

## Caitlin Smith

Department of Linguistics  
University of North Carolina at Chapel Hill  
Smith Building CB #3155  
Chapel Hill, NC 27599-3155

<https://caitlinsmith14.github.io>  
[csmith14@email.unc.edu](mailto:csmith14@email.unc.edu)

### Education

---

- |      |  |
|------|--|
| 2018 | Ph.D., Linguistics, University of Southern California<br>Dissertation: Harmony in Gestural Phonology<br>Chair: Rachel Walker |
| 2013 | M.A., Linguistics, University of Southern California   |
| 2008 | B.A., Linguistics, History, University of California Los Angeles<br>Departmental Honors, Magna Cum Laude                     |

### Academic Positions

---

- |              |   |
|--------------|---|
| 2022-present | University of North Carolina at Chapel Hill<br>Teaching Assistant Professor, Department of Linguistics<br>Director of Triple-I Data Literacy, Office of Undergraduate Education |
| 2021-2022    | University of California Davis<br>Lecturer, Department of Linguistics   |
| 2019-2021    | Johns Hopkins University<br>Postdoctoral Fellow, Department of Cognitive Science  |
| Spring 2019  | University of North Carolina at Chapel Hill<br>Lecturer, Department of Linguistics  |

### Papers

---

- Hsu, Brian, Caitlin Smith (in prep) Emergent Strength Strata in Cherokee Hiatus Resolution. To appear in *Proceedings of the 55th Annual Meeting of the North East Linguistic Society*.
- Adelino, Lucas, Caitlin Smith (2024) Height Harmony and Nasal Vowels: An Argument for Agreement by Correspondence. In *Proceedings of the 54th Annual Meeting of the North East Linguistic Society, Vol. 1* (pp. 1-10).
- O'Hara, Charlie, Caitlin Smith (2024) Typological Asymmetries in Underapplication Opacity: A Gestural Account. In *Proceedings of the 40th West Coast Conference on Formal Linguistics* (pp. 265-274).

- Smith, Caitlin (2024) Vowel Harmony in Gesture-Based Phonology. In N. A. Ritter & H. van der Hulst (Eds.), *The Oxford Handbook of Vowel Harmony* (pp. 413-424). Oxford University Press.
- Hsu, Brian, Caitlin Smith (2023) Idiosyncratic Hiatus Resolution: An Argument for Gradient Harmonic Grammar. In *Supplemental Proceedings of the 2022 Annual Meeting on Phonology*.
- Lim, Yongwan, Asterios Toutios, Yannick Bliesener, Ye Tian, Sajan Lingala, Colin Vaz, Tanner Sorensen, Miran Oh, Sarah Harper, Weiyi Chen, Yoonjeong Lee, Johannes Töger, Mairym Montesserin, Caitlin Smith, Bianca Godinez, Louis Goldstein, Dani Byrd, Krishna Nayak, and Shrikanth Narayanan (2021) A multispeaker dataset of raw and reconstructed speech production real-time MRI video and 3D volumetric images. *Scientific Data* 8, 187.
- Jiang, Yichen, Asli Celikyilmaz, Paul Smolensky, Paul Soulos, Sudha Rao, Hamid Palangi, Roland Fernandez, Caitlin Smith, Mohit Bansal, Jianfeng Gao (2021) Enriching Transformers with Structured Tensor-Product Representations for Abstractive Summarization. In *Proceedings of the 2021 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies* (pp. 4780-4793).
- Smith, Caitlin, Charlie O'Hara, Eric Rosen, Paul Smolensky (2021) Emergent Gestural Scores in a Recurrent Neural Network Model of Vowel Harmony. In *Proceedings of the Society for Computation in Linguistics: Volume 4* (pp. 61-70).
- Smith, Caitlin, Charlie O'Hara (2021) Learnability of Derivationally Opaque Processes in the Gestural Harmony Model. In *Proceedings of the Society for Computation in Linguistics: Volume 4* (pp. 396-400).
- Smith, Caitlin (2020) Stepwise Height Harmony as Partial Transparency. In *Proceedings of the 50th Annual Meeting of the North East Linguistic Society, Vol. 3* (pp. 141-154).
- Smith, Caitlin (2020) Partial Height Harmony as Partial Transparency. In *Proceedings of the 2019 Annual Meeting on Phonology*.
- Proctor, Michael, Rachel Walker, Caitlin Smith, Tünde Szalay, Louis Goldstein, Shrikanth Narayanan (2019) Articulatory Characterization of English Liquid-Final Rimes. *Journal of Phonetics* 77.
- Lamont, Andrew, Charlie O'Hara, Caitlin Smith (2019) Weakly Deterministic Transformations are Subregular. In *Proceedings of the 16th Workshop on Computational Research in Phonetics, Phonology, and Morphology (SIGMORPHON)* (pp. 196-205).
- O'Hara, Charlie, Caitlin Smith (2019) Computational Complexity and Sour-Grapes-Like Patterns. In *Supplemental Proceedings of the 2018 Annual Meeting on Phonology*.
- Smith, Caitlin, Charlie O'Hara (2019) Formal Characterizations of True and False Sour Grapes. In *Proceedings of the Society for Computation in Linguistics: Volume 2* (pp. 338-341).

- Smith, Caitlin (2017) Harmony Triggering as a Segmental Property. In *Proceedings of the 47th Annual Meeting of the North East Linguistic Society, Vol. 3* (pp. 117-126).
- Smith, Caitlin (2017) Harmony Triggering as a Contrastive Property of Segments. In *Supplemental Proceedings of the 2016 Annual Meeting on Phonology*.
- Smith, Caitlin (2016) A Gestural Account of Neutral Segment Asymmetries in Harmony. In *Proceedings of the 2015 Annual Meeting on Phonology*.
- Smith, Caitlin (2016) Nasal Spreading as Defective Gestural Deactivation. In *Supplemental Proceedings of the 2014 Annual Meetings on Phonology*.
- Smith, Caitlin (2016) Morphological Consonant Mutation as Gestural Affixation. In *Papers from the 50th Annual Regional Meeting of the Chicago Linguistic Society*.
- Smith, Caitlin (2014) Complex Tongue Shaping in Lateral Liquid Production Without Constriction-Based Goals. In *Proceedings of the 10th International Seminar on Speech Production* (pp. 413-416).
- Smith, Caitlin, Michael Proctor, Khalil Iskarous, Louis Goldstein, Shrikanth Narayanan (2013) Stable articulatory tasks and their variable formation: Tamil retroflex consonants. In *Proceedings of the 14th Annual Conference of the International Speech Communication Association (INTERSPEECH)* (pp. 2006-2009).
- Smith, Caitlin, Adam Lammert (2013) Identifying consonantal tasks via measures of tongue shaping: a real-time MRI investigation of the production of vocalized syllabic /l/ in American English. In *Proceedings of the 14th Annual Conference of the International Speech Communication Association (INTERSPEECH)* (pp. 3230-3233).
- Smith, Caitlin, Michael Proctor, Khalil Iskarous, Louis Goldstein, Shrikanth Narayanan (2013) On distinguishing articulatory configurations and articulatory tasks: Tamil retroflex consonants. *Journal of the Acoustical Society of America*, 133(5), 3609 (abstract).

## **Book**

---

- Smith, Caitlin (in prep) *Vowel and Vowel-Consonant Harmony: A Gestural Model*. Book under contract with Oxford University Press.

## **Invited Talks**

---

- Smith, Caitlin (2023) Learning Grammars and Representations in the Gestural Harmony Model. Talk presented at the UNC CompLing Brown Bag Series, Chapel Hill, NC, April 2023.
- Smith, Caitlin (2022) Grammar and Representation Learning for Opaque Harmony Processes. Talk presented at the Society for Computation in Linguistics, Online, February 2022.

- Smith, Caitlin (2021) Learning Derivationally Opaque Patterns in the Gestural Harmony Model. Talk presented at the University of California Berkeley Phorum, Berkeley, CA (Online), November 2021.
- Smith, Caitlin (2021) Learning Derivationally Opaque Patterns in the Gestural Harmony Model. Talk presented at the Michigan State University Linguistics 2021-2022 Colloquium Series, East Lansing, MI (Online), November 2021.
- Smith, Caitlin (2021) Learning Derivationally Opaque Patterns in the Gestural Harmony Model. Talk presented at the Keio-ICU Linguistics Colloquium, Online, April 2021.
- Smith, Caitlin (2020) Phonological Idiosyncrasy as Contrastive Gestural Strength. Talk presented at the Situating Phonological Contrast within the Production-Perception Loop workshop at LabPhon 17, Vancouver, BC (Online), July 2020.
- Smith, Caitlin (2019) Partial Height Harmony as Partial Transparency. Talk presented at Georgetown University, Washington, D.C., November 2019.
- Smith, Caitlin (2019) Partial Vowel Height Harmony and Partial Transparency via Gestural Blending. Invited talk presented at the Princeton Phonology Forum, Princeton, NJ, April 2019.
- Smith, Caitlin (2017) Deriving Apparent Exceptionality from Contrastive Gestural Strength. Invited talk presented at the Strength in Grammar workshop, Leipzig, Germany, November 2017.
- Smith, Caitlin (2017) Deriving Apparent Exceptionality from Contrastive Gestural Strength. Talk presented at the Joint USC-UCLA Meeting in Phonology, Los Angeles, CA, March 2017.
- Smith, Caitlin (2016) Harmony in Gestural Phonology: Patterns of Neutrality. Colloquium talk presented at Rutgers, the State University of New Jersey, New Brunswick, NJ, February 2016.
- Smith, Caitlin (2015) Harmony in Gestural Phonology. Talk presented at the University of California Los Angeles, Los Angeles, CA, October 2015.

### **Conference Presentations**

---

- Hsu, Brian, Caitlin Smith (2024) Emergent Strength Strata in Cherokee Hiatus Resolution. Talk presented at the 55<sup>th</sup> Annual Meeting of the North East Linguistics Society, New Haven, CT, October 2024.
- Adelino, Lucas, Caitlin Smith (2024) Height Harmony and Nasal Vowels: An Argument for Agreement by Correspondence. Poster presented at the 54th Annual Meeting of the North East Linguistics Society, Cambridge, MA, January 2024.

- Smith, Caitlin, Charlie O'Hara (2022) Two Tools for Learning Gestural Parameters and Constraint Based Grammars. Talk presented at the Computational Approaches to Phonology workshop at the 2022 Annual Meeting on Phonology, Los Angeles, CA, October 2022.
- Hsu, Brian, Caitlin Smith (2022) Idiosyncratic Hiatus Resolution: An Argument for Gradient Harmonic Grammar. Poster presented at the 2022 Annual Meeting on Phonology, Los Angeles, CA, October 2022.
- O'Hara, Charlie, Caitlin Smith (2022) Typological Asymmetries in Underapplication Opacity: A Gestural Account. Talk presented at the 40th Meeting of the West Coast Conference on Formal Linguistics, Stanford, CA (Online), May 2022.
- Smith, Caitlin, Charlie O'Hara, Eric Rosen, Paul Smolensky (2021) Emergent Gestural Scores in a Recurrent Neural Network Model of Vowel Harmony. Talk presented at the Society for Computation in Linguistics, February 2021.
- Smith, Caitlin, Charlie O'Hara (2021) Learnability of Derivationally Opaque Processes in the Gestural Harmony Model. Poster presented at the Society for Computation in Linguistics, February 2021.
- Smith, Caitlin, Charlie O'Hara (2020) Learnability of Derivationally Opaque Patterns in the Gestural Harmony Model. Poster presented at the 2020 Annual Meeting on Phonology, Santa Cruz, CA (Online), September 2020.
- Smith, Caitlin (2020) Partial Height Harmony, Partial Transparency, and Gestural Blending. Talk presented at the 94th Annual Meeting of the Linguistic Society of America, New Orleans, LA, January 2020.
- Smith, Caitlin (2019) Stepwise Height Harmony as Partial Transparency. Talk presented at the 50th Annual Meeting of the North East Linguistics Society, Cambridge, MA, October 2019.
- Smith, Caitlin (2019) Partial Height Harmony as Partial Transparency. Talk presented at the 2019 Annual Meeting on Phonology, Stony Brook, NY, October 2019.
- Smith, Caitlin (2019) Asymmetries in Cross-Height Rounding Harmony. Talk presented at the 93rd Annual Meeting of the Linguistic Society of America, New York, NY, January 2019.
- Smith, Caitlin, Charlie O'Hara (2019) Formal Characterizations of True and False Sour Grapes. Talk presented at the Society for Computation in Linguistics, New York, NY, January 2019.
- O'Hara, Charlie, Caitlin Smith (2018) Computational Complexity and Sour-Grapes-Like Patterns. Poster presented at the 2018 Annual Meeting on Phonology, La Jolla, CA, October 2018.
- Smith, Caitlin (2018) Partial Transparency in Harmony: A Dynamic Gestural Model. Poster presented at the 92nd Annual Meeting of the Linguistic Society of America, Salt Lake City, UT, January 2018.

- Smith, Caitlin (2017) A Dynamic Model of Partial Transparency in Harmony. Talk presented at the Dynamic Modeling in Phonetics and Phonology workshop at the 53rd Annual Meeting of the Chicago Linguistic Society, Chicago, IL, May 2017.
- Smith, Caitlin, Reed Blaylock (2017) Deriving Exceptional Phonological Patterns from Contrastive Gestural Strength. Poster presented at the Dynamic Modeling in Phonetics and Phonology workshop at the 53rd Annual Meeting of the Chicago Linguistic Society, Chicago, IL, May 2017.
- Smith, Caitlin (2016) Harmony Triggering as a Contrastive Property of Segments. Poster presented at the 2016 Annual Meeting on Phonology, Los Angeles, CA, October 2016.
- Smith, Caitlin (2016) Harmony Triggering as a Segmental Property. Poster presented at the 47th Annual Meeting of the North East Linguistics Society, Amherst, MA, October 2016.
- Walker, Rachel, Michael Proctor, Caitlin Smith, EwaldENZINGER (2016) Asymmetries in English Liquid Production and Vowel Interactions. Poster presented at LabPhon15, Ithaca, NY, July 2016.
- Smith, Caitlin (2016) Transparency and Blocking in Harmony: A Gestural Account. Talk presented at the 90th Annual Meeting of the Linguistic Society of America, Washington, D.C., January 2016.
- Smith, Caitlin (2015) A Gestural Account of Neutral Segment Asymmetries in Harmony. Talk presented at the 2015 Annual Meeting on Phonology, Vancouver, British Columbia, Canada, October 2015.
- Smith, Caitlin (2014) Nasal Spreading as Defective Gestural Deactivation. Poster presented at the 2014 Annual Meeting on Phonology, Cambridge, MA, September 2014.
- Smith, Caitlin (2014) Complex Tongue Shaping in Lateral Liquid Production Without Constriction-Based Goals. Poster presented at the 10th International Seminar on Speech Production (ISSP), Cologne, Germany, May 2014.
- Smith, Caitlin (2014) Morphological Consonant Mutation as Gestural Affixation. Talk presented at the 50th Annual Meeting of the Chicago Linguistic Society, Chicago, IL, April 2014.
- Smith, Caitlin, Michael Proctor, Khalil Iskarous, Louis Goldstein, Shrikanth Narayanan (2013) Stable articulatory tasks and their variable formation: Tamil retroflex consonants. Talk presented at the 14th Annual Conference of the International Speech Communication Association (INTERSPEECH), Lyon, France, August 2013.
- Smith, Caitlin, Adam Lammert (2013) Identifying consonantal tasks via measures of tongue shaping: a real-time MRI investigation of the production of vocalized syllabic /l/ in American English. Poster presented at the 14th Annual Conference of the International Speech Communication Association (INTERSPEECH), Lyon, France, August 2013.

Smith, Caitlin, Michael Proctor, Khalil Iskarous, Louis Goldstein, Shrikanth Narayanan (2013) On distinguishing articulatory configurations and articulatory tasks: Tamil retroflex consonants. Poster presented at the 165th Meeting of the Acoustical Society of America/21st International Congress on Acoustics, Montreal, Quebec, Canada, June 2013.

## Teaching

---

2022-present	Teaching Assistant Professor, Linguistics, University of North Carolina at Chapel Hill Interdisciplinary Studies: Data Literacy Lab
2021-2022	Lecturer, Linguistics, University of California Davis Linguistics 103A: Linguistic Analysis I: Phonetics, Phonology, Morphology Linguistics 106: English Grammar Linguistics 111: Introduction to Phonological Theory
Spring 2019	Lecturer, Linguistics, University of North Carolina at Chapel Hill Linguistics 101: Introduction to Linguistics Linguistics 200: Phonology
2014-2015	Teaching Assistant, Psychology, University of Southern California Psychology 274: Statistics I
2013-2014	Teaching Assistant, Linguistics, University of Southern California Linguistics 285: Human Language & Technology

## Service

---

Member	UNC Computational Linguistics Certificate Advisory Board
Article Reviewer	<i>Glossa: A Journal of General Linguistics</i> <i>Journal of Linguistics</i>
Abstract Reviewer	Society for Computation in Linguistics (SCiL) 2020, 2022-2023 Annual Meeting on Phonology (AMP) 2020-2023 West Coast Conference on Formal Linguistics (WCCFL) 2023-2024
Organizer/Proceedings Editor	Annual Meeting on Phonology (AMP) 2016
Colloquium Coordinator	USC Graduate Students in Linguistics 2015-2017

## Technical Skills

---

Python (including PyTorch for neural network modeling, Pandas for data analysis, and custom tools for phonological acquisition modeling)

MATLAB (including TADA for articulatory/acoustic modeling, MVIEW and custom tools for real-time MRI analysis)

R/RStudio

SPSS

Praat