

## SARAH K. HARPER

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## ACADEMIC EMPLOYMENT

Sept. 2021- Present Postdoctoral Scholar  
Department of Neurological Surgery and Weill Institute for Neurosciences, UCSF  
PI: Edward Chang

## EDUCATION

2015-2021 Ph.D. in Linguistics, University of Southern California  
Dissertation: *Individual differences in phonetic variability and phonological representation*  
Committee: Louis Goldstein (chair), Dani Byrd, and Jason Zevin

2015-2017 M.A. in Linguistics, University of Southern California  
M.A. Screening Paper: *Quantifying contributions of individual constrictions to American English /ɹ/ acoustics.*  
Committee: Louis Goldstein (chair), Dani Byrd, and Rachel Walker

2010-2014 B.A. with High Distinction in Linguistics (Highest Honors) and Spanish,  
University of Michigan, Ann Arbor  
*Phi Beta Kappa, James B. Angell Scholar, University Honors*  
Honors Thesis: *Phonological Influence in Third Language Acquisition: L2 Spanish Effects on the Production of L3 Portuguese.*  
Committee: Patrice Beddor (advisor) and Nicholas Henriksen

## NON-DEGREE

Summer 2013 Linguistic Society of America Summer Institute  
University of Michigan, Ann Arbor, MI

Summer 2012 Spanish Language, Literature and Culture in Salamanca, Spain  
Cursos Internacionales, Universidad de Salamanca

## PUBLICATIONS

### JOURNAL ARTICLES

2023 Levy, D., Silva, A., Scott, T., Liu, J., **Harper, S.**, Zhao, L., Hullett, P., Kurteff, G., Wilson, S., Leonard, M., and Chang, E. Apraxia of speech with phonological alexia and agraphia following resection of the left middle precentral gyrus.

2021 Lim, Y., Toutios, A., Bliesener, Y., Tian, Y., Lingala, S., Vaz, C., Sorensen, T., Oh, M., **Harper, S.**, Chen, W., Lee, Y., Töger, J., Montesserin, M., Smith, C.,

Last Update: 6/20/2023

Godinez, B., Goldstein, L., Byrd, D., Nayak, K., and Narayanan., S. A multispeaker dataset of raw and reconstructed speech production real-time MRI video and 3D volumetric images. *Scientific Data*, 8, Article 187.

- 2020 **Harper, S.**, Goldstein, L., & Narayanan, S. Variability in individual constriction contributions to third formant lowering in American English /ɪ/. *Journal of the Acoustical Society of America*, 147(6), 3905-3916.
- 2018 **Harper, S.**, Lee, S., Goldstein, L., & Byrd, D. Simultaneous electromagnetic articulography and electroglottography data acquisition of natural speech. *Journal of the Acoustical Society of America*, 144(5), EL380-385.
- 2016 Henriksen, N. & **Harper, S.** Investigating lenition patterns in south-central Peninsular Spanish /sp, st, sk/ clusters. *Journal of the International Phonetic Association*, 46(3), 287-310.

#### REFEREED CONFERENCE PROCEEDINGS

- 2019 **Harper, S.** The relationship between gestural timing and magnitude for American English /l/ across speech tasks. *Proceedings of the 19<sup>th</sup> International Congress of Phonetic Sciences*, Melbourne, Australia.
- 2016 **Harper, S.**, Goldstein, L., & Narayanan, S. L2 Acquisition and Production of the English Rhotic Pharyngeal Gesture. *Proceedings of the 17<sup>th</sup> Annual Conference of the International Speech Communication Association (INTERSPEECH 2016)*, San Francisco, CA.

#### BOOK REVIEWS

- 2014 Henriksen, N., García Amaya, L., & **Harper, S.** (2014). Review of *Prosodic Typology II: The Phonology of Intonation and Phrasing*. Sun-Ah Jun (Ed.). Oxford: Oxford University Press. *Estudios de Fonética Experimental*, 23, 296-300.

#### IN PREPARATION

- In Prep. **Harper, S.** Interspeaker differences in anatomical and behavioral features do not account for idiosyncratic articulatory variability.
- In Prep. **Harper, S.** Empirical evidence for the encoding of variability in the representation of phonological units
- In Prep. **Harper, S.** and Goldstein, L. Dynamical modeling of inter- and intraspeaker variability in phonological representation.
- In Prep. **Harper, S.** The relationship between variability in speech production and perceptual sensitivity to subphonemic variation.

#### AWARDS AND FELLOWSHIPS

##### *Awards*

- 2020 NSF Student Scholarship, 12<sup>th</sup> International Seminar on Speech Production, Providence, Rhode Island (Virtual due to COVID-19)
- 2019 Best Student Paper Award, 19<sup>th</sup> International Congress of Phonetic Sciences

- 2019 IPA Student Award, 19<sup>th</sup> International Congress of Phonetic Sciences  
 2018 IPA Student Award, 16<sup>th</sup> Annual Conference on Laboratory Phonology, Lisbon, Portugal  
 2016 Student Travel Award, 15<sup>th</sup> Annual Conference on Laboratory Phonology, Ithaca, NY  
 2014 Matt Alexander Award for outstanding Honors thesis in Linguistics – University of Michigan Linguistics Department  
 2014 Student Achievement Award –University of Michigan Department of Romance Languages & Literatures

### *Fellowships*

- 2020-2021 Graduate School Fellowship – University of Southern California  
 2018-2020 Pre-doctoral Fellow, Hearing and Communication Neuroscience Program (NIH T32 Training Grant) – University of Southern California  
 2015- 2020 Provost’s Fellowship – University of Southern California  
 2015-2016 Graduate School Fellowship – University of Southern California

### **CONFERENCE PRESENTATIONS**

- 2023 **Harper, S.** Individual- and group-level associations between articulatory and acoustic variability for English consonants. Talk to be given at ICPhS 2023, Prague, Czechia.
- 2023 **Harper, S.** and Chang, E.F. A landmark-based account of the temporal organization of speech kinematics. Poster given at Boston Speech Motor Control Symposium, Boston, Massachusetts, June 12<sup>th</sup>, 2023.
- 2022 **Harper, S.** Implications of individual differences in articulatory and acoustic variability for segmental representation. Talk given virtually at LabPhon18, June 25<sup>th</sup>, 2022.
- 2022 **Harper, S.** Implications of articulatory variability for the cognitive systems underlying speech production. Invited Talk given at NeuroSpeech, June 20<sup>th</sup>, 2022.
- 2021 **Harper, S.** Segmental effects on the transmission of variability between articulation and acoustics. Poster presented at the 181<sup>st</sup> meeting of the Acoustical Society of America, Seattle, Washington, December 1<sup>st</sup>, 2021.
- 2021 **Harper, S.** Idiosyncratic articulatory variability as evidence for individual differences in segmental representation. Talk given virtually at PaPE 2021, June 22<sup>nd</sup>, 2021.
- 2021 **Harper, S.** Idiosyncratic articulatory variability reflects individual differences in segmental representation. Poster presented virtually at the 95<sup>th</sup> Linguistic Society of America Annual Meeting, January 9<sup>th</sup>, 2021.
- 2020 **Harper, S.** Variability of articulatory dimensions relates to their role in distinguishing phonological categories for individual speakers. Poster presented virtually at the 12<sup>th</sup> International Seminar on Speech Production.

- 2020 **Harper, S.** Variability in articulation and acoustics relates to the differentiation of segment pairs across speakers. Poster presented virtually at the 179<sup>th</sup> Meeting of the Acoustical Society of America.
- 2020 **Harper, S.** Consistency in difference: The relationship between articulatory variability and segment differentiation for individual speakers. Poster presented virtually at LabPhon17.
- 2020 **Harper, S.** Consistency in difference: The relationship between articulatory variability and segment differentiation for individual speakers. Lightning talk and poster presented virtually at *Situating phonological contrast within the production-perception loop* (Satellite workshop for LabPhon17).
- 2019 **Harper, S. & Goldstein, L.** Variability is variable: Individual differences in articulatory variation. Poster presented at the 178<sup>th</sup> Meeting of the Acoustical Society of America, San Diego, California, December 6<sup>th</sup>, 2019.
- 2019 **Harper, S.** The relationship between gestural timing and magnitude for American English /l/ across speech tasks. Talk given at the 19<sup>th</sup> International Congress of Phonetic Sciences, Melbourne, Australia, August 2019.
- 2019 **Harper, S.** Intra-segmental gestural timing for American English /r/ in Isolated and Connected Speech. Talk given at Phonetics and Phonology in Europe (PaPE) 2019, Lecce, Italy, June 2019.
- 2018 **Harper, S., Goldstein, L., & Narayanan, S.** Stylistic effects on the acoustic and articulatory properties of American English rhotics. Poster presented at SoCal Hearing, Los Angeles, California, September 2018.
- 2018 **Harper, S., Goldstein, L., & Narayanan, S.** Quantifying labial, palatal and pharyngeal contributions to rhotic F3 lowering. Talk given at LabPhon 16, Lisbon, Portugal, June 2018.
- 2017 **Harper, S., Goldstein, L., & Narayanan, S.** Quantifying labial, palatal and pharyngeal contributions to third formant lowering in American English /ɹ/. Poster presented at the 174<sup>th</sup> Meeting of the Acoustical Society of America, New Orleans, Louisiana, December 5<sup>th</sup>, 2017.
- 2017 **Harper, S., Lee, S., Goldstein, L., & Byrd, D.** On simultaneous electromagnetic articulography and electroglottography data acquisition. Poster presented at the 174<sup>th</sup> Meeting of the Acoustical Society of America, New Orleans, Louisiana, December 5<sup>th</sup>, 2017.
- 2017 Henriksen, N., & **Harper, S.** (joint first authors). L2 status affects L3 learning from the onset of acquisition: A developmental study of L1 English, L2 Spanish and L3 Catalan. Talk given at Phonetics and Phonology in Europe (PaPE) 2017, Cologne, Germany.
- 2017 **Harper, S., Goldstein, L., & Narayanan, S.** Stylistic Effects on the Acoustic and Articulatory Properties of English Rhotics. Poster presented at Phonetics and Phonology in Europe (PaPE) 2017, Cologne, Germany.
- 2016 **Harper, S., Goldstein, L., & Narayanan, S.** L2 Acquisition and Production of the English Rhotic Pharyngeal Gesture. Poster presented at the 17<sup>th</sup> Annual Conference of the International Speech Communication Association (INTERSPEECH), San Francisco, CA, September 2016.

- 2016 **Harper, S.** Phonological Influence in Third Language Acquisition: L2 Spanish Effects on the Production of L3 Portuguese Voiced Stops. Poster presented at LabPhon 15, Ithaca, New York, July 2016.
- 2016 **Harper, S.** L2 Spanish Effects on L3 Portuguese Voiced Stop Production. Talk given at the 8<sup>th</sup> International Symposium on the Acquisition of Second Language Speech (New Sounds), Aarhus, Denmark, June 2016.
- 2014 Henriksen, N. & **Harper, S.** Reconsidering s-lenition: An acoustic analysis of /sp, st, sk/ clusters in Manchego Spanish. Poster presented at the Linguistics Society of America Annual Meeting, Minneapolis, Minnesota, January 4<sup>th</sup>, 2014.

## RESEARCH EXPERIENCE

### *Research Assistantships*

Summer 2017,

Fall 2017,

Summer 2018,

Summer 2019 Research Assistant, Phonetics Laboratory, USC Department of Linguistics (PI: Dani Byrd)

Summer 2016 Research Assistant, Speech Articulation and Knowledge (SPAN) Lab, USC (PI: Shrikanth Narayanan)

2013-2015 Research Assistant for Prof. Nicholas Henriksen, University of Michigan Department of Romance Languages & Literatures.

2013-2014 Assistant in Research, Michigan Project on Oral Language, Writing and Reading (M-POWR), University of Michigan School of Education (PI: Holly Craig)

**Research Assistants Supervised:** Primary Supervision: Michael Ward (Spring/Summer 2019), Daniel Sufaro (Spring/Fall 2015), Shira Peress (Spring/Fall 2015). Secondary Supervision: Marcos Lobato Scharfhausen (Summer 2022).

## TEACHING EXPERIENCE

### *Teaching Assistantships*

LING 210: Introduction to Linguistics (University of Southern California).

3 semesters.

Primary Instructors: Stefan Keine (Fall 2016, Spring 2018), Karen Jesney (Spring 2017).

(Duties included creating materials for and solo-teaching weekly discussion sections, assisting the primary instructor with homework and exam creation, and grading homework assignments, quizzes and exams).

### *Guest Lectures*

2021 “Publishing as a Graduate Student.” (Member of discussion panel). LING 610: Seminar in Linguistic Theory (University of Southern California), April 2021.

- 2018 “Phonological Acquisition in a Third Language.” Spanish 487: Spanish Second Language Phonology (University of Michigan), March 2018.
- 2015 “Third Language Acquisition.” Spanish 487: Second Language Acquisition (University of Michigan), April 2015.

### ***Pedagogical Tools***

- 2018 Blaylock, R., & **Harper, S.** IPA Hangman: A pedagogical tool. Demo given at Southern California April Meeting in Phonology, April 7<sup>th</sup>, 2018.  
Teaching resource available at <http://reedblaylock.com/ipahangman.html>

### ***Training***

- Summer 2022 Participant in Evidence-Based Teaching Course  
UCSF Office of Career and Professional Development
- Fall 2019 Participant in Future Faculty Teaching Institute  
Center for Excellence in Teaching, University of Southern California
- Fall 2016 Teaching Practicum  
USC Linguistics Department

### **SERVICE**

#### ***Service to Profession***

- Conference Reviewer: LabPhon17, LabPhon18, ICPHS 2023
- Ad-hoc Journal Reviewer: *Journal of the Acoustical Society of America*, *Studies in Hispanic and Lusophone Linguistics*, *Languages*
- 2023 Organizer, special session: Bridging linguistic and clinical perspectives through computational models of speech production (with Ben Parrell, Doris Mücke, Antje Mefferd). ICPHS 2023, Prague.
- 2016 Volunteer Coordinator, 2016 Annual Meeting in Phonology at the University of Southern California

#### ***Departmental Service***

- 2018-2019 Colloquium Coordinator, Graduate Students in Linguistics (GSiL), University of Southern California
- 2018-2019 New Graduate Student Mentor, University of Southern California Department of Linguistics
- 2016-2017 Event Coordinator, Graduate Students in Linguistics (GSiL), University of Southern California
- 2013-2014 President, Linguistics Club, University of Michigan
- 2012-2014 Student Representative, Undergraduate Affairs Committee, University of Michigan Department of Linguistics

## **PROFESSIONAL SKILLS**

### ***Technical Skills:***

Matlab (proficient)  
R (proficient)  
Praat (proficient)  
CSS/HTML (intermediate)  
Python (basic)

### ***Languages:***

English (native)  
Spanish (proficient)  
Brazilian Portuguese (intermediate)  
Catalan (reading proficiency)