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Curriculum Vitae

Academic appointments

2023- Professor, Cornell University, Department of Linguistics
2017- Associate Professor, Cornell University, Department of Linguistics
2017-2018 Visiting Scholar, Wolfson College, Oxford University
2011-2017 Assistant Professor, Cornell University, Department of Linguistics
2009-2011 NIH NRSA Postdoctoral Fellow, University of Southern California
Hearing and Communication Neuroscience

Education

2009 Ph.D. Linguistics, University of California, Berkeley
Dissertation: Interactions between speech rhythm and gesture
2006 M.A. Linguistics, University of California, Berkeley
2001 B.A. Linguistics, B.A. English, Northwestern University

Fellowships, awards, grants

2022 (Co-PI) Cornell University New Frontiers Grant: Emergence of dialects in networks of speakers with random, constrained interactions (\$198,558)
2016 (Co-PI) Mario Einaudi Center for International Studies Small Grant: LabPhon15: Speech Dynamics and Phonological Representation (\$5,000).
2016 (Co-PI) Cornell University Institute for the Social Sciences Small Grant: LabPhon15 - Speech Dynamics and Phonological Representation (\$3,500).
2016 (Co-PI) NSF Conference Grant: LabPhon 15 - Speech Dynamics and Phonological Representation, Award #1551588, (\$24,845).
2013 Cornell Center for Teaching Excellence Faculty Grant: Earmaster: a phonetic transcription game.
2012 Cornell University Institute for the Social Sciences Small Grant: Visualizing speech: real-time MRI of the vocal tract (\$10,680).
2009 NIH Ruth L. Kirschstein-NRSA Institutional Research Training Grant, University of Southern California.
2008 NSF Doctoral Dissertation Improvement Grant, Award #0817767.
2001 Daniel Bonbright Award, Weinberg College of Arts and Sciences, Northwestern University.

Books

2019 **Syntax with oscillators and energy levels.** Tilsen, S. *Language Science Press.*

Peer-reviewed publications

2023 **Looking within events: examining internal temporal structure with local relative rate.** Tilsen, S. & Tiede, M. *Journal of Phonetics*, doi: 10.1016/j.wocn.2023.101264.
2023 **Parameters of unit-based measures of speech rate.** Tilsen, S. & Tiede, M. *Speech Communication* doi: 10.1016/j.specom.2023.05.006.

- 2023 **Hierarchical distinctions in the production and perception of nuclear tones in American English.** Cole, J., Steffman, J., Shattuck-Hufnagel, S., & Tilsen, S. *Laboratory Phonology* doi: 10.16995/labphon.9437.
- 2023 **A preliminary study of speech rhythm differences as markers of stuttering persistence in pre-school age children.** Erdemir, A., Walden, T., Mefferd, A., Tilsen, S., & Jones, R. M. *Journal of Speech, Language, and Hearing Research* doi: 10.1044/2022_JSLHR-22-00126.
- 2022 **An informal logic of feedback-based temporal control.** Tilsen, S. *Frontiers in Human Neuroscience* doi: 10.3389/fnhum.2022.851991.
- 2022 **Relaxation, Percolation, and Non-Spontaneous Fluctuation of Linguistic Behavior in a Quasi-Isolated System.** Tilsen, S. *Frontiers in Physics, Social Physics* doi: 10.3389/fphy.2022.801740.
- 2022 **An investigation of functional relations between speech rate and phonetic variables.** Kim, S.-E. & Tilsen, S. *Journal of Phonetics*, doi: 10.1016/j.wocn.2022.101152.
- 2022 **The online effect of clash is durational lengthening, not prominence shift: Evidence from Italian.** Burrioni, F. & Tilsen, S. *Journal of Phonetics*, 91. doi:10.1016/j.wocn.2021.101124.
- 2021 **Localizing category-related information in speech with multi-scale analyses.** Tilsen, S., Kim, S.-E., & Wang, C. *PLoS ONE* 16(1): e0258178.
- 2021 **Temporal differences between high vowels and glides are more robust than spatial differences.** Burgdorf, D. & Tilsen, S. *Journal of Phonetics*, 88. doi:10.1016/j.wocn.2021.101073.
- 2020 **Detecting anticipatory information in speech with signal chopping.** Tilsen, S. *Journal of Phonetics*, 82. doi:10.1016/j.wocn.2020.100996.
- 2020 **Incongruencies between phonological theory and phonetic measurement.** Mucke, D., Hermes, A., & Tilsen, S. *Phonology*, 37: 1, 133-170. doi:10.1017/S0952675720000068.
- 2019 **Motoric mechanisms for the emergence of non-local phonological patterns.** Tilsen, S. *Frontiers in Psychology*. DOI:10.3389/fpsyg.2019.02143.
- 2019 **Space and time in models of speech rhythm.** Tilsen, S. *Annals of The New York Academy of Sciences*. doi:10.1111/nyas.14102.
- 2018 **Analysis of Speech Production Real-time MRI.** Ramanarayanan, V., Tilsen, S., Proctor, M., Toger, J., Goldstein, L., & Nayak, K., Narayanan, S. *Computer Speech & Language*. 52: 1-22. doi:10.1016/j.csl.2018.04.002.
- 2017 **Exertive modulation of speech and articulatory phasing.** Tilsen, S. *Journal of Phonetics*. dx.doi.org/10.1016/j.wocn.2017.03.001.
- 2016 **Shared representations underlie metaphonological judgments and speech motor control.** Tilsen, S. & Cohn, A. *Laboratory Phonology: Journal of the Association for Laboratory Phonology*, 7(1): 14, pp. 1-33, doi:10.5334/labphon.52.
- 2016 **Selection and coordination: the articulatory basis for the emergence of phonological structure.** Tilsen, S. *Journal of Phonetics*, 55: 53-77. doi:10.1016/j.wocn.2015.11.005.
- 2016 **Anticipatory Posturing of the Vocal Tract Reveals Dissociation of Speech Movement Plans from Linguistic Units.** Tilsen, S., Spincemaille, P., Xu, B., Doerschuk, P., Luh, W.-M., Feldman, E., Wang, Y. *PLoS ONE* doi:10.1371/journal.pone.0146813.
- 2015 **Real-time articulatory biofeedback with electromagnetic articulography.** Tilsen, S., Das, D., & McKee, B. *Linguistics Vanguard* doi:10.1515/lingvan-2014-1006.
- 2014 **Selection and coordination in temporally constrained production.** Tilsen, S. *Journal of Phonetics*, 44: 26-46.
- 2013 **A dynamical model of hierarchical selection and coordination in speech planning.** Tilsen, S. *PLoS ONE* 8(4): e62800. doi:10.1371/journal.pone.0062800.
- 2013 **Speech rhythm analysis with decomposition of the amplitude envelope: Characterizing rhythmic patterns within and across languages.** Tilsen, S. & Arvaniti, A. *Journal of the Acoustical Society of America*, 134, 1: 628-639. doi:10.1121/1.4807565.
- 2013 **Inhibitory mechanisms in speech planning maintain and maximize contrast.** Tilsen, S. In A. Yu (Ed.), *Origins of Sound Patterns: Approaches to Phonologization*. 112-127. Oxford: Oxford University Press.
- 2012 **Articulatory gestures are individually selected in production.** Tilsen, S. & Goldstein, L. *Journal of Phonetics*, 40: 764-779.
- 2012 **Utterance preparation and stress clash: planning prosodic alternations.** Tilsen, S. In Fuchs, S., Perrier, P., Weirich, M. & Pape, D. (Eds.) *Speech production and perception: Planning and dynamics*, pp. 119-156. Frankfurt Am Main: Peter Lang Verlag.
- 2011 **Effects of syllable stress on articulatory planning observed in a stop-signal experiment.** Tilsen, S. *Journal of Phonetics*, 39: 642-659.
- 2011 **Metrical regularity facilitates speech planning and production.** Tilsen, S. *Laboratory Phonology*, 2: 1, 185-218.
- 2010 **Automated measurement of vowel formants in the Buckeye Corpus.** Yao, Y., Tilsen, S., Sprouse, R., & Johnson, K. *Gengo Kenkyu* (Journal of the Linguistic Society of Japan), 138: 99-113.

- 2009 **Multi-timescale dynamical interactions between speech rhythm and gesture.** Tilsen, S. *Cognitive Science*, 33, 839-879.
- 2009 **Subphonemic and cross-phonemic priming in vowel shadowing: evidence for the involvement of exemplars in production.** Tilsen, S. *Journal of Phonetics*, 37:3, 276-296.
- 2008 **Low-frequency Fourier analysis of speech rhythm.** Tilsen, S. & Johnson, K. *Journal of the Acoustical Society of America*, 124:2, EL34-39.

Conference proceedings

- 2022 **Shape matters: Machine classification and listeners' perceptual discrimination of American English intonational tunes.** Cole, J., Tilsen, S., & Steffman, J. *Proc. Speech Prosody 2022* 297-301.
- 2021 **Articulatory characteristics of Icelandic voiced fricative lenition: gradience, categoricity, and speaker/gesture-specific effects.** Stefansdottir, B., Burrioni, F., & Tilsen, S. *Proc. Interspeech 2021*.
- 2021 **Compensation for altered feedback in vowels and glides.** Burgdorf, D. & Tilsen, S. *Proc. of the 12th International Seminar on Speech Production*.
- 2021 **Temporal localization of syntactically conditioned prosodic information.** Kim, S.-E. & Tilsen, S. *Proc. of the 12th International Seminar on Speech Production*.
- 2021 **Nonlinear effects of speech rate on articulatory timing in singletons and geminates.** Tilsen, S. & Hermes, A. *Proc. of the 12th International Seminar on Speech Production*.
- 2021 **Cross-linguistic timing contrast in geminates: a rate-independent perspective.** Hermes, A., Tilsen, S., & Ridouane, R. *Proc. of the 12th International Seminar on Speech Production*.
- 2020 **Prominence clash does not induce rhythmic adjustments in Italian.** Burrioni, F. & Tilsen, S. *Proc. Speech Prosody 2020* 571-575, DOI: 10.21437/SpeechProsody.2020-117.
- 2020 **Speech rate and syntactically conditioned influences on prosodic boundaries.** Kim, S.-E. & Tilsen, S. *Proc. Speech Prosody 2020* 434-438, DOI: 10.21437/SpeechProsody.2020-89.
- 2019 **Strength and structure: coupling tones with oral constriction gestures.** Mucke, D., Hermes, A., & Tilsen, S. *Proc. Interspeech 2019*, 914-918.
- 2016 **A shared control parameter for F0 and intensity.** Tilsen, S. *Proc. Speech Prosody 2016*, 1066-1070.
- 2016 **Early Prosodic Manifestations of Disfluency.** Li, J. & Tilsen, S. *Proc. Speech Prosody 2016*, 1235-1239.
- 2015 **Structured nonstationarity in articulatory timing.** Tilsen, S. *Proc. of the 18th International Congress of Phonetic Sciences*.
- 2015 **Relation between syllable count judgments and durations of English liquid rimes.** Cohn, A. & Tilsen, S. *Proc. of the 18th International Congress of Phonetic Sciences*.
- 2015 **Phonetic evidence for two types of disfluency.** Li, J. & Tilsen, S. *Proc. of the 18th International Congress of Phonetic Sciences*.
- 2015 **The articulatory tone-bearing unit: Gestural coordination of lexical tone in Thai.** Karlin, R. & Tilsen, S. *POMA*, 22, 060006.
- 2015 **A gestural account of mandarin tone sandhi.** Yi, H. & Tilsen, S. *POMA*, 22, 060003.
- 2015 **A real-time MRI investigation of anticipatory posturing in prepared responses.** Tilsen, S., Spincemaille, P., Xu, B., Doerschuk, P., Karlin, R., Yi, H., Feldman, E., Luh, W., Wang, Y. *POMA*, 22, 060001.
- 2014 **Some people are eager to be heard: anticipatory posturing in speech production.** Tilsen, S., Spincemaille, P., Xu, B., Doerschuk, P., Karlin, R., Yi, H., Feldman, E., Luh, W., Wang, Y. *168th Meeting of the Acoustical Society of America Lay Language Papers*.
- 2013 **Comparison of native and non-native consonant articulation with real-time magnetic resonance imaging of the vocal tract.** Tilsen, S., Xu, B., Spincemaille, P., Srivastava, M., Doerschuk, P., Wang, Y. *POMA*, 19, 060246.
- 2013 **Acoustic and articulatory evidence for the phonological status of liaison consonants.** L'Esperance, M.-J. & Tilsen, S. *POMA*, 19, 060245.
- 2008 **Relations between speech rhythm and segmental deletion.** Tilsen, S. *Proc. of the Annual Meeting of the Chicago Linguistic Society*, 44:1, 221-223.

Working papers

- 2023 **Internal speech is faster than external speech: evidence for feedback-based temporal control.** Tilsen, S. & Kukk, C. *Cornell Working Papers in Phonetics and Phonology*, 2023.
- 2022 **Interpreting phonetic evidence for hierarchical organization of prosodic phrases.** Kim, S.-E. & Tilsen, S. *Cornell Working Papers in Phonetics and Phonology*, 2022.

- 2020 **Exploratory investigations of SVO sentence production: evidence for category-specific interference effects.** Tilsen, S. *Cornell Working Papers in Phonetics and Phonology* 2020.
- 2020 **A different view of gestural activation: learning gestural parameters and activation with an RNN.** Tilsen, S. *Cornell Working Papers in Phonetics and Phonology* 2020.
- 2018 **Three mechanisms for modeling articulation: selection, coordination, and intention.** Tilsen, S. *Cornell Working Papers in Phonetics and Phonology* 2018.
- 2016 **Correlations between speech behavior and social network structure in a constrained vocabulary game.** Tilsen, S. *Cornell Working Papers in Phonetics and Phonology* 2016.
- 2015 **Speech and social network dynamics in a constrained vocabulary game: design and hypotheses.** Tilsen, S. *Cornell Working Papers in Phonetics and Phonology* 2015.
- 2014 **Syllable count judgments and durations of liquid rimes in English.** Tilsen, S., Cohn, A., & Ricciardi, E. *Cornell Working Papers in Phonetics and Phonology* 2014.
- 2014 **Selection-coordination theory.** Tilsen, S. *Cornell Working Papers in Phonetics and Phonology* 2014.
- 2013 **Imitation of intonational gestures: a preliminary report.** Tilsen, S., Burgess, D., & Lantz, E. *Cornell Working Papers in Phonetics and Phonology* 2013.
- 2012 **Acoustic analysis of the effects of metrical regularity on interval durations.** Tilsen, S., Cibelli, E., Kang, S., Houde, J., Nagarajan, S. *Cornell Working Papers in Phonetics and Phonology* 2012.
- 2012 **A cross-linguistic investigation of articulatory coordination in word-initial consonant clusters.** Tilsen, S., Zec, D., Bjordahl, C., Butler, B., L Esperance, M. J., Fisher, A., Heimisdottir, L., Renwick, M., Sanker, C. *Cornell Working Papers in Phonetics and Phonology* 2012.
- 2009 **Toward a dynamical interpretation of hierarchical linguistic structure.** Tilsen, S. *UC Berkeley Phonology Lab Annual Report*, 462-512.
- 2008 **Preliminary results of a stop-signal experiment.** Tilsen, S. *UC Berkeley Phonology Lab Annual Report*, 686-712.
- 2007 **Vowel-to-vowel coarticulation and dissimilation in response-priming.** Tilsen, S. *UC Berkeley Phonology Lab Annual Report*, 416-458.
- 2007 **Low-frequency Fourier analysis of speech rhythm in the VIC corpus.** Tilsen, S. *UC-Berkeley Phonology Lab Annual Report*, 686-712.
- 2006 **Rhythmic coordination in repetition disfluency: a harmonic timing effect.** Tilsen, S. *UC Berkeley Phonology Lab Annual Report*, 73-114.