

Rose Rizzi, Ph.D.

Curriculum Vitae

Department Address:

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Education

Postdoc	2026 –	University of Maryland, Center for Comparative and Evolutionary Biology of Hearing
Ph.D.	2022 – 2026	Indiana University, dual Speech, Language and Hearing Sciences (SLHS) and Neuroscience
B.S.	2017 – 2020	Virginia Tech, Cognitive and Behavioral Neuroscience; Minor: Psychology

Professional Positions and Academic Appointments

2026 –	T32 Postdoctoral Trainee, University of Maryland
2026	F31 Predoctoral Fellow, Indiana University
2024 – 2026	Associate Instructor, Indiana University
2022 – 2024	Research Assistant, Bidelman Auditory Cognitive Neuroscience Lab, Indiana University
2021 – 2022	Graduate Assistant, Bidelman Auditory Cognitive Neuroscience Lab, University of Memphis
2021 – 2022	Graduate Clinician, Memphis Speech and Hearing Center
2021	Intern, My NASA Data (Science Education Outreach), NASA Langley Research Center
2019	Intern, TEMPO Student Collaboration, NASA Langley Research Center

Research

Research Interests

My research focuses on understanding the neuroanatomical and neurophysiological mechanisms underlying individual differences in speech perception in noise and speech categorization at cortical and subcortical levels of the auditory system using EEG, diffusion-weighted imaging (DWI), and behavioral experiments. Combining these tools, I aim to link perceptual differences to brain structure and function.

Grant Applications

1. PI. (A0 Impact Score: 47; A1 funded). “Neural Correlates and Functional Benefits of Categorical vs. Continuous Listening,” National Institutes of Health (NIDCD) F31 Predoctoral NSRA Fellowship. 04/26-04/28, \$100,228. Award number: F31DC023124.

Publications

Journal Articles

1. Bidelman, G. M., Stirn, J.R., **Rizzi, R.**, MacLean, J. A., & Cheng, H. (2026). Auditory brainstem-cortical anatomy relates to the magnitude of frequency-following responses (FFRs) and event-related potentials (ERPs) coding speech-in-noise. *Neuroimaging*, 1(1). 1-6.
<https://doi.org/10.3390/neuroimaging1010006>
[Preprint: <https://doi.org/10.64898/2026.01.03.697410>]
2. **Rizzi, R.**, & Bidelman, G. M. (2025). Consistency in phonetic categorization predicts successful speech-in-noise perception. *JASA Express Letters*, 5(125203), 1-7. <https://doi.org/10.1121/10.0041846>
[Preprint: <https://doi.org/10.1101/2025.09.11.675656>]
3. **Rizzi, R.**, & Bidelman, G. M. (2024). Functional benefits of continuous vs. categorical listening strategies on the neural encoding and perception of noise-degraded speech. *Brain Research*, 1844(149166), 1-12.
<https://doi.org/10.1016/j.brainres.2024.149166>
[Preprint: <https://doi.org/10.1101/2024.05.15.594387>]
4. MacLean, J. A., Drobny, E., **Rizzi, R.**, & Bidelman, G. M. (2024). Musicianship modulates cortical effects of attention on processing musical triads. *Brain Sciences*, 14(11), 1079. <https://doi.org/10.3390/brainsci14111079>
[Preprint: <https://doi.org/10.1101/2024.09.21.614251>]
5. Bidelman, G. M., Sisson, A., **Rizzi, R.**, MacLean, J., & Baer, K. (2024). Myogenic artifacts masquerade as neuroplasticity in the auditory frequency-following response (FFR). *Frontiers in Neuroscience*, 18, 1-13.
<https://doi.org/10.3389/fnins.2024.1422903>
[Preprint: <https://doi.org/10.1101/2023.10.27.564446>]
6. **Rizzi, R.**, & Bidelman, G. M. (2023). Duplex perception reveals brainstem auditory representations are modulated by listeners’ ongoing percept for speech. *Cerebral Cortex*, 33(18), 10076-10086. <https://doi.org/10.1093/cercor/bhad266>
[Preprint: <https://doi.org/10.1101/2023.05.09.540018>]
7. Bidelman, G. M., Chow, R., Noly-Gandon, A., Ryan, J. D., Bell, K. L., **Rizzi, R.**, and Alain, C. (2022). Transcranial direct current stimulation (tDCS) combined with listening to preferred music alters cortical speech processing in older adults. *Frontiers in Neuroscience*, 16(884130), 1-13.
<https://doi.org/10.3389/fnins.2022.884130>

Preprints

1. Bidelman, G. M., Stirn, J., Eisenhut, Z., Borowski, L., Shin, C., Lewis, E., Zhou, M., Shah, P., Doty, A., MacLean, J., & **Rizzi, R.** (2026). Structural integrity of auditory-linguistic brain networks varies with cognitive status and accounts for speech-in-noise deficits across the adult lifespan. *bioRxiv* [preprint]. <https://doi.org/10.64898/2026.08.21.746271>
2. **Rizzi, R.**, Stirn, J.R., Eisenhut, Z., & Bidelman, G. M. (2026). Structural connectivity of auditory-linguistic brain networks predicts success in speech categorization and listening in noise. *bioRxiv* [preprint]. <https://doi.org/10.64898/2026.07.06.736789>
3. **Rizzi, R.**, Stirn, J.R., Eisenhut, Z., & Bidelman, G. M. (2026). Perceptual consistency in phoneme categorization is driven by neural consistency and predicts improved speech-in-noise performance. *bioRxiv* [preprint]. <https://doi.org/10.64898/2026.07.02.736174>
4. Bidelman, G. M., Eisenhut, Z., Borowski, L., **Rizzi, R.** & Pisoni, D. B. (2026). Auditory experience shapes how listeners exploit perceptual equivalency classes in speech and cope with noise degradation: Evidence from “elliptical speech”. *bioRxiv* [preprint]. <https://doi.org/10.64898/2026.01.02.695202>

Book Chapters

1. Bidelman, G. M., Brown, J. A., **Rizzi, R.**, MacLean, J. (2025). Neuroplastic effects of music expertise on speech-language processing. In E. Andrews (Eds.), *Cambridge Handbook of Language and Brain*. Cambridge, UK: Cambridge University Press.

Dissertation

1. **Rizzi, R.** (2026). *The Relative Contribution of Sub- and Neo-Cortical Auditory Brain Structures in Shaping Perceptual Listening Strategy and Speech-In-Noise Processing*. [Doctoral dissertation]. Indiana University.

Conference Presentations

Conference Talks

1. **Rizzi, R.** (2026, May 28). *Individual differences in speech sound categorization are influenced by subcortical and cortical auditory response consistency*. 6th Annual NIH IRP Outstanding Scholars in Neuroscience Award Program Symposium, Bethesda, MD.
2. Bidelman, G.M., Eisenhut, Z., Borowski, L., **Rizzi, R.**, & Pisoni, D.B. (2026, Feb 7). *Elliptical speech reveals the use of broad phonetic categories aids noise-degraded speech perception*. 49th Annual ARO MidWinter Meeting, San Juan, PR.

3. Bidelman, G.M., Stirn, J., Shin, C., Lewis, E., Zhou, M., **Rizzi, R.**, & MacLean, J. (2025, Feb 25). *Structural integrity of the brain's auditory-language network accounts for speech-in-noise deficits and vary with cognitive status in older adults*. 48th Annual ARO MidWinter Meeting, Orlando, FL.
4. **Rizzi, R.** & Bidelman, G. M. (2024, July 13). *Functional benefits of continuous vs. categorical listening strategies on the neural encoding and perception of noise-degraded speech*. 2024 Auditory System Gordon Research Seminar, Smithfield, RI.
5. **Rizzi, R.** and Bidelman, G. (2024, June 13). *Duplex perception reveals brainstem auditory representations are modulated by listeners' ongoing percept for speech*. 5th Frequency Following Response Workshop (FFR2024), Chicago, IL
6. **Rizzi, R.** and Bidelman, G. (2024, Feb 6). *Examining the effects of categorical vs. continuous listening strategies on speech in noise perception*. 47th Annual ARO MidWinter Meeting, Anaheim, CA.

Poster Presentations: * denotes mentees

1. **Rizzi, R.**, Stirn, J.*, Eisenhut, Z.*, & Bidelman, G.M. (2026, May 28). *Individual differences in speech sound categorization are influenced by subcortical and cortical auditory response consistency*. 6th Annual NIH IRP Outstanding Scholars in Neuroscience Award Program Symposium Poster Session, Bethesda, MD.
2. **Rizzi, R.**, Stirn, J.*, Eisenhut, Z.*, & Bidelman, G.M. (2026, Feb 8). *Subcortical speech coding predicts perceptual consistency in phoneme categorization and improved speech-in-noise perception*. 49th Annual ARO MidWinter Meeting, San Juan, PR.
3. **Rizzi, R.**, Stirn, J.*, Eisenhut, Z.*, & Bidelman, G.M. (2026, Feb 8). *(Micro)structure of the brainstem-cortical pathways and their relation to auditory categorization and speech-in-noise performance*. 49th Annual ARO MidWinter Meeting, San Juan, PR.
4. Stirn, J.*, Seigel, S., MacLean, J., **Rizzi, R.**, & Bidelman, G.M. (2026, Feb 10). *White matter density within the central auditory pathways predicts degraded speech perception abilities by constraining "top-down" auditory function*. 49th Annual ARO MidWinter Meeting, San Juan, PR.
5. **Rizzi, R.**, Lewis, E.*, & Bidelman, G. M. (2025, February 25). *Task induced changes in listening strategy modulate cortical and subcortical speech processing*. 48th Annual ARO MidWinter Meeting, Orlando, FL.
6. MacLean, J., Drobny, E.*, **Rizzi, R.**, & Bidelman, G. M. (2025, February 22). *Musicianship modulates cortical (but not brainstem) effects of attention on processing musical triads*. 48th Annual ARO MidWinter Meeting, Orlando, FL.
7. **Rizzi, R.**, & Bidelman, G. M. (2024, July 15). *Functional benefits of continuous vs. categorical listening strategies on the neural encoding and perception of noise-degraded speech*. 2024 Auditory System Gordon Research Conference, Smithfield, RI.
8. **Rizzi, R.**, & Bidelman, G. M. (2024, July 13). *Functional benefits of continuous vs. categorical listening strategies on the neural encoding and perception of*

noise-degraded speech. 2024 Auditory System Gordon Research Seminar, Smithfield, RI.

9. MacLean, J., Drobny, E. *, **Rizzi, R.**, & Bidelman, G. M. (2024, July 22). *Musical training modulates cortical effects of attention in processing of musical triads*. Society for Music Perception and Cognition Conference, Banff, CA.
10. Bidelman, G. M., Sisson, A., **Rizzi, R.**, MacLean, J., & Baer, K. (2024, June 13). *Myogenic artifacts masquerade as neuroplasticity in the auditory frequency-following response (FFR)*. 5th Frequency Following Response Workshop (FFR2024), Chicago, IL.
11. MacLean, J., Drobny, E. *, **Rizzi, R.**, & Bidelman, G. M. (2024, June 13). *Musical training modulates cortical effects of attention in processing of musical triads*. 5th Frequency Following Response Workshop (FFR2024), Chicago, IL.
12. Bidelman, G. M., Sisson, A., **Rizzi, R.**, MacLean, J., & Baer, K. (2024, February 4). *Myogenic artifacts masquerade as neuroplasticity in the auditory frequency-following response (FFR)*. 47th Annual ARO MidWinter Meeting, Anaheim, CA.
13. **Rizzi, R.**, & Bidelman, G. (2023, June 15). *Duplex perception reveals brainstem auditory representations are modulated by listeners' ongoing percept for speech*. Big Ten Neuroscience Annual Meeting, Indianapolis, IN.
14. **Rizzi, R.**, & Bidelman, G. (2023, February 13). *Duplex perception reveals brainstem auditory representations are modulated by listeners' ongoing percept for speech*. 46th Annual ARO MidWinter Meeting, Orlando, FL.
15. **Rizzi, R.**, Harnden, M., Pippin, M. (2019, August). *Small sensor PM2.5 variability across the Hampton Roads Peninsula during Summer 2019*. NASA LaRC Science Directorate Poster Session, Hampton, VA.
16. Harnden, M., **Rizzi, R.**, Rhode, T., Verstynen, A., Pippin, M. (2019, August). *Spatial variability of ozone across and within TEMPO Pixels over the Hampton Roads Peninsula*. NASA LaRC Science Directorate Poster Session, Hampton, VA.

Other Talks

1. **Rizzi, R.** (2024, April 5). *Functional benefits of continuous vs. categorical listening strategies on the neural encoding and perception of noise-degraded speech*. IU Department of Speech, Language and Hearing Sciences Colloquium. Bloomington, IN.
2. **Rizzi, R.** (2023, April 14). *Duplex perception reveals brainstem auditory representations are modulated by listeners' ongoing percept for speech*. IU Department of Speech, Language and Hearing Sciences Colloquium. Bloomington, IN.
3. Verstynen, A., Harnden, M., Rhode, T., **Rizzi, R.** (2019, August). *Preliminary seasonal characterization of PM2.5 and ozone small sensors*. [Invited Talk]. Virginia DEQ, Richmond, VA.

Honors and Awards

2026

SfN Trainee Professional Development Award

2026	ARO Travel Award
2025	NIH Outstanding Scholars in Neuroscience Award Program
2024 (x2), 2025	Travel Award, IU Program in Neuroscience (PNS)
2024 Fall	PhD Research Support Grant, IU SLHS
2023	Gierut Award for Outstanding PhD Research, IU SLHS

Teaching

Spring 2026	Communication and its Disorders (SLHS-S104), Associate Instructor
Spring 2025	Speech Anatomy and Physiology (SLHS-S201), Instructor of Record
Fall 2024, 2025	Music, Language and the Brain (COLL-C105), Associate Instructor

Mentorship

Undergraduate Students

2025	Groups STEM Summer Research Experience Program (SREP) Jay Ochoa, Gilliana Soto - Supervising rising college freshmen on data analysis and poster presentations for two research projects - Ochoa, J.*, Rizzi, R., & Bidelman, G.M. (2025, July 24). <i>Understanding individual differences in speech listening</i>. IU Undergraduate Research Summer Poster Symposium, Bloomington, IN. - Soto, G.*, Rizzi, R., & Bidelman, G.M. (2025, July 24). <i>Clean vs. noise conditions in speech listening</i>. IU Undergraduate Research Summer Poster Symposium, Bloomington, IN.
2025	Lucy Borowski, Alex Doty Supervising undergraduate research project, lab training
2022 –	Cox Research Scholars Jack Stirn, Zara Eisenhut - Supervising and co-designing undergraduate research project, lab training, assistance with poster presentations and scientific writing - Stirn, J.*, Seigel, S., MacLean, J., Rizzi, R., & Bidelman, G.M. (2026, Feb 10). <i>White matter density within the central auditory pathways predicts degraded speech perception abilities by constraining “top-down” auditory function</i>. 49th Annual ARO MidWinter Meeting, San Juan, PR. - Stirn, J.* (2026, Feb 4). <i>Individual differences in the perception of auditory illusions</i>. Cox Research 5-Minute Research Talks, Bloomington, IN.
2023 – 2024	Elizabeth Drobny, SLHS Honors Thesis

- Lab training, assistance with scientific writing
 1. Drobny, E. *, MacLean, J., Rizzi, R., & Bidelman, G.M. (2024, April 26). *Investigating the effects of musicianship and attention on the subcortical encoding of musical cords*. SLHS Undergraduate Honors Thesis Poster Session, Bloomington, IN.

Graduate Students

- 2024 – Elaina Lewis, MD Student, IU School of Medicine
- Lab training, supervising data collection for lab projects

Research Assistants

- 2025 – Amanda Pasler, Research Assistant
- Lab protocol and data collection training

Service

University

Awards Committee, IU PNS (2024 – 2025)
 Treasurer, IU SLHS Graduate Student Organization (2023 – 2024)
 Colloquium Committee, IU SLHS Graduate Student Organization (2022 – 2023)
 Exhibitor Committee, *52nd Annual MidSouth Conference on Communicative Disorders*, University of Memphis, Memphis, TN. February 2022.

National

Podium Moderator, “*Auditory Cortex and Thalamus*,” *49th ARO MidWinter Meeting*, San Juan, PR. February 2026.
 Podium Moderator, “*Decoding Speech Perception: Insights from Neural, Behavioral, and Technological Perspectives*,” *48th Annual ARO MidWinter Meeting*, Orlando, FL. February 2025.
 Steering Committee; Student, postdoc, resident and fellow chapter of the Association of Research in Otolaryngology (spARO) (2023 –)
 spARO Representative, ARO Membership Committee (2024 – 2026)
 Member, spARO Social Offset Committee (2024 – 2025)
 Member, spARO Social Media Committee (2023 – 2024)
 Leadership Consultant, Alpha Sigma Kappa – Women in Technical Studies (2021 – 2022)

Memberships

Society for Neuroscience (SfN) (2026 –)
 Association for Research in Otolaryngology (ARO), spARO (2023 –)
 IU SLHS Graduate Student Organization (2022 – 2026)
 Nu Rho Psi Neuroscience Honor Society (2019 –)
 Alpha Sigma Kappa – Women in Technical Studies, Omicron Chapter (Founder), Alum Chapter (2018 –)