

Meisam K. Arjmandi, Ph.D. | Curriculum Vitae

University of South Carolina
Department of Communication Sciences and Disorders
Arnold School of Public Health
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[Translational Auditory Neuroscience Lab](#)

ACADEMIC APPOINTMENTS

University of South Carolina , Columbia, SC, USA Assistant Professor Department of Communication Sciences and Disorders Arnold School of Public Health Affiliate Faculty USC Cochlear Implant Program USC Institute for Mind and Brain (IMB) USC Aging Brain Cohort Study (ABC) ASPH Office for the Study of Aging	08/2022–Present 09/2022–Present 09/2022–Present 07/2024–Present 03/2025–Present
Harvard Medical School-Massachusetts Eye and Ear Infirmary , Boston, MA, USA Postdoctoral Research Fellow Department of Otolaryngology-Head and Neck Surgery, Audiology Division Emerging Auditory Research (E.A.R.) Lab (Director: Julie G. Arenberg)	12/2019–07/2022
Michigan State University , East Lansing, MI, USA Graduate Research Assistant, Department of Communicative Sciences and Disorders MSU Speech Perception and Production Lab (Director: Laura C. Dilley) Graduate Teaching Assistant, Department of Communicative Sciences and Disorders Instructor, Department of Communicative Sciences and Disorders	08/2015–12/2019 08/2015–12/2018 08/2017–12/2017
University of Applied Science and Technology , Tehran, Iran Instructor, Department of Electrical Engineering	06/2010–01/2011

EDUCATION

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

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RESEARCH INTERESTS

- Cochlear Implants, Hearing Aids, and Auditory Prostheses
- Auditory–Cognitive Mechanisms of Speech Processing in Adverse Conditions
- Hearing Loss and Neurocognitive Processes
- Individual Differences in Speech Perception and Production Outcomes
- Neuroimaging and Computational Modeling of Auditory Processing

RESEARCH GRANTS

CURRENT FUNDING

Analysis of Speech Perception Errors for Personalized Cochlear Implant Programming and Improved Speech Recognition

Funding Agency: American Speech-Language-Hearing (ASH) Foundation Clinical Research Grant

Role: Principal Investigator

Project Period: 12/2025–12/2026

Total Award: \$50,000

Analysis of Speech Perception Errors for Personalized Cochlear Implant Programming

Funding Agency: USC Advanced Support for Innovative Research Excellence (ASPIRE) Program

Role: Principal Investigator

Project Period: 07/2025–08/2027

Total Award: \$14,327

Translation of the FMR1 Premutation Phenotypes Across the Lifespan

Project 1: Social Communication Trajectories as Predictors of FXAND in Young Children with the FMR1 Premutation

Funding Agency: NIH/NICHD

Award Number: 1P50HD118708-01

Role: Co-Investigator

Project Period: 01/2025–12/2029

Total Award: \$6,372,985; Project 1 (COMD Component): \$283,593 (5 years)

Characterizing the Micro Context and Its Impact on Language Development in Preterm and Full-Term Infants

Funding Agency: USC Carolina Autism and Neurodevelopment (CAN) Research Pilot Grant

Role: Co-Principal Investigator

Project Period: 05/2025–08/2027

Total Award: \$40,000

PENDING GRANT APPLICATIONS

Neurocognitive Pathways Linking Age-Related Hearing Loss to Cognitive Decline in Older Adults

Funding Agency: NIH/NIA (R01)

Role: Principal Investigator

Co-Investigators: Julius Fridriksson, Jean Neils-Strunjas, Christopher Rorden, Leonardo Bonilha

Total Award Requested: \$3,414,766

Status: Pending IRG Review

PRIOR GRANT APPLICATIONS

Speech Perception Errors for Individualized Cochlear Implant Programming

Funding Agency: NIH/NIDCD (ECR R21)

Role: Principal Investigator

Total Award Requested: \$527,888

Status: Not Discussed (Resubmission Planned for October 19, 2026)

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The Impacts of At-Home Background Noise on Early Language Experience and Language Outcomes in Children with Cochlear Implants

Funding Agency: NIH/NIDCD (R21)

Role: Principal Investigator

Co-Investigator: Derek Houston, Ph.D.

Total Award Requested: \$404,635

Status: Not Discussed (Resubmission Planned for February 16, 2027)

Mindful Meditation and Sensory Enhanced Cognitive Test Administration to Reduce Stress and Cognitive Load for African Americans

Funding Agency: NIH/NIA (R01)

Role: Co-Principal Investigator

Total Award Requested: \$3,648,775

Status: Not Discussed (Resubmission Planned)

Electro-Neuron Interfaces and Speech Perception Errors for Individualized Cochlear Implant Programming

Funding Agency: NIH/NIDCD (F32)

Role: Principal Investigator

Project Period (Proposed): 01/2022–03/2025

Status: Recommended for Funding; Award Declined upon Acceptance of Tenure-Track Position at University of South Carolina

Sponsors: Julie G. Arenberg, Ph.D.; Andrew J. Oxenham, Ph.D.

Institution: Harvard Medical School–Massachusetts Eye and Ear

GRANT APPLICATIONS IN PREPARATION

Neural and Behavioral Correlates of Vocal Sensorimotor Processing in Cochlear Implant Listeners

Funding Agency: NIH/NIDCD (R21)

Role: Principal Investigator

Co-Investigator: Roozbeh Behroozmand, Ph.D.

Status: In Preparation

MENTORED STUDENT GRANTS AND AWARDS — CURRENT

The Role of Neurocognitive Abilities in Speech-in-Noise Recognition in Older Adult Cochlear Implant Listeners

Funding Source: University of South Carolina SPARC Graduate Research Grant Program

Mentee: Samin Ashjaei (Doctoral Student)

Role: Faculty Mentor

Project Period: 04/2025–08/2027

Award Amount: \$5,000

Presidential Fellowship Award

Funding Source: University of South Carolina Office of the Graduate School

Mentee: Samin Ashjaei (Doctoral Student)

Role: Faculty Mentor

Award Period: 08/2023–05/2027

Award Amount: \$40,000

Trustee Fellowship (C.C. Royal Fellowship)

Funding Source: University of South Carolina Office of the Graduate School

Mentee: Samin Ashjaei (Doctoral Student)

Role: Faculty Mentor

Award Period: 04/2026–04/2027

Award Amount: \$10,000

Spectral Resolution and Speech Perception Across Listening Configurations in Cochlear Implant Users

Funding Source: USC Magellan Scholar Program

Mentee: Wes Duckett (Undergraduate Research Assistant)

Role: Faculty Mentor

Project Period: 04/2025–05/2027

Award Amount: \$3,000

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Evaluating Cochlear Implant Signal Processing Using Synthetic Vowels and a Machine-Learning Listener Model

Funding Source: South Carolina Honors College Research Grant

Mentee: Gavriie Singh (Undergraduate Research Assistant)

Role: Faculty Mentor

Project Period: 2025–2026

Award Amount: \$3,000

Contribution of Domain-Specific Cognitive Functions to Speech Perception in Adult Cochlear Implant Users

Funding Source: Journey Early Researchers Grant

Mentee: Madeline Marlowe (Undergraduate Research Assistant)

Role: Faculty Mentor

Project Period: 2025–2026

Award Amount: \$1,000

MENTORED STUDENT GRANTS AND AWARDS — COMPLETED

Neural Correlates of Noise-Vocoded Speech Using Functional Near-Infrared Spectroscopy

Funding Source: USC Magellan Scholar Research Grant

Mentee: Reed Farrar (Undergraduate Research Assistant)

Role: Faculty Mentor

Project Period: 2024–2025

Award Amount: \$2,499

A Novel Spectral Resolution–Based Method to Assess Functionality of Cochlear Implant Electrodes

Funding Source: USC Magellan Scholar Research Grant

Mentee: Kathryn Morgan (Undergraduate Research Assistant)

Role: Faculty Mentor

Project Period: 2024–2025

Award Amount: \$2,499

Assessing Cortical Responses to Spectrally Degraded Vowels Using Functional Near-Infrared Spectroscopy

Funding Source: McNair Scholar Enrichment Fund

Mentee: Reed Farrar (Undergraduate Research Assistant)

Role: Faculty Mentor

Project Period: 2024–2025

Award Amount: \$5,900

Sensorimotor Integration in Adult Cochlear Implant Listeners

Funding Source: USC Magellan Scholar Research Grant

Mentee: Shaivee Fozdar (Undergraduate Research Assistant)

Role: Faculty Mentor

Project Period: 2024–2025

Award Amount: \$2,499

Caregiver Responsiveness and Language Development of Children with Cochlear Implants

Funding Source: USC Magellan Journey Award

Mentee: Karen Melnik (Undergraduate Research Assistant)

Role: Faculty Mentor

Project Period: 2023–2024

Award Amount: \$1,000

Effects of Partially Restored Auditory Feedback on Speech Production in Cochlear Implant Listeners

Funding Source: USC Magellan Journey Award

Mentee: Shaivee Fozdar (Undergraduate Research Assistant)

Role: Faculty Mentor

Project Period: 2023–2024

Award Amount: \$1,000

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PRIOR RESEARCH FUNDING AND FELLOWSHIPS

Early Linguistic Environments and Language Development in Children with Cochlear Implants

Funding Source: Michigan State University–Dissertation Completion Fellowship (DCF) Award

Role: Awardee

Advisor: Laura C. Dilley, Ph.D.

Project Period: 2017–2019

Award Amount: \$7,000

Clinical Assessment of Speech Intelligibility and Voice Quality of African American Dialect

Funding Source: The Charles J. Strosacker Foundation

Role: Awardee

Advisor: Laura C. Dilley, Ph.D.

Project Period: 2017–2019

Award Amount: \$4,000

Institution: Michigan State University

Novel Acoustic Analysis and Machine Learning Application to Predict Concussion Status

Funding Source: The Charles J. Strosacker Foundation

Role: Awardee; Multiple–PI: Russell Banks, Mark Berardi, Hamzeh Ghasemzadeh

Advisor: Laura C. Dilley, Ph.D.

Project Period: 2017–2019

Award Amount: \$4,000

Institution: Michigan State University

RESEARCH EXPERIENCE (Pre–Faculty)

Perceptual Consequences of Cochlear Implant

NIH/NIDCD R01 DC012142 (PI: Julie G. Arenberg)

Postdoctoral Research Fellow, Harvard Medical School–Massachusetts Eye and Ear, 2019–2022

Infant–Directed Speech and Language Development in Infants with Hearing Loss

NIH/NIDCD R01 DC008581 (PIs: Derek M. Houston & Laura C. Dilley)

Graduate Research Assistant, Michigan State University | The Ohio State University, 2015–2019

Effects of Speech Rate on Spoken Word Perception

NSF Award 1431105 (PI: Laura C. Dilley)

Graduate Research Assistant, Michigan State University, 2015–2018

HONORS AND AWARDS

- | | |
|--|------|
| • Faculty Research Mentorship Award Nominee | 2026 |
| Arnold School of Public Health, University of South Carolina | |
| • Meritorious Poster Submission Award | 2026 |
| American Speech–Language–Hearing Association Convention, Indianapolis, Indiana | |
| • Mentored Student Research Poster Award | 2026 |
| American Auditory Society, Mentee: Samin Ashjaei | |
| • ASHFoundation Clinical Research Grant Award | 2025 |
| American Speech–Language–Hearing (ASH) Foundation | |
| • ASPIRE: Advanced Support for Innovative Research Excellence Award | 2025 |
| The Office of the Vice President for Research, University of South Carolina | |
| • Recognition of Teaching Excellence | 2025 |
| Arnold School of Public Health, University of South Carolina | |
| • Selected Visionary Session | 2024 |
| American Speech–Language–Hearing Association Convention, Seattle, WA | |
| • Meritorious Poster Submission Award | 2024 |

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American Speech–Language–Hearing Association Convention, Seattle, WA	
• Lessons for Success Travel Award	2023
American Speech–Language–Hearing Association, Rockville, MD	
• Selected Changemaker Session	2023
American Speech–Language–Hearing Association Convention, Boston, MA	
• ACI Alliance Student Scholarship Award	2021
American Cochlear Implant (ACI) Alliance	
• ARO Travel Award	2021
The Association for Research in Otolaryngology	
• Graduate School Dissertation Completion Fellowship Award (\$7,000)	2019
Michigan State University	
• Charles J. Strosacker Research Award for Health and Risk Communication (2 awards; \$4,000 each)	2018
The Charles J. Strosacker Foundation	
• Acoustical Society of America Student Travel Grant (~\$1,050)	2017–2019
Acoustical Society of America	
• Graduate Office Fellowship (GOF) (\$11,500)	2015–2019
Michigan State University	
• Top Student Award for Highest Academic Achievement	2008–2010
Department of Biomedical Engineering, Shahed University, Tehran, Iran	
• Top Student Award for Highest Academic Achievement	2004–2006
Department of Electrical Engineering, Azad University–South Tehran Branch, Tehran, Iran	

TEACHING EXPERIENCE

University of South Carolina		
COMD 821: Advanced Hearing Science	Doctoral level course	01/2024–Present
COMD 760: Cochlear Implants	Master level course	08/2024–Present
COMD 745: Introduction to Speech Science	Master level course	08/2022–Present
COMD 501: Anatomy and Physiology of SLH	Master level course	06/2025–Present
Michigan State University		
CSD333: Oral Language Development	Undergraduate level course	08/2015–04/2018
Iran Azad University		
Signals and Systems	Undergraduate level course	07/2010–05/2014
Electronic I&II	Undergraduate level course	07/2010–05/2014
Electrical Circuits I	Undergraduate level course	07/2012–05/2013
Digital Logic Circuits	Undergraduate level course	07/2008–05/2009
Shahed University		
Statistical Pattern Recognition	Master level course	07/2008–05/2009
Electronic Laboratory I&II	Master level course	07/2008–05/2009
Digital Electronic Laboratory	Master level course	07/2009–05/2010
University of Applied Science and Technology		
Digital Logic Circuits	Undergraduate level course	07/2010–05/2011
Electronic I&II	Undergraduate level course	07/2010–05/2011

PEER-REVIEWED PUBLICATIONS

Google Scholar Metrics: 1,035 citations; h-index 17; i10-index 20 (as of August 20, 2026)

*Mentored Student Author; **Corresponding / Senior Author

1. **Arjmandi, M. K.***, Fridriksson, J., Ashjaei, S.* , Vandergriff, C., Newman-Norlund, S., Nemati, S., Bonilha, L., & Neils-Strunjas, J. (accepted for publication). Relationship between age-related hearing loss, phonological working memory,

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and global cognitive performance. *Hearing Research*, 480, 109767. Advance online publication.

<https://doi.org/10.1016/j.heares.2026.109767>

2. Ashjaei, S.^{*}, Fridriksson, J., Bonilha, L., Newman-Norlund, R., Kristinsson, S., Neils-Strunjas, J., Newman-Norlund, S., Rangus, I., Rorden, C., Hickok, G., & **Arjmandi, M. K.**^{**} (2026). Regional brain atrophy mediates age effects on words recognition in noise in adults. *NeuroImage*, 334, 121963.
<https://doi.org/10.1016/j.neuroimage.2026.121963>
3. Hem, C. B., Kreft, H., **Arjmandi, M. K.**, Oxenham, A. J., Arenberg, J. G. (accepted for publication). Towards Rapid Estimates of Spectral Resolution in Cochlear-Implant Users. *Ear and Hearing*.
4. Ashjaei, S.^{*}, Farrar, R.^{*}, Droege, L., Paxton, M.^{*}, Morgan, K.^{*}, & **Arjmandi, M. K.**^{**} (2026). From Spectral Resolution to Speech Perception: A Review of Findings in Postlingually Deafened Adult Cochlear Implant Listeners. *American Journal of Audiology*, 35(1), 329-358.
https://doi.org/10.1044/2025_aja-25-00131
5. Neils-Strunjas, J., **Arjmandi, M. K.**, Hajihosseini, M., Riccardi, N., Vandergriff, C., Leonard, M., Newman-Norlund, S., Nemati, S., Ashjaei, S.^{*}, Droege, L., Salman, N., Donelle, L., Wang, K., Friedman, D. B., Bonilha, L., & Fridriksson, J. (2026). Physical function impacts hearing without mediation from systolic blood pressure. *Scientific reports*. Advance online publication.
<https://doi.org/10.1038/s41598-026-55494-w>
6. **Arjmandi, M. K.**^{**}, Jahn, K. N., Hem, C. B., & Arenberg, J. G. (2025). Relationship Between Psychophysical Tuning Curves and Vowel Identification in Noise in Children and Adults with Cochlear Implants. *Journal of Speech, Language, and Hearing Research*, 68(5), 2623–2633.
https://doi.org/10.1044/2025_jslhr-24-00270
7. Nemati, S.^{*}, **Arjmandi, M. K.**, Neils-Strunjas, J., Newman-Norlund, R. D., Newman-Norlund, S. E., Droege, L., Bonilha, L., & Fridriksson, J. (2025). White matter integrity of hearing and cognitive impairments in healthy aging. *NeuroImage*, 310, 121135.
<https://doi.org/10.1016/j.neuroimage.2025.121135>
8. Nemati, S.^{*}, Newman-Norlund, R., Newman-Norlund, S., den Ouden, D., **Arjmandi, M. K.**, Neils-Strunjas, J., Rorden, C., Bonilha, L., & Fridriksson, J. (2025). Gray matter volume as a mediator of the relationship between age-related hearing and cognitive function. *Neuroscience*, 590, 23–37.
<https://doi.org/10.1016/j.neuroscience.2025.10.057>
9. Ashjaei, S.^{*}, Behroozmand, R., Fozdar, S.^{*}, Farrar, R.^{*}, & **Arjmandi, M. K.**^{**} (2024). Vocal control and speech production in cochlear implant listeners: a review within auditory-motor processing framework. *Hearing Research*, 453, 109132.
<https://doi.org/10.1016/j.heares.2024.109132>
10. Farrar, R.^{*}, Ashjaei, S.^{*}, & **Arjmandi, M. K.**^{**} (2024). Speech-evoked cortical activities and speech recognition in adult cochlear implant listeners: a review of functional near-infrared spectroscopy studies. *Experimental Brain Research*, 242(11), 2509–2530.
<https://doi.org/10.1007/s00221-024-06921-9>
11. **Arjmandi, M. K.**^{**}, Neils-Strunjas, J., Nemati, S.^{*}, Fridriksson, J., Newman-Norlund, S., Newman-Norlund, R., & Bonilha, L. (2024). Age-Related Hearing Loss, Cognitive Decline, and Social Interaction: Testing a Framework. *Journal of Speech, Language, and Hearing Research*, 67(8), 2743–2760.
https://doi.org/10.1044/2024_JSLHR-23-00810
12. Nemati, S.^{*}, **Arjmandi, M. K.**, Busby, N., Bonilha, L., & Fridriksson, J. (2024). The impact of age-related hearing loss on cognitive decline: The mediating role of brain age gap. *Neuroscience*, 551, 185–195.
<https://doi.org/10.1016/j.neuroscience.2024.05.004>
13. **Arjmandi, M. K.**^{**}, & Behroozmand, R. (2024). On the interplay between speech perception and production: insights from research and theories. *Frontiers in Neuroscience*, 18, 1347614.

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<https://doi.org/10.3389/fnins.2024.1347614>

14. **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*, 31(3), 613–632.
https://doi.org/10.1044/2022_aja-21-00212
15. **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.
<https://doi.org/10.1177/23312165221095364>
16. **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*, 43(2), 685–698.
<https://doi.org/10.1097/aud.0000000000001136>
17. 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.
<https://doi.org/10.1177/23312165211060983>
18. **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*, 171, 49-61.
<https://doi.org/10.1016/j.neures.2021.01.007>
19. 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 contribution with first author)
<https://doi.org/10.3758/s13428-020-01419-y>
20. 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.
https://doi.org/10.1044/2020_jslhr-19-00229
21. 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.
<https://doi.org/10.1109/TASLP.2019.2959222>
22. 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.
<https://doi.org/10.1049/iet-spr.2016.0690>
23. 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.
<https://doi.org/10.1007/s11042-017-4601-5>
24. 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.
<https://doi.org/10.1016/j.dsp.2015.12.015>
25. 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.
<https://doi.org/10.1016/j.bspc.2015.07.002>
26. Akbari, A., & **Arjmandi, M. K.**^{**} (2015). Employing linear prediction residual signal of wavelet sub-bands in automatic

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detection of laryngeal pathology. *Biomedical Signal Processing and Control*, 18, 293-302.

<https://doi.org/10.1016/j.bspc.2015.02.008>

27. 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.
<https://doi.org/10.1016/j.bspc.2013.11.002>
28. **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.
<https://doi.org/10.1016/j.bspc.2011.03.010>
29. **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.
<https://doi.org/10.1016/j.jvoice.2010.08.003>

CONFERENCE PROCEEDINGS

Peer-Reviewed

1. Nemati, S.*, **Arjmandi, M. K.**, Newman-Norlund, R., Newman-Norlund, S., & Fridriksson, J. (2024). White Matter Integrity of Age-Related Hearing Loss and Cognitive Impairment. In *Alzheimer's Association International Conference*. ALZ.
2. 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 19th International Symposium on Hearing (ISH)*, 19-24 June 2022, Lyon, France.
3. **Arjmandi, M. K.**, Dilley, L. C., & Lehet, M. (2018). A comprehensive framework for F₀ estimation and sampling in modeling prosodic variation in infant-directed speech. In *Proceeding of 6th International Symposium on Tonal Aspects of Languages (TAL2018)*, 72–76. Berlin, Germany.
4. **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 11th International Conference on Voice Physiology & Biomechanics (ICVPB 2018)*, East Lansing, MI, USA, July 31–August 3, 2018.
5. 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.
6. **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 18th Iranian Conference on* (pp. 45-49). IEEE. Isfahan, Iran.
7. 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), 2nd Iranian Conference on* (pp. 37-40). Gonabad, Mashhad, Iran.
8. 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)

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BOOK CHAPTERS

1. Houston, D., **Arjmandi, M. K.**, Monroy C. (in press). Perceptual development in deaf children who use cochlear implants. *Oxford University Press; Oxford Handbook of Perceptual Development*
2. 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. Ashjaei, S.*, Farrar, R.*, **Arjmandi, M. K.****, (under review). Vowel identification as a function of combined spectral channel count and channel interaction in vocoder simulations compared with cochlear implant users. *Experimental Brain Research*.
2. **Arjmandi, M. K.****, Behroozmand, R., Ashjaei S. * (in preparation). Investigating vocal control in response to altered auditory feedback in simulated cochlear-implant speech. To be submitted to *Hearing Research*.
3. **Arjmandi, M. K.**, Houston, D. M., Dilley, L. C., (in preparation). Cognitive contributions to words in noise recognition are domain-specific and conditional on hearing sensitivity. To be submitted to *Hearing Research*.

PUBLISHED ABSTRACTS

1. Nemati, S*, **Arjmandi, M. K.**, Newman-Norlund, R., Newman-Norlund, S., & Fridriksson, J. (2024). White Matter Integrity of Age-Related Hearing Loss and Cognitive Impairment. *Alzheimer's & Dementia*, 20, e093247.
2. 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. *19th International Symposium on Hearing (ISH)*, 19-24 June 2022, Lyon, France.
3. **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.
4. **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.
5. **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.
6. 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.
7. 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.
8. 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.
9. 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.
10. Dilley, L., Wieland, E., Lehet, M., **Arjmandi, M. K.**, Houston, D., & Bergeson, T. (2018). Quality and quantity of infant-

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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.

11. **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.
12. 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.
13. **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.
14. 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.

UNPUBLISHED CONFERENCE PRESENTATIONS AND COLLOQUIA

1. **Arjmandi, M. K.**, Ashjaei, S.* (2026). Identifying Poorly Functioning Cochlear Implant Channels Using Vowel Identification Errors. Accepted for *poster presentation at the 2026 ASHA Convention*, Indianapolis, Indiana.
2. Vickery, B., **Arjmandi, M. K.**, & Klusek, J. (2026). Hearing loss in adult women with the FMR1 premutation. Poster presented at the *20th National Fragile X Foundation (NFXF) International Fragile X Conference*, Louisville, KY.
3. Farrar, R.*, Ashjaei, S.*, **Arjmandi, M. K.**** (2026). Cortical Responses to Spectrally Degraded Vowels from Functional Near-infrared Spectroscopy. Poster presented at the *53rd Annual Scientific and Technology Conference of the American Auditory Society*, Scottsdale, AZ, United States.
4. Ashjaei, S.*, Fridriksson, J., Bonilha, L., Newman-Norlund, R., Kristinsson, S., Neils-Strunjas, J., Newman-Norlund, S., Rangus, I., & **Arjmandi, M. K.**** (2026). Regional brain atrophy explains age effects on speech recognition in noise in adults. Poster presented at the *53rd Annual Scientific and Technology Conference of the American Auditory Society*, Scottsdale, AZ, United States. **Recipient of the Mentored Student Research Poster Award.**
5. Ashjaei, S.*, Farrar, R., & **Arjmandi, M. K.** (2026). Cortical responses to spectrally degraded vowels from functional near-infrared spectroscopy. Poster presentation at the *2026 USC Neuroscience Retreat*, Columbia, SC, United States.
Best Graduate Student Poster Presentation Award (S. Ashjaei)
6. Chattha, A.*, Ashjaei, S.*, Fridriksson, J., Bonilha, L., Neils-Strunjas, J., Newman-Norlund, S., Newman-Norlund, R., & **Arjmandi, M. K.**** (2026). *Cognitive performance in older adults with and without hearing loss and with hearing aids*. Poster presentation at the *Duke National Health Research Conference*, Duke University, Durham, NC.
7. Ashjaei, S.*, Fridriksson, J., Bonilha, L., Newman-Norlund, R., Kristinsson, S., Neils-Strunjas, J., Newman-Norlund, S., Rangus, I., & **Arjmandi, M. K.**** (2025). Regional brain atrophy explains age effects on speech recognition in noise in adults. Poster presented at the *2025 Statewide Aging and Alzheimer's Disease Research Symposium*, Columbia, SC.
8. **Arjmandi, M. K.**, Ashjaei, S.*, Farrar, R.* (2025), Spectral Resolution and Vowel Identification: Bridging Vocoder Simulations and Cochlear Implant Listener Performance. *Oral presentation as a Technical Research Session at the 2025 ASHA Convention* in Washington, DC.
9. **Arjmandi, M. K.**, Ashjaei, S.*, Behroozmand, R. (2025), Vocal Control and Speech Production in Cochlear Implant Listeners: A Review and Clinical Implications. *Poster presentation at the 2025 ASHA Convention* in Washington, DC.
10. **Arjmandi, M. K.**, Houston, D., Dilley, L., Hoskins, L.*, Ashjaei, S.*, Droege, L., Herrod-Burrows, N., Mildes, H., Crosby-Quinatoa, G., & Archer, J. C. (2025). Preliminary evidence of at-home background noise effects on child-directed words and language outcomes in children with cochlear implants. Poster presented at *CI2025*, Boston, MA, United States.

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11. Farrar, R.*, Ashjaei, S.*, Morgan, K.*, & **Arjmandi, M. K.** (2025). The impact of spectral resolution on vowel perception: Evidence from simulated and actual cochlear implant listeners. Poster presented at *Discover USC*, Columbia, SC, United States.
12. **Arjmandi, M. K.**, Neils-Strunjas, J., Newman-Norlund, S., Fridriksson, J., Bonilha, L. (2024), The Relationship Between Age-Related Hearing Loss, Phonological Working Memory, And Cognitive Decline. *Oral presentation as a Technical Research Session at the 2024 ASHA Convention* in Seattle, WA. **Awarded as an ASHA Convention Visionary Session.**
13. Neils-Strunjas, J., **Arjmandi, M. K.**, Newman-Norlund, S., Fridriksson, J., Bonilha, L. (2024), Hearing Loss, Hypertension, Exercise, and Cognition: A Common Cause or Negative Impact of Hearing Loss?. *Oral presentation as a Technical Research Session at the 2024 ASHA Convention* in Seattle, WA.
14. Hoskins, L.*, **Arjmandi, M. K.**, Dilley, L., Houston, D. (2024), Child Vocalizations, Child-Directed Speech, and Caregiver Responsiveness in Home Environments of Children With Cochlear Implants. *Poster presentation at the 2024 ASHA Convention in Seattle, WA. Awarded as a Meritorious Poster Submission.*
15. Ashjaei, S.*, Behroozmand, R., **Arjmandi, M. K.**, (2024) Investigating Vocal Control in Response to Altered Auditory Feedback in Simulated Cochlear-Implant Speech. *Poster presentation at the 2024 ASHA Convention in Seattle, WA.*
16. **Arjmandi, M. K.**, Behroozmand, R., (2024), Examining Vocal Auditory Feedback Control in Simulated Cochlear Implant Speech. Poster presentation at *the 51st Annual Scientific and Technology Conference of the American Auditory Society*, February 15-17, 2024.
17. Ashjaei, S.*, Behroozmand, R., **Arjmandi, M. K.** (2024), Investigating the Impact of Altered Auditory Feedback on Vocal Control in Simulated Cochlear Implant Listening. Poster presentation at *Discovery USC Conference*, Columbia, SC.
18. Fozdar, S.*, Behroozmand, R., Ashjaei, S.*, **Arjmandi, M. K.** (2024), Impact of Simulated Suboptimal Auditory Feedback on Sensorimotor Integration in Cochlear Implant Listeners. Poster presentation at *Discovery USC Conference*, Columbia, SC.
19. Farrar, R.*, **Arjmandi, M. K.** (2024), A Novel Spectral Resolution-Based Method to Assess Functionality of Cochlear Implant Electrodes. Poster presentation at *Discovery USC Conference*, Columbia, SC.
20. **Arjmandi, M. K.**, Oxenham, A. J., Morse-Fortier, C., Arenberg, J. G., Morgan, K.*, Paxton, M.* (2024), Cortical Activations in Response to Varying Levels of Spectral Degradation in Simulated Cochlear Implant Speech. Poster presentation at *Discovery USC Conference*, Columbia, SC.
21. **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.
22. 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.
23. **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. Poster presentation at *46th Annual Association for Research in Otolaryngology (ARO) MidWinter Meeting*, Feb. 11-15, 2023.
24. **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.
25. **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 *45th Annual Association for Research in Otolaryngology (ARO) MidWinter Virtual Meeting*, Feb. 5-9, 2022.

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26. 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 *45th Annual Association for Research in Otolaryngology (ARO) MidWinter Virtual Meeting*, Feb. 5-9, 2022.
27. **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.
28. **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.
29. **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.
30. **Arjmandi, M. K.**, Jahn, K. N., Franck, K., Hem, C., Arenberg, J. G., From the electrode-neuron interface to frequency selectivity and speech recognition. Poster presentation at the *48th Annual Scientific and Technology Conference of the American Auditory Society*, March 4-6, 2021.
31. **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.
32. **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 *3rd annual Massachusetts Eye and Ear Research Symposium*, Boston, MA, April 16th, 2021.
33. **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.
34. **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, 2020.
35. **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.
36. 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.
37. **Arjmandi, M. K.** (2019). Quality and quantity of early linguistic input and language development in children with cochlear implants. Oral presentation in the *11th Annual Graduate Academic Conference at Michigan State University*.
38. 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. *21st Annual University Undergraduate Research and Arts Forum*, Michigan State University, East Lansing, MI, April 5, 2019.
39. 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. *21st Annual University Undergraduate Research and Arts Forum*, Michigan State University, East Lansing, MI, April 5, 2019.
40. 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,

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November 9–11, 2017.

41. **Arjmandi, M. K.**, Ghasemzadeh, H. (2018). Automatic methods for objective pathological voice assessment in spectro-temporal domain. Oral presentation at *46th Annual Symposium of Voice Foundation: Care of the Professional Voice*, Philadelphia, PA, May 30-June 3, 2018.
42. 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.
43. 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.
44. Ireland, Z., Cutting, M., **Arjmandi, M. K.** & Dilley, L. Spectro-temporal cues for perceptual recovery of reduced syllables from continuous, casual speech. *19th annual University Undergraduate Research and Arts Forum (UURAF)*, Michigan State University, East Lansing, MI, April 7, 2017.
45. Ireland, Z., Magoon, T., **Arjmandi, M. K.** & Dilley, L., An analysis of the vowels in African American English. *19th Annual University Undergraduate Research and Arts Forum (UURAF)*, Michigan State University, East Lansing, MI, April 7, 2017.
46. 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.
47. 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 (ASHA) Annual Meeting*, Philadelphia, PA, Nov. 17–19, 2016.
48. 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.
49. **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.
50. 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.
51. 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.
52. **Arjmandi, M. K.** (2012). Image steganography based on de-noising schemes in wavelet domain, Oral presentation at *9th International ISC Conference on Information Security and Cryptology*, Tabriz, Tabriz, Iran, September 14, 2012.
53. **Arjmandi, M. K.** (2009), Statistical pattern recognition using *PRTTools* toolbox. Presented at Shahed University, Tehran, Iran, February 15, 2009.
54. 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 *9th WSEAS International Conference on Signal, Speech and Image Processing (SSIP '09)*, 2009.

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INVITED TALKS AND SEMINARS

- *Neurocognitive Consequences of Age-Related Hearing Loss [Featured invited talk]*
USC Neuroscience Retreat, Columbia, SC 04/2026
- *The Role of Early Linguistic Environments in Language Development in Children with Cochlear Implants*
Daylong Audio Recordings of Children's Linguistic Environments (DARCLE) Meetings, Virtual 05/2023
- *Toward A Personalized Approach to Improve Speech and Language Outcomes in Cochlear Implant Listeners*
Talk delivered at multiple venues
Medical University of South Carolina (MUSC) Special Seminar, Virtual [Invited] 04/2023
COMD Colloquium Series, University of South Carolina, Columbia, SC 03/2023
Institute for Mind and Brain (IMB) Colloquium, University of South Carolina, [Invited] 11/2022
- *Early Linguistic Environments and Language Development in Children with Cochlear Implants*
Audiology Lecture Series, Massachusetts Eye and Ear, Boston, MA 10/2020
- *Quality and Quantity of Early Language Input and Language Outcomes in Children with Cochlear Implants*
Auditory & Speech Sciences Laboratory, University of South Florida, Tampa, FL [Invited] 07/2019
- *Early Linguistic Environments and Language Development in Children with Cochlear Implants*
Audiology Lecture Series, Massachusetts Eye and Ear, Boston, MA [Invited] 06/2019
- *Simulated Cochlear-Implant Processing Results in Major Loss of Acoustic Information Regarding Differences in Talkers' Voice Qualities*
Special session on "Exploring the interface between linguistic processing and talker recognition"
Acoustical Society of America, Louisville, Kentucky, May 2019 [Invited] 05/2019
- *Quality And Quantity of Early Linguistic Input and Language Development in Children with Cochlear Implants*
The 11th Annual Graduate Academic Conference at Michigan State University, East Lansing, MI 02/2019
- *Acoustic Analysis of Voice and Speech: From Pathological Voice Assessment to Spoken Word Recognition and Dialect Identification*
CSD Colloquium Series, Michigan State University, East Lansing, MI 07/2016

RESEARCH SUPERVISION AND MENTORSHIP

Doctoral Student Mentorship

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

Doctoral Qualifying Exam Committee

Samin Ashjaei (COMD) – Chair 2023

Zeinab Khoshhal Mollasaraei (COMD) – Member 2022

Doctoral Comprehensive Exam Committees

Samin Ashjaei (COMD) – Chair 2025

Eric Mishio Bawa (EPID) – Committee Chair: Anwar Merchant 2024

Jonathan Conrady (PSY) – Committee Chair: Jessica Green 2024

Doctoral Dissertation Committees

Samaneh Nemati (COMD) – Committee Chair: Julius Fridriksson 2023–2024

Eric Mishio Bawa (EPID) – Committee Chair: Anwar Merchant 2024–Present

Jonathan Conrady (PSY) – Committee Chair: Jessica Green 2024–Present

Doctoral Research Project Supervision

Samin Ashjaei (COMD) – Primary Advisor 2023–Present

Project Title: Cognitive and Neural Mechanisms of Speech-in-Noise Recognition in Older Adults Across Hearing Status, Hearing Aid Use, and Cochlear Implant Use

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Doctoral Student Laboratory Rotations

Sara Nakhi (COMD) – Primary Advisor 2025–2026
 Behavioral-Biomedical Interface Program (BBIP) Laboratory Rotations
 Project Title: Examining the Effects of Physical Activity on Cognition and Communication Outcomes in Adults with Cochlear Implants

Master's Thesis Committees

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

Julia Schildberg (COMD) – Primary Advisor 2024–2026
 Research Practicum Project: Electrode–Neuron Interface and Cognitive Abilities in Cochlear Implant Listeners

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

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

Undergraduate Research Project & Independent Study Supervision

Katherine Reed (NSC) – Primary Advisor 2024–Present
 Research Project: Cortical Responses to Naturalistic Speech in Cochlear Implant Listener (*Funded Magellan Grant Project*)

Wesley Duckett (NSC) – Primary Advisor 2024–Present
 Research Project: Spectral Resolution and Speech Perception Across Listening Configurations in Cochlear Implant Users (*Funded Magellan Grant Project*)

Gavriie Singh (SCHC) – Director 2024–Present
 Title: Validating a Novel All-In-One (AIO) Cochlear Implant Vocoder Simulation for the Effects of the Spectral Resolution on Speech Perception
 (*Senior Honors College Thesis; Honors College Undergraduate Research Grant*)

Aleena Chattha (SCHC) – Director 2024–Present
 Title: Cognitive Performance in Older Adults With and Without Hearing Loss and With Hearing Aids (*Senior Honors College Thesis*)

Reed Farrar (SCHC) – Director 2025
 Title: Cortical Responses to Spectrally Degraded Vowels Measured by Functional Near-infrared Spectroscopy (*Senior Honors College Thesis*)

Reed Farrar (NSC) – Primary Advisor 2024–2025
 Research Project: Neural Correlates of Noise-Vocoded Speech Using Functional Near-infrared Spectroscopy (*Funded Magellan Grant Project*)

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<i>Kathryn Morgan (NSC) – Primary Advisor</i>	2024–2025
Research Project: A Novel Spectral Resolution-Based Method to Assess Functionality of Cochlear Implant Electrodes (<i>Funded Magellan Grant Project</i>)	
<i>Shaivee Fozdar (PUBH) – Primary Advisor</i>	2023–2024
Research Project: Effects of Partially Restored Auditory Feedback on Speech Production in Cochlear Implant Listeners (<i>Funded Magellan Grant Project</i>)	
<i>Karen Katherine Melnik (NSC) – Primary Advisor</i>	2022–2023
Research Project: Caregiver Responsiveness and Language Development of Children with Cochlear Implants (<i>Funded Magellan Grant Project</i>)	
<i>Kathryn Morgan (SCHC) – Director</i>	2024–2025
Title: The Relationship Between Age-Related Hearing Loss, Anxiety, and Cognitive Decline (<i>Senior Honors College Thesis</i>)	
<i>Sarah Tra (SCHC) – Director</i>	2024–2025
Title: Acoustic Features of Infant-directed Speech Versus Adult-directed Speech: A Comparative Analysis (<i>Senior Honors College Thesis</i>)	
<i>Kathryn Morgan (NSC) – Primary Advisor</i>	2023–2025
Research Project: Effects of the Electrode-Neuron Interface on Speech Perception in Cochlear Implant Listeners (<i>Funded via Honors College (SCHC) Research Award</i>)	
<i>Reed Farrar (NSC) – Primary Advisor</i>	2023–2025
Research Project: Effects of the Electrode-Neuron Interface on Speech Production in Cochlear Implant Listeners (<i>Funded via Honors College (SCHC) Research Award</i>)	
<i>Abhi Patel (NSC) – Primary Advisor</i>	2023
Research Project: Impacts of Suboptimal Auditory Feedback on Speech Production in Cochlear Implant Listeners	
<i>Mahrugh Iftikhar (NSC) – Primary Advisor</i>	2023
Research Project: Investigating Early Vocalization Behaviors in Children with Cochlear Implants in Auditory Home Environments	
<i>Tatiana Ramirez (NSC) – Primary Advisor</i>	2023–2024
Research Project: Investigating Early Vocalization Behaviors in Children with Cochlear Implants in Auditory Home Environments	
<i>Karen Katherine Melnik (NSC) – Primary Advisor</i>	2022–2023
Research Project: Neural and Behavioral Correlates of Speech Perception in Listeners with Cochlear Implants	

SERVICE AND PROFESSIONAL ACTIVITIES

National Services

Conference and Professional Service

Topic Chair , American Speech-Language-Hearing Association Convention Program	2024–2025
Topic Area: Hearing, Balance, Tinnitus–Assessment and Intervention: Adults	
Program Committee Member , American Auditory Society Conference	2024–2025
Abstract Reviewer , ASHA Convention	2024
Abstract Reviewer , AAS Conference	2024

Editorial and Review Service

Editor , <i>Journal of Speech, Language, and Hearing Research</i> (Hearing Section)	2025–Present
Associate Editor , <i>Frontiers in Audiology and Otology</i>	2022–Present

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Guest Associate Editor, *Frontiers in Neuroscience–Auditory Cognitive Neuroscience* 2022–Present

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

Review Editor, *Frontiers in Auditory Cognitive Neuroscience* 2023–Present

Ad-hoc Reviewer

Journal of Speech, Language, and Hearing Research	Frontiers in Human Neuroscience
American Journal of Audiology	Behavior Research Methods
Ear and Hearing	Computers in Biology and Medicine
Journal of Acoustical Society of America	Journal of Geriatric Psychiatry and Neurology
Hearing Research	eLife
Medical & Biological Engineering & Computing	Frontiers in Audiology and Otology
Journal of Language & Communication Disorders	Scientific Reports
Journal of Clinical Medicine	eNeuro

Professional Memberships

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)	2017–2022
American Cochlear Implant Alliance (ACIA)	2020–Present

University of South Carolina

Reviewer/Judge

Discover USC Conference	2023, 2024
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Committee Member

SPARC Grant Review Committee	2024
Magellan Scholar Review Committee	2024

Arnold School of Public Health

Committee Member

ASPH Student Awards Committee	2022–Present
Office for the Study of Aging (OSA) Review Committee	2025–Present

COMD Department

Committee Member

COMD Open-Rank Faculty Search Committee	2025–2026
COMD Tenure-track Search Faculty Committee	2024
COMD USC Cochlear Implant Program Team	2022–Present
COMD DEI Committee	2024–Present
COMD Research Colloquium Committee	2023–Present
COMD Clinical Faculty Audiologist & SLPs Search Committee	2023, 2024
COMD Doctoral Committee	2022–Present
COMD Doctoral Teaching Preparation Committee	2023
COMD Graduate Admissions Committee	2022–Present
COMD Grants-Business Manager Search Committee Co-chair	2023
COMD Space Committee	2023–Present
COMD NSSLHA Committee	2023–Present

Academic Advisor

COMD Doctoral and Master's Students	2023–Present
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Faculty Examiner

COMD Summative Assessment Exam	2023–Present
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Regular Research Presentations

Monthly presentation of research updates to the USC Cochlear Implant Team 2024–Present

Community and Public Engagement

Collaboration with USC Brain Health Network on community-engaged research (hearing loss and dementia) 2024–Present

Community outreach for individuals with hearing loss and CI users (Montgomery Clinic events) 2022–Present

Dissemination of research through public-facing platforms (TAN Lab Website, social media) 2024–Present

PROFESSIONAL RESEARCH SKILLS

- Behavioral Assessment, Experimental Design, and Computational Modeling of Hearing and Speech
- Structural and Functional Neuroimaging (MRI, fMRI, fNIRS)
- Advanced Neuroimaging Analysis (The Graphical Brain Association Tool (gBAT), NiiStat, SPM)
- Software Development: Psychophysical Tuning Curves (PTCs) for Cochlear Implants Research
- Software for Behavioral Research: CiTest, Bionic Ear Data Collection System (BEDCS), Nucleus MATLAB Toolbox (NMT, Cochlear Americas), Cochlear Implant & Hearing Loss Simulators (AngelSimTM), E-Prime, EEGLAB, Video Monitoring System
- Programming in MATLAB, Praat, R, Python, C++
- Statistical Pattern Recognition (PRTTools), Signal Processing, mPraat & rPraat Packages
- Digital Electronic Circuit Design and Analysis

PUBLIC MEDIA and OUTREACH

- Friedman, R. (2025, September 8). *Of sound mind: Hearing loss, brain health, and cognitive decline* (featuring M. K. Arjmandi). Breakthrough Research, University of South Carolina. [\[Link\]](#)
- Carolina CrossTalk Editorial Team. (2025, July). Growing through discovery: Elucidating auditory processing in cochlear implant listeners using fNIRS (featuring mentored undergraduate research by M. K. Arjmandi). University of South Carolina. [\[Link\]](#)
- Bluvas, E. (2023, January 5). *Communication sciences and disorders department boosts auditory neuroscience expertise with arrival of Meisam Arjmandi*. University of South Carolina. [\[Link\]](#)