

# Holly A. Zaharchuk

PHD CANDIDATE (SHE/HER)

University Park, Pennsylvania, United States

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## Research interests

My research interests lie at the intersection of cognitive psychology and sociolinguistics. I use neuropsychological (EEG) and behavioral methods to understand how linguistic, cognitive, and social factors interact during language processing. My particular areas of study include phonetic and syntactic variation, bilingual code-switching, and network models of language.

## Education

### The Pennsylvania State University

University Park, Pennsylvania

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

2018 - present

- 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?*

## Honors and awards

### Doctoral Dissertation Research Improvement Grant (Ling-DDRI)

The Pennsylvania State University

NSF GRANT SUPPORTING DOCTORAL RESEARCH ON HUMAN LANGUAGE

Feb 2023 - Dec 2023

### Partnerships for International Research and Education Fellowship (PIRE)

The Pennsylvania State University

NSF-FUNDED FELLOWSHIP TO CONDUCT FIELD RESEARCH IN COLOMBIA

May 2022 - Jun 2022

### Adele Miccio Memorial Travel Award

The Pennsylvania State University

TRAVEL AWARD TO SUPPORT 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 - present

### University Scholar Award

The University of Chicago

FOUR-YEAR MERIT SCHOLARSHIP

Sep 2011 - Jun 2015

## Publications

**Zaharchuk, H. A.**, & Karuza, E. A. (2021). Multilayer networks: An untapped tool for understanding bilingual neurocognition. *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.

## Works in progress

Litcofsky, K., **Zaharchuk, H. A.**, & Van Hell, J. G. (2024). Cross-modality structural priming in dialogue is influenced by interlocutor accent [Manuscript submitted for publication]. *Journal of Neurolinguistics*.

Miller, A. R., Jończyk, R., **Zaharchuk, H. A.**, & Van Hell, J. G. (2024). Unlocking second language novel metaphor processing: Behavioral and ERP insights from first and second-language English users [Manuscript submitted for publication]. *Psychophysiology*.

**Zaharchuk, H. A.**, Lipski, J., & Van Hell, J. G. (2024). Mi casa es tu posá: Cross-language activation and integration in the mental lexicon of spanish-palenquero bilinguals [Manuscript in preparation].

**Zaharchuk, H. A.**, Medina, V., Paterno, S., Viswanathan, N., & Van Hell, J. G. (2024). Sentential context impacts bilingual speech-in-speech recognition [Manuscript in preparation].

## Presentations

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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.

**Zaharchuk, H. A.**, Shevlin, A., & Van Hell, J. G. (2022, November). Experiencia con variación dialéctica en sintaxis afecta el procesamiento de lenguaje [Plenary session]. III Congreso Paraguayo de Lingüística Aplicada (CONPLA), Asunción, Paraguay.

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.

## Invited talks

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**Zaharchuk, H. A.** (2023). Sociolinguistics in the lab and the field. Invited lecture, University at Buffalo, March 13.

**Zaharchuk, H. A.**, Shevlin, A., & Van Hell, J. G. (2022). Are our brains more prescriptive than our mouths? Experience with dialectal variation in syntax differentially impacts ERPs and behavior. Invited lecture, Processing Variation (ProVAR), Federal University of Rio de Janeiro, February 14.

## Research experience

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### Bilingualism and Linguistic Diversity Lab

University Park, Pennsylvania

GRADUATE STUDENT

Aug 2018 - present

- Principal investigator: Dr. Janet G. van Hell
- Research areas: language processing and adaptation
- Responsibilities: design, implement, and run EEG and behavioral experiments with PsychoPy, E-Prime, and LabVanced; process and analyze experimental data with MATLAB and R; mentor more junior graduate students and undergraduate research assistants; maintain lab equipment and supplies

### Bilingualism and Linguistic Diversity Lab

University Park, Pennsylvania

RESEARCH ASSISTANT

Jul 2020 - present

- Principal investigators: Drs. Janet G. van Hell (Penn State) and Abby Walker (Virginia Tech)
- Funding: National Science Foundation, BCS-2041264, *Collaborative research: Listening out for variation: An investigation of mono- and bi-dialectal listeners inside and outside of Southern US communities*, 2021-2025
- Research areas: cross-dialect communication and language processing
- Responsibilities: travel to Southwest Virginia to conduct research with our mobile EEG system; design, implement, and run EEG and behavioral experiments with E-Prime; process and analyze experimental data with MATLAB and R; mentor more junior graduate students and undergraduate research assistants

### Center for Language Science

University Park, Pennsylvania

PIRE FELLOW

May 2022 - Jun 2022

- Principal investigators: Drs. Paola Dussias, Janet G. van Hell, John Lipski, and Judith Kroll
- Funding: National Science Foundation, OISE-1545900, *PIRE: Translating cognitive and brain science in the laboratory and field to language learning environments*, 2016-2025
- Project: work with bilingual speakers of Spanish and Palenquero, an Afro-Hispanic creole language spoken in northern Colombia; conduct two cross-language activation tasks (mixed lexical decision and lexical association) in each language; extend laboratory research into the field with two highly typologically-similar languages
- Research areas: bilingualism and network science
- Responsibilities: travel to Palenque, Colombia, with PI Lipski to conduct fieldwork and meet with research partners; design, implement, and run behavioral experiments with E-Prime; process and analyze experimental data with Praat and R

### 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: train, run, and debrief participants; code and analyze experimental data with ELAN and R; create new experiments with Python

## Professional experience

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### Consumer Financial Protection Bureau

Washington, District of Columbia

FINANCIAL ANALYST

Jul 2017 - Jul 2018

- Collaborated with the Consumer Education and Engagement Division to write a spotlight report on language access for limited English proficient consumers as a member of the Language Access Task Force
- Researched debt collection and debt relief, particularly in the credit card and student loan markets, for the Consumer Lending, Reporting, and Collections Markets team

### Consumer Financial Protection Bureau

Washington, District of Columbia

DIRECTOR'S FINANCIAL ANALYST

Jul 2015 - Jul 2017

- Supported the policy and research teams in the Office of Fair Lending and Equal Opportunity
- Performed business analytics, tracking, and reporting in the Supervision, Enforcement, and Fair Lending Front Office

### Research Development Support (formerly Arete)

Chicago, Illinois

PROGRAM AND OPERATIONS ASSISTANT

Feb 2013 - Jun 2015

- Partnered with The University of Chicago research administration support faculty members pursuing complex research initiatives
- Provided program analysis, strategic planning, business metrics, and event support

## Teaching experience

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### Psychology of language

*The Pennsylvania State University*

INSTRUCTOR

*Jan 2024 - May 2024*

- 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*

TEACHING ASSISTANT

*Jan 2021 - May 2021*

- 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*

TEACHING ASSISTANT

*Aug 2020 - Dec 2020*

- 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*

TEACHING ASSISTANT

*Jan 2020 - May 2020*

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

### Neurological bases of human behavior

*The Pennsylvania State University*

TEACHING ASSISTANT

*Aug 2019 - Dec 2019*

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

## Outreach

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### Bilingualism and Linguistic Diversity Lab

*University Park, Pennsylvania*

THE BRAIN BUS COORDINATOR

*Aug 2018 - present*

- Maintain *The Brain Bus*, BiLD's mobile neuroscience lab for field research and language science public engagement
- Participate in community outreach events, including as a volunteer judge at the Young Scholars of Western PA science fair

### Center for Language Science

*University Park, Pennsylvania*

GRADUATE ASSISTANT

*Jan 2021 - May 2021*

- Created public repository for research on linguistic discrimination in collaboration with fellow graduate assistants
- Participated in ENVISION STEM career day for young women

### Center for Language Science

*University Park, Pennsylvania*

GRADUATE ASSISTANT

*Aug 2019 - Dec 2019*

- Managed the Center's social media presence to engage the wider regional community in language science research
- Created and solicited content for the Winter/Spring 2020 Bilingualism Matters newsletter

## Community service

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### Next Step Public Charter School

*Washington, District of Columbia*

MATHEMATICS TUTOR

*Jan 2017 - Jul 2018*

- Volunteered as a mathematics tutor with the bilingual GED and ESL program for immigrant and other at-risk youth
- Provided one-on-one assistance with practice problems and assignments once per week for 1-2 hours

### Community Tax Aid

*Washington, District of Columbia*

VOLUNTEER TAX PREPARER

*Jan 2016 - Apr 2018*

- Volunteered as an IRS-certified advanced volunteer tax preparer with the Volunteer Income Tax Assistance (VITA) program, which offers free tax help to individuals who make \$54,000 or less, individuals with disabilities, and limited English speaking individuals who need assistance in preparing their own tax returns
- Provided tax preparation services once per week for 3-4 hours during tax season

## Academic service

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- Ad hoc reviewing
  - *Brain and Language*
  - *Cognitive, Affective, and Behavioral Neuroscience*
  - *Journal of Experimental Psychology: Learning, Memory, and Cognition*
  - *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

## Skills

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- Natural languages: English, Spanish (B2/Intermediate)
- Programming languages: R, MATLAB, Python, SQL
- Software: E-Prime, Praat, Microsoft Suite, Adobe Suite
- Typesetting: R Markdown,  $\text{\LaTeX}$

## Affiliations

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- Center for Language Science
- Cognitive Neuroscience Society
- Psychonomic Society
- Society for the Neurobiology of Language
- Women in Cognitive Science