

# Meisam K. Arjmandi

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## ACADEMIC APPOINTMENTS

- University of South Carolina**, Columbia, SC, USA 08/2022–Present  
Assistant Professor  
Department of Communication Sciences and Disorders  
Arnold School of Public Health
- University of South Carolina**, Columbia, SC, USA 09/2022–Present  
Affiliate Faculty  
Institute of Mind and Brain (IMB)
- Harvard Medical School-Massachusetts Eye and Ear Infirmary**, Boston, MA, USA 12/2019–07/2022  
Postdoctoral Research Fellow  
Emerging Auditory Research (E.A.R.) Lab, Director: Julie G. Arenberg, Ph.D.  
Department of Otolaryngology-Head and Neck Surgery  
Audiology Division, Massachusetts Eye and Ear
- Michigan State University**, East Lansing, MI, USA 08/2015–12/2019  
Graduate Research Assistant, Department of Communicative Sciences and Disorders  
MSU Speech Perception and Production Lab, Director: Laura C. Dilley, Ph.D.  
Graduate Teaching Assistant, Department of Communicative Sciences and Disorders 08/2015–12/2018  
Instructor, Department of Communicative Sciences and Disorders 08/2017–12/2017
- The University of Alabama**, Tuscaloosa, AL, USA 01/2015–07/2015  
Research Assistant, Department of Electrical and Computer Engineering  
Computer Laboratory of Ambient and Wearable Systems
- Islamic Azad University**, Damavand, Tehran, Iran 01/2009–12/2014  
Instructor, Department of Electrical Engineering
- University of Applied Science and Technology**, Tehran, Tehran, Iran 06/2010–01/2011  
Instructor, Department of Electrical Engineering
- Shahed University**, Tehran, Iran 01/2009–05/2010  
Graduate Teaching Assistant, Department of Biomedical Engineering

## EDUCATION

- Michigan State University**, East Lansing, MI, USA 08/2015–12/2019  
Doctor of Philosophy in Communicative Sciences and Disorders  
Specialization in Cognitive Sciences  
Dissertation: *Early linguistic environments and language development in children with cochlear implants*  
Dissertation Committee: Laura C. Dilley (Advisor), Mario A. Svirsky, Dimitar D. Deliyski, Courtney E. Venker, Joyce Y. Chai
- Shahed University**, Tehran, Tehran, Iran 07/2007–02/2010  
Master of Science in Biomedical Engineering  
Thesis: *Non-invasive diagnosis of patients with laryngeal diseases based on computational analysis of speech signals*
- Islamic Azad University-South Tehran Branch**, Tehran, Tehran, Iran 01/2004–07/2006  
Bachelor of Science in Electrical Engineering  
Thesis: *Design and implementation of a multi-channel real-time data acquisition module*

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## RESEARCH INTERESTS

Hearing Loss & Cochlear Implants  
Auditory Neuroscience  
Neural Prosthesis  
Speech & Language Development  
Voice Assessment  
Acoustic Phonetics  
Biomedical Signal Processing  
Brain-Computer Interface

## RESEARCH GRANTS (RG)

- Neural Correlates of Simulated Cochlear Implant Speech Using Functional Near-infrared Spectroscopy** 01/2024–Present  
*Funding Source:* USC Magellan Scholar Program, *Awardee:* Reed Farrar  
*Role:* Faculty Mentor  
*Goal:* to examine differences in cortical activity evoked by simulated cochlear-implant speech with varying spectral resolutions using functional near-infrared spectroscopy (fNIRS) neuroimaging system.
- A Novel Spectral Resolution-Based Method to Assess Functionality of Cochlear Implant Electrodes** 01/2024–Present  
*Funding Source:* USC Magellan Scholar Program, *Awardee:* Kathryn Morgan  
*Role:* Faculty Mentor  
*Goal:* to understand how spectral resolution differs among CI users and NH listeners and how it relates to their speech perception.
- Effects of Partially Restored Auditory Feedback on Speech Production in Cochlear Implant Listeners** 02/2023–07/2023  
*Funding Source:* USC Magellan Journey Award, *Awardee:* Shaivee Fozdar  
*Role:* Faculty Mentor  
*Goal:* to understand how spectral resolution differs among CI users and NH listeners and how it relates to their speech perception outcomes.
- Speech perception errors for individualized cochlear implant programming** Not Discussed  
*Funding Agency:* ECR R21 NIH-NIDCD  
*Role:* Principal Investigator, *Institute:* University of South Carolina  
*Goal:* to develop effective programming strategies for listeners with cochlear implants based on individuals' speech perception errors and frequency selectivity of individual cochlear implant channels. *Contributions:* I developed and submitted the proposal.
- Electrode-neuron interfaces and speech perception errors for individualized cochlear implant programming** 01/2022–31/2025  
*Funding Agency:* NIH-NIDCD, *Fund:* Recommended for funding by NIDCD's Training Board. The applicant declined the award due to accepting a tenure-track position at the University of South Carolina.  
*Role:* Principal Investigator, *Sponsors:* Julie G. Arenberg, Ph.D. & Andrew J. Oxenham, Ph.D.  
*Collaborators:* Barbara S. Herrmann, Ph.D., Meaghan P. Reed, Au.D., CCC-A  
*Institute:* Massachusetts Eye and Ear, Harvard Medical School  
*Goal:* to develop effective programming strategies for listeners with cochlear implants based on individuals' speech perception errors and/or single-channel auditory detection threshold in response to focused electrical fields (i.e., focused thresholds). *Contributions:* I developed and submitted an NIDCD F32 research proposal.
- Early linguistic environments and language development in children with cochlear implants** 08/2017–12/2019  
*Funding Source:* Dissertation Completion Fellowship (DCF) Award, *Fund:* \$7,000  
*Role:* Principal Investigator, *Advisor:* Dr. Laura C. Dilley, *Institute:* Michigan State University  
*Goal:* to study the effects of noise and reverberation on early language input and language outcomes of children with cochlear implants. *Contributions:* I developed the research proposal (NIH R01 format), developed a comprehensive coding system, trained 13 research assistants to implement the coding system, developed a custom software for interfacing between *Matlab* and *Praat* for acoustic-linguistic analysis, conducted the planned analyses, and successfully completed my dissertation. *Outcomes:* four conference presentations and four articles (one published, one in press, two in preparation).

## **The role of racial bias in clinical assessment of speech intelligibility and voice quality of African American in Michigan** 01/2017–01/2019

Funding Source: The Charles J. Strosacker Foundation, Fund: \$4,000

Role: Principal Investigator, Advisor: Dr. Laura C. Dilley, Institute: Michigan State University

Goals: to determine the role of dialect and racial background on clinical outcome measures of speech intelligibility and voice quality. Contributions: I designed and conducted the study, trained research assistants to analyze the speech corpus, performed acoustic-phonetic analysis of the corpus, implemented signal processing, and machine learning approaches, and performed the data analyses. Outcomes: three conference presentations, one peer-reviewed conference paper, two journal manuscripts in preparation.

## **Novel acoustic analysis and machine learning application to predict concussion status** 01/2018–02/2019

Funding Source: The Charles J. Strosacker Foundation, Fund: \$4,000

Role: Principal Investigator, Multiple-PI: Russell Banks, Mark Berardi, Hamzeh Ghasemzadeh

Institute: Michigan State University

Goals: to develop novel approaches based on acoustic analysis and machine learning of voice and speech to predict individuals' concussion status. Contributions: I was involved in proposal development, analysis of speech corpus, acoustic-phonetic analysis of the voices, data analysis and poster preparation. Outcomes: two conference presentations and two journal manuscripts in preparation.

## **A robust face recognition system based on convolutional neural network** 01/2014–01/2015

Funding Source: Islamic Azad University (IAU), Fund: \$7,000

Role: PI, Multiple-PI: Hamzeh Ghasemzadeh, Institute: Islamic Azad University

Goal: to develop a reliable automatic face recognition system that is robust to variations in pose, illumination, and facial expression. Contributions: I was involved in the study design, system development, and implementation. Outcomes: the developed system and the technical report were submitted to Islamic Azad University.

## **Objective voice disorders analysis for diagnosis of multiple laryngeal diseases** 01/2011–01/2012

Funding Source: Islamic Azad University (IAU), Fund: \$5,000

Role: Principal Investigator, Multiple-PI: Ali Akbari, Institute: Islamic Azad University

Goal: to develop a multi-class classification system for objective assessment of voice disorders.

Contributions: I developed the research proposal and executed the project in collaboration with the other PI. Outcomes: two peer-reviewed articles.

## **Acoustic-kinematic modeling of African American English and neural mechanisms for perception of non-standard speech** 08/2017

Funding Agency: Stetson Scholarship in Phonetics & Speech Production (ASA 2018), Fund: unfunded

Role: Principal Investigator, Institute: Michigan State University

Goal: to investigate the acoustic-kinematic properties of speech produced in African American English and Standard American English. Contributions: I designed the study, collected the preliminary data, and wrote the research proposal.

## **Myocardial ischemia detection from processing Electrocardiography (ECG) signal** 01/2008–01/2010

Funding Source: Shahed University, Funds: \$1,800

Role: Co-PI, PI: Mohammad Pooyan, Institute: Shahed University

Goal: to develop a novel intelligent system for the detection of myocardial ischemic events from analyzing Electrocardiogram (ECG) signal. Contributions: I contributed to the proposal development, data acquisition, signal processing, and data analysis. Outcomes: one conference presentation and the developed system and the technical report were submitted to Shahed University.

## FUNDED REASERCH EXPERIENCES (FRE)

### **Perceptual consequences of cochlear implant** <sup>FRE1</sup> 12/2012–08/2022

Funding Source: NIH-NIDCD 5 R01 DC012142-07, PI: Dr. Julie G. Arenberg

Role: Postdoctoral Research Fellow (12/2019–08/2022), Institute: Massachusetts Eye and Ear

Goal: to develop and evaluate listener-tailored cochlear implant programming based on the current focusing and deactivation of select channels. Contributions: I develop psychophysical and signal processing tools, design and conduct behavioral and psychophysical experiments to (1) evaluate the effects of the quality of electrode-neuron interfaces on the ability of adults and children with cochlear implants in resolving frequency information, as well as speech perception (2) develop effective cochlear implant programming. Outcomes: three journal manuscripts (three under revision, one in

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preparation), three talks, five poster presentations, an experimental research software, an NIH-NIDCD F32 grant submission.

### **Infant-directed speech and language development in infants with hearing loss** <sup>FRE2</sup> 12/2006–01/2020

Funding Source: NIH-NIDCD 2 R01 DC008581-06A1, PIs: Laura C. Dilley & Derek M. Houston

Role: Graduate Research Assistant (08/2015 – 12/2019), Institute: Michigan State University & The Ohio State University

Goal: to determine how infant-directed speech in natural auditory environments affects language input and language development in infants with hearing loss, particularly those with cochlear implants.

Contributions: I was involved in developing tools for acoustic-phonetic analysis of maternal speech, analyzing and interpreting the acoustic and clinical data, preparing the posters and manuscripts.

Outcomes: four journal manuscripts (four published & two in preparation), one conference paper, two talks, and seven poster presentations.

### **Making words disappear or appear: A neurocognitive and behavioral investigation of effects of speech rate on spoken word perception** <sup>FRE3</sup> 08/2014–07/2018

Funding Source: NSF 1431105, PI: Laura C. Dilley

Role: Graduate Research Assistant (08/2015 – 07/2018), Institute: Michigan State University

Goal: to investigate the role of temporal context in speech on perception of syllables and words.

Contributions: I analyzed speech at highly coarticulated syllable boundaries to understand the contributions of different segmental and suprasegmental acoustic cues in syllable boundary detection and word segmentation. Outcomes: four manuscripts (one under revision and three in preparation) and three meeting presentations.

### **Neurocognitive basis of disparities in evaluations of speech of African Americans** <sup>FRE4</sup> 01/2018–01/2019

Funding Source: Trifecta Initiative Facilitating Funds (TIFF), PI: Laura C. Dilley

Role: Investigator & Consultant, Institute: Michigan State University

Goal: to characterize acoustic-phonetic properties in production of African American English compared to Standard American English, as well as identifying the acoustic-phonetic properties responsible for listeners' detection of AAE dialect and to obtain preliminary data for an R01 NIH grant proposal.

Contributions: I contributed to writing the proposal, data collection, and data analysis. Outcomes: pilot data for a NIH R01 grant submission.

### **Assessing food intake with the automatic ingestion monitor** <sup>FRE5</sup> 07/2014–01/2019

Funding Source: NIH-NIDDK 1 R01 DK100796-01A1, PI: Edward Sazonov. Ph.D.

Role: Research Assistant (01/2015–07/2015), Institute: The University of Alabama

Goal: to develop a wearable device for tracking individuals' food intake activities in real-life scenarios.

Contributions: I developed a state-of-the-art multi-camera video observation system, which was tailored to estimate patterns of food intake activities in free-living individuals during multiple days of observation. Outcomes: a multi-camera video observation system for food intake monitoring in free-living conditions.

### UNFUNDED REASERCH EXPERIENCES (URE)

### **Perceptual consequences of cochlear implant on perception and production of voice quality** <sup>URE1</sup> 08/2017–Present

Role: Principal Investigator, Institutes: Michigan State University & Massachusetts Eye and Ear

Goal: to investigate the effects of cochlear implant on perception and production of voice quality.

Contributions: I designed the experiments, created the vocoded stimuli, analyzed the stimuli and data and presented the results. Outcomes: a conference presentation, a journal manuscript (under review).

### **Non-invasive diagnosis of patients with laryngeal diseases based on computational analysis of speech signal** <sup>URE2</sup> 09/2009–Present

Role: Principal Investigator, Co-PI: Hamzeh Ghasemzadeh

Institutes: Shahed University & Islamic Azad University & Michigan State University

Goal: to computationally analyze individual's speech to effectively capture the key pathological patterns induced by laryngeal disorders based on speech signal processing to improve objective diagnosis of laryngeal diseases as a complement approach to auditory-perceptual assessments and other traditional invasive methods for voice assessment. Contributions: I developed and conducted multiple studies to achieve the research goals. Outcomes: four journal publications, one conference paper, and one oral presentation.

### **A robust automatic approach for separation of speech from music** <sup>URE4</sup> 04/2013–04/2015

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Role: Principal Investigator, Co-PI: Hamzeh Ghasemzadeh

Institute: Islamic Azad University

Goal: to develop novel methods for automatic recognition of speech from music. Contributions: We developed a new approach based on the distribution of spectral energy in different frequency bands for robust recognition of speech from music. Outcomes: The developed system and technical report were submitted to Islamic Azad University.

**Objective evaluation of intelligibility of speech corrupted by noise and scrambling** <sup>URE5</sup> 04/2011–04/2013

Role: Principal Investigator

Institute: Islamic Azad University

Goal: to develop an effective system for estimating the degree of intelligibility of noisy and spectro-temporally scrambled speech. Contributions: I designed the experiments, created the audio database, and developed and validated the system. Outcomes: the developed system and technical report submitted to Islamic Azad University.

**A robust Persian phoneme recognition system based on wavelet packet decomposition and autoregressive model of speech** <sup>URE6</sup> 01/2008–01/2010

Role: Principal Investigator, Co-PI: Mansour Vali

Institute: Shahed University

Goal: to develop an automatic speech recognition (ASR) system for recognition of Persian phoneme in the presence of background noise. Contributions: I developed, implemented, and evaluated the ASR system. Contributions: The system and technical report were submitted to Shahed University.

### HONORS AND ACADEMIC AWARDS

**Lessons for Success Travel Award** 2023

American Speech Language Hearing Association, Rockville, MD

**Selected Changemaker Session** 2023

2023 ASHA Convention, Boston, MA

**Top Student Award for Highest Academic Achievement** 2008–2010

Shahed University, Department of Biomedical Engineering, Tehran, Iran

**Top Student Award for Highest Academic Achievement** 2004–2006

Islamic Azad University, Department of Electrical Engineering, Tehran, Iran

**1<sup>st</sup> Place Student Award for Poster Presentation at Michigan State University** 03/2019

**Undergraduate Research and Arts Forum (UURAF)**

Michigan State University, Awardee: Nikki Losievski, Alexis Yang, and Ellen Victoria, Role: Mentor

**ACI Alliance Student Scholarship Award** 02/2021

American Cochlear Implant (ACI) Alliance

**The Association for Research in Otolaryngology Meeting Travel Award** 04/2021

The Association for Research in Otolaryngology

**Graduate School Dissertation Completion Fellowship Award** (\$7,000) 11/2019

Michigan State University

**Charles J. Strosacker Research Award for Health and Risk Communication** (\$8,000) 01/2018

The Charles J. Strosacker Foundation

**Student Travel Grant** (~\$1,050) 03/2017–01/2019

The Acoustical Society of America

**Graduate Office Fellowship (GOF) Funds for Conference Attendance** (Total: \$11,500) 2015–2019

Michigan State University

**Travel Grant, MSU Speech Perception & Production Lab** (Total: \$4,200) 2017–2019

Michigan State University

**Ph.D. Scholarship in Communicative Sciences & Disorders** 2015–2019

Michigan State University

**Workshop Grant Award, “Write Winning Grant Proposals”** (\$100) 01/2018

Michigan State University

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## TEACHING EXPERIENCE

### University of South Carolina

COMD-745: Introduction to Speech Science and Acoustic Measurement, Master level class 08/2022 – Present

### Michigan State University

CSD333: Oral Language Development, Undergraduate level class 08/2015 – 04/2018

### Islamic Azad University

Signals and Systems, Undergraduate level class 07/2010 – 05/2014

Electronic I&II, Undergraduate level class 07/2010 – 05/2014

Electric Machine II, Undergraduate level class 07/2012 – 05/2013

Electrical Circuits I, Undergraduate level class 07/2012 – 05/2013

Digital Logic Circuits, Undergraduate level class 07/2008 – 05/2009

### Shahed University

Statistical Pattern Recognition, Master level class 07/2008 – 05/2009

Electronic Laboratory I&II, Master level class 07/2008 – 05/2009

Digital Electronic Laboratory, Master level class 07/2009 – 05/2010

### University of Applied Science and Technology

Digital Logic Circuits, Undergraduate level class 07/2010 – 05/2011

Electronic I&II, Undergraduate level class 07/2010 – 05/2011

## PEER-REVIEWED PUBLICATIONS

*Google Scholar statistics (as of 01/08/2024): h-index = 12, citations = 713*

*The corresponding project for each paper, abstract, poster or presentation is indicated in parentheses by the project code.*

1. **Arjmandi, M. K.**, Behroozmand, R. (accepted). On the Interplay between Speech Perception and Production: Insights from Research and Theories. *Frontiers in Neuroscience*.
2. **Arjmandi, M. K.**, Herrmann, B. S., Caswell-Midwinter, B., Doney, E. M., & Arenberg, J. G. (2022). A Modified Pediatric Ranked Order Speech Perception Score to Assess Speech Recognition Development in Children With Cochlear Implants. *American Journal of Audiology*, 1-20.
3. **Arjmandi, M. K.**, Jahn, K. N., Arenberg, J. G. (2022). Single-Channel focused thresholds relate to vowel identification in pediatric and adult cochlear implant listeners. *Trends in Hearing*, 26, 23312165221095364.
4. **Arjmandi, M. K.**, Houston, D. M., & Dilley, L. C. (2022). Variability in quantity and quality of early linguistic experience in children with cochlear implants: Evidence from analysis of natural auditory environments. *Ear and Hearing*. Advance online. <https://doi.org/doi: 10.1097/AUD.0000000000001136>
5. **Arjmandi, M. K.**, Houston, D., Wang, Y., & Dilley, L. (2021). Estimating the reduced benefit of infant-directed speech in cochlear implant-related speech processing. *Neuroscience Research*. doi: 10.1016/j.neures.2021.01.007.
6. Caswell-Midwinter, B., Doney, E. M., **Arjmandi, M. K.**, Jahn, K. N., Herrmann, B. S., Arenberg, J. G. (2022). The Relationship between Impedance, Programming and Word Recognition in a Large Clinical Dataset of Cochlear Implant Recipients. *Trends in Hearing*, 26, 23312165211060983. <sup>(FRE1)</sup>
7. Dilley, L., Lehet, M., Wieland E., **Arjmandi, M. K.**, Kondaurava, M., Wang, Y., Reed, J., Svirsky, M., Bergeson, T., Houston, D. (2020). Individual differences in mothers' spontaneous infant-directed speech predict language attainment in children with cochlear implants. *Journal of Speech, Language, and Hearing Research*, 63(7), 2453-2467. <sup>(FRE2)</sup>
8. Lehet, M.\*, **Arjmandi, M. K.\***, Houston, D., & Dilley, L. (2021). Circumspection in using automated measures: Talker gender and addressee affect error rates for adult speech detection in the Language ENvironment Analysis (LENA) system. *Behavior Research Methods*, 53(1), 113-138. doi: 10.3758/s13428-020-01419-y (\* = equal contributions) <sup>(FRE2)</sup>
9. Ghasemzadeh, H., & **Arjmandi, M. K.** (2019). Toward optimum quantification of pathology-induced noises: An investigation of information missed by human auditory system. *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, 28, 519–528. <sup>(URE2)</sup>
10. Ghasemzadeh, H., & **Arjmandi, M. K.** (2017). Universal audio steganalysis based on calibration and reversed frequency resolution of human auditory system. *IET Signal Processing*, 11, 916-922. <sup>(URE3)</sup>
11. Ghasemzadeh, H., & **Arjmandi, M. K.** (2017). Optimum solution and evaluation of rectangular jigsaw puzzles based on branch and bound method and combinatorial accuracy. *Multimedia Tools and Applications*, 1-25. <sup>(URE3)</sup>

12. Ghasemzadeh, H., Khass, M. T., & **Arjmandi, M. K.** (2016). Audio steganalysis based on reversed psychoacoustic model of human hearing. *Digital Signal Processing*, 51, 133-141.<sup>(URE3)</sup>
13. Ghasemzadeh, H., Khass, M. T., **Arjmandi, M. K.**, & Pooyan, M. (2015). Detection of vocal disorders based on phase space parameters and Lyapunov spectrum. *Biomedical Signal Processing and Control*, 22, 135-145.<sup>(URE2)</sup>
14. Akbari, A.\*, & **Arjmandi, M. K.\*** (2015). Employing linear prediction residual signal of wavelet sub-bands in automatic detection of laryngeal pathology. *Biomedical Signal Processing and Control*, 18, 293-302. (\* = equal contributions)<sup>(RG6)</sup>
15. Akbari, A.\*, & **Arjmandi, M. K.\*** (2014). An efficient voice pathology classification scheme based on applying multi-layer linear discriminant analysis to wavelet packet-based features. *Biomedical Signal Processing and Control*, 10, 209-223. (\* = equal contributions)<sup>(RG6)</sup>
16. **Arjmandi, M. K.**, & Pooyan, M. (2012). An optimum algorithm in pathological voice quality assessment using wavelet-packet-based features, linear discriminant analysis and support vector machine. *Biomedical Signal Processing and Control*, 7(1), 3-19.<sup>(URE2)</sup>
17. **Arjmandi, M. K.**, Pooyan, M., Mikaili, M., Vali, M., & Moqarehzadeh, A. (2011). Identification of voice disorders using long-time features and support vector machine with different feature reduction methods. *Journal of Voice*, 25(6), e275-e289.<sup>(URE2)</sup>

### CONFERENCE PROCEEDINGS

#### Peer-Reviewed

1. Arenberg, J. G., Hem, C. & **Arjmandi, M. K.** (2022), Psychophysical tuning curves as a measure of spectral resolution in children and adults with cochlear implants. In *Proceeding of 19<sup>th</sup> International Symposium on Hearing (ISH)*, 19-24 June 2022, Lyon, France.
2. **Arjmandi, M. K.**, Dilley, L. C., & Lehet, M. (2018). A comprehensive framework for F<sub>0</sub> estimation and sampling in modeling prosodic variation in infant-directed speech. In *Proceeding of 6<sup>th</sup> International Symposium on Tonal Aspects of Languages (TAL2018)*, 72-76. Berlin, Germany.<sup>(FRE2)</sup>
3. Ghasemzadeh, H., & **Arjmandi, M. K.** (2014). Reversed-Mel cepstrum-based audio steganalysis. In *Computer and Knowledge Engineering (ICCKE), 2014 4th International eConference on* (pp. 679-684). IEEE.<sup>(URE3)</sup>
4. **Arjmandi, M. K.**, Pooyan, M., Mohammadnejad, H., & Vali, M. (2010). Voice disorders identification based on different feature reduction methodologies and support vector machine. In *Electrical Engineering (ICEE), 2010 18<sup>th</sup> Iranian Conference on* (pp. 45-49). IEEE. Isfahan, Iran.<sup>(URE2)</sup>
5. Mohammadnezhad, H., Vali, M., **Arjmandi, M. K.** (2009). A speaker identification method based on time-delay neural network (TDNN) methodology in multi-layer perceptron. In *Electronic Engineering (ICEEE), 2<sup>nd</sup> Iranian Conference on* (pp. 37-40). Gonabad, Mashhad, Iran.
6. Mohammadnejad, H., Vali, M., **Arjmandi, M. K.** (2008). Ischemic episode detection with discrete cosine transform (DCT) and artificial neural network (ANN). In *Biomedical Engineering (ICBME2008), 2008 15th International Conference on* (pp. 844-849). Tehran, Iran. (In Persian)

#### Non-Peer Reviewed

1. **Arjmandi, M. K.**, Dilley, L., Wagner, S. (2018). Investigation of acoustic dimension use in dialect production: machine learning of sonorant sound for modeling acoustic cues of African American dialect. *Proceeding of 11<sup>th</sup> International Conference on Voice Physiology & Biomechanics (ICVPB 2018)*, East Lansing, MI, USA, July 31-August 3, 2018.<sup>(RG3)</sup>

### BOOK CHAPTERS

1. Hu, F., **Arjmandi, M. K.** (2016). Opportunities in 5G networks: a research and development perspective. Chapter 2: Opportunities in 5G networks. *CRC Press*, (Chapter 2). PP. 19-32.

### UNDER REVIEW OR IN PREPARATION PUBLICATIONS

1. **Arjmandi, M.K.**, Neils-Strunjas, J., Nemati, S. (under review). Age-Related Hearing Loss, Cognitive Decline, and Social Interaction: Testing a Framework. *Journal of Speech, Language, and Hearing Research*.
2. **Arjmandi, M. K.**, Ghasemzadeh, H., Dilley, L. C. (under review). Effects of cochlear implant algorithms on accessibility to voice-related information: Evidence from analysis of disordered voices. *Neuroscience Research*.<sup>(URE1)</sup>

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3. **Arjmandi, M. K.**, Jahn, K. N., Charles Hem & Arenberg, J. G., Psychophysical tuning curves as a measure of spectral resolution in children and adults with cochlear implants. *JASA Express Letters* (under review)
4. **Arjmandi, M. K.**, Houston, D., Dilley, L. (in preparation). Early language input in home environments of children with cochlear implants: child-directed versus adult-directed speech. Target Journal: *Ear and Hearing*. (RG2 & FRE2)
5. Sanders, L., Dilley, L. C., Viswanathan, N., **Arjmandi, M. K.**, & Muñoz, M. (under revision). Distal speech rate makes words disappear from early perceptual processing. *Attention, Perception, and Psychophysics*. (FRE3)
6. **Arjmandi, M. K.**, Houston, D. M., Dilley, L. C., (in preparation). Effects of environmental noise and reverberation on properties of language input and language outcomes of children with CIs. Target Journal: *Ear and Hearing*. (RG2 & FRE2)
7. Dilley, L., Lehet, M., **Arjmandi, M. K.** (in preparation). Spectro-temporal cues from context speech facilitates perceptual recovery of reduced syllables from continuous, casual speech. Target Journal: *Journal of Phonetics*. (FRE3)
8. Lehet, M., **Arjmandi, M. K.**, Dilley, L. (in preparation). The spectral and temporal correlates of function word discontinuity. Target Journal: *Journal of Phonetics*. (FRE3)
9. Lehet, M., **Arjmandi, M. K.**, Dilley, L. (in preparation). Statistical relationship between preceding speech rate and function word articulation. Target Journal: *Journal of Phonetics*. (FRE3)
10. Dellwo, V., Kathiresan, T., Dilley, L., **Arjmandi, M. K.**, Townsend, S., Shi, R., Daum, M. (under review). Mothers reveal more of their vocal identity when talking to infants. *Science*. (FRE2)
11. Dilley, L., **Arjmandi, M. K.**, & Lehet, M. (in preparation). Prosody, prediction, and spoken word perception. Target Journal: *Trends in Cognitive Sciences*. (FRE3)
12. **Arjmandi, M. K.**, Ghasemzadeh, H., Berardi, M., Banks, R. (in preparation). Formant dynamics in vowel pronunciation are acoustic correlates of concussed speech. Target Journal: *Journal of Voice*. (RG4)
13. Berardi, M., **Arjmandi, M. K.**, Ghasemzadeh, H., Banks, R. (in preparation). Application of automated vowel space area analysis to predict concussion status. Target Journal: *Journal of Voice*. (RG4)
14. **Arjmandi, M. K.**, Dilley, L., (in preparation). New ways of analyzing linguistic variation: a pattern recognition approach to distinguishing African American and Standard American English dialects. Target journal: *Speech Communication*. (RG3)
15. Ayres, K., Dilley, L., Wieland, L., Morrill, T., **Arjmandi, M. K.**, & Chang, S.E. (in preparation). Rhythm perception and temporal expectation in people who do and do not stutter. Target Journal: *Journal of Fluency Disorders*.
16. **Arjmandi, M. K.**, Dilley, L., & Ireland, Z. (in preparation). Applying pattern recognition to formant trajectories: a useful tool for understanding African American English dialect variation. Target Journal: *Journal of Speech Communication*. (RG3)

### PUBLISHED ABSTRACTS

1. Arenberg, J. G., Hem, C. & **Arjmandi, M. K.** (2022), Psychophysical tuning curves as a measure of spectral resolution in children and adults with cochlear implants. *19<sup>th</sup> International Symposium on Hearing (ISH)*, 19-24 June 2022, Lyon, France.
2. **Arjmandi, M. K.**, Houston, D., Svirsky, M., Wang, Y., Lehet, M., & Dilley, L. (2019). Individual differences across caregivers in acoustic implementation of infant-directed and adult-directed speech: Modeling impacts on intelligibility in children with cochlear implants. *The Journal of the Acoustical Society of America*, 146(4), 2921-2921. (RG2 & FRE2)
3. **Arjmandi, M. K.**, Ghasemzadeh, H., & Dilley, L. (2019). Simulated cochlear-implant processing results in major loss of acoustic information regarding differences in talkers' voice qualities. *The Journal of the Acoustical Society of America*, 145(3), 1690-1690. (URE1)
4. **Arjmandi, M. K.**, Dilley, L., Houston, D., Svirsky, M., Lehet, M., Wang, Y.-Y. (2019). Separability of infant-directed from adult-directed speech is affected by number of channels in cochlear-implant simulated speech. *The Journal of the Acoustical Society of America*, 145(3), 1766. (RG2 & FRE2)
5. Kathiresan, T., Dilley, L., Townsend, S., Shi, R., Daum, M., **Arjmandi, M. K.**, Dellwo, V. (2019). Infant-directed speech enhances recognizability of individual mothers' voices. *The Journal of the Acoustical Society of America*, 145(3), 1766. (FRE2)
6. Woodard, J. C., Losievski, N., **Arjmandi, M. K.**, Lehet, M., Wang, Y., Houston, D., & Dilley, L. (2019). Accuracy of the language environment analysis (LENA) speech processing system for detecting communicative vocalizations of young children. *The Journal of the Acoustical Society of America*, 146(4), 2956-2956. (FRE2)
7. Banks, R., **Arjmandi, M. K.**, Ghasemzadeh, H., & Berardi, M. (2019). Formant dynamics in vowel pronunciation as acoustic correlates of concussed speech. *Brain Injury*, 3, 36-37. (RG4)



## Meisam K. Arjmandi

8. Banks, R., **Arjmandi, M. K.**, Ghasemzadeh, H., & Berardi, M. (2019). Application of automated vowel space area analysis to predict concussion status. *Brain Injury*, 33, 27-28. (RG4)
9. Dilley, L., Wieland, E., Lehet, M., **Arjmandi, M. K.**, Houston, D., & Bergeson, T. (2018). Quality and quantity of infant-directed speech by maternal caregivers predicts later speech-language outcomes in children with cochlear implants. *The Journal of the Acoustical Society of America*, 143(3), 1822. (FRE2)
10. **Arjmandi, M. K.**, Dilley, L., & Wagner, S. (2018). Acoustic cues to linguistic profiling? Machine learning of phonetic features of African American English. *The Journal of the Acoustical Society of America*, 143(3), 1969. (FRE4)
11. Dilley, L., **Arjmandi, M. K.**, & Ireland, Z. (2017). Spectro-temporal cues for perceptual recovery of reduced syllables from continuous, casual speech. *The Journal of the Acoustical Society of America*, 141(5), 3700. (RG3)
12. **Arjmandi, M. K.**, Dilley, L., & Ireland, Z. (2017). Applying pattern recognition to formant trajectories: a useful tool for understanding African American English (AAE) dialect variation. *The Journal of the Acoustical Society of America*, 141(5), 3980. (RG3)
13. Dilley, L., **Arjmandi, M. K.**, Ireland, Z., Heffner, C., & Pitt, M. (2016). Glottalization, reduction, and acoustic variability in function words in American English. *The Journal of the Acoustical Society of America*, 140(4), 3114. (FRE3)

### UNPUBLISHED CONFERENCE PRESENTATIONS AND COLLOQUIA

1. **Arjmandi, M. K.**, Behroozmand, R., Examining Vocal Auditory Feedback Control in Simulated Cochlear Implant Speech. Accepted for Poster presentation at the 51<sup>st</sup> Annual Scientific and Technology Conference of the American Auditory Society, February 15-17, 2024.
2. **Arjmandi, M. K.**, Arenberg, J. G., Identifying Poor Cochlear Implant Electrodes from Vowel Identification Errors. Accepted for Poster presentation at the 51<sup>st</sup> Annual Scientific and Technology Conference of the American Auditory Society, February 15-17, 2024.
3. **Arjmandi, M. K.**, Oxenham, A. J., Morse-Fortier, C., Arenberg, J. G., A novel tool for faster psychophysical tuning curve measurement in cochlear implant listeners: data from listeners with normal hearing. Poster presentation at the 2023 Conference on Implantable Auditory Prostheses (CIAP), July 9-14, 2023. (FRE1)
4. Hem, C., Oxenham, A. J., **Arjmandi, M. K.**, Kreft, H., Arenberg, J. G., Psychophysical tuning curves in cochlear implant listeners: comparing a fast, novel method to a traditional approach. Poster presentation at the 2023 Conference on Implantable Auditory Prostheses (CIAP), July 9-14, 2023. (FRE1)
5. **Arjmandi, M. K.**, Houston, D., Dilley, L., Background Noise in Early Auditory Environments of Children with Cochlear Implants is Detrimental to Quantity and Quality of Language Input, Accepted for Poster presentation at 46<sup>th</sup> Annual Association for Research in Otolaryngology (ARO) MidWinter Meeting, Feb. 11-15, 2023.
6. **Arjmandi, M. K.**, Houston, D., Dilley, L., Children with cochlear implants experience linguistic environments with substantially different quantity and quality. Podium presentation in CI2022 Emerging Issues in Cochlear Implants Conference, May 18-21, 2022.
7. **Arjmandi, M. K.**, Jahn, K. N., Franck, K., Arenberg, J. G., Using single-channel focused thresholds to predict vowel identification errors in cochlear implant listeners. Poster presentation at 45<sup>th</sup> Annual Association for Research in Otolaryngology (ARO) MidWinter Virtual Meeting, Feb. 5-9, 2022. (FRE1)
8. Hem, C., **Arjmandi, M. K.**, Jahn, K. N., Franck, K., Arenberg, J. G., Assessing the relationship between focused behavioral thresholds and vowel space errors in cochlear implant listeners. Poster presentation at 45<sup>th</sup> Annual Association for Research in Otolaryngology (ARO) MidWinter Virtual Meeting, Feb. 5-9, 2022. (FRE1)
9. **Arjmandi, M. K.**, Arenberg, J. G., Forward-masked psychophysical tuning curves via wireless Bluetooth to evaluate frequency selectivity of cochlear implant channels. Oral presentation at International Symposium on Auditory and Audiological Research (ISAAR), August 23-27, 2021. (FRE1)
10. **Arjmandi, M. K.**, Arenberg, J. G., Toward better understanding of the relationship between focused thresholds and vowel identification in listeners with cochlear implants. Poster presentation at the 2021 Conference on Implantable Auditory Prostheses (CIAP), July 11-16, 2021. (FRE1)
11. **Arjmandi, M. K.**, Herrmann, B. S., DesRoche E. M., Caswell-Midwinter, B., Arenberg, J. G., Factors influencing the developmental trajectory of speech recognition in pediatric cochlear implant recipients. Poster presentation at the CI2021 Cochlear Implants in Children and Adults Conference, April 28-May 1, 2021. (FRE1)
12. **Arjmandi, M. K.**, Jahn, K. N., Franck, K., Hem, C., Arenberg, J. G., From the electrode-neuron interface to frequency

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- selectivity and speech recognition. Poster presentation at *the 48th Annual Scientific and Technology Conference of the American Auditory Society*, March 4-6, 2021. (FRE1)
13. **Arjmandi, M. K.**, Jahn, K. N., Franck, K., Arenberg, J. G., Relationship between focused threshold profiles and vowel identification in individuals with cochlear implants. Podium presentation at *44th Annual Association for Research in Otolaryngology (ARO) MidWinter Virtual Meeting*, April 28-May 1, 2021. (FRE1)
  14. **Arjmandi, M. K.**, Factors influencing the developmental trajectory of speech recognition in pediatric cochlear implant recipients. *Virtual Midwest Conference on Cochlear Implants (CI CRASH) & Mid-Atlantic Symposium on Hearing (MASH)*, Madison, WI, October 16-17, 2020. (FRE1)
  15. **Arjmandi, M. K.**, Developmental trajectory of speech recognition in pediatric cochlear implant recipients. *Work in Progress (WiP) talk series at Massachusetts Eye and Ear (MEE)*, Boston, MA, September 1<sup>st</sup>, 2020. (FRE1)
  16. **Arjmandi, M. K.**, Houston, D., Dilley, L., Children with cochlear implants experience linguistic environments with substantially different quantity and quality: evidence from analysis of naturalistic auditory environments. Poster presentation at *the 3<sup>rd</sup> annual Massachusetts Eye and Ear Research Symposium*, Boston, MA, April 16<sup>th</sup>, 2021. (RG2)
  17. **Arjmandi, M. K.**, Lehet, M., Houston, D., Svirsky, M. A., Dilley, L., Variability in quantity and quality of early linguistic experience in children who use cochlear implants. Oral seminar at the annual *American Speech-Language-Hearing Association (ASHA) convention*, Orlando, FL, November 21–23, 2019. (RG2)
  18. Lehet, M., **Arjmandi, M. K.**, Houston, D., Dilley, L., Rethinking automatic language estimation: accuracy of language ENvironment Analysis (LENA) systems in quantifying adult speech. Oral seminar at the annual *American Speech-Language-Hearing Association (ASHA) convention*, Orlando, FL, November 21–23, 2019. (FRE2)
  19. **Arjmandi, M. K.** (2019). Quality and quantity of early linguistic input and language development in children with cochlear implants. Oral presentation in *the 11<sup>th</sup> Annual Graduate Academic Conference at Michigan State University*. (RG2 & FRE2)
  20. Yang, A., Silverstein, K., Losievski, N., **Arjmandi, M. K.**, Lehet, M., Dilley, L. (2019). Reliability of Language Environment Analysis (LENA) system in identification of child vocalizations in naturalistic environments. *21<sup>st</sup> Annual University Undergraduate Research and Arts Forum*, Michigan State University, East Lansing, MI, April 5, 2019. (FRE2)
  21. Baumgartner, K., Haar, M., Ghoneim, S., **Arjmandi, M. K.**, Lehet, M., Dilley, L. (2019). Reliability of Language Environment Analysis (LENA) system in quantifying conversational turns in verbal communication of child-environment. *21<sup>st</sup> Annual University Undergraduate Research and Arts Forum*, Michigan State University, East Lansing, MI, April 5, 2019. (FRE2)
  22. Dilley, L., Wieland, E., Wang, Y., Reed, J., Bergeson, T., Houston, D., Lehet, M., **Arjmandi, M. K.** (2017). Maternal speech predicts language outcomes in children with cochlear implants: results from a 10-year study. Poster presentation at the *American Speech-Language-Hearing Association (ASHA) Annual Meeting*, Los Angeles, CA, November 9–11, 2017. (FRE2)
  23. **Arjmandi, M. K.**, Ghasemzadeh, H. (2017). Automatic methods for objective pathological voice assessment in spectro-temporal domain. Oral presentation at *46<sup>th</sup> Annual Symposium of Voice Foundation: Care of the Professional Voice*, Philadelphia, PA, May 30-June 3, 2018. (URE2)
  24. Ireland, Z., Magoon, T., **Arjmandi, M. K.** & Dilley, L. An analysis of vowels in African American English. *Great Lakes Expo for Experimental and Formal Undergraduate Linguistics (GLEEFUL) Conference*, Michigan State University, East Lansing, MI, April 22-23, 2017. (FRE4)
  25. Ireland, Z., Cutting, M., **Arjmandi, M. K.** & Dilley, L. Spectro-temporal cues for perceptual recovery of reduced syllables from continuous, casual speech. *Michigan State Undergraduate Linguistics Conference (MSULC)*, Michigan State University, East Lansing, MI, April 21, 2017. (FRE3)
  26. Ireland, Z., Cutting, M., **Arjmandi, M. K.** & Dilley, L. Spectro-temporal cues for perceptual recovery of reduced syllables from continuous, casual speech. *19<sup>th</sup> annual University Undergraduate Research and Arts Forum (UURAF)*, Michigan State University, East Lansing, MI, April 7, 2017. (FRE3)
  27. Ireland, Z., Magoon, T., **Arjmandi, M. K.** & Dilley, L., An analysis of the vowels in African American English. *19<sup>th</sup> Annual University Undergraduate Research and Arts Forum (UURAF)*, Michigan State University, East Lansing, MI, April 7, 2017. (FRE4)
  28. Dilley, L., Ireland, Z., Viswanathan N., Sanders, L., **Arjmandi, M. K.** & Wieland, E. Slow Joe and Fast Mary: statistical learning of talker rate influences word perception. *CUNY Conference on Human Sentence Processing*, Cambridge, MA, March 31, 2017. (FRE3)
  29. Ayres, K., Dilley, L., Wieland, E., Morrill, T., **Arjmandi, M. K.**, Chang, S-E. (2016). Rhythm perception and temporal expectation in people who do and do not stutter. Poster presentation at *American Speech-Language-Hearing Association*

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(ASHA) Annual Meeting, Philadelphia, PA, Nov. 17–19, 2016.

30. Griffin, M., Girdley, P., Ireland, Z., Jansen, J., Keenan, S., Maier, S., **Arjmandi, M. K.**, & Dilley, L. (2016). Inter and intra-speaker variability in speech characteristics. Poster presented by Griffin, Girdley, Ireland, Jansen, and Keenan at the *University Undergraduate Research and Arts Forum (UURAF)*, Michigan State University, East Lansing, Michigan, April 8, 2016. (FRE3)
31. **Arjmandi, M. K.**, Ireland, Z., Mason, A., Wagner, S. & Dilley, L. (2016). An analysis of vowels in African American English. *Mid-Continental Phonetics & Phonology Conference*, East Lansing, MI, September 17, 2016. (FRE4)
32. Cutting, M., Shepard, J., Baldwin, B., Losievski, N., Dilley, L., & **Arjmandi, M. K.** (2016). Individual differences in perception of temporal information in speech. *The University Undergraduate Research and Arts Forum (UURAF)*, Michigan State University, East Lansing, MI, April 8, 2016. (FRE3)
33. Griffin, M., Girdley, P., Ireland, Z., Jansen, J., Keenan, S., Maier, S., **Arjmandi, M. K.**, & Dilley, L. (2016). Inter- and intra-speaker variability in speech characteristics. *The University Undergraduate Research and Arts Forum (UURAF)*, Michigan State University, East Lansing, MI, April 8, 2016. (FRE3)
34. **Arjmandi, M. K.** (2012). Image steganography based on de-noising schemes in wavelet domain, Oral presentation at *9<sup>th</sup> International ISC Conference on Information Security and Cryptology*, Tabriz, Tabriz, Iran, September 14, 2012.
35. **Arjmandi, M. K.** (2009), Statistical pattern recognition using *PRTTools* toolbox. Presented at Shahed University, Tehran, Tehran, Iran, February 15, 2010.
36. Mohammadnezhad, H., Vali, M., **Arjmandi, M. K.** (2009). A speaker identification method based on time-delay neural network methodology in multi-layer perceptron. Oral presentation at *9<sup>th</sup> WSEAS International Conference on Signal, Speech and Image Processing (SSIP '09)*, 2009.

### TALKS

- *The role of early linguistic environments on language development in children with cochlear implants* 05/2023  
DARCLE, Virtual Meetings
- *Towards a personalized approach to improve speech and language outcomes in cochlear implant listeners* 03/2023  
COMD Colloquium Series, University of South Carolina, Columbia, SC
- *Towards a personalized approach to improve speech and language outcomes in cochlear implant listeners* 11/2022  
Institute for Mind and Brain (IMB) Colloquium, University of South Carolina, Columbia, SC
- *Towards a personalized approach to improve speech and language outcomes in cochlear implant listeners* 11/2022  
Institute for Mind and Brain (IMB) Colloquium, University of South Carolina, Columbia, SC
- *Early linguistic environments and language development in children with cochlear implants* 10/2020  
Audiology Lecture Series, Massachusetts Eye and Ear, Boston, MA
- *Quality and quantity of early language input and language outcomes in children with cochlear implants* 07/2019  
Auditory & Speech Sciences Laboratory, University of South Florida, Tampa, FL
- *Early linguistic environments and language development in children with cochlear implants* 06/2019  
Massachusetts Eye and Ear, Boston, MA
- *Simulated cochlear-implant processing results in major loss of acoustic information regarding differences in talkers' voice qualities* 05/2019  
Special session on “Exploring the interface between linguistic processing and talker recognition”  
Acoustical Society of America, Louisville, Kentucky, May 2019
- *Quality and quantity of early linguistic input and language development in children with cochlear implants* 02/2019  
The 11<sup>th</sup> Annual Graduate Academic Conference at Michigan State University, East Lansing, MI
- *Acoustic analysis of voice and speech: from pathological voice assessment to spoken word recognition and dialect identification* 07/2016  
CSD Colloquium Series, Michigan State University, East Lansing, MI
- *An overview of objective evaluation of voice disorders* 12/2014  
Khaje Nasir Toosi University of Technology, Department of Electrical Engineering, Tehran, Iran, Dec. 2014

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## RESEACRH SUPERVISION/MENTORSHIP

### Doctoral Student Mentorship

Samin Ashjaei (COMD) – Primary Advisor 08/2022 –

### Doctoral Dissertation Committee Member

Samaneh Nemati (COMD) – Committee Chair: Julius Fridriksson 2023

### Doctoral Qualifying Exam Committee

Samin Ashjaei (COMD) – Chair 2023

Zeinab Khoshhal Mollasaraei (COMD) – Member 2022

### Doctoral Research Project Supervision

Samin Ashjaei (COMD) – Primary Advisor 2023 –

Project: Effects of Auditory Feedback on Vocal Sensorimotor Processing in Cochlear Implants Listeners

### Master's Thesis Committee Member

Marissa Olson (COMD) – Committee Chair: Roozbeh Behroozmand 2022 – 2023

Thesis Project: Effect of Visual Feedback Training on Improving Speech Sensorimotor Control in Post-Stroke Aphasia.

Shaina DiLalla (COMD)– Committee Chair: Julie Arenberg 2019 – 2022

MGH Institute of Health Professions & Massachusetts Eye and Ear

Thesis Project: Impacts of Mode of Communication and Intervention Dosage on Receptive and Expressive Language Outcomes in Cochlear Implant Users

### Master's Research Project/Practicum Supervision

Lucy Hoskins (COMD) – Primary Advisor  
Research Practicum Project: Effects of Early Linguistic Environments on Speech and Language Development in Children with Cochlear Implants 2022 – 2023

Maddi Paxton (COMD) – Primary Advisor  
Research Practicum Project: Enhancing Speech Recognition in Adult Cochlear Implant Listeners: Investigating the Impacts of Suboptimal Spectral Resolution 2022 – 2023

### Undergraduate Research Project/Independent Study Supervision

Reed Farrar (NSC) – Primary Advisor  
Research Project: Neural Correlates of Simulated Cochlear Implant Speech Using Functional Near-infrared Spectroscopy (*Funded Magellan Grant Project*) 2024 –

Kathryn Morgan (NSC) – Primary Advisor  
Research Project: A Novel Spectral Resolution-Based Method to Assess Functionality of Cochlear Implant Electrodes (*Funded Magellan Grant Project*) 2024 –

Shaivee Fozdar (PUBH) – Primary Advisor  
Research Project: Effects of Partially Restored Auditory Feedback on Speech Production in Cochlear Implant Listeners (*Funded Magellan Grant Project*) 2023

Karen Katherine Melnik (NSC) – Primary Advisor  
Research Project: Caregiver Responsiveness and Language Development of Children with Cochlear Implants (*Funded Magellan Grant Project*) 2022–2023

Kathryn Morgan (NSC) – Primary Advisor  
Research Project: Effects of the Electrode-Neuron Interface on Speech Perception in Cochlear Implant Listeners (*Funded via Honors College (SCHC) Research Award*) 2023

Reed Farrar (NSC) – Primary Advisor  
Research Project: Effects of the Electrode-Neuron Interface on Speech Production in Cochlear Implant Listeners (*Funded via Honors College (SCHC) Research Award*) 2023

# Meisam K. Arjmandi

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Abhi Patel (NSC) – Primary Advisor Research Project: Impacts of Suboptimal Auditory Feedback on Speech Production in Cochlear Implant Listeners	2023
Mahrukh Iftikhar (NSC) – Primary Advisor Research Project: Investigating Early Vocalization Behaviors in Children with Cochlear Implants in Auditory Home Environments	2023
Tatiana Ramirez (NSC) – Primary Advisor Research Project: Investigating Early Vocalization Behaviors in Children with Cochlear Implants in Auditory Home Environments	2023
Karen Katherine Melnik (NSC) – Primary Advisor Research Project: Neural and Behavioral Correlates of Speech Perception in Listeners with Cochlear Implants	2022-2023

## SERVICES and PROFESSIONAL DEVELOPMENT

### National Level Service

#### **Ad-hoc Reviewer**

Ear and Hearing	Frontiers in Human Neuroscience
American Journal of Audiology	Behavior Research Methods
Journal of Speech, Language, and Hearing Research	Computers in Biology and Medicine
Journal of Acoustical Society of America	Digital Signal processing
Biomedical Signal Processing and Control	eLife
Medical & Biological Engineering & Computing	Frontiers in Audiology and Otology
Cognitive Science Society	Int. Journal of Language & Communication Disorders
Journal of Clinical Medicine	Scientific Reports
Laryngoscope Investigative Otolaryngology	

#### **Editorial Service**

##### *Associate Editor*

*Frontiers in Audiology and Otology–Technology and Innovation in Auditory Implants and Hearing Aids* 2022–Present

##### *Guest Associate Editor*

*Frontiers in Neuroscience–Auditory Cognitive Neuroscience* 2022–Present

*Topic: The Effects of Auditory Neural Disorders on Speech Production and Perception*

#### **Professional Affiliations**

American Speech-Language-Hearing Association (ASHA)	2016–Present
The American Auditory Society (AAS)	2020–Present
Association for Research in Otolaryngology (ARO)	2020–Present
Acoustical Society of America (ASA)	2017–Present
American Cochlear Implant Alliance (ACIA)	2020–Present

### University of South Carolina

#### **Reviewer/Judge**

Discover USC Conference 2023

#### **Arnold School of Public Health**

##### **Committee Member**

ASPH Student Awards Committee 2022–Present

#### **COMD Department**

##### **Committee Member**

COMD Research Colloquium Committee	2023-Present
COMD Clinical Faculty Audiologist & SLPs Search Committee	2023
COMD Doctoral Committee	2022–Present
COMD Graduate Admissions Committee	2022–Present
COMD Grants-Business Manager Search Committee Co-chair	2023

## Meisam K. Arjmandi

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COMD Space Committee	2023–Present
COMD NSSLHA Committee	2023–Present
COMD Doctoral Teaching Preparation Committee	2023

### **Academic Adviser**

COMD Doctoral and Masters Students	2023–Present
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### **Faculty Examiner**

COMD Summative Assessment Exam	2023–Present
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### PUBLIC MEDIA

- Communication sciences and disorders department boosts auditory neuroscience ([Link](#))

### PROFESSIONAL RESEARCH SKILLS

- Behavioral Assessment, Experimental Design, and Computational Modeling of Hearing and Speech
- Imaging of Human Brain Activity (fNIRS, fMRI)
- Software Development: Psychophysical Tuning Curves (PTCs) for Cochlear Implants Research
- Software for Behavioral Research: CITest, Bionic Ear Data Collection System (BEDCS), Cochlear Implant & Hearing Loss Simulators (AngelSimTM), E-prime, EEGLAB, Video Monitoring System
- Programming in MATLAB, Praat, R, Python, C++
- Statistical Pattern Recognition (PRTools), Signal Processing, mPraat & rPraat Packages
- Digital Electronic Circuit Design and Analysis