du Toit Ndiyeva Conference, Cape Town, South Africa June 26-27, 2014

XIII Course on Cochlear Implants at the University of Navarra, Pampalona, March 12-15, 2014

Ultimate Mid-Winter Otolaryngology and Audiology Meeting. Vail, February, 2014

Workshop on Hearing Implants for Older Adults, New York City, Jan 16-18, 2014

Cochlear Implants and Brain Imaging. Arizona State University, November 4, 2013

Top Down and Bottom Up Plasticity Conference, Milan November 14-15, 2013

Inter Mountain Area Speech and Hearing Convention annual meeting, Denver, Co Oct 3-4, 2013

International Symposium on Auditory and Audiological Research (ISAAR). Copenhagen

Denmark, August 28-30, 2013

The Marion Downs Hearing Symposium, July 10-12, 2013

Conference on Implantable Prostheses, Lake Tahoe, Ca, July 14-18, 2013.

International Conference on Cognitive Hearing Science for Communication Linkoping, Sweden June 16-19, 2013

Keynote Address: Friedberger Symposium on Cochlear Implants, Germany June 7-8, 2013

European Pediatric Cochlear Implant Meeting, Istanbul, Turkey, May 24-26, 2013

Inaugural Rose F. Kennedy Intellectual and Developmental Disabilities Research Center

Symposium, Albert Eintein College of Medicine, April 30, 2013

British Cochlear Implant Group Meeting, Ayr, United Kingdom, March 20-22, 2013

Ultimate Mid-Winter Otolaryngology and Audiology Meeting. Vail, February, 2013

Cochlear Implant Consortium, Colorado Department of Health, Denver Colorado, January 29, 2013

Keynote Address: British Academy of Audiology, Manchester, U.K. Nov 12, 2012

Special Panel talk: British Academy of Audiology, Manchester, U.K, Nov 12, 2012

Keynote Address: BARNAS Pediatric Audiology Conference, Orebro, Sweden Sept 5, 2012

8th Inner Ear Diseases Symposium Cappadocia Turkey, Sept 5, 2012

Special Panel, 8th Inner Ear Diseases Symposium, Cappadocia Turkey, Sept 6, 2012

Victorian Deaf Education Institute, Melbourne, Australia, July 26&27, 2012

Sydney Cochlear Implant Center, Sydney, Australia, July 9th, 2012

Royal Institute of the Deaf and Blind, Sydney Australia, July 8th 2012

Eight Annual Brain CPR conference, Canoe Bay, Wisconsin, June 4, 2012

Keynote Address: First Family Centered Early Intervention Conference, May 31, 2012

Manitoba Speech and Hearing Association, Winnepeg, Canada, April 26<sup>th</sup>, 2012

WeListen International, Distinguished Speakers Series, Toronto, Canada, April 12, 2012

Ultimate Mid-Winter Otolaryngology and Audiology Meeting. Vail, February, 2012

Phonak Pediatric Audiology Conference by Istanbul Turkey, Nov 14-15, 2011

XVII Congress of the Italian Society of Neonatology, Sorrento, Italy Oct, 11-14th, 2011

First International Conference on Cognitive Hearing Science June 19-22, Linkoping, Sweden.

Xth European Symposium on Pediatric Cochlear Implantation, May 12-15, 2011 Athens Greece.

Conference of the Brazilian Speech Language and Hearing Association. April 18-19, 2011

Minnesota Early Hearing Detection and Intervention Conference March 6, 2011

Pediatric Audiology Conference, Medical University of South Carolina, March 9, 2011

Ultimate Mid-Winter Otolaryngology and Audiology Meeting. Vail, February 15, 2011

Keynote Address. International Conference on Newborn Hearing Screening, Lake Como, Italy June 8-10, 2010.

Keynote Address, Ted Evans lecture at the British Society of Audiology September 9, 2010, Manchester, U.K.

Keynote Address. Starkey Pediatric Conference, Minneapolis, Sept 25th 2010.

Cross-modal plasticity symposium at the Forum on European Neurosciences (FENS) Amsterdam, Netherlands, July 7-10, 2010. (There was a press conference on our research symposium presentation at this conference).

International Conference on Hearing Aids (IHCON) Lake Tahoe August 11-14, 2010.

Controversial Issues in Audiology Conference. New York Eye and Ear March 5, 2010.

Phonak Pediatric Conference, Stuttgart, Germany April 24, 2010

Widex Pediatric Conference, Dubai, UAE May 12-14, 2010.

Advanced Cochlear Implant Course at the University of Colorado at Denver Health Sciences Center May 24th, 2010

Marion Downs Hearing Center Symposium July 22, Denver, Co 2010.

Minnesota Dept. of Health Conference Sept 24th 2010.

Recent Advances in Pediatric Audiology (RAPA) London, March 2010

Ultimate Mid-Winter Otolaryngology and Audiology Meeting. Vail, January 2010

Colloquium at the Institute for Cognitive Science, University of Colorado at Boulder, Nov 12, 2010.

Ultimate Colorado Mid Winter Meeting in Otolaryngology, Vail, Feb 2009

Soundwave symposium. Rady Children's Hospital. San Diego Feb 2009.

*Keynote Address*. Audiology Symposium of the International Society of Acoustics, Logopedics and Phoniatrics, Cairo, Egypt March 2009.

Bilateral Cochlear Implant Conference. Bordeaux, France April 2009

Sounds+ conference, Halifax, Canada, June 2009

Keynote Presentation: Cross-modal plasticity in children with cochlear implants. Rovereto workshop on cross-modal plasticity. Rovereto, Italy 2009

ENT department conference, Rovereto Hospital. August 2009

Research Advances and Their Impact On Public Policy, Clinical Practice and Education" Louisville, KY Oct, 2009.

American Speech Language Hearing Association Annual Convention, New Orleans, LA, Nov 2009.

Colloquium speaker, Dept. of Neuroscience, University of Colorado at Denver Health Sciences Center 2009.

Webinar on Central Auditory Development and Plasticity for Audiology Online 2009.

*Keynote Address* at the National Early Hearing Detection Intervention Conference (EHDI), New Orleans, Feb 2008.

Ultimate Mid-Winter Meeting in Otolaryngology and Audiology, Vail, Feb 2008.

Special session on cross-modal plasticity in children with cochlear implants at the International Multisensory Research Forum (IMRF),, Hamburg, Germany, July 2008.

*Keynote Address* at the Florida Speech Language Hearing Association St. Augustine, August, 2008.

Cochlear Implant Conference. Children's Hospital of Philadelphia, October 2008.

Featured Session at the American Academy of Audiology, Charlotte, NC, 2008.

NIDCD sponsored research symposium at the American Speech Language Hearing Association Conference, Chicago, Oct, 2008.

Ultimate Mid Winter Otolaryngology and Audiology Meeting Jan 28-Feb 1, 2007

Translational Research In Otolaryngology, Association for Research in Otolaryngology. Denver, CO, February 2007

Marion Downs Hearing Center Symposium, Breckenridge, April 17th 2007

American Academy of Audiology, NAFDA Symposium, Denver, April 18th 2007

American Academy of Audiology webseminar May 16th 2007

Keynote Address: Talks of a Lifetime Summer Conference, Research and Application in Neurodevelopmental Research, Alexander Graham Bell Association for Deaf and Hearing Impaired, July 27-28, 2007

Future of Cochlear Implants meeting, Univ. of Texas Southwestern Medical Center, Aug. 17th 2007

Keynote Address, British Society of Audiology, Birmingham, U.K. Sept 14th 2007

British Society of Audiology, pre-conference workshop, Sept 13th 2007

Nordic Audiology College, Sweden, Sept, 27th, 2007

Rikshospital, Oslo, Norway-Dept. of Otolaryngology, Host Sten Harris, MD, PhD Sept. 2007

Symposium on Plasticity and Development of the Central Auditory Pathways, New York University Medical Center 2007

Mayo Clinic Audiology Teleconference 2007

International Pediatric Conference, A Sound Foundation through Early Amplification, Dec 6, 2007

Hugh Knowles Lecture Series, Northwestern University Colloquium, Dec 7th 2007

Cochlear Corporation Investigators Meeting for Future Generation Cochlear Implants, Seattle, WA, 2006.

Colloquium at the Institute of Cognitive Science at University of Colorado at Boulder. 2006 Spoken Language Development in Children with Cochlear Implants". Symposia on Pediatric Medical Research, Nemours Hospital System, Wilmington, DE, October, 2006

Advances in central auditory processing conference. 9th Annual Pediatric Audiology Workshop, Tucson, March, 2006

Rhode Island Hearing Assessment Project Conference. March 2006.

Issues in Pediatric Audiology, Beth Israel Hospital, New York. January 2006.

National Academy of Science/Keck Futures Initiative: Smart Prosthetics: Exploring assistive devices for the body and mind. November, 2006.

NIDCD Research Symposium. Annual meeting of the American Speech, Language and Hearing Association. November, 2006.

Keynote Address British Academy of Audiology Convention. Torquay, England, December 2005 Keynote Address Marion Downs Inaugural Lecture. American Academy of Audiology. Washington DC, April 2005

European Federation of Audiology Societies Congress, Gothenberg Sweden, June 2005 Special Session at the Society for Research in Child Development Meeting. Atlanta, April 2005 Indianapolis University School of Medicine Colloquium, Indianapolis, 2004.

Featured Session at the International Conference on Newborn Hearing Screening, Lake Como, Italy 2004

Featured Session at the International Congress of Audiology, Phoenix, 2004

Scuola Internationale Superiore di Studi Avanzati. Trieste, Italy, 2004 Host. Prof. Jacques Mahler

J.W. Goethe University Institute of Sensory Physiology and Neurophysiology, Frankfurt, 2004 Host: Prof. Dr. Andrej Kral.

Conference on Implantable Auditory Prostheses. Asilomar, CA, 2003.

Conference on Implantable Auditory Prostheses, Asilomar, CA, 2001

# <u>SELECTED RESEARCH ABSTRACTS (SINCE 2000</u>)\* denotes graduate student of Dr. Sharma

Hennesy, T. B\*., Cardon, G\*., Campbell, J\*., Glick, H.\*, Bell-Souder, D\*, Sharma, A. Cortical Cross-Modal Reorganization from Both Visual and Somatosensory Modalities in Children with Cochlear Implants. Poster presented at: American Cochlear Implant

- Alliance CI 2021 Conference; Apr 28 May 1, 2021. Received a best student poster award.
- Hennesy, T. B\*., Cardon, G\*., Campbell, J\*., Glick, H\*., Bell-Souder, D\*, Sharma, A. Visual and Somatosensory Cross-Modal Reorganization in Children with Cochlear Implants. Poster presented at: Colorado Clinical Translational Sciences Institute Virtual Pediatric Research Poster Session; May 21, 2021.
- Schimmel C\*, Glick H\*, Bell-Souder D,\* and Sharma A (2020). Brain changes in mild-moderate hearing loss after hearing aid use. American Academy of Audiology Conference, New Orleans, LA, April 2020. (Was awarded the James and Susan Jerger Award for Excellence in Student Research).
- Kartheiser, Bell-Souder\*, D., G., Sharma, A., & Dye, M. (2020). *Print Exposure, not ASL comprehension, predicts silent contextualized reading fluency in Deaf college students* [Poster Presentation]. Twelfth Annual Meeting of the Society for the Neurobiology of Language (SNL2020), Philadelphia, PA, United States (Virtual)October, 2020.
- Bell-Souder, D\*., Lamminmäki, S., Kartheiser, G., Dye, M., & Sharma, A. (2020, April 24). *Cortical hemodynamic responses to degraded speech shows activation in right fronto-temporal cortex and Broca's area* [Poster Presentation]. Institute of Cognitive Science Virtual Poster Session, Boulder, CO, United States (Virtual).
- Bell-Souder D\*, Lamminmaki S and Sharma A (2020) Cortical hemodynamic responses to degraded speech shows activation in right fronto-temporal cortex and Broca's area. CUNY Sentence Processing Conference, March 2020.
- Schimmel C\*, Glick H\*, Bell-Souder D\*, and Sharma A (2020). Brain changes in mild-moderate hearing loss after hearing aid use. *American Speech Language Hearing Association Convention*, November 2020. (Recognized as a meritorious poster).
- Olivares, V\*., Glick, H\*., Sharma, A. (2019, March). Relationship between speech perception in noise, cognition, and social-emotional status in age-related hearing loss. American Academy of Audiology Convention, Columbus, OH. (Was awarded the James and Susan Jerger Award for Excellence in Student Research).
- Schimmel, C\*, Glick H\*, Bell-Souder D\*, Olivares V\*, Sharma A (2019, October). Examining Listening Effort and Cognition in Adults with Mild-Moderate Hearing loss using Spectral Analysis of EEG. Colorado Academy of Audiology Convention, Breckenridge, October 3-4, 2019. (Awarded first prize for best poster).
- Harris, N\*, Falcone, J\*, Glick, H\*, Schimmel C\*, Bell-Souder D\*, Brown A, Elder S, Cavanaugh J, Grigsby J and Sharma A (2019). Outcomes of Aural Habilitation Therapy for Children with Hearing Loss: Central Auditory Maturation and Global Language Development. Colorado Academy of Audiology Convention, Breckenridge, October 3-4, 2019. (Awarded second prize for best poster).
- Olivares, V., Glick, H., Bell-Souder, D., Schimmel, C., Sharma, A. (2019, October). To Quick-SIN or not to Quick-SIN: cognition, listening effort, and depression in individuals with age-related hearing loss. Colorado Academy of Audiology Conference, Breckenridge, CO.

- Glick H\*, Palumbo L\* and Sharma A (2018, November). Cortical Neuroplasticity in Adult Single-Sided Deafness: Effects of Cochlear Implantation. Colorado Academy of Audiology (Awarded first prize for best poster).
- Falcone J\*, Harris N\*, Glick H\*, Bell-Souder D\*, Stredler-Brown A, Cavanaugh J, Grigsby J and Sharma A (2018, October). Central Auditory Development and Language Outcomes in Children with Hearing Loss Receiving Aural Habilitation A Preliminary Study. Colorado Academy of Audiology (Awarded second prize for best poster).
- Glick H\*, Falcone J\*, Harris N\*, Stredler-Brown A, Grigsby J and Sharma A (2018). Central Auditory Development and Language Outcomes in Children with hearing loss receiving Aural Habilitation. Early Hearing Detection and Intervention (EHDI) Conference, Denver, CO.
- Duncan, E\*, Glick, H\*, Benson, D\*, Deeves, E\*, Harris, N\*, & Sharma, A. (2018, April). Neuroplasticity & Age-Related Hearing Loss. Poster presentation at the Annual American Academy of Audiology (AAA) Conference, Nashville, TN.
- Duncan, E\*, Glick, H, Tyson, J, Deeves, E\*, Harris, N, & Sharma, A. (2017, November). Neuroplasticity & Age-Related Hearing Loss. Poster presentation at the Annual American Speech-Language-Hearing Association (ASHA) Convention, Los Angeles, CA.
- Deeves, E\*, Glick, H\*, Duncan, E\*, Harris, N\*, & Sharma, A. (2017, November). Adding Visual Cues to Speech in Noise: Seeing How Patients Perform in the Real World. Poster presentation at the Annual American Speech-Language-Hearing Association (ASHA) Convention, Los Angeles, CA.
- Deeves, E\*, Glick, H\*, Duncan, E\*, Harris, N\*, & Sharma, A. (2017, November). Using the P1 Biomarker in Cases of Auditory Nerve Hypoplasia: A Brain-Based Method. Poster presentation at the Annual American Speech-Language-Hearing Association (ASHA) Convention, Los Angeles, CA.
- Duncan, E\*, Deeves, E\*, Glick, H\*, Harris, N\*, & Sharma A. (2017, October). Clinical Utility of the P1 CAEP Biomarker in Children with Cochlear Nerve Deficiency. Poster presentation at the Colorado Academy of Audiology (CAA), Denver, CO.
- Duncan, E\*, Glick, H\*, Benson, D\*, Deeves, E\*, Harris, N\*, & Sharma A. (2017, October). Neuroplasticity & Age-Related Hearing Loss. Poster presentation at the Colorado Academy of Audiology (CAA), Denver, CO.
- Harris, N\*, Glick, H\*, Duncan, E\*, Deeves, E\*, & Sharma A. (2017, October). A new test for measuring speech in noise perception with and without visual cues. Poster presentation at the Colorado Academy of Audiology (CAA), Denver, CO.
- Duncan, E\*, Glick, H\*, Deeves, E\*, Harris, N\*, Sharma, A. Perceptual, Cognitive, and Social-emotional changes in adults with hearing loss. Poster presented at the Colorado Academy of Audiology research session, Denver, CO. November, 2016
- Deeves, E\*, Harris, N\*, Glick, H\*, Duncan, E\*, Sharma, A. Adding visual cues to speech in noise: Seeing how patients perform in the real world. Poster presented at the Colorado Academy of Audiology research session, Denver, CO. November, 2016.
- Deeves, E\*, Glick, H\*, Sharma, A. A brain-based clinical measure for assisting in early intervention for children with auditory neuropathy spectrum disorder. Poster presented at the annual Early Hearing Detection and Intervention (EHDI) meeting, San Diego, CA. March, 2016.

- Glick, H\*, Sharma, A, Campbell, J\*, Torres, J, Dorman, M, Zeitler, DM. Cortical neuroplasticity in single-sided deafness. Annual Society for Neuroscience conference, Chicago, IL, October, 2015.
- Glick H\*, Campbell J\*, Sharma A, Zeitler D, Torres J, Dorman M. Cortical Neuroplasticity in Adults & Children With Single-Sided Deafness. American Speech Language Hearing Association Convention Denver, Nov. 2015 Designated as a meritorious poster submission in the categories of professional education and research by the convention program committee.
- McKnight, R\*, Auerbach M\*, Landwehr T\*, Cardon G\* and Sharma A. Effect of Stimulus Rates on Auditory Brainstem Response in Patients With Auditory Neuropathy Spectrum Disorder. American Speech Language Hearing Association Convention Denver, Nov. 2015
- Glick H\*, Sharma A. Brain Changes in Hearing Loss. American Speech Language Hearing Association Convention Denver, Nov. 2015 Designated as a meritorious poster submission in the categories of professional education and research by the convention program committee.
- Glick H\*, Sharma A, Van Vuuren, S. Virtual Assessment of Audio-Visual Speech Perception in Background Noise: American Speech Language Hearing Association Convention Denver, Nov. 2015
- Cardon G\* and Sharma A. Somatosensory-Auditory Cross Modal Re-Organization in Adults With Early Stage Hearing Loss. American Speech Language Hearing Association Convention Denver, Nov. 2015
- Cardon G\* and Sharma A. Cortical Neurophysiologic Correlates of Auditory Threshold in Normal Hearing & Auditory Neuropathy Spectrum Disorder. American Speech Language Hearing Association Convention Denver, Nov. 2015
- Cardon, G\* and Sharma A. Multimodal mechanisms in sound processing. Poster session at the annual Cognitive Neuroscience Society meeting, Boston, MA April, 2014
- Durkee, L\*., Glick, H\*., Sharma, A., Petersen, J\*. (2014, April) Sensory Gating in Hearing Loss. Poster presentation at annual Cognitive Neuroscience Society Conference, Boston, MA.
- Campbell, J\*., Durkee, L\*., & Sharma, A. Visual cross-modal re-organization in adults with hearing loss. Poster session at the Cognitive Neuroscience Society meeting, Boston, MA April, 2014.
- Durkee, L\*., Glick, H\*., Campbell, J\*., Peterson, J\*., & Sharma, A. Compensatory changes in cortical resource allocation and auditory sensory gating in early stage hearing loss. Poster session at the annual Cognitive Neuroscience Society meeting, Boston, MA April, 2014
- Cardon, G\*., Sharma, A. Somatosensory-to-auditory cross-modal plasticity in deafness. Poster: Annual meeting of the Society for Neuroscience, San Diego, CA. Nov 2103. (This was highlighted as a hot topic and was part of a SfN press release).
- Campbell, J\*., Durkee, L\*., & Sharma, A. Cross-modal re-organization in adults with mild-moderate hearing loss, Poster Presentation at Society for Neuroscience annual meeting, San Diego, CA. Nov 2013.
- Campbell, J\*., Durkee, L\*., Sharma, A. Auditory and visual cortical re-organization in hearing loss. Poster session at the annual American Auditory Society Meeting in Scottsdale, AZ. March 2012 (This poster was of a NIH sponsored mentored graduate student session).
- Cardon G\* and Sharma A. Cortical correlates of neural dys-synchrony in auditory neuropathy spectrum disorder. Poster session at the annual American Auditory Society Meeting in

- Scottsdale, AZ. March 2012 (This poster was of a NIH sponsored mentored graduate student session).
- Campbell, J\*., Durkee, L\*., Sharma, A. Cross-modal neuroplasticity in hearing loss. Poster session at the annual Front Range Neuroscience Meeting, Dec 2011 Fort Collins, CO.
- Cardon, G\*., Sharma, A. Subcortical auditory dys-synchrony affects cortical maturation in children with Auditory Neuropathy Spectrum Disorder.Poster presentation: Front Range Neuroscience Group. Dec 2011
- Sharma A, Dorman M, Martin K, Nash A\*, Gilley P\* and Campbell J\*. A sensitive period for sequential bilateral implantation. Poster presented at the Association for Research in Otolaryngology (ARO) conference, Anaheim, CA, Feb 2010.(*This poster was part of the NIDCD press release at the ARO conference*).
- Sharma A, Cardon G\*, Nash A\*, Gilley P\* and Martin K. Central auditory maturation in children with auditory neuropathy/dys-synchrony. Poster presented at the Association for Research in Otolaryngology (ARO) conference, Anaheim, CA, Feb 2010.
- Campbell J\*, King K\* and Sharma A\*. Cortical representation of VOT in Children.

  International Conference on Newborn Hearing Screening, Lake Como, Italy, May 2008
- Cardon\*, Sharma and Martin. Cortical maturation in children with Auditory Neuropathy. American Academy of Audiology, April 2008
- Campbell, J\*., Sharma, A. VOT representation at the Cortex in Children. Presentation at the Rocky Mountain Neuroscience Conference, Denver 2008 (this presentation was awarded a student research award to Julia Campbell)
- Sharma et al., Bilateral Cochlear Implantation in Children. 10<sup>th</sup> International Conference on Cochlear Implant, April, 2008
- Gilley\*, Sharma and Dorman. Auditory-Visual Perception in Children with Cochlear Implants Association for Research in Otolaryngology, 2007
- Sharma A, Gilley P\*, Martin, K and Dorman M, Cortical Re-organization in children with cochlear implants. International Conference on Pediatric Cochlear Implantation, Charlotte, NC, April 2007
- Martin K, Sharma A, Roland P, Peters R, Gilley P\*. Central auditory development in children with bilateral cochlear implants. . International Conference on Pediatric Cochlear Implantation, Charlotte, NC, April 2007
- Sharma A and Dorman M. A sensitive period for the development for the central auditory system. *International Conference on Infant Studies*. Kyoto, Japan, June 2006.
- Gilley PM\*, Sharma A, Mitchell T, and Dorman M. Auditory-Visual Integration in Children with Cochlear Implants. Cognitive Neuroscience Society, San Francisco, 2006.
- Sharma A. Dorman M. Martin K. Roland P, Bauer, P and Gilley P\*. Central auditory development and plasticity in children with cochlear implants. 10<sup>th</sup> Symposium on Cochlear Implants in Children, Dallas, Texas March 15-19, 2005.
- Martin K, Sharma A, Dorman M, Roland P, Bauer, P, Sweeney M, and Gilley P\*. Cortical Maturation in Children with Auditory Neuropathy (AN) after Cochlear Implantation. 10<sup>th</sup> Symposium on Cochlear Implants in Children, Dallas, Texas March 15-19, 2005.
- Bauer P, Martin K, Sharma A and Roland P. Central auditory development in children with bilateral cochlear implants. 10<sup>th</sup> Symposium on Cochlear Implants in Children, Dallas, Texas March 15-19, 2005.

- Gilley P\*. Sharma A, Finley C, Dorman M, Panchalam A. Minimizing the artifact in CAEP recordings from cochlear implanted children. 10<sup>th</sup> Symposium on Cochlear Implants in Children, Dallas, Texas March 15-19, 2005.
- Sharma A, Dorman M, Martin K and Gilley P\*. Central auditory development in children with bilateral cochlear implants. Association for Research in Otolaryngology Meeting. New Orleans, February 2005
- Sharma, A. Dorman, M, Martin, K, Gilley, P\* and Wilson, P. CAEP latencies provide an objective tool to assess cochlear implant candidacy. VIIIth International Cochlear Implant Conference, Indiana, Indianapolis May, 2004.
- Gilley, P\*, Sharma, A, Dorman M, Todd N.W., Martin K and Fainberg J. Assessing development of the auditory system in normal hearing children and children with cochlear implants by use of a stimulus train with decreasing interstimulus intervals. Association for research in Otolaryngology, Florida, February 2004.
- Sharma, A, Dorman, M, Todd NW, Martin, K, Fainberg J, Gilley P\*, Martin K and Spahr A. Central auditory system development and plasticity in children with cochlear implants who are implanted later in childhood. American Otological Society, Nashville, Tennessee, May 2003.
- Sharma A, Dorman, M, Todd NW, Martin, K, Fainberg J, Gilley P\*, Martin K and Spahr A\* Age of cochlear implantation affects central auditory development. American Academy of Audiology, San Antonio, Tx, April 2003.
- Sharma A, Dorman M, Martin K and Gilley P and Spahr A\*. Relationship between central auditory development and speech perception ability in cochlear implanted children. 9th Symposium on Cochlear Implants in Children. Washington DC, April 2003
- Sharma, A, Dorman M, Todd N, Gilley P, Fainberg J and Martin K. Central Auditory System Development in Children with Hearing Impairment. Association for research in Otolaryngology, Florida, February 2003.
- Sharma, A, Dorman, M, Todd NW, Martin, K, Fainberg J, Gilley P\*, Martin K and Spahr A\*. A sensitive period for the Development of the Central Auditory System in Children with Cochlear Implants. Association for research in Otolaryngology, Florida, February 2003.
- Sharma, A Dorman M, Spahr\* and Todd W. Functional maturation of the Human Central Auditory System following Cochlear Implantation. 7<sup>th</sup> International Cochlear Implant Conference, Manchester, U.K., August 2002.
- Sharma, A Dorman M, Spahr\* and Todd W. Development and Plasticity of the Human Central Auditory System in Children with Cochlear Implants: Implications for Age of Implantation 2<sup>nd</sup> International Conference on Newborn Hearing Screening: Diagnosis and Intervention. Milan, Italy, May 2002.
- Sharma A, Dorman M, Spahr T\*, Tobey E and Todd W. Central Auditory System Development and Plasticity in Implanted Children. 6<sup>th</sup> European Symposium on Paediatric Cochlear Implantation. Spain, February 2002
- Sharma, A Dorman M, Spahr\* and Todd W. The Timecourse of Development and Plasticity of the Human Central Auditory System in the Presence of Auditory Deprivation. *Association for research in Otolaryngology*, St. Petersburg, FL, 2002.
- Sharma A, Dorman M, Spahr A\*, Todd N W and Emily Tobey. The effect of auditory deprivation on the plasticity and development of human central auditory pathways. Second International Symposium on Objective Measures in Cochlear Implantation. Lyon, France, March 2001

- Sharma A, Dorman M, Spahr A\*, Todd N W and Emily Tobey. Effect of early cochlear implantation on normal development of cortical pathways. Eighth Symposium on Cochlear Implants in Children. House Ear Insitute, Los Angeles, CA, February 2001.
- Sharma A, Dorman M and Spahr A\*. Early cochlear implantation allows for normal development of cortical auditory pathways. International Symposium on Pediatric Cochlear Implantation. Antwerp, Belgium, June 2000.

# **TEACHING**

# University of Colorado at Boulder

2007-present: Graduate Course: Auditory Processes: Neurodiagnostics

2014-present: Undergraduate Course: Audiological Evaluation Summer 2007: Doctoral Seminar: Advanced Electrophysiology

Fall 2007-14: Graduate Course: Auditory Processes: Child Assessment.

# The University of Texas at Dallas

Spring 2002 Doctoral seminar in central auditory system plasticity Fall 2002-2005 Graduate Course: Auditory Processing Disorders Spring 2003-2006 Graduate Course: Clinical Electrophysiology

#### **Arizona State University**

1995-2001, Pediatric Audiology 1996-2001 Auditory Evoked Potentials 1995-2001 Introduction to Hearing Disorders (undergraduate course)

## STUDENT DISSERATION AND THESIS ADVISING

- 2020-present: Committee Chair for Kayla Cormier PhD student in SLHS, Cognitive Science and Neuroscience
- 2012-2019: Committee Chair for Hannah Glick, AuD/Ph.D. student in SLHS and Cognitive Neuroscience
- 2018-present: Committee Chair for Don Bell-Souder, PhD student in SLHS
- 2018-present: Committee Chair for Carly Schimmel, AuD/PhD student in SLHS
- 2008-2015: Committee Chair for Julia Campbell, AuD/Ph.D student in SLHS and Cognitive Neuroscience
- 2008-2015: Committee Chair for Garrett Cardon, AuD/Ph.D student in SLHS and Cognitive Neuroscience
- 2014-2015: Committee Chair for Jaima Hajek, Undergraduate Honors Thesis student in SLHS
- 2008-2013: Committee Chair for Amy Nash, PhD student in SLHS
- 2008-2010: Dissertation Committee member for Jamie Bogle, Dissertation title: The Effect of Cochlear Implantation on the Vestibular Evoked Myogenic Potential Response in Children and Adult Participants.

SLHS (defended 2010)

- 2008-2010: Dissertation Committee member for Tammy Fredrickson, Dissertation Title: Visual Reinforcement Infant Speech Discrimination: Developing a Method of Performance Analysis. SLHS (defended 2010)
- 2009: Dissertation Committee member for Anson Whitmer, Psychology (defended 2009)
- 2009: Dissertation Committee member for Christopher de Lauro, Psychology (defended 2009)
- 2009-present: Dissertation Committee member for Heath Jones, Neuroscience UCDHSC
- 2002-2006: Committee Chair for Phillip Gilley. Dissertation title: Effects of sensory deprivation on re-organization of the central auditory pathways (defended 2006). University of Texas at Dallas.
- 2002-2005 UTD Committee Chair (Co-mentor) for Yael Arabel. Dissertation title: Error processing in children with SLI: An ERP study (defended 2005). The University of Texas at Dallas.
- 1998-1999: Committee Chair for Catherine Marsh: Master's thesis title: Cortical evoked potential correlates of voice-onset time (defended 1999). Arizona State University.
- 2000-2001: Committee Chair for Anthony J. Spahr: Master's thesis title: Effect of auditory deprivation on EABR in congenitally deaf children (defended 2001). Arizona State University.
- 2003-2004: Committee member for Paul Dybala: Dissertation Title: Modification of the HINT in evaluating Amplification for listeners with high frequency hearing loss (defended 2004). The University of Texas at Dallas.
- 2004-2006: Committee member for Cherie Percaccio. Dissertation Title: Effect of environmental enrichment on auditory cortical neurons. (defended 2006). The University of Texas at Dallas.

#### **GRANT REVIEW ACTIVITIES**

# NATIONAL INSTITUTES OF HEALTH (NIH) NIDCD AD-HOC STUDY SECTION REVIEW

- 2000 Small Business Innovation Review (SBIR) Study Section Member
- 2003 Special Emphasis Panel Study Section for Training and Conference Grants Member
- 2003 Special Review Panel for Identification and Classification of Childhood Speech-Sound Acquisition Disorders of Unknown Origin
- 2004 Special Emphasis Panel Study Section for Training, Career Development and Conference Grants Member
- 2004 Special Emphasis Panel Study Section for Training and Conference Grants Member
- 2004 Small Grant Review Panel Member
- 2005 Special Emphasis Panel Study Section for Training and Conference Grants Member
- 2005 Special Review Panel for Translational Research Grants
- 2006 AUD study section, Ad Hoc member
- 2007, 2008, 2009, 2010, 2011 Loan repayment program
- 2008, 2009, 2010 Communication Disorders Review Committee (CDRC), Ad-Hoc member.
- 2012-2017 Permanent member of CDRC NIH study section
- 2018-2019 Special Review Panel for Clinical Trial Research Grants
- 2019 NIH NIDCD Special Emphasis Study section

# 2020 NIH Special Emphasis Study Section

#### OTHER GRANT REVIEW

2007 European Union Research Organization Young Investigator Award Review for the

Academy of Finland and Research Council for Natural Sciences and Engineering.

2007 Innovative grant review panel. University of Colorado at Boulder

2008 Rappaport Institute of Medical Sciences, Israel.

2008 Ontario Ministry of Research and Innovation, Ontatrio Research Fund, Research Excellence, Canada.

2010, 2012 Medical Research Council (MRC) in the United Kingdom

2010; 2012 National Science Foundation (NSF)

2009-2013 Innovative Seed Grants, University of Colorado at Boulder

2013 Diabetes Foundation, United Kingdom

2014 AGIR pour L'audition, France

2015 National Research Foundation, South Africa

2016 Royal British Legion Center for Blast Injury Studies

2016 Israel Science Foundation

2017 AGIR pour L'audition, France

2018 Medical Research Council (MRC), United Kingdom

2018 National Science Foundation, Switzerland

2018 Programa de Cooperacion Internacionale, Chile

2019 Israel Science Foundation

#### **EDITORIAL SERVICE**

2019-present Editorial Board Member Frontiers in Neuroscience

2012 present Editorial Board Member Hearing Balance and Communication

2020-present Editorial Board Member Audiology Research

2002-2003 Guest Section Editor, Ear and Hearing

2007 Guest Editor for Special Issue on Central Auditory System Plasticity and Development for the *International Journal of Audiology*.

2013 Guest Editor for special issue of Hearing, Balance and Communication

## **SELECTED AD-HOC MANUSCRIPT REVIEW**

Brain Research

Neuroimage

Advances in Cognitive Psychology

PloS One

Cerebral Cortex

Hearing Research

Psychological Review

Perception and Psychophysics

Brain

Journal of the Acoustical Society of America

Psychophysiology
Ear and Hearing
Electroencephalography and Clinical Neurophysiology
Journal of Cognitive Neuroscience
Journal of Speech Language and Hearing Research
International Journal of Audiology
Journal of the Association for Research in Otolaryngology
Neuropsychologia
Frontiers in Neuroscience

# **ADMINISTRATIVE ACTIVITIES**

# **International Professional Organizations**

Core Member BrainHearing Network 2020-present

A United States Representative to the Audiology Committee of the International Association of Phoniatrics and Logopedics (IALP) which has advisory status to the World Health Organization 2014-present.

Steering Committee, 2013 Conference on Implantable Prostheses

#### **University Level**

Member, Vice Chancellor's Academic Committee (VCAC), 2019-2021

Board Member, Undergraduate Research Opportunities Program (UROP) 2017-2019.

Chair, Personnel Committee for Tenure and Promotion, College of Arts and Sciences, University of Colorado at Boulder 2011-2012

Associate Chair, Personnel Committee for Tenure and Promotion, College of Arts and Sciences, University of Colorado at Boulder 2010-2011.

Member, Executive committee of the Institute of Cognitive Science, University of Colorado at Boulder 2008-2009; 2012-2013; 2014-present

Member, Faculty Search Committee, Institute of Cognitive Science, 2013-present.

### **Department Level**

Interim Department Chair, 2016-2017

Associate Department Chair & Director of Graduate Studies 2020-present.

Chair, Search Committee Open Rank Search 2018-2019

Chair, PhD Committee 2017-present

Chair, for four Faculty Search Committees, SLHS, 2012-2016

Member, Audiology Committee 2007-present.

Chair, Curriculum committee, SLHS Dept. University of Colorado at Boulder, 2008-2011

Co-Chair, Merit Review Committee, Speech Language and Hearing Science, University of Colorado at Boulder, 2008-2009

- Chair, Doctorate of Audiology (Au.D.) Committee, Speech Language and Hearing Science, University of Colorado at Boulder, 2006-2008; 2010-2011
- Co-Chair, Ph.D and non-clinical M.A admissions committee, Speech Language and Hearing Science University of Colorado at Boulder, 2006-2008; 2010-2011; 2011-2103
- Member, Research Committee 2010-2011
- Member, Executive Committee, Speech Language and Hearing Science, University of Colorado at Boulder, 2006-2008
- Chair, Long Range Planning Committee, School of Behavioral and Brain Sciences, University of Texas at Dallas, 2002-2006.
- Chair, Graduate Admissions Committee, Communication Sciences, University of Texas at Dallas, 2003-2005
- Co-chair, Formative Assessment Committee, Au.D. Program, The University of Texas at Dallas, 2005-2006
- Faculty Executive Committee, School of Behavioral and Brain Sciences, University of Texas at Dallas 2003-2006.
- Institutional Review Board Committee, University of Texas at Dallas, 2003-2004
- Graduate Studies Committee, School of Behavioral and Brain Sciences, University of Texas at Dallas 2004-2006
- Undergraduate Advisor, Speech and Hearing Science, Arizona State University, 2000-2001
- Curriculum Committee, Speech and Hearing Science, Arizona State University, 1995-1998
- Ad Hoc Committee to develop Professional Doctorate in Audiology, Arizona State University, 1997.
- Affirmative Action Committee, Arizona State University, 1995-2000
- Admissions Committee, Department of Speech and Hearing Science, Arizona State University, 1998-2000

## **PROFESSIONAL MEMBERSHIPS**

Honorary member of the British Cochlear Implant Group Society for Neuroscience Association for Research in Otolaryngology American Speech Language Hearing Association