

Holly A. Zaharchuk

POSTDOCTORAL RESEARCHER (SHE/HER)

Storrs, Connecticut, United States

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Research interests

How does the brain respond to linguistic variation? I use a combination of neural (EEG, fMRI, TMS) and behavioral (eye-tracking, response time/accuracy) methods to study the perception, representation, and processing of diverse speech signals. I am particularly interested in the effects of multilingual and multilectal experience on the language system.

Education

The Pennsylvania State University

University Park, Pennsylvania

PH.D., PSYCHOLOGY AND LANGUAGE SCIENCE, SPECIALIZATION IN COGNITIVE AND AFFECTIVE NEUROSCIENCE

2018 - 2024

- Advisor: Dr. Janet G. van Hell
- Dissertation: *Cross-language transfer in voice onset time: A window into perceptual adaptation in brain and behavior*

The Pennsylvania State University

University Park, Pennsylvania

M.S., PSYCHOLOGY

2018 - 2020

- Advisor: Dr. Janet G. van Hell
- Master's thesis: *We "might could" revisit syntactic processing: Studying dialectal variation with event-related potentials*

The University of Chicago

Chicago, Illinois

B.A., PSYCHOLOGY, MINOR IN LINGUISTICS

2011 - 2015

- Advisor: Dr. Daniel Casasanto
- Honors thesis: *Does linguistic experience change mental representations of pitch?*

Academic employment

Language and Brain Lab

Storrs, Connecticut

POSTDOCTORAL RESEARCHER

Aug 2024 - present

- Principal investigator: Dr. Emily B. Myers
- Research areas: neurobiology of speech perception in young adults, older adults, and persons with aphasia
- Responsibilities: design, implement, and analyze research projects investigating laterality, gradience, and talker specificity in speech perception with fMRI, TMS, and eye-tracking (NIH R01: 5R01DC013064-09)

Experience and Cognition Lab

Chicago, Illinois

UNDERGRADUATE RESEARCH ASSISTANT

Sep 2013 - Jun 2015

- Principal investigator: Dr. Daniel Casasanto
- Research areas: embodied cognition and linguistic relativity
- Responsibilities: collect, code, and analyze behavioral data

Honors and awards

Doctoral Dissertation Research Improvement Grant (Ling-DDRI)

The Pennsylvania State University

NSF GRANT FOR DOCTORAL RESEARCH ON HUMAN LANGUAGE (SBE-2234907)

Feb 2023 - Feb 2025

Partnerships for International Research and Education Fellowship (PIRE)

The Pennsylvania State University

NSF GRANT FOR INTERNATIONAL LANGUAGE RESEARCH (OISE-1545900)

May 2022 - Jun 2022

Adele Miccio Memorial Travel Award

The Pennsylvania State University

TRAVEL AWARD FOR PROFESSIONAL DEVELOPMENT

Dec 2021

University Graduate Fellowship

The Pennsylvania State University

COMPETITIVE FIVE-YEAR FELLOWSHIP FOR RESEARCH DOCTORAL STUDENTS (100 AWARDED PER YEAR UNIVERSITY-WIDE)

Aug 2018 - Aug 2024

University Scholar Award

The University of Chicago

FOUR-YEAR MERIT SCHOLARSHIP FOR UNDERGRADUATE STUDENTS

Sep 2011 - Jun 2015

Peer-reviewed publications

- Zaharchuk, H. A.**, Walker, A. J., Miller, A. R., Fernandez, C. B., & Van Hell, J. G. (in press). Expecting a challenge: A behavioral and neurophysiological investigation of talker identity in cross-dialectal speech perception. *Journal of Laboratory Phonology*.
- Miller, A. R., Jończyk, R., **Zaharchuk, H. A.**, & Van Hell, J. G. (2025). Unlocking second language novel metaphor processing: Behavioral and ERP insights from first and second-language English users. *Psychophysiology*, 62(5), e70066.
- Zaharchuk, H. A.**, & Karuza, E. A. (2021). Multilayer networks: An untapped tool for understanding bilingual neu-
rorecognition. *Brain and Language*, 220, 104977.
- Zaharchuk, H. A.**, Shevlin, A., & Van Hell, J. G. (2021). Are our brains more prescriptive than our mouths? Experience
with dialectal variation in syntax differentially impacts ERPs and behavior. *Brain and Language*, 218, 104949.
- Lucero, C., **Zaharchuk, H.**, & Casasanto, D. (2014). Beat gestures facilitate speech production. In P. Bello, M. Guarini,
M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Meeting of the Cognitive Science Society*. Red
Hook, NY: Curran Associates.

Manuscripts in progress

- Luthra, S., Mechtenburg, H., Olson, H. E., **Zaharchuk, H. A.**, & Myers, E. B. (2025). Stimulation of right temporal cortex enhances talker typicality judgments [Manuscript submitted, under review]. *Journal of Cognitive Neuroscience*.
- Zaharchuk, H. A.**, Olson, H. E., Mechtenburg, H., Phillips, M. C., & Myers, E. B. (2025). Measuring age-related differences in phonetic gradience with the visual analogue scale and eye tracking [Manuscript submitted, in revision]. *Journal of the Acoustical Society of America*.
- Zaharchuk, H. A.**, & Van Hell, J. G. (2025). The effects of exposure variability and similarity on talker-independent adaptation to Spanish-accented English [Manuscript submitted, in revision]. *Journal of Memory and Language*.
- Litcofsky, K., **Zaharchuk, H. A.**, & Van Hell, J. G. (2024). Cross-modality structural priming in dialogue is influenced by interlocutor accent [Manuscript submitted, in revision]. *Journal of Neurolinguistics*.
- Zaharchuk, H. A.**, Medina, V., Paterno, S., Viswanathan, N., & Van Hell, J. G. (n.d.). Sentential context impacts bilin-
gual speech-in-speech recognition [Manuscript in preparation].
- Zaharchuk, H. A.**, & Van Hell, J. G. (n.d.). The neurocognitive correlates of perceptual adaptation to Spanish-
accented English [Manuscript in preparation]. *Neuropsychologia*.

Invited talks

- Zaharchuk, H. A.** (2025). Bilingualism: Who, what, when, where, why, and how. Guest lecture, University of Connecticut, March 3.
- Zaharchuk, H. A.** (2023). Sociolinguistics in the lab and the field. Guest lecture, University at Buffalo, March 13.
- Zaharchuk, H. A.**, Shevlin, A., & Van Hell, J. G. (2022a). Are our brains more prescriptive than our mouths? Ex-
perience with dialectal variation in syntax differentially impacts ERPs and behavior. Lecture series, Processing
Variation (ProVAR), Federal University of Rio de Janeiro, February 14.
- Zaharchuk, H. A.**, Shevlin, A., & Van Hell, J. G. (2022b). Experiencia con variación dialéctica en sintaxis afecta el
procesamiento de lenguaje. Panel session, III Congreso Paraguayo de Lingüística Aplicada (CONPLA), Asunción,
Paraguay, November 15-17.

Conference presentations

- Luthra, S., Mechtenberg, H., Olson, H. E., **Zaharchuk, H. A.**, Feder, A., & Myers, E. B. (2025, September). Evaluating a causal role for right temporal cortex in accessing talker-specific phonetic signatures [Poster session]. 17th Annual Meeting of the Society for the Neurobiology of Language (SNL), Washington, DC.
- Zaharchuk, H. A.**, Washington, P. N., & Myers, E. B. (2025, September). Hemispheric differences in speech perception: The role of right temporal regions in talker-specific learning [Poster session]. 17th Annual Meeting of the Society for the Neurobiology of Language (SNL), Washington, DC.
- Zaharchuk, H. A.**, & Van Hell, J. G. (2024, November). The neurocognitive correlates of talker-specific adaptation to Spanish-accented speech [Poster session]. 65th Annual Meeting of the Psychonomic Society, New York City, New York.
- Walker, A., Hampton, C., Wood, W., Miller, A. R., **Zaharchuk, H. A.**, & Van Hell, J. G. (2024, April). Bidialectal brains:
Profiles of event-related potentials in a cross-dialectal listening task in Southern US English speakers [Paper

presentation]. Joint meeting of Language Variation across the South V and the Southeastern Conference on Linguistics 91.

Walker, A., Zaharchuk, H. A., Miller, A. R., & Van Hell, J. G. (2023, December). Your brain on accents: Profiles of event related potentials in cross-dialectal listening in the US English context [Poster session]. 185th Meeting of the Acoustical Society of America, Sydney, Australia.

Zaharchuk, H. A., & Van Hell, J. G. (2023, October). Investigating the roles of acoustic-phonetic and lexico-semantic processing in resolving perceptual ambiguity in Spanish-accented English [Poster session]. 15th Annual Meeting of the Society for the Neurobiology of Language (SNL), Marseille, France.

Zaharchuk, H. A., Lipski, J., & Van Hell, J. G. (2023, August). Mi casa es tu posá: Exploring the bilingual mental lexicon in speakers of Spanish and Palenquero [Poster session]. Architectures and Mechanisms for Language Processing Conference (AMLaP 29), Donostia-San Sebastián, Spain.

Zaharchuk, H. A., Medina, V., Paterno, S., Viswanathan, N., & Van Hell, J. G. (2023, March). Sentential context impacts bilingual speech-in-speech recognition [Poster session]. 36th Annual Conference on Human Sentence Processing (HSP), Pittsburgh, Pennsylvania.

Zaharchuk, H. A., Walker, A., & Van Hell, J. G. (2023, March). Tracking the time-course of cross-dialect comprehension with ERPs [Oral and poster sessions]. 30th Annual Meeting of the Cognitive Neuroscience Society (CNS), San Francisco, California.

Walker, A., Zaharchuk, H. A., Fernandez, C. B., & Van Hell, J. G. (2021, August). The role of dialect expectation on lexical processing: EEG evidence [Oral session]. 5th Variation and Language Processing Conference (VALP5), Copenhagen, Denmark.

Zaharchuk, H. A., Shevlin, A., & Van Hell, J. G. (2020, May). We “might could” revisit syntactic processing: Studying dialectal variation with event-related potentials [Poster session]. 27th Annual Meeting of the Cognitive Neuroscience Society (CNS), Boston, Massachusetts.

Zaharchuk, H. A., Shevlin, A., & Van Hell, J. G. (2019, November). Auditory comprehension of double versus single modal constructions in Mainstream American English listeners [Poster session]. 60th Annual Meeting of the Psychonomic Society, Montréal, Québec, Canada.

Zaharchuk, H. A. (2015, June). Does linguistic experience change mental representations of pitch? [Poster session]. University of Chicago Undergraduate Research Symposium, Chicago, Illinois.

Teaching experience

Psychology of language

The Pennsylvania State University

Jan 2024 - May 2024

INSTRUCTOR

- Seminar course for upper-level psychology and linguistics undergraduates on psycholinguistics, with a focus on language development, bilingualism and second language acquisition, and linguistic diversity
- Presented bi-weekly lectures to highlight key concepts and clarify models and methods; mentored students on interpreting empirical research through reflection papers, journal article presentations and discussions, and individual meetings; fostered student curiosity and creativity through final project proposal and poster presentation

Psychology of language

The Pennsylvania State University

Jan 2021 - May 2021

TEACHING ASSISTANT

- Instructor: Dr. Katharine Donnelly Adams
- Seminar course covering auditory speech perception, visual word recognition, language representation, sentence comprehension and production, and language acquisition across the lifespan
- Presented guest lecture on linguistic variation and the relation between production and comprehension

Basic research methods in psychology

The Pennsylvania State University

Aug 2020 - Dec 2020

TEACHING ASSISTANT

- Instructor: Dr. Nicholas Pearson
- Introduction to experimental design, analysis, and presentation
- Led weekly laboratory section to reinforce lecture concepts

What makes us human?

The Pennsylvania State University

Jan 2020 - May 2020

TEACHING ASSISTANT

- Instructor: Dr. Daniel Weiss
- Senior seminar in comparative psychology

Neurological bases of human behavior

The Pennsylvania State University

Aug 2019 - Dec 2019

TEACHING ASSISTANT

- Instructor: Dr. Stephen Wilson
- Introduction to neuroscience theories and methods
- Presented guest lecture on auditory system and neuroanatomy of language production and comprehension

Academic service

- Ad hoc reviewing
 - *Brain and Language*
 - *Cognitive, Affective, and Behavioral Neuroscience*
 - *Journal of Experimental Psychology: Learning, Memory, and Cognition*
 - *Journal of Speech, Language, and Hearing Research*
 - *Perspectives*
 - *Psychonomic Bulletin & Review*
 - *Scientific Reports*
- Workshops and tutorials
 - Leader: R Markdown for Graduate Students (2020) for 20 students, Creating HTML Reports with R Markdown (2020) for 10 students
 - Assistant: R Bootcamp led by Dr. Rick Gilmore for 50+ students
- R Markdown for Psychology Graduate Students resource

Outreach

- Developing a Community Engagement Training Program for researchers in collaboration with the NIH T32 Cognitive Neuroscience of Communication - Connecticut (CNC-CT) program
- Volunteered with the Auditory Brain Research Lab to provide free hearing screenings in English and Spanish at the 4th Multicultural Latin Festival (July 2025, Willimantic, CT)
- Mentored underrepresented and first-generation students applying for graduate programs in cognitive psychology as part of the Mentoring Aspiring Graduate students and building an Inclusive Community (MAGIC) program at UConn (2024-2025)

Skills

- Natural languages: English, Spanish (B2/Intermediate)
- Programming languages: R, MATLAB, Python, SQL
- Experiment programming: E-Prime, PsychoPy, Gorilla, LabVanced, Pavlovia
- Acoustic analysis: Praat

Affiliations

- Center for Language Science (Penn State)
- Cognitive Neuroscience Society
- Institute for the Brain and Cognitive Sciences (UConn)
- Psychonomic Society
- Society for the Neurobiology of Language
- Women in Cognitive Science