CURRICULUM VITAE

University of Pittsburgh
School of Health and Rehabilitation Sciences
May 31, 2025

Biographical

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Education and Training

Undergraduate

2002 – 2006	Indian Institute of Technology (IIT), Madras	B.Tech.	Electrical Engineering

Graduate

2006 – 2008	University of Michigan, Ann Arbor	M.S.	Electrical Engineering: Systems
2006 – 2008	University of Michigan, Ann Arbor	M.S.	Biomedical Engineering
2010 – 2014	Boston University	Ph.D.	Biomedical Engineering

Postgraduate

2014	Post-doctoral Associate, Center for Computational Neuroscience and Neural Technology, Boston University, Boston, MA
2014 – 2016	Research Fellow, Martinos Center for Biomedical Imaging, Departments of Neurology and Radiology, Harvard Medical School & Massachusetts General Hospital, Charlestown, MA

Academic Appointments

2025 –	Vice Chair for Research, Department of Communication Science and Disorders, University of Pittsburgh, Pittsburgh, PA.
2022 –	Assistant Professor, Department of Communication Science and Disorders, University of Pittsburgh, Pittsburgh, PA.

2022 –	Adjunct Assistant Professor, Department of Speech, Language, and Hearing Sciences, Purdue University, West Lafayette, IN
2016 – 2022	Assistant Professor, Department of Speech, Language, and Hearing Sciences, Purdue University, West Lafayette, IN
2016 – 2022	Assistant Professor, Weldon School of Biomedical Engineering, Purdue University, West Lafayette, IN
2009 – 2010	Research Analyst, Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA

Awards and Honors

2024	Selected to deliver a lecture as part of the 2024 Senior Vice Chancellor's Research Seminar series, University of Pittsburgh Health Sciences.
2018 – 2019	Ruth and M. D. Steer outstanding teaching award for being voted the "Outstanding Audiology Graduate Instructor".
2018	American Speech, Language, and Hearing Association (ASHA) Early Career Research Contribution Award.
2017 – 2018	Ruth and M. D. Steer outstanding teaching award for being voted the "Outstanding Audiology Graduate Instructor".
2017	Purdue University Bronze Acorn "Seeds for Success" Research Excellence award.
2014	Best doctoral dissertation of the year award, Department of Biomedical Engineering, Boston University.
2014	Best student paper award for article [J37], Boston University.
2014	Travel Award, Center for Computational Neuroscience and Neural Technology, Boston University.
2006 – 2008	Graduate Fellowship, Department of Biomedical Engineering, University of Michigan.
2004 – 2006	Undergraduate merit cum means scholarship, Indian Institute of Technology (IIT) Madras.

Memberships in professional and scholarly societies

2025 –	Member	American Auditory Society
2019 –	Member	Society for Neuroscience (SfN)
2018 –	Member	American Speech-Language-Hearing Association (ASHA)
2016 –	Member	Acoustical Society of America (ASA)
2010 –	Member	Association for Research in Otolaryngology (ARO)

Publications

Impact: (as of May 31, 2025) Number of citations: 3060, h-index: 26, i10-index: 36. Source: Google Scholar.

Preprints Under Review

[P1] Osorio, S., Tan, J., Levine, G., Ahlfors, S. P., Graham, S., Mamashli, F., ... **Bharadwaj*, H. M.**, & Kenet*, T. (2025). Decreased auditory cortical activations and altered long-range

alpha-band connectivity characterize passive auditory spatial attention in ASD. bioRxiv, 2025-01. DOI: 10.1101/2025.01.02.631088. [*Equal contribution as senior author formally listed in publication]

[P2] Singh, R., & **Bharadwaj, H.** (2024). Efficient modular system identification provides a high-resolution assay of temporal processing and reveals the multilevel effects of attention along the human auditory pathway. bioRxiv, 2024-08. DOI: 10.1101/2024.08.11.607503.

[P3] Whiteford, K. L., Baltzell, L. S., Chiu, M., Cooper, J. K., Faucher, S., Goh, P. Y., Hagedorn, A., Irsik, V. C., Irvine, A., Lim, S. J., Mesik, J., Mesquita, B., Oakes, B., Rajappa, N., Roverud, E., Schrlau, A. E., Van Hedger, S. C., **Bharadwaj, H. M.**, Johnsrude, I. S., Kidd, G., ... Oxenham, A. J. (2024). Musical training does not enhance neural sound encoding at early stages of the auditory system: A large-scale multisite investigation. bioRxiv : the preprint server for biology, 2024.09.02.610856. DOI: 10.1101/2024.09.02.610856 PMID: 39282463.

[P4] Kim, S., Schroeder, M., & **Bharadwaj, H. M.** (2024). Effect of digital noise-reduction processing on subcortical speech encoding and relationship to behavioral outcomes. bioRxiv, 2024.10.28.620630. DOI: 10.1101/2024.10.28.620630 PMID: 39554128.

Peer-Reviewed Research Articles

[J1] Katz, J., Mormer, E., Parthasarathy, A., **Bharadwaj, H.**, Wang, Y., & Palmer, C. (2025, April). Sound Advice: A Consumer's Perspective on Navigating the World of Over-the-Counter Hearing Aids. *In Seminars in Hearing*. Thieme Medical Publishers, Inc. DOI: 10.1055/s-0045-1806805 PMID: 40290597.

[J2] Borjigin, A., & **Bharadwaj, H. M.** (2025). Individual differences elucidate the perceptual benefits associated with robust temporal fine-structure processing. *Proceedings of the National Academy of Sciences*, 122(1), e2317152121. DOI: 10.1101/2023.09.20.558670 PMID: 37790457.

[J3] Hauser, S. N., Hustedt-Mai, A. R., Wichlinski, A., & **Bharadwaj, H. M.** (2025). The relationship between distortion product otoacoustic emissions and audiometric thresholds in the extended high-frequency range. *The Journal of the Acoustical Society of America*, 157(3), 1889-1898 DOI: 10.1101/2024.07.05.601801 PMID: 39026860.

[J4] Borjigin, A., Kokkinakis, K., **Bharadwaj, H. M**., & Stohl, J. S. (2024). Deep learning restores speech intelligibility in multi-talker interference for cochlear implant users. Scientific Reports, 14(1), 13241 DOI: 10.1038/s41598-024-63675-8 PMID: 38853168.

[J5] Mok, B. A., Viswanathan, V., Borjigin, A., Singh, R., Kafi, H. I., & **Bharadwaj, H. M.** (2024). Web-based Psychoacoustics: Hearing Screening, Infrastructure, and Validation. *Behavior Research Methods*, 1-16. Volume 56, pages 1433-1448. Published online: Published online: 08 June 2023. PMID: 37326771 PMCID: PMC10704001 DOI: 10.3758/s13428-023-02101-9.

[J6] Hauser, S., Sivaprakasam, A., **Bharadwaj, H.**, & Heinz, M. (2024). Precision Diagnostics for Complex Sensorineural Hearing Loss. *Mechanics of Hearing Workshop 2024 (MoH 2024)*, Ann Arbor, Michigan, USA. Zenodo. DOI: 10.5281/zenodo.13334652.

[J7] **Bharadwaj, H.**, Parida, S., Kafi, H., Alexander, J., & Heinz, M. (2024). Overzealous Tail: Distorted Tonotopy Degrades Suprathreshold Sound Coding in Sensorineural Hearing Loss. *Mechanics of Hearing Workshop 2024 (MoH 2024)*, Ann Arbor, Michigan, USA. Zenodo. DOI: 10.5281/zenodo.13334673.

[J8] Ahlfors, S.P., Graham, S., **Bharadwaj, H.**, Mamashli, F., Khan, S., Joseph, R.M., Losh, A., Pawlyszyn, S., McGuiggan, N.M., Vangel, M. and Hämäläinen, M.S., & Kenet, T. (2023). No Differences in Auditory Steady-State Responses in Children with Autism Spectrum Disorder and Typically Developing Children. Journal of Autism and Developmental Disorders, pp.1-14. PMID: 36932270 DOI: 10.1007/s10803-023-05907-w.

[J9] Alho, J., Khan, S., Mamashli, F., Perrachione, T.K., Losh, A., McGuiggan, N.M., Graham, S., Nayal, Z., Joseph, R.M., Hämäläinen, M.S., **Bharadwaj*, H.**, & Kenet*, T. (2023). Atypical cortical processing of bottom-up speech binding cues in children with autism spectrum disorders. *NeuroImage: Clinical*, 37, p.103336; PMID: 36724734 PubMed Central PMCID: PMC9898310. [*Equal contribution as senior author formally listed in publication] DOI: 10.1016/j.nicl.2023.103336.

[J10] Salloom, W.B., **Bharadwaj, H.**, & Strickland, E.A. (2023). The effects of broadband elicitor duration on a psychoacoustic measure of cochlear gain reduction. *The Journal of the Acoustical Society of America*, 153(4), pp.2482-2482. PMID: 37092950 DOI: 10.1121/10.0017925.

[J11] Viswanathan, V., **Bharadwaj, H. M.**, Heinz, M. G., & Shinn-Cunningham, B. G. (2023). Induced Alpha And Beta Electroencephalographic Rhythms Covary With Single-Trial Speech Intelligibility In Competition. *Scientific Reports*, 13(1), 10216. PMID: 36712081. PMCID: PMC9884507 DOI: 10.1101/2022.12.31.522365.

[J12] Alho, J., Samuelsson, J. G., Khan, S., Mamashli, F., **Bharadwaj, H. M.**, Losh, A., McGuiggan, N. M., Graham, S., Nayal, Z., Perrachione, T. K., Joseph, R. M., Stoodley, C. J., Hämäläinen, M. S., & Kenet, T. (2023). Both stronger and weaker cerebro-cerebellar functional connectivity patterns during processing of spoken sentences in autism spectrum disorder. *Human Brain Mapping*, 10.1002/hbm.26478. Advance online publication DOI: 10.1002/hbm.26478 PMID: 37688547.

[J13] Ginsberg, H., Singh, R., **Bharadwaj, H. M.**, & Heinz, M. G. (2023). A multi-channel EEG mini-cap can improve reliability for recording auditory brainstem responses in chinchillas. *Journal of Neuroscience Methods*, 398, 109954 DOI: 10.1016/j.jneumeth.2023.109954 PMID: 37625650.

[J14] **Bharadwaj, H. M.**, Wilbur, R. B., & Siskind, J. M. (2023). Still an Ineffective Method With Supertrials/ERPs-Comments on "Decoding Brain Representations by Multimodal Learning of Neural Activity and Visual Features". *IEEE transactions on pattern analysis and machine intelligence*, 45(11), 14052–14054 DOI: 10.1109/tpami.2023.3292062 PMID: 37402186.

[J15] Singh, R., & **Bharadwaj, H. M.** (2023). Cortical temporal integration can account for limits of temporal perception: investigations in the binaural system. *Communications biology*, 6(1), 981. DOI: 10.1038/s42003-023-05361-5 PMID: 37752215.

[J16] Peng, Z. E., Waz, S., Buss, E., Shen, Y., Richards, V., **Bharadwaj, H.**, Stecker, G. C., et al. (2022). Remote testing for psychological and physiological acoustics. *Journal of the Acoustical Society of America*. 151(5), 3116-3128. DOI: 10.1121/10.0010422 PMID: 35649891.

[J17] Borjigin, A., Hustedt-Mai, A. R., & **Bharadwaj, H. M.** (2022). Individualized Assays of Temporal Coding in the Ascending Human Auditory System. *eNeuro*. 9 (2):ENEURO.0378-21.2022. DOI: 10.1523/eneuro.0378-21.2022-21.2022 PMID: 35193890.

[J18] **Bharadwaj, H. M.**, Mamashli, F., Khan, S., Singh, R., Joseph, R. M., Losh, A., ... & Kenet, T. (2022). Cortical signatures of auditory object binding in children with Autism Spectrum Disorder are anomalous in concordance with behavior and diagnosis. *PLOS Biology*. 20(2), e3001541; DOI: 10.1371/journal.pbio.3001541 PMID: 35167585.

[J19] **Bharadwaj, H. M.**, Hustedt-Mai, A. R., Ginsberg, H. M., Dougherty, K. M., Muthaiah, V. P. K., Hagedorn, A., Simpson, J. M., & Heinz, M. G. (2022). Cross-Species Experiments Reveal Widespread Cochlear Neural Damage in Normal Hearing. *Communications Biology*. 5, 733; DOI: 10.1038/s42003-022-03691-4 PMID: 35869142.

[J20] Parida, S., **Bharadwaj, H.**, & Heinz, M. G. (2021). Spectrally specific temporal analyses of spike-train responses to complex sounds: A unifying framework. *PLoS computational biology*, 17(2), e1008155 DOI: 10.1371/journal.pcbi.1008155 PMID: 33617548.

[J21] Ahmed, H., Wilbur, R. B., **Bharadwaj, H.**, & Siskind, J. M. (2021). Confounds in the data–Comments on" Decoding Brain Representations by Multimodal Learning of Neural Activity and Visual Features". *IEEE Transactions on Pattern Analysis and Machine Intelligence*. DOI: 10.1109/tpami.2021.3121268 [*This work is an equal collaboration between the labs of Bharadwaj and Siskind.*] PMID: 34665721.

[J22] Alho, J., **Bharadwaj, H.** , Khan, S., Mamashli, F., Perrachione, T. K., Losh, A., ... & Kenet, T. (2021). Altered maturation and atypical cortical processing of spoken sentences in autism spectrum disorder. *Progress in Neurobiology*, 102077 DOI: 10.1016/j.pneurobio.2021.102077 PMID: 34033856.

[J23] Kim, S., Wu, Y. H., **Bharadwaj, H. M.**, & Choi, I. (2021). Effect of Noise Reduction on Cortical Speech-in-Noise Processing and Its Variance due to Individual Noise Tolerance. *Ear and Hearing*. DOI: 10.1097/aud.0000000000001144 PMID: 34751679.

[J24] Viswanathan, V., **Bharadwaj, H. M.,**, Shinn-Cunningham, B. G., Heinz, M. G. (2021). Modulation Masking and Fine Structure Shape Neural Envelope Coding to Predict Speech Intelligibility across Diverse Listening Conditions. *The Journal of the Acoustical Society of America*. 150: 2230-2244. DOI: 10.1121/10.0006385 PMID: 34598642.

[J25] Ahmed, H., Wilbur, R. B., **Bharadwaj, H. M.**, & Siskind, J. M. (2021). Object Classification from Randomized EEG trials. *In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition* pp. 3845-3854. [*This work is an equal collaboration between the labs of Bharadwaj and Siskind.*]

[J26] **Bharadwaj H.**, & Shinn-Cunningham B. (2021). What's been hidden in hidden hearing loss. *Neuron*. 109(6):909-911 DOI: 10.1016/j.neuron.2021.02.025 PMID: 33735611.

[J27] Lu, H., Mehta, A. H., **Bharadwaj, H. M.**, Shinn-Cunningham, B. G., & Oxenham, A. J. (2020). Comment on 'Rapid acquisition of auditory subcortical steady state responses using multichannel recordings'. *Clinical Neurophysiology*, 131(8), 1833 DOI: 10.1016/j.clinph.2020.05.018 PMID: 32559638.

[J28] Li, R., Johansen, J. S., Ahmed, H., Ilyevsky, T. V., Wilbur, R. B., **Bharadwaj, H. M.**, & Siskind, J. M. (2020). The Perils and Pitfalls of Block Design for EEG Classification Experiments. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 43(1), 316-333. [*This work is an equal collaboration between the labs of Bharadwaj and Siskind.*] DOI: 10.1109/tpami.2020.2973153 PMID: 33211652.

[J29] Viswanathan, V., **Bharadwaj, H. M.**, & Shinn-Cunningham, B. G. (2019). Electroencephalographic Signatures of the Neural Representation of Speech during Selective Attention. *eNeuro*, 6(5) DOI: 10.1523/eneuro.0057-19.2019 PMID: 31585928.

[J30] Wang, L., **Bharadwaj, H. M.**, & Shinn-Cunningham, B. G. (2019). Assessing cochlear-place specific temporal coding using multi-band complex tones to measure envelope-following responses. *Neuroscience*, 407, 67-74 DOI: 10.1016/j.neuroscience.2019.02.003 PMID: 30826519.

[J31] **Bharadwaj, H. M.**, Mai, A. R., Choi, I., Simpson, J. M., Heinz, M. G., & Shinn-Cunningham, B. G. (2019). Non-Invasive Assays of Cochlear Synaptopathy – Candidates and Considerations. *Neuroscience*, 407, 53-66 DOI: 10.1016/j.neuroscience.2019.02.031 PMID: 30853540.

[J32] Khan, S., Hashmi, J. A., Mamashli, F., Michmizos, K.,**Bharadwaj, H. M.**, ... & Kenet, T. (2018). Maturation Trajectories of Cortical Resting-State Networks Depend on the Mediating Frequency Band. *NeuroImage*, 174, 57-68. DOI: 10.1016/j.neuroimage.2018.02.018 PMID: 29462724.

[J33] Mamashli, F., Khan, S., **Bharadwaj, H. M.**, Losh, A., Pawlyszyn, S. M., Hamalainen, M. S., & Kenet, T. (2018). Maturational trajectories of local and long-range functional connectivity in autism during face processing. *Human Brain Mapping*, 39(10), 4094-4104 DOI: 10.1002/hbm.24234 PMID: 29947148.

[J34] Mehraei, G., Hickox, A. E., **Bharadwaj, H. M.**, Goldberg, H., Verhulst, S., Liberman, M. C., & Shinn-Cunningham, B. G. (2016). Auditory Brainstem Response Latency in Noise as a Marker of Cochlear Synaptopathy. *The Journal of Neuroscience*, 36(13), 3755-3764. DOI: 10.1523/jneurosci.4460-15.2016-15.2016 PMID: 27030760.

[J35] Khan, S., Hashmi, J. A., Mamashli, F., **Bharadwaj, H. M.**, Ganesan, S., Michmizos, K., ... & Kenet, T. (2016). Altered Onset Response Dynamics in Somatosensory Processing in Autism Spectrum Disorder. *Frontiers in Neuroscience*. 10: 255. DOI: 10.3389/fnins.2016.00255 PMID: 27375417.

[J36] Mamashli, F., Khan, S., **Bharadwaj, H. M.**, Michmizos, K., Ganesan, S., Garel, K. L. A., ... & Kenet, T. (2016). Auditory processing in noise is associated with complex patterns of disrupted functional connectivity in autism spectrum disorder. *Autism Research*. DOI: 10.1002/aur.1714 PMID: 27910247.

[J37] **Bharadwaj, H. M.**, Masud, S., Verhulst, S., Mehraei, G., & Shinn-Cunningham, B. G. (2015). Individual differences reveal correlates of hidden hearing deficits. *The Journal of Neuroscience*, 35(5): 2161-2172. DOI: 10.1523/jneurosci.3915-14.2015-14.2015 PMID: 25653371.

[J38] Verhulst, S., **Bharadwaj, H. M.**, Mehraei, G., Shera, C. A. & Shinn-Cunningham, B. G. (2015). Functional modeling of the human auditory brainstem response to broadband stimulation. *The Journal of the Acoustical Society of America*, 138: 1637-1659. DOI: 10.1121/1.4928305 PMID: 26428802.

[J39] Varghese, L., **Bharadwaj, H. M.**, & Shinn-Cunningham, B. G. (2015). Evidence against attentional state modulating scalp-recorded auditory brainstem steady-state responses. *Brain research*, 1626, 146-164. DOI: 10.1016/j.brainres.2015.06.038 PMID: 26187756.

[J40] **Bharadwaj, H. M.**, Lee, A. K., & Shinn-Cunningham, B. G. (2014). Measuring Auditory Selective Attention using Frequency Tagging. *Frontiers in Integrative Neuroscience*, 8: 6. DOI: 10.3389/fnint.2014.00006 PMID: 24550794.

[J41] **Bharadwaj, H. M.**, & Shinn-Cunningham, B. G. (2014). Rapid acquisition of auditory subcortical steady-state responses using multichannel recordings. *Clinical Neurophysiology*, 125(9): 1878–1888. DOI: 10.1016/j.clinph.2014.01.011 PMID: 24525091.

[J42] **Bharadwaj, H. M.**, Verhulst, S., Shaheen, L., Liberman, M. C., & Shinn-Cunningham, B. G. (2014). Cochlear Neuropathy and the Coding of Supra-threshold Sound. *Frontiers in Systems Neuroscience*, 8: 26. DOI: 10.3389/fnsys.2014.00026 PMID: 24600357.

[J43] Bressler, S., Masud, S., **Bharadwaj H. M.**, and Shinn-Cunningham, B. G. (2014). Bottom-up influences of voice continuity in focusing selective auditory attention. *Psychological Research*, 78(3), 349-360. DOI: 10.1007/s00426-014-0555-7-014-0555-7 PMID: 24633644.

[J44] Choi, I., Wang, L., **Bharadwaj, H. M.**, & Shinn-Cunningham, B. G. (2014). Individual differences in attentional modulation of cortical responses correlate with selective attention performance. *Hearing research*, 314, 10-19. DOI: 10.1016/j.heares.2014.04.008 PMID: 24821552.

[J45] Choi, I., **Bharadwaj, H. M.**, Bressler, S., Loui, P., Lee, K., & Shinn-Cunningham, B. G. (2014). Automatic processing of abstract musical tonality. *Frontiers in Human Neuroscience*, 8: 988. DOI: 10.3389/fnhum.2014.00988 PMID: 25538607.

[J46] Zhu, L., **Bharadwaj, H. M.**, Xia, J., & Shinn-Cunningham, B. (2013). A comparison of spectral magnitude and phase-locking value analyses of the frequency-following response to complex tones. *The Journal of the Acoustical Society of America*, 134(1), 384-395 DOI: 10.1121/1.4807498 PMID: 23862815.

[J47] Lee, A. K. C., Rajaram, S., Xia, J., **Bharadwaj, H. M.**, Larson, E., Hamalainen, M. S., & Shinn-Cunningham, B. G. (2012). Auditory selective attention reveals preparatory activity in different cortical regions for selection based on source location and source pitch. *Frontiers in Neuroscience*, 6: 190 DOI: 10.3389/fnins.2012.00190 PMID: 23335874.

[J48] Kenet, T., Orekhova, E. V., **Bharadwaj, H. M.**, Shetty, N. R., Israeli, E., Lee, A. K. C. et al. (2012). Disconnectivity of the cortical ocular motor control network in autism spectrum disorders. *NeuroImage*, 61(4), 1226-1234 DOI: 10.1016/j.neuroimage.2012.03.010 PMID: 22433660.

[J49] Ruggles, D., **Bharadwaj, H. M.**, & Shinn-Cunningham, B. G. (2012). Why middle-aged listeners have trouble hearing in everyday settings. *Current Biology*, 22(15), 1417-1422 DOI: 10.1016/j.cub.2012.05.025 PMID: 22727697.

[J50] Ruggles, D., **Bharadwaj, H. M.**, & Shinn-Cunningham, B. G. (2011). Normal hearing is not enough to guarantee robust encoding of suprathreshold features important in everyday communication. *Proceedings of the National Academy of Sciences of U.S.A*, 108(37), 15516-15521. DOI: 10.1073/pnas.1108912108 PMID: 21844339.

Reviews and Book Chapters

[B1] Shinn-Cunningham, B. G., Varghese, L., Wang, L., & **Bharadwaj, H. M.** (2017). Individual differences in temporal perception, and their implications for everyday listening. In *Frequency Following Response: A Window into Human Communication, N Kraus, S Anderson, T White-Schwoch, RR Fay, and AN Popper (eds.)*, Springer Handbook of Auditory Research 61 (pp. 159-192). Springer Verlag.

[Invited Review Chapter. Description from Springer Website: The Springer Handbook of Auditory Research presents a series of synthetic reviews of fundamental topics dealing with auditory systems. Each volume is independent and authoritative; taken as a set, this series will be the definitive resource in the field.]

[B2] Shinn-Cunningham, B. G., Ruggles, D. R., & **Bharadwaj, H. M.** (2013). How Early Aging and Environment Interact in Everyday Listening: From Brainstem to Behavior Through Modeling. *Basic Aspects of Hearing: Physiology and Perception* (pp. 501-510). Springer New York.

[Description from Springer Website: The International Symposium on Hearing is a highly-prestigious, triennial event where world-class scientists present and discuss the most recent advances in the field of hearing research in animals and humans. Presented papers range from basic to applied research, and are of interest neuroscientists, otolaryngologists, psychologists, and artificial intelligence researchers. Basic Aspects of Hearing: Physiology and Perception includes the best papers from the 2012 International Symposium on Hearing. Over 50 chapters focus on the relationship between auditory physiology, psychoacoustics, and computational modeling.]

Conference Proceedings

[C1] Salloom, W. B., Wade, K., **Bharadwaj, H.**, & Strickland, E. A. (2024). The effect of broadband elicitor duration on transient-evoked otoacoustic emissions and a psychoacoustic measure of gain reduction. In AIP Conference Proceedings, (Vol. 3062, No. 1). AIP Publishing.

[C2] Peng, E., Buss, E., Shen, Y., **Bharadwaj, H.**, Stecker, C., Beim, J., Bosen, A., Braza, M., Diedesch, A., Dorey, C., Dykstra, A., Freyman, R., Gallun, F., Goldsworthy, R., Gray, L., Hoover, E., Ihlefeld, A., Koelewijn, T., Kopun, J., Mesik, J., Richards, V., Shub, D., Venezia, J. (2021). Remote testing for psychological and physiological acoustics: Initial report of the ASA P&P Task Force on Remote Testing. Proceedings of Meetings on Acoustics. 42, 050009; doi: 10.1121/2.0001409

[C3] **Bharadwaj, H. M.**, Masud, S., & Shinn-Cunningham, B. G. (2013). The role of high-frequency cues for spatial hearing in rooms. Proceedings of Meetings on Acoustics 19:015049.

[C4] Verhulst, S., **Bharadwaj, H. M.**, Mehraei, G., & Shinn-Cunningham, B. G.(2013). Understanding hearing impairment through model predictions of brainstem responses. Proceedings of Meetings on Acoustics 19:050182.

[C5] Choi, I., Bressler, S., **Bharadwaj, H. M.**, & Shinn-Cunningham, B. (2013). Subcortical and cortical neural correlates of individual differences in temporal auditory acuity. Proceedings of Meetings on Acoustics 19:050125.

[C6] Rajaram, S., **Bharadwaj, H. M.**, Shinn-Cunningham, B. G., & Lee, A. K. C.(2011). Cortical functional connectivity inference using MEG. Noninvasive Functional Source Imaging of the Brain and Heart & 8^{th} International Conference on Bioelectromagnetism (NFSI & ICBEM)77-80. IEEE.

Conference Abstracts

[A1] Bharadwaj, H., Parida, S., Kafi, H. I., Alexander, J. M., & Heinz, M. G. (2025). Deficits in 'aided' hearing: The role of distorted tonotopy in sensorineural hearing loss. Acoustical Society of America, New Orleans, LA, 18 – 23 May.

[A2] Flemm, O., Wasileski, W., Bergstrom, K., Zink, M., Mitchell, C., Parthasarathy, A., & Bharadwaj, H. (2025). The Effects of Outer Hair-Cell Loss on Suprathreshold Coding. American Auditory Society, Scottsdale, AZ, 13 – 15 February.

[A3] Bharadwaj, S., Flemm, O., Wasileski, W., & Bharadwaj, H. (2025). Electroencephalographic Correlates of Auditory Selective Attention in Hearing Loss. American Auditory Society, Scottsdale, AZ, 13 – 15 February.

[A4] Organtini, V. T., Antes, E., Parthasarathy, A., Zitelli, L., & Bharadwaj, H. M. (2024). Biomarker Profiles of Cochlear Injury in Tinnitus. Mid-Winter Meeting of the Association for Research in Otolaryngology, Anaheim, CA, 3–7 February.

[A5] Hauser, S. N., Bharadwaj, H. M., & Heinz, M. G. (2024). Contributions to Otoacoustic Emission Amplitudes Beyond Outer Hair Cells: Effects of Sedation and Inner Hair Cell Dysfunction. Mid-Winter Meeting of the Association for Research in Otolaryngology, Anaheim, CA, 3–7 February.

[A6] Antes, E., Organtini, V. T., Zitelli, L., & Bharadwaj, H. M. (2024). Characterizing Functional Changes of the Central Auditory System in Tinnitus. Mid-Winter Meeting of the Association for Research in Otolaryngology, Anaheim, CA, 3–7 February.

[A7] A. Sivaprakasam, H. Bharadwaj, & M. Heinz. (2024) . Cross-Species Investigations of Place and Time Coding of Pitch Using Envelope-Following Responses. Mid-Winter Meeting of the Association for Research in Otolaryngology, Anaheim, CA, 3–7 February

[A8] Athreya, V. M., Singh, R., & Bharadwaj, H. M. (2024). Effects of Age on Within-Channel and Across-Channel Temporal Processing and Relationship to Speech Perception in Noise. Mid-Winter Meeting of the Association for Research in Otolaryngology, Anaheim, CA, 3–7 February.

[A9] Athreya, V. M., Sivaprakasam, A., Ginsberg, H., Bharadwaj, H. M., & Heinz, M. (2024). Pioneering Cortical Assays of Gap Detection to Explore Temporal Processing in Chinchilla Using a Multi-Channel Mini-EEG Cap. Mid-Winter Meeting of the Association for Research in Otolaryngology, Anaheim, CA, 3–7 February.

[A10] Hauser, S., Heinz, M. G., & Bharadwaj, H. (2023). Cross-species characterization of joint otoacoustic emission profiles in sensorineural hearing loss. The Journal of the Acoustical Society of America, 153(3 supplement), A161-A161.

[A11] Bharadwaj, H., & Athreya, V. M. (2023). Effects of age-related cochlear deafferentation and central gain on auditory scene analysis. The Journal of the Acoustical Society of America, 154(4 supplement), A333-A333.

[A12] Hauser, S., Hagedorn, A., Hustedt-Mai, A. R., & Bharadwaj, H. M. (2023). Relationship Between Distortion Product Otoacoustic Emissions and Audiometric Thresholds in the Extended High-Frequency Range. Mid-Winter Meeting of the Association for Research in Otolaryngology, Orlando, FL, 11–15 February.

[A13] Athreya, V. M., Singh, R., & Bharadwaj, H. M. (2023). Effects of Age on Within-Channel and Across-Channel Temporal Processing and Relationship to Speech Perception in Noise. Mid-Winter Meeting of the Association for Research in Otolaryngology, Orlando, FL, 11–15 February.

[A14] Viswanathan, V., Bharadwaj, H. M., Heinz, M. G., & Shinn-Cunningham, B. G. (2023). Induced Alpha and Beta Electroencephalographic Rhythms Covary With Single-Trial Speech Intelligibility in Competition. Mid-Winter Meeting of the Association for Research in Otolaryngology, Orlando, FL, 11–15 February.

[A15] Sivaprakasam, A., Schweinzger, I., Bharadwaj, H. M., & Heinz, M. G. (2023). Upper-Harmonic Deficits in Temporal Envelope Coding of Tone Complexes and Amplitude Modulations Differentiate Inner Hair Cell Damage From Synaptopathy. Mid-Winter Meeting of the Association for Research in Otolaryngology, Orlando, FL, 11–15 February.

[A16] Sivaprakasam, A., Athreya, V. M., Ginsberg, H., Bharadwaj, H. M., & Heinz, M. G. (2023). A Chinchilla Mini-EEG Cap Improves Cross-Species Translation for Cortical and Subcortical Evoked Potentials. Mid-Winter Meeting of the Association for Research in Otolaryngology, Orlando, FL, 11–15 February.

[A17] Kafi, H. I., Alexander, J. M., & Bharadwaj, H. (2022). Characterizing the effects of distorted tonotopy on neural coding and perception in sensorineural hearing loss. The Journal of the Acoustical Society of America, 151(4), A259-A259.

[A18] Borjigin, A., Kokkinakis, K., Bharadwaj, H., & Stohl, J. (2022). Deep neural network models of speech-in-noise perception for hearing technologies and research. The Journal of the Acoustical Society of America, 151(4), A165-A165.

[A19] Singh, R., & Bharadwaj, H. M. (2021). Two Timescales of Temporal Processing in Scene Analysis and Tracking of Dynamic Auditory Cues (Binaural, Spectral, and Amplitude). Mid-Winter Meeting of the Association for Research in Otolaryngology, Virtual, 20–24 February.

[A20] Borjigin, A., & Bharadwaj, H. M. (2021). Relationship Between Temporal Fine Structure Sensitivity and Speech Intelligibility Under Various Types of Noise Interference. Mid-Winter Meeting of the Association for Research in Otolaryngology, Virtual, 20–24 February.

[A21] Love, J., Shinn-Cunningham, B., & Bharadwaj, H. (2021). Alpha Lateralization During Orienting of Spatial Auditory Attention. Mid-Winter Meeting of the Association for Research in Otolaryngology, Virtual, 20–24 February.

[A22] Mok, B. A., Viswanathan, V., Borjigin, A., Singh, R., & Bharadwaj, H. (2020). Anonymous multipart web-based psychoacoustics: Infrastructure, hearing screening, and comparison with lab-based studies. The Journal of the Acoustical Society of America, 148(4), 2713-2714.

[A23] Love, J., Shinn-Cunningham, B., & Bharadwaj, H. (2020). Endogenous brain oscillations in the 10–20 Hz range during auditory spatial attention. The Journal of the Acoustical Society of America, 148(4), 2468-2468.

[A24] Kafi, H., Mai, A. R., Dougherty, K., Hagedorn, A. N., & Bharadwaj, H. M. (2020). *Neural Envelope Coding in Middle-aged Humans with Normal Audiograms.* Mid-Winter Meeting of the Association for Research in Otolaryngology, San Jose, 25–29 January.

[A25] Dougherty, K., Mai, A. R., Hagedorn, A. N., & Bharadwaj, H. M. (2020). *Central Gain in the Human Auditory System: Investigations in "Normal Hearing" and in Tinnitus.* Mid-Winter Meeting of the Association for Research in Otolaryngology, San Jose, 25–29 January.

[A26] Borjigin, A., & Bharadwaj, H. M. (2019). *Investigating the role of temporal fine structure in everyday hearing.* The Journal of the Acoustical Society of America, 145(3), 1872-1873.

[A27] Singh, R., Bharadwaj, H. M. (2019). *Neural sensitivity to dynamic binaural cues: Human electroencephalogram and chinchilla single-unit responses.* The Journal of the Acoustical Society of America, 145(3), 1906-1906.

[A28] Mai, A., Flesher, B., Dougherty, K., Hagedorn, A., Simpson, J. M., Heinz, M. G., & Bharadwaj, H. M. (2019). *Physiological assays of suprathreshold hearing are consistent with widespread deafferentation of the human auditory periphery.* The Journal of the Acoustical Society of America, 145(3), 1663-1663.

[A29] Borjigin, A., & Bharadwaj, H. M. (2019). *Individual differences in spatial hearing my arise from monaural factors.* Mid-Winter Meeting of the Association for Research in Otolaryngology, Baltimore, 09–13 February.

[A30] Singh, R., Sayles, M., & Bharadwaj, H. M. (2019). *Neural sensitivity to dynamic binaural cues: human EEG and chinchilla single-unit responses.* Mid-Winter Meeting of the Association for Research in Otolaryngology, Baltimore, 09–13 February.

[A31] Dougherty, K., Ginsberg, H., Mai, A. R., Parida, S., Simpson, J. M., Heinz, M. G., & Bharadwaj, H. M. (2019). *Non-invasive assays of cochlear synaptopathy in humans and chinchillas.* Mid-Winter Meeting of the Association for Research in Otolaryngology, Baltimore, 09–13 February.

[A32] Viswanathan, V., Bharadwaj, H. M., Shinn-Cunningham, B. G., & Heinz, M. G. (2019). *Human neurophysiological evaluation of envelope-based models of speech intelligibility.* Mid-Winter Meeting of the Association for Research in Otolaryngology, Baltimore, 09–13 February.

[A33] Salloom, W., Bharadwaj, H. M., & Strickland, E. A. (2019). *Physiological and psychoacoustic measures of two different auditory efferent systems.* Mid-Winter Meeting of the Association for Research in Otolaryngology, Baltimore, 09–13 February.

[A34] Bharadwaj, H. M., Flesher, B., Mai, A., Dougherty, K., Simpson, J. M., & Heinz, M. G. (2018). *Suprathreshold hearing in middle age and relationship to cochlear synaptopathy.* The Journal of the Acoustical Society of America, 144(3), 1899-1899.

[A35] Flesher, B. E., Mai, A., Dougherty, K., Simpson, J. M., Heinz, M. G., & Bharadwaj, H. M. (2018). *Perceptual consequences of cochlear synaptopathy in middle age.* The Journal of the Acoustical Society of America, 143(3), 1750-1750.

[A36] Bharadwaj, H. M. (2018). *Individual differences in suprathreshold hearing and relationship to cochlear synaptopathy.* The Journal of the Acoustical Society of America, 143(3), 1780-1780.

[A37] Mai, A. R., Flesher, B. E., Simpson, J. M., Heinz, M. G., & Bharadwaj, H. M. (2018). *Effects of acoustic overexposure on the human auditory system – Measurements in a clinical setting.* Mid-Winter Meeting of the Association for Research in Otolaryngology, San Diego, 09–14 February.

[A38] Bharadwaj, H. M., Varghese, L. A., & Shinn-Cunningham, B. (2017). *Repeatability of non-invasive physiogical measures from the early auditory pathway.* The Journal of the Acoustical Society of America, 141(5), 3899-3899.

[A39] Bharadwaj, H. M., Simpson, J. M., & Heinz, M. G. (2017). *Resource sharing in a collaborative study on cochlear synaptopathy and suprathreshold hearing deficits.* The Journal of the Acoustical Society of America, 141(5), 3631-3631.

[A40] Bharadwaj, H. M., Varghese, L., Mehraei, G., Shera, C. A., & Shinn-Cunningham, B. G. (2016). *Individualized assessment of suprathreshold hearing and relationship to cochlear synaptopathy.* The Journal of the Acoustical Society of America, 140(4), 3153-3153.

[A41] Bharadwaj, H. M., Khan, S., Hamalainen, M., & Kenet, T. (2016). *Electrophysiological correlates of auditory object binding with application to autism spectrum disorders.* The Journal of the Acoustical Society of America, 140(4), 3045-3045.

[A42] Bharadwaj, H. M. (2016). *Generalized linear mixed models in hearing science.* The Journal of the Acoustical Society of America, 139(4), 2101-2101.

[A43] Shinn-Cunningham, B., Ruggles, D., Choi, I., Bharadwaj, H., Mehraei, G., & Dai, L. (2016). *How individual differences in sensory coding and attentional control impact understanding speech in noise.* The Journal of the Acoustical Society of America, 139(4), 2044-2044.

[A44] Bharadwaj, H. M., Varghese, L., Mehraei, G., Shera, C. A., & Shinn-Cunningham, B. G. (2016). *Evidence for auditory nerve contribution to individual differences in suprathreshold brainstem temporal coding.* Mid-Winter Meeting of the Association for Research in Otolaryngology, San Diego, 20–24 February.

[A45] Viswanathan, V., Bharadwaj, H. M., & Shinn-Cunningham, B. G. (2016). *Neural signatures of speech-on-speech selective attention.* Mid-Winter Meeting of the Association for Research in Otolaryngology, San Diego, 20–24 February.

[A46] Gramfort, A., Engemann, D. A., Larson, E., Luessi, M., Brodbeck, C., Jas, M., Brooks, T., Strohmeier, D., Goj, R., van Vliet, M., Leggitt, A., Billinger, M., Bharadwaj, H. M., Parkkonen, L., & Hämäläinen, M. S. (2015). *Trends in MEG and EEG data processing using MNE.* Annual Conference of the Organization for Human Brain Mapping. Honolulu, Hawaii, 14–18 June.

[A47] Bharadwaj, H. M., Pardo, C., Shera, C. A., & Shinn-Cunningham, B. G. (2015). *Olivocochlear efferent effects on neural temporal coding of sounds in humans.* Mid-Winter Meeting of the Association for Research in Otolaryngology, Baltimore, 21–25 February.

[A48] Choi, I., Goldberg, H. R., Bharadwaj, H. M., & Shinn-Cunningham, B. G. (2015). *Attentional modulation of cortical networks in a dynamic auditory scene.* Mid-Winter Meeting of the Association for Research in Otolaryngology, Baltimore, 21–25 February.

[A49] Varghese, L. A., Bharadwaj, H. M., & Shinn-Cunningham, B. G. (2015). *Attention (still) does not affect the brainstem FFR.* Mid-Winter Meeting of the Association for Research in Otolaryngology, Baltimore, 21–25 February.

[A50] Masud, S., Bharadwaj, H. M., & Shinn-Cunningham, B. (2014). *How high frequency envelopes influence spatial localization in rooms.* The Journal of the Acoustical Society of America, 135(4), 2282–2282.

[A51] Goldberg, H. R., Choi, I., Varghese, L. A., Bharadwaj, H. M., & Shinn-Cunningham, B. G. (2014). *Auditory attention in a dynamic scene: Behavioral and electrophysiological correlates.* The Journal of the Acoustical Society of America, 135(4), 2415–2415.

[A52] Mehraei, G., Bharadwaj, H. M., Verhulst, S., & Shinn-Cunningham, B. G. (2014). *Effects of low spontaneous rate auditory nerve fiber loss on auditory brainstem wave-V latency.* Mid-Winter Meeting of the Association for Research in Otolaryngology, San Diego, 22–26 February.

[A53] Bharadwaj, H. M., Masud, S., Verhulst, S., Mehraei, G., & Shinn-Cunningham, B. G. (2014). *Cochlear neuropathy in "normal hearing" humans and the coding of supra-threshold sound.* Mid-Winter Meeting of the Association for Research in Otolaryngology, San Diego, 22–26 February.

[A54] Verhulst, S., Bharadwaj, H. M., Shera C. A., & Shinn-Cunningham, B. G. (2014). *A human auditory brainstem response model for broadband stimulation.* Mid-Winter Meeting of the Association for Research in Otolaryngology, San Diego, 22–26 February.

[A55] Bharadwaj, H. M., & Shinn-Cunningham, B. G. (2013). *Rapid acquisition of auditory brainstem frequency following responses.* Mid-Winter Meeting of the Association for Research in Otolaryngology, Baltimore, 16–20 February.

[A56] Swaminathan, J., Bharadwaj, H. M., Dai, L., & Shinn-Cunningham, B. G. (2013). *Envelope coding in humans measured with frequency following responses.* Mid-Winter Meeting of the Association for Research in Otolaryngology, Baltimore, 16-20 February.

[A57] Lee, A. K. C., Larson, E., Rajaram, S., Bharadwaj, H. M., & Shinn- Cunningham, B. G. (2012). *The cortical network controlling auditory spatial attention.* Biomag 18^{th} International Conference on Biomagnetism, Paris, France, 26–30 August.

[A58] Choi, I., Bharadwaj, H. M., & Shinn-Cunningham, B. G. (2012). *Attentional modulation of EEG signals.* The Journal of the Acoustical Society of America, 131(4), 3513–3513.

[A59] Bharadwaj, H. M., & Shinn-Cunningham, B. G. (2012). *Hijacking neural oscillations to reveal control of auditory attention*, Mid-Winter Meeting of the Association for Research in Otolaryngology, San Diego, CA, 25–29 February.

[A60] Ruggles, D., Bharadwaj, H. M., & Shinn-Cunningham, B. G. (2012). *Sub-cortical envelope and fine structure cues: the interaction of age and individual differences for normal-hearing adults in complex environments.* The Journal of the Acoustical Society of America, 131(4), 3317–3317.

[A61] Rajaram, S., Bharadwaj, H. M., Shinn-Cunningham, B. G., & Lee, A. K. C. (2011). *Comparing coherence and phase-locking value measures of functional connectivity.* 8^th International Conference on Bioelectromagnetism, Banff, Canada, 13–16 May.

[A62] Kenet, T., Orekhova, E., Bharadwaj, H. M., Shetty, N. R., Lee, A. K. C., Vangel, M., Elam, M., Herbert, M., Hämäläinen, M. S., & Manoach, D. (2010). *A Study of Functional Connectivity During Preparation for Saccades in ASD.* International Society for Autism Research, Philadelphia, 20–22 May.

[A63] Kenet, T., Orekhova, E., Bharadwaj, H. M., Israeli, E. R., Shetty, N. R., Lee, A. K. C., Vangel, M., Elam, M., Herbert, M., Hämäläinen, M. S., & Manoach, D. (2009). *A MEG study*

of functional connectivity during preparation for saccades in ASD. Society for Neuroscience Annual Meeting, Chicago, 17–21 October.

[A64] Bharadwaj, H. M., Peltier, S., Chun, J., Deldin, P. J. & Noll, D. C. (2008). *Simultaneous EEG-fMRI: Effect of choice of MRI pulse sequence*. Annual meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Toronto, 3–9 May.

Professional Activities

Teaching and Mentoring

Ph.D. Dissertation Supervision

Sharadhi Bharadwaj — PhD Student, Program in Neural Computation, Carnegie Mellon University (2023 – present)
Chair of Dissertation Committee
Dissertation Title: TBD

Samantha Hauser, AuD — PhD Student, Dept. of Speech, Language, and Hearing Sciences, Purdue University
Co-Chair of Dissertation Committee
Dissertation Title: "Individualized Profiles of Sensorineural Hearing Loss from Non-invasive Biomarkers of Peripheral Pathology"
Scheduled defense: July 2025
Next position: Assistant Professor, Dept. of Communication Science and Disorders, University of Pittsburgh, PA

Andrew Sivaprakasam — MD/PhD Student, Weldon School of Biomedical Engineering (MSTP), Purdue University
Co-Chair of Dissertation Committee
Dissertation Title: "Place and Time Processing of Pitch in the Context of Cochlear Dysfunction"
Dr. Sivaprakasam received his PhD in 2025
Current position: MD student, Indiana University School of Medicine, IN

Varsha Mysore Athreya — PhD Student, Dept. of Speech, Language, and Hearing Sciences, Purdue University
Chair of Dissertation Committee
Dissertation Title: "Neural Underpinnings of Temporal Processing in the Aging Auditory System"
Dr. Athreya received her PhD in 2024
Current position: postdoctoral fellow, Stanford University

Homeira Kafi — PhD Student, Weldon School of Biomedical Engineering, Purdue University
Chair of Dissertation Committee
Dissertation Title: "Multiple Pathways to Speech-in-Noise Deficits in Human Listeners"

Dr. Kafi received her PhD in 2024
Current position: EEG Machine-Learning Engineer / Data Scientist, Vistim Labs

Agudemu Borjigin — PhD Student, Weldon School of Biomedical Engineering, Purdue University
Chair of Dissertation Committee
Dissertation Title: "The Role of Temporal Fine Structure in Everyday Hearing"
Dr. Borjigin received his PhD in 2022
Current position: postdoctoral fellow, University of Wisconsin–Madison
Next position: Assistant Professor, Dept. of Communication Sciences and Disorders, University of Utah (start Fall 2026)

Ravinderjit Singh — MD/PhD Student, Weldon School of Biomedical Engineering (MSTP), Purdue University
Chair of Dissertation Committee
Dissertation Title: "Auditory Tracking and Scene Analysis – Perceptual Timescales and Neural Correlates"
Dr. Singh received his PhD in 2022
Current position: Neurology Resident, Icahn School of Medicine at Mount Sinai, NY

Postdoctoral Research Mentorship

Subong Kim, Ph.D., 2020 – 2022. Currently Assistant Professor, Department of Communiction Science and Disorders, Montclair State University.

Ivy Schweinzger, Au.D., Ph.D., 2018 – 2020. Currently Pediatric Audiologist, St. Jude Children's Research Hospital [Co-mentored with M. Heinz].

Individual Fellowships and Research Grants for Direct Mentees

Agency	Project Title	Dates	Amount of Award	Mentee
NIH-NIDCD (F32DC021345)	Individualized Profiles of Sensorineural Hearing Loss from Non-Invasive Biomarkers of Peripheral Pathology	09/01/2023 – 08/31/2025	$186,480	Samantha Hauser, Au.D., CCC-A (PhD student)
NIH-NIDCD (F30DC020916)	Place and Time Processing of Pitch in the Context of Cochlear Dysfunction	01/01/2023 – 12/31/2025	$155,256	Andrew Sivaprakasam, (MD-PhD student)
Hearing Health Foundation (ERG)	Influence of Individual Pathophysiology and Cognitive Profiles on Noise Tolerance and Noise Reduction Outcomes	09/01/2021 – 08/31/2023	$100,000	Subong Kim, Ph.D. (Post-doctoral Fellow)

Agency	Project Title	Dates	Amount of Award	Mentee
Royal National Institute of Deaf People (RNiD) Flexi Grant	Mechanism-based Approach to Optimization of Noise Reduction in Hearing Aids: Influence of Individual Traits on Outcomes and Preference	08/01/2021 – 07/31/2022	$13,720	Subong Kim, Ph.D. (Post-doctoral Fellow)

Courses Taught

CSD 2045	Physiological Assessment (Spring 2024, Spring 2025)
CSD 1237	Neuroscience of Communication (Spring 2023, Spring 2024)
CSD 2087	Hearing Conservation & Restoration (Fall 2022, Fall 2023, Fall 2024)
SLHS 553	Implantable Devices (Fall 2017, Fall 2018, Spring 2019, Spring 2020, Spring 2021, Spring 2022)
BME 511 (previously BME 595-MJ4)	Biomedical Signal Processing (Fall 2017, Fall 2019, Fall 2021)
SLHS 619	Seminars in Hearing Research (Fall 2018, Spring 2019, Fall 2019, Spring 2020, Fall 2020, Spring 2021)
BME 695/SLHS 619	Special Lectures in Neuroscience: Audition - from neural circuits to perception (Spring 2018, co-taught with M. Sayles and M. Heinz)

Directed and Independent Studies

CSD 2970	Teaching Practicum (Spring 2023)
CSD 3902	Directed Study (Spring 2023)
BIOL 294	Undergraduate Research Experience (Spring 2020)
BME 296	Undergraduate Research Experience (Fall 2019)
BIOL 494	Undergraduate Research Experience (Summer 2020)
SLHS 498	Undergraduate Research Experience (Spring 2018, Fall 2018)
SLHS 690	Directed Study of Special Problems (Spring 2020, Fall 2020, Spring 2021, Fall 2021)
SLHS 590	Directed Study of Special Problems (Spring 2018, Fall 2018, Spring 2019, Fall 2019, Spring 2020, Fall 2020)
SLHS 590	Audiology Graduate Research (Fall 2018, Fall 2019, Fall 2020, Fall 2021)
SLHS 699	Research PhD Thesis (2020 – 2022)
BME 699	Research PhD Thesis (2018 – 2022)

Ph.D. Dissertation Committee Membership

Dave Jedlicka, CSD, University of Pittsburgh (Primary Advisor: C. Palmer), 2024 – present.

Elizabeth Haley, CSD, University of Pittsburgh (Primary Advisor: C. Palmer), 2024 – present.

Luz Andrino, Carnegie Mellon University Program in Neural Computation (Primary Advisor: A. Parthasarathy), 2024 – present.

William Salloom, PULSe Program, (Primary Advisor: E. Strickland). Graduated 2022.

Satyabrata Parida, BME, Purdue University (Primary Advisor: M. Heinz), Graduated 2020.

Juan Sebastien Martinez, ECE, Purdue University (Primary Advisor: H. Tan). Graduated 2023.

Jordan Love, SLHS, Purdue University (Primary Advisor: A. Francis), 2019 – present.

Chandan Suresh, SLHS, Purdue University (Primary Advisor: A. Krishnan,), Graduated 2018.

Research Mentorship of Clinical Doctoral (Au.D.) Students

Mary Pierce Barnes, CSD, University of Pittsburgh, 2024 – present

Erin Batik, CSD, University of Pittsburgh, 2024 – present

Sierra Johnson, CSD, University of Pittsburgh, 2023 – present

Hannah Rogan, CSD, University of Pittsburgh, 2023 – present

Olivia Flemm, CSD, University of Pittsburgh, 2023 – present

Emily Antes, CSD, University of Pittsburgh, 2022 – present

Victoria Organtini, CSD, University of Pittsburgh, 2022 – present

Mary Schroeder, SLHS, Purdue University, (Co-mentored by postodoctoral fellow Subong Kim), Graduated 2023.

Anna Hagedorn, SLHS, Purdue University, Graduated 2023.

Kristen Wade, SLHS, Graduated 2022.

Brittany Mok, SLHS, Graduated 2022.

Kelsey Dougherty, SLHS, Graduated 2021.

Alexandra Mai, SLHS, Graduated 2020.

Brooke Flesher, SLHS, Graduated 2019.

Master's Thesis Committee

Jason Ummel, BME, (Committee Chair: J. Linnes), Graduated 2021.

Caitlin Heffner, BME, (Committee Chair: M. Heinz), Graduated 2021.

Hannah Ginsberg, BME, (Committee Chair: M. Heinz), Graduated 2020.

Research Mentorship of Undergraduate Students

Shaina Wasileski, CSD, University of Pittsburgh, 2023 – present.

Katie Bergstrom, CSD, University of Pittsburgh, 2023 – present.

Megan Hallihan, CSD, University of Pittsburgh, 2023 – present.

Hanna Malik, BIO, Purdue University, 2019 – 2020.

Amogh Shanbhag, ECE, Purdue University, 2019 – 2020.

Anna Hagedorn, SLHS, Purdue University, 2016 – 2019.

Coralie Pardo, Mathematics, Amherst College, Graduated 2015. Currently in Medical School at Rush University.

Salwa Masud, Biomedical Engineering, Boston University, (Co-mentored with Barbara Shinn-Cunningham) Graduated 2014. Obtained PhD in 2019 from Harvard University.

Research

Current Extramural Grant Support

Agency	Title	Dates	Amount of Award	Role
NIH-NIDCD (R01DC022670)	Physiological determinants of suprathreshold deficits in sensorineural hearing loss	05/02/2025 – 04/30/2030	$2,981,161	PI
NIH-NIDCD (R25DC020922)	TRanslational Auditory NeuroScience: LAb-based Training for Empowered Self-efficacy (TRANSLATES) in audiology doctoral students	04/01/2024 – 03/31/2029	$1,313,768	Co-I (PI: Catherine Palmer)
NIH-NIDCD (R01DC009838)	Effects of sensorineural hearing loss on robust speech coding	07/01/2023 – 06/30/2028	$744,518 for sub-award	Co-I (PI: Michael Heinz)
DoD HRRP (W81XWH-21-1-0829)	Cross-species characterization of peripheral and central effects of occupational and blast exposures	09/01/2021 – 08/31/2025	$357,470	MPI
NIH-NIDCD (SBIR R44DC021123)	Open Source Hearing Assessment Platform for Open Science	12/01/2023 – 11/30/2028	$44,912 for subaward	Co-I (PI: Odile Clavier, Creare LLC)

Completed Extramural Grant Support

Agency	Title	Dates	Amount of Award	Role
NIH-NIDCD (R01DC015989)	Individualized Assays of Suprathreshold Hearing Deficits	03/01/2017 – 06/30/2024	$1,881,505	PI

Agency	Title of Grant	Dates	Amount of Award	Role
NSF (Standard Grant 1840699)	NeurodataRR: Collaborative Research: Testing the relationship between musical training and enhanced neural coding and perception in noise	09/15/2018 – 08/31/2022	$125,000 for Purdue site, $625,000 across institutions	MPI
Hearing Health Foundation Emerging Research Grant	Subcortical and Cortical Contributions to Temporal Processing Deficits in Central Auditory Processing Disorders	07/01/2015 – 07/30/2016	$30,000	PI
Action on Hearing Loss F45 Flexi Grant	Cognitive Contributions to Individual Differences in Selective Attention: A Pilot Magnetoencephalography Study	07/01/2015 – 07/30/2016	$7,400	MPI

Intramural Grant Support

Agency	Title of Grant	Dates	Amount of Award	Role
Purdue Institute for Integrative Neuroscience	Grand Challenges in Neuroscience Grant: Data-science Infrastructure for Precision Auditory Neuroscience	03/01/2020 – 04/30/2022	$140,165	MPI
Purdue Institute for Integrative Neuroscience	Connecting laboratory and clinical auditory neuroscience at Purdue	06/03/2016	$9,630	PI

Invited Seminars and Lectureships

Plenary Talks

Characterizing the impact of cochlear deafferentation on human auditory scene analysis. Eaton Peabody Labs Symposium – Clinical perspectives on degenerating and regenerating cochlear neural connections. Massachusetts Eye and Ear Infirmary, Boston, MA (Mar, 2023).

Individual Differences in Temporal Processing and Their Influence on Everyday Auditory Perception. Central Auditory Processing Disorder Global Conference. Audiology 2019 (AAA), Columbus, OH (Mar, 2019).

Does Cochlear Synaptopathy contribute to suprathreshold perceptual deficits in humans? Hearing Research Symposium at The ASHA Convention, Los Angeles, CA (Nov, 2017).

International

Suprathreshold hearing in middle age and relationship to cochlear synaptopathy. 173^{rd} Meeting of the Acoustical Society of America, Victoria, BC, Canada (Nov, 2018).

Individual differences in suprathreshold hearing and relationship to cochlear synaptopathy. 172^{nd} Meeting of the Acoustical Society of America,Minneapolis, MN (May, 2018).

Individualized assays of suprathreshold hearing deficits - translational challenges. 41^{st} Mid-Winter Meeting of the Association for Research in Otolaryngology, San Diego, CA (Feb, 2018).

Resource sharing in a collaborative study on cochlear synaptopathy and suprathreshold hearing deficits. 171^{st} Meeting of the Acoustical Society of America, Boston, MA (June, 2017).

Individualized assessment of suprathreshold hearing and relationship to cochlear synaptopathy. 172^{nd} Meeting of the Acoustical Society of America, Honolulu, HI (Oct, 2016).

Electrophysiological correlates of auditory object binding with application to autism spectrum disorders. 172^{nd} Meeting of the Acoustical Society of America, Honolulu, HI (Oct, 2016).

Using individual differences to study the mechanisms of suprathreshold hearing deficits. International Symposium on Auditory and Audiological Research (ISAAR 2015), Nyborg, Denmark (Aug, 2015).

Individual differences revealed by the challenges of listening in a complex, crowded scene. Special session: Comparitive perspectives on the Cocktail Party Problem, 167^{th} Meeting of the Acoustical Society of America (ASA), Providence, RI (May, 2014).

Bottom-Up and Top-Down Contributions to Individual Differences in Auditory Spatial Attention Task Performance. Young Investigator Symposium, 36^{th} Mid-Winter Meeting of the Association for Research in Otolaryngology (ARO), Baltimore, MD (Feb, 2013).

National

Cochlear Deafferentation and Central Gain in "Normal" Hearing. Otolaryngology and Hearing & Communication Neuroscience Seminar Series. University of Southern California, Virtual (Zoom) Event (Feb, 2022).

Cochlear Deafferentation and Central Gain in "Normal Hearing" Humans. Massacusetts Eye & Ear Infirmary SAP Seminar Series, Boston, MA (Mar, 2020).

Listening in the real world – Human auditory electrophysiology and clinical applications. Boston Children's Hospital, Boston, MA (Oct, 2015).

The cocktail-party problem – Human electrophysiology. University of Rochester (Dec, 2013).

Service

International Service

2015	Grant review panel	Action on Hearing Loss (Royal National Institute for Deaf People/RNID), United Kingdom

National Service

Service for Professional Societies

2020 – 2023	Psychological and Physiological Acoustics Taskforce on Remote Testing, Acoustical Society of America
2017 – 2020	Elected Member of the Technical Committee on Psychological and Physiological Acoustics, Acoustical Society of America

Grant Review for Funding Agencies

2025 –	Research Advisory Board	American Otological Society
2025	Grant review panel	NIH SBIR/STTR grants K15 - Hearing and Balance Small Business Review meeting
2017 – 2025	Grant review panel (for 9 straight years)	Hearing Health Foundation, USA
2024	Grant review panel	Department of Defense - Congressionally Directed Medical Research Programs
2024	Grant review panel	National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILLR) RERC on Technology for People Who Are Deaf or Hard of Hearing
2023	Grant review panel	NIH SBIR/STTR grants NV (12) - Small Business: Aging and Development, Auditory, Vision and Low Vision Technologies
2023	Grant review panel	National Institutes of Health Auditory System Study Section (AUD)
2022	Adhoc grant reviewer	NSF Perception, Action, and Cognition Program

2022	Special Emphasis Panel	National Institutes of Health (SEP: ZDC1 SRB-Z(47), NIDCD R01)
2019	Grant review panel	National Institutes of Health (Study Section: ZAT1 PJ05, NCCIH)

Editorial Service for Professional Journals

2019 – 2025	Associate Editor	Journal of the Acoustical Society of America
2016 – 2017	Guest Associate Editor	Frontiers in Neuroscience

Conference Organization

Organizer and Co-Chair (with Inyong Choi), Young Investigator Symposium on "Active Auditory Processing: Basic Mechanisms, Individual Differences and Clinical Applications", 39^{th} Mid-Winter Meeting of the Association for Research in Otolaryngology, San Diego, 20–24 February, 2016.

Consulting Activities

2019 –	Consultant, NIH P50 Clinical Research Center, "Cochlear Synaptopathy: Prevalence, Diagnosis and Functional Consequences", PI: Sharon Kujawa, Massachusetts Eye & Ear Infirmary.
2019 – 2023	Consultant, Otonomy, Inc., San Diego, CA
2019	Advisory Board, Sirocco Therapeutics, San Diego, CA

University Service

University of Pittsburgh

2022 –	Hearing & Cookies Seminar Series Organizer (Co-organizing with Aravind Parthasarathy)

College of Health and Human Sciences, Purdue University

2022	Committee to Review Department Head of Speech, Language, and Hearing Sciences
2020 – 2021	Research Advisory Committee

College of Engineering, Purdue University

2019 – 2020	Engineering Academic Career Club (EACC) Mentoring Circle

Department of Communication Science and Disorders, University of Pittsburgh

2025	Research Task Force (monitoring, planning for changing federal funding landscape)
2024	Search Committee: Open-rank Tenure-Track faculty position in Pediatric Auditory Science
2024	Search Committee: Vice Chair for Research
2023 –	Au.D. Admissions Committee
2023 –	Ph.D. Admissions Committee
2022 – 2023	Search Committee: Open-rank Appointment Stream faculty position in Speech-Language Pathology

Department of Speech, Language, & Hearing Sciences, Purdue University

2021 – 2022	Search Committee: Two tenure-track faculty positions, one in speech fluency, fluency disorders,or developmental speechmotor disorders and one in adult neurogenic disorders with primary focus on language and cognition
2019 – 2020	Search Committee: Tenure-track faculty position in Hearing Science/Audiology
2019 – 2022	Audiology Curriculum Committee
2018 – 2022	Seminars in Hearing Research Organizer
2018 – 2019	Search Committee: Tenure-track faculty position in Speech Physiology
2017 –	Graduate Committee and Ph.D. Admissions
2017 – 2018	Au.D. Admissions Committee
2016 – 2017	Brown Bag Seminar Organizer
2016 – 2017	Library Committee

Weldon School of Biomedical Engineering, Purdue University

2020 –	Ph.D. Qualifying Procedures (PQP) Committee
2019 – 2020	Graduate Committee
2016 – 2019	Graduate Admissions Committee