

Shane J. Hansen
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EDUCATION

Bachelor of Philosophy, Neurolinguistics (Interdisciplinary Studies) Graduation: April 2025
University of Pittsburgh, *David C. Frederick Honors College* GPA: 4.0

Thesis Title: *Insights from Second Language Learning: A Neurolinguistic Exploration of Nonbinary Pronoun Constructions*

Thesis Advisor: Natasha Tokowicz, Ph.D.

Honors College Degree Distinction

Learning Sciences Distinction

Bachelor of Science, Chemistry: Bioscience Option Graduation: April 2025

University of Pittsburgh, *Kenneth P. Dietrich School of Arts and Sciences* GPA: 3.73

Degree jointly awarded by *David C. Frederick Honors College*

Summa cum laude, University Honors

Chemistry Departmental Honors

Certificate: Conceptual Foundations of Medicine

RESEARCH EXPERIENCE

PLUM Lab, Research Assistant

August 2023 – Present

Bachelor of Philosophy Project

- Led comprehensive study design process including stimuli development, language training protocols, and successful IRB/funding applications
- Designed and coded various tasks in E-Prime, interfaced with Curry 8
- Developed and implemented training protocols for research assistants on study procedures and EEG lab techniques, ensuring consistent data collection quality
- Facilitated all data collection sessions
- Processed and coded ERPs using Neuroscan Edit 4.5 and EEGLAB
- Conducted data analysis using general additive mixed models in R
- Wrote and defended masters-level thesis to faculty committee

NSF Funded Second Language Acquisition Study

- Collected data during study sessions by guiding participants through behavioral tasks and facilitating EEG recording
- Assisted in preliminary data analysis and interpretation using R
- Presented preliminary findings in broader research context to lab group
- Mentored new research assistants, taught behavioral and EEG techniques

Honors Organic Chemistry Lab, Student

January 2023 – April 2023

- Worked in group of three to design project investigating the most efficient synthesis of soaps using recycled food waste products
- Used NMR, FTIR, and pH analysis to characterize products; various organic synthesis methods explored
- Prepared publication-quality report of findings and defended research to class and faculty

TEACHING EXPERIENCE

Language and the Mind, Undergraduate Teaching Assistant January 2024 – April 2024

- Developed discussion board response prompts to facilitate understanding of required journal article readings with focuses on experimental design and implications of results
- Wrote and delivered lecture on use of large language models in psycho/neurolinguistic research

Honors Organic Chemistry Lab, UTA January 2024 – April 2024

- Co-mentored group of students to develop and implement independent research project
- Assisted in teaching organic laboratory skills and techniques
- Guided students through analysis and formal publication-quality report write up/defense

Honors General Chemistry, UTA August 2022 – December 2022

- Led weekly recitation sections for 16 students, incorporating active learning strategies to reinforce course concepts; hosting weekly office hours; and conducting individual meetings to deepen understanding of course material
- Assisted laboratory professor in weekly instruction by teaching safe lab practices for 22 students and breaking down complex procedures to increase overall performance and experimental success.
- Developed and successfully implemented new academic strategies to address student learning gaps, presenting recommendations directly to head professor

General Chemistry II, UTA January 2023 – April 2023

- Served as lead UTA for 250 student lecture class, coordinated exam review sessions designed to prepare students for problem solving
- Held weekly office hour to assist students in understanding lecture content and completing homework assignments
- Taught weekly recitation in collaboration with graduate student instructor, encouraged students to work through curated review worksheets and present answers to class

PRESENTATIONS

Hansen, S. & Tokowicz, N. (2025, April) *Exploring the Neurolinguistic Processing of Nonbinary Pronouns in First vs Second Languages*. Poster presented at the National Council on Undergraduate Research Conference, Pittsburgh, PA.

Hansen, S. & Tokowicz, N. (2025, March) *Exploring the Neurolinguistic Processing of Nonbinary Pronouns in First vs Second Languages*. Poster presented at the 38th Annual Conference on Human Sentence Processing, College Park, MD.

Learning Sciences Seminar Poster Session April 2024

- Presented literature review poster *Neurobiological Explanations for Second Language Acquisition Success* to Learning Research and Development Center faculty and students

Linguistics Department Colloquium April 2024

- Presented PLUM Directed Research experience to Department faculty and students at Spring 2024 End of Semester Colloquium Meeting (Co-presenter: Julia Zeiser)

American Chemical Society Student Affiliates @ Pitt Research Talk February 2024

- Presented PLUM Lab NSF Project work and beginning iterations of Bachelor of Philosophy project planning to Chemistry Department students and faculty

HONORS, AWARDS, & DISTINCTIONS

Mary Louise Theodore Prize in Chemistry

March 2025

The Kenneth P. Dietrich School of Arts and Sciences Dean's List

- All attended semesters

Chancellor's Undergraduate Research Fellowship

August 2024 – December 2024

- Fall research fellowship awarded by the University of Pittsburgh Frederick Honors College to support student independent research and scholarship
- Used fellowship window for Bachelor of Philosophy study data collection

Brackenridge Fellowship

May 2024 – August 2024

- Selective summer fellowship awarded by the University of Pittsburgh Frederick Honors College to support student independent research and scholarship
- Fellowship window used to design and plan Bachelor of Philosophy study

Lubrizol Scholarship, Department of Chemistry

March 2024

INVOLVEMENT & LEADERSHIP

**American Chemical Society Student Affiliates Chapter-
at University of Pittsburgh, Senior Affairs Committee**

August 2022 – Present

- Work with other Committee members to plan Chemistry Department graduation ceremony and activities
- Coordinate with executive board members to manage funds and membership tracking

Yinzling, Business Manager & Interim VP

August 2022 – Present

- Coordinate with President and Vice President to plan biweekly meetings designed to increase engagement with the Linguistics Department and foster interest through educational meetings with guest speakers
- Manage funds for the organization in collaboration with University student organization oversight office

Resident Student Association, VP of Communications

August 2021 – May 2023

- Managed twelve Public Relations Chairs from campus residential communities to promote organization-wide events for student residents' enjoyment and community growth
- Streamlined communication between internal and external student leaders, professional staff, and 150 organization members
- Grew social media engagement by 6% (reaching 1,256 accounts) through targeted content strategy and consistent posting schedule
- Designed and implemented marketing campaigns with the objective of increasing student engagement

Hampton High School Musical, Student Director

August 2019 – June 2021

- Coordinated intracompany communication, scheduling, marketing, and social media to improve efficiency of the year-long production operation and member engagement across departments
- Nurtured success of actors through rehearsal notes leading to several regional high school theater awards

SERVICE

UPMC Children's Hospital of Pittsburgh, Volunteer

June 2019 – Present

- Assist clinical staff in preparatory work to facilitate efficient patient care through the organization of medical supplies and plan-of-care delivery (Neurosurgery, Trauma Surgery, and Gastroenterology Units)
- Manage operational-level tasks for Child Life Department specialists in order to enrich the patient experience through e-card distribution and serving as a Buddy on Call

ACS Outreach, Member

August 2022 – Present

- Engaged in several outreach events aimed at bringing science to the greater community
- Events often involved facilitating activities for children to engage in science (Cub Scouts, Science Camps etc.)

WORK EXPERIENCE

Target, Food & Beverage and General Merchandise Expert

October 2020 – Present

- Organize and provide consumable merchandise upkeep following in accordance with corporate rotation schedules and presentation standards to guarantee the optimal quality of floor sets to best increase customer product interaction
- Prioritize relationship building with guests in order to best recommend products that suit their needs and preferences
- Ensure guest satisfaction in checkout settings both in online order fulfillment and working as a service advocate

The Milkshake Factory, Team Member

June 2020 – October 2020

- Personally guided customers through the menu, showcasing extensive product knowledge and promoting sales of additional items at the register
- Crafted milkshakes, coordinating ingredients, blending, and finishings at the dedicated station
- Ensured customer satisfaction by delivering exceptional service, maintaining cleanliness, and upholding quality standards throughout the milkshake preparation process

RECOMMENDERS

- Dr. Natasha Tokowicz
 - tokowicz@pitt.edu
 - Research mentor, thesis committee chair, and biggest supporter
- Dr. Tessa Warren
 - tessa@pitt.edu
 - Teaching mentor, thesis committee member, and huge inspiration
- Dr. Lillian Chong
 - ltchong@pitt.edu
 - Quantum mechanics professor and interdisciplinary consultant
- Dr. Michelle Morgan
 - Mmm235@pitt.edu
 - Chemistry major academics advisor