Curriculum Vita

Steven M. Lulich, Ph.D.

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**Education**

Post-Doctoral Research Fellow, Harvard School of Public Health, 2006-2008

Molecular and Integrative Physiological Sciences, Jeffrey Fredberg lab

Ph.D. Speech and Hearing Bioscience and Technology, MIT, 2006

Dissertation title: The role of lower airway resonances in defining vowel feature contrasts

Doctoral advisor: Kenneth N. Stevens, Sc.D. (1924-2013)

A.B. Linguistics, Dartmouth College, 2002 (cum laude with high honors)

Honors thesis title: The phonetics and phonology of [v] in Contemporary Standard Russian.

Honors thesis advisor: Ioana Chitoran, Ph.D.

Exchange Student, Institute for Natural Language Processing, University of Stuttgart, 2000/2001

**Employment**

Associate Professor, Indiana University, Bloomington, 2020-present  
 PhD Coordinator, 2021-present.

Department of Speech, Language & Hearing Sciences

Assistant Professor, Indiana University, Bloomington, 2013-2020  
 Department of Speech and Hearing Sciences

Adjunct Assistant Professor, Indiana University, Bloomington, 2018-present  
 Department of Linguistics

Visiting Research Scientist, Indiana University, Bloomington, 2010-2013  
 Department of Speech and Hearing Sciences

Visiting Assistant Professor, Indiana University, Bloomington, Fall, 2012  
 Department of Linguistics

Adjunct Lecturer, Indiana University, Bloomington, Spring, 2012  
 Department of Speech and Hearing Sciences

Research Scientist, Washington University in St Louis, 2009-2012  
 Department of Psychology

Lecturer, MIT, 2008-2009  
 Harvard-MIT Division of Health Sciences & Technology

Research Affiliate, MIT, 2006-2010  
 Speech Communication Group, Research Laboratory of Electronics

**Awarded Grant Proposals**

1. NSF Grant IIS-2006818 $270,000.00 October 1, 2020-September 30, 2023 Indiana University. Collaborative Research: RI: Small: From ultrasound and MRI to articulatory and acoustic models of child speech development. Role: PI.
2. Indiana University Research Equipment Fund $11,220.00 October, 2018-March, 2019 Speech Research Using Portable Ultrasound System. Role: Co-PI (Malgorzata Cavar, PI).
3. NSF Grant IIS-1551131 $160,000.00 September 1, 2015-Feburary 28, 2018 Indiana University. RI: EAGER: Collaborative Research: Models of Child Speech. Role: PI.
4. NSF Grant IIS-0905250 $520,791.00 September 1, 2009-August 31, 2014 Washington University in Saint Louis RI: Medium: Collaborative Research: The Effect of Subglottal Resonances on Machine and Human Speaker Normalization. Role: Co-PI (Mitch Sommers, PI).

**Publications**

**Peer-Reviewed Journal Articles**

†Student

1. †Diekhoff, M. & **Lulich, S. M.** (2022). [Conceptualizations of the articulation of rhotic sounds in American English, and the role of clinical experience in their formation](https://doi.org/10.1044/2022_PERSP-21-00226). *Perspectives of the ASHA Special Interest Groups*, 7:1256-1274.
2. **Lulich, S. M.** & Patel, R. R. (2021). [Semi-occluded vocal tract exercises in healthy young adults: articulatory, acoustic, and aerodynamic measurements during phonation at threshold](https://asa.scitation.org/doi/full/10.1121/10.0004792). *Journal of the Acoustical Society of America*, 149(5):3213-3227.
3. Cavar, M. E., & **Lulich, S. M.** (2021). [Variation in the articulation of Russian stressed vowels and the mechanics of palatalization in consonants](https://phondata.org/index.php/pda/article/view/31). *Phonological Data and Analysis*, 3(3), 1-44.
4. Cavar, M. E., Rudman, E., & **Lulich, S. M.** (2020). [Palatalization in coronal consonants of Polish: a three-/four-dimensional ultrasound study](https://asa.scitation.org/doi/pdf/10.1121/10.0002904). *Journal of the Acoustical Society of America*, 148, EL447-EL452.
5. Cavar, M. E., & **Lulich, S. M.** (2020). [Allophonic variation in the Polish vowel /ɨ/: Results of a 3D ultrasound study and their phonological implications](https://slavica.indiana.edu/journalListings/jsl/Volume28_No1). *Journal of Slavic Linguistics*, 28(1), 1-21.
6. †Karthik, E. M. V. N., †Karimi, E., **Lulich, S. M.**, & Laporte, C. (2020). [Automatic tongue surface extraction from 3D ultrasound vocal tract images](https://asa.scitation.org/doi/full/10.1121/10.0000891). *Journal of the Acoustical Society of America*, 147, 1623-1633.
7. †Hwang, Y., **Lulich, S. M.**, & de Jong, K. (2019). [Articulatory and acoustic characteristics of the Korean and English word-final laterals produced by Korean female learners of American English](https://asa.scitation.org/doi/full/10.1121/1.5134656). *Journal of the Acoustical Society of America*,146, EL444-EL450.
8. **Lulich, S. M.**, & Cavar, M. E. (2019). [Phonetics of Polish ‘soft’-‘hard’ vowel allophony](https://asa.scitation.org/doi/full/10.1121/1.5127834). *Journal of the Acoustical Society of America*, 146, 2263-2278.
9. **Lulich, S. M.**, & Pearson, W. G., Jr. (2019). [3D/4D ultrasound technology in speech research](https://pubs.asha.org/doi/pdf/10.1044/2019_PERS-SIG19-2019-0001). *Perspectives of the ASHA Special Interest Groups*, 4, 733-747.
10. Patel, R. R., **Lulich, S. M.**, & †Verdi, A. (2019). [Vocal tract shape and acoustic adjustments of children during phonation into narrow flow-resistant tubes](https://asa.scitation.org/doi/full/10.1121/1.5116681). *Journal of the Acoustical Society of America*, 146, 352-368.
11. †Charles, S., & **Lulich, S.M.** (2019). [Articulatory-acoustic relations in the production of coronal and palatal lateral sounds in Brazilian Portuguese](https://asa.scitation.org/doi/10.1121/1.5109565). *Journal of the Acoustical Society of America*, 145, 3269-3288.
12. †Hwang, Y., †Charles, S., & **Lulich, S. M.** (2019). [Articulatory characteristics and variation of Korean laterals](https://www.eksss.org/archive/view_article?pid=pss-11-1-19). *Phonetics and Speech Sciences*, 11, 19-27.
13. †Yeung, G., **Lulich, S. M.**, †Guo, J., Sommers, M. S., & Alwan, A. (2018). [Subglottal resonances of American English speaking children](https://asa.scitation.org/doi/abs/10.1121/1.5082289). *Journal of the Acoustical Society of America*, 144, 3437-3449.
14. †Charles, S. & **Lulich, S. M.** (2018). [Case study of Brazilian Portuguese laterals using a novel articulatory-acoustic methodology with 3D/4D ultrasound](https://www.sciencedirect.com/science/article/pii/S0167639317303345). *Speech Communication*, 103, 37-48.
15. **Lulich, S. M.**, Berkson, K. H., & de Jong, K. (2018). [Acquiring and visualizing 3D/4D ultrasound recordings of tongue motion](https://www.sciencedirect.com/science/article/pii/S0095447017301481). *Journal of Phonetics*, 71, 410-424.
16. **Lulich, S. M.**, †Charles, S., & Lulich, B. (2017). [The relation between tongue shape and pitch in clarinet playing using ultrasound measurements](https://asa.scitation.org/doi/abs/10.1121/1.4978059). *Journal of the Acoustical Society of America*, 141, 1759-1768.
17. **Lulich, S. M.** & †Arsikere, H. (2015). [Tracheo-bronchial soft tissue and cartilage resonances in the subglottal acoustic input impedance](https://asa.scitation.org/doi/abs/10.1121/1.4921281). *Journal of the Acoustical Society of America*, 137, 3436-3446.
18. †Morton, J. R., Sommers, M. S., & **Lulich, S. M.** (2015). [The effect of exposure to a single vowel on talker normalization for vowels](https://asa.scitation.org/doi/abs/10.1121/1.4913456). *Journal of the Acoustical Society of America*, 137, 1443-1451.
19. †Arsikere, H., **Lulich, S. M.**, & Alwan, A. (2014). [Estimating Speaker Height and Subglottal Resonances Using MFCCs and GMMs](https://ieeexplore.ieee.org/abstract/document/6689290). *IEEE Signal Processing Letters*, 21, 159-162.
20. †Arsikere, H., †Leung, G. K.-F. , **Lulich, S. M.**, & Alwan, A. (2013). [Automatic estimation of the first three subglottal resonances from adults’ speech signals with application to speaker height estimation](https://www.sciencedirect.com/science/article/abs/pii/S0167639312000805). *Speech Communication*, 55, 51-70.
21. **Lulich, S. M.**, †Morton, J. R., Sommers, M. S., †Arsikere, A., †Leung, G. K.-F., & Alwan, A. (2012). [Subglottal resonances of adult male and female native speakers of American English](https://asa.scitation.org/doi/abs/10.1121/1.4748582). *Journal of the Acoustical Society of America*, 132, 2592-2602.
22. **Lulich, S. M.**, Alwan, A., †Arsikere, H., †Morton, J. R., & Sommers, M. S. (2011). [Resonances and wave propagation velocity in the subglottal airways](https://asa.scitation.org/doi/abs/10.1121/1.3632091). *Journal of the Acoustical Society of America*, 130, 2108-2115.
23. †Arsikere, H., **Lulich, S. M.**, & Alwan, A. (2011). [Automatic estimation of the first subglottal resonance](https://asa.scitation.org/doi/abs/10.1121/1.3567004). *Journal of the Acoustical Society of America*, 129, EL197-EL203.
24. **Lulich, S. M.** (2010). [Subglottal resonances and distinctive features](https://www.sciencedirect.com/science/article/pii/S0095447008000594). *Journal of Phonetics* 38, 20-32.
25. †Wang, S., **Lulich, S. M.**, & Alwan, A. (2009). [Automatic detection of the second subglottal resonance and its application to speaker normalization](https://asa.scitation.org/doi/abs/10.1121/1.3257185). *Journal of the Acoustical Society of America*, 126, 3268-3277.
26. **Lulich, S. M.**, Bachrach, A., & Malyska, N. (2007). [A role for the second subglottal resonance in lexical access](https://asa.scitation.org/doi/abs/10.1121/1.2772227). *Journal of the Acoustical Society of America*, 122, 2320-2327.
27. **Lulich, S. M.** (2004). [Russian [v]: An acoustic study](https://www.degruyter.com/view/j/flin.2004.38.issue-1-2/flin.2004.38.1-2.63/flin.2004.38.1-2.63.xml). *Folia Liguistica Europea*, 38, 63-85.

**Peer-Reviewed Conference Proceedings**

†Student

1. **Lulich, S. M.** & Patel, R. R. (2021). Accelerometer-based measurements of voice quality in children during semi-occluded vocal tract exercise with a narrow straw in air. *Proceedings of Interspeech*, 1404-1408.
2. †Yeung, G., †Afshan, A., †Ozgun, K. E., †Kaewtip, K., **Lulich, S. M.**, & Alwan, A. (2017). [Predicting clinical evaluations of children’s speech with limited data using exemplar word template references](https://www.researchgate.net/profile/Amber_Afshan/publication/321101966_Predicting_Clinical_Evaluations_of_Children's_Speech_with_Limited_Data_Using_Exemplar_Word_Template_References/links/5bcbaac392851cae21b6d78f/Predicting-Clinical-Evaluations-of-Childrens-Speech-with-Limited-Data-Using-Exemplar-Word-Template-References.pdf). *7th ISCA Workshop on Speech and Language Technology in Education (SLaTE)*, *10*, 161-166.
3. Berkson, K. H., de Jong, K., & **Lulich, S. M.** (2017). [Three Dimensional Ultrasound Imaging of Pre- and Post-Vocalic Liquid Consonants in American English: Preliminary Observations](https://ieeexplore.ieee.org/abstract/document/7953124/). *International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 5080-5084.
4. †Csapó, T. G. & **Lulich, S. M.** (2015). [Error analysis of extracted tongue contours from 2D ultrasound images](https://www.isca-speech.org/archive/interspeech_2015/i15_2157.html). *Proceedings of Interspeech*, 2157-2161.
5. †Guo, J., †Pature, R., †Yeung, G., **Lulich, S. M.**, †Arsikere, H., & Alwan, A. (2015). [Age-dependent height estimation and speaker normalization for children’s speech using the first three subglottal resonances](https://www.isca-speech.org/archive/interspeech_2015/i15_1665.html). *Proceedings of Interspeech*, 1665-1669.
6. †Guo, J., †Liu, A., †Arsikere, H., Alwan, A., & **Lulich, S. M.** (2014). [The relationship between the second subglottal resonance and vowel class, standing height, trunk length, and F0 variation for Mandarin speakers](https://www.isca-speech.org/archive/interspeech_2014/i14_0930.html). *Proceedings of Interspeech*, 930-934.
7. **Lulich, S. M.** (2013). [Estimation of lumped vocal fold mechanical properties from non-invasive vowel and subglottal acoustics recordings](https://ieeexplore.ieee.org/abstract/document/6639231/). *International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 8041-8045.
8. †Arsikere, H., **Lulich, S. M.**, & Alwan, A. (2013). [Non-linear frequency warping for VTLN using subglottal resonances and the third formant](https://ieeexplore.ieee.org/abstract/document/6639207). *International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 7922-7926.
9. †Arsikere, H., †Leung, G. K.-F., **Lulich, S. M.**, & Alwan, A. (2012). [Automatic estimation of the first two subglottal resonances in children’s speech with application to speaker normalization in limited-data conditions](https://www.isca-speech.org/archive/interspeech_2012/i12_1267.html). *Proceedings of Interspeech*, 1267-1270.
10. †Arsikere, H., †Leung, G. K.-F., **Lulich, S. M.**, & Alwan, A. (2012). [Automatic height estimation using the second subglottal resonance](https://ieeexplore.ieee.org/abstract/document/6288792). *Proceedings of the International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 3989-3992.
11. †Gráczi, T. E., **Lulich, S. M.**, †Csapó, T. G., & †Beke, A. (2011). [Context and speaker dependency in the relation of vowel formants and subglottal resonances - Evidence from Hungarian](https://www.isca-speech.org/archive/interspeech_2011/i11_1901.html). *Proceedings of Interspeech*, 1901-1904.
12. **Lulich, S. M.**, †Arsikere, H., †Morton, J. R., †Leung, G. K.-F., Alwan, A., & Sommers, M. S. (2011). [Analysis and automatic estimation of children’s subglottal resonances](https://www.isca-speech.org/archive/interspeech_2011/i11_2817.html). *Proceedings of Interspeech*, 2817-2820.
13. †Arsikere, H., **Lulich, S. M.**, & Alwan, A. (2011). [Automatic estimation of the second subglottal resonance from natural speech](https://ieeexplore.ieee.org/abstract/document/5947383). *Proceedings of the International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 4616-4619.
14. †Csapó, T. G., Bárkányi, Z., †Gráczi, T. E., Bőhm, T., & **Lulich, S. M.** (2009). [Relation of formants and subglottal resonances in Hungarian vowels](https://www.isca-speech.org/archive/interspeech_2009/i09_0484.html). *Proceedings of Interspeech*, 484-487.
15. †Wang, S., **Lulich, S. M.**, & Alwan, A. (2008). [A reliable technique for detecting the second subglottal resonance and its use in cross-language speaker adaptation](https://www.isca-speech.org/archive/interspeech_2008/i08_1717.html). *Proceedings of Interspeech*, 1717-1720.
16. †Madsack, A., **Lulich, S. M.**, Wokurek, W., & Dogil, G. (2008). [Subglottal resonances and vowel formant variability: A case study of High German monophthongs and Swabian diphthongs](https://labphon.org/sites/default/files/previous_conferences/LabPhon11.pdf). *Proceedings of LabPhon*, *11*, 91-92.
17. †Wang, S., Alwan, A., & **Lulich, S. M.** (2008). [Speaker normalization based on subglottal resonances](https://ieeexplore.ieee.org/abstract/document/4518600/). *Proceedings of the International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 4277-4280.
18. **Lulich, S. M.** & Thompson, P. (2002). [Lexicon development and the infosphere](http://lrec-conf.org/proceedings/lrec2002/pdf/ws7.pdf). *Proceedings of Language Resources Evaluation Conference (LREC) Question Answering workshop*, 35-38.

**Editor-Reviewed Conference Proceedings**

†Student

1. Palo, P. & **Lulich, S. M.** (2021). [An ultrasound study of the effect of rest position on timing of pre-acoustic speech movements](https://asa.scitation.org/doi/abs/10.1121/2.0001564). *Proceedings of Meetings on Acoustics, 45,* 060011.
2. **Lulich, S. M.** & †Charles, S. D. (2020). [Development of formant frequency distributions in American English-speaking elementary school-aged children: a longitudinal study](https://asa.scitation.org/doi/abs/10.1121/2.0001459). *Proceedings of Meetings on Acoustics, 42,* 060016.
3. †Alfaifi, A. H., Cavar, M. E., & **Lulich, S. M.** (2020). [Tongue root position in Hijazi Arabic voiceless emphatic and non-emphatic coronal consonants](https://asa.scitation.org/doi/10.1121/2.0001391). *Proceedings of Meetings on Acoustics, 42*, 060004.
4. †Charles, S. D., & **Lulich, S. M.** (2019). [An ultrasound study of American English laterals produced by children](https://asa.scitation.org/doi/10.1121/2.0001133). *Proceedings of Meetings on Acoustics, 36,* 060006.
5. **Lulich, S. M.**, Cavar, M. E., & †Nelson, M. (2017). [Three-dimensional ultrasound images of Polish high front vowels](https://asa.scitation.org/doi/abs/10.1121/2.0000728). *Proceedings of Meetings on Acoustics*, *173EAA 30*, 060006.
6. Cavar, M. E., **Lulich, S. M.**, & †Nelson, M. (2017). [Allophonic variation in Polish vowels in the context of prepalatal consonants](https://asa.scitation.org/doi/abs/10.1121/2.0000755). *Proceedings of Meetings on Acoustics*, *173EAA 30*, 060007.
7. **Lulich, S. M.**, Zañartu, M., Mehta, D. D., & Hillman, R. E. (2009). [Source-filter interaction in the opposite direction: Subglottal coupling and the influence of vocal fold mechanics on vowel spectra during the closed phase](https://asa.scitation.org/doi/abs/10.1121/1.3269926). *Proceedings of Meetings on Acoustics*, *6*, 060007.
8. **Lulich, S. M.** & Chen, N. F. (2009). [Automatic classification of consonant-vowel transitions based on subglottal resonances and second formant frequencies](https://asa.scitation.org/doi/abs/10.1121/1.3207336). *Proceedings of Meetings on Acoustics*, *6*, 060005.
9. **Lulich, S. M.** (2008). [On the relation between locus equations and subglottal resonances](https://asa.scitation.org/doi/abs/10.1121/1.3186740). *Proceedings of Meetings on Acoustics*, *5*, 060003.

**Peer-Reviewed Book Chapters**

†Student

1. †Mokh, N. A., **Lulich, S. M.**, †Alfaifi, A., †Robinson, S., †Charles, S., & de Jong, K. (2020). A study of the place of articulation of the Arabic voiceless dorsal fricative. In Van Gelderen, E. (Ed.), *Perspectives on Arabic Linguistics XXXII* (pp. 55-67). John Benjamins.
2. **Lulich, S. M.** (2019). Voice Production: Physics. In Damico, J. S., & Ball, M. J. (Eds.), *The SAGE Encyclopedia of Human Communication Sciences and Disorders* (pp. 2094-2099). SAGE Publishing.
3. **Lulich, S. M.** (2019). Speech Production, Theories of. In Damico, J. S., & Ball, M. J. (Eds.), *The SAGE Encyclopedia of Human Communication Sciences and Disorders* (pp. 1783-1787). SAGE Publishing.
4. **Lulich, S. M.** & Whaley, L. J. (2012). An acoustic phonetic study of Oroqen vowels. In (Whaley, L. J. & Malchukov, A. (Eds.), *Recent Advances in Tungusic Linguistics* (pp. 59-78). Harrassowitz.
5. Dogil, G., **Lulich, S. M.**, †Madsack, A., & Wokurek. W. (2011). Crossing the quantal boundaries of features: Subglottal resonances and Swabian diphthongs. In Goldsmith, J. A., Hume, E., & Wetzels, L. (Eds.), *Tones and Features: Phonetic and Phonological Perspectives* (pp. 137-148). de Gruyter.

**Other Publications**

1. **Lulich, S. M.**, Alwan, A, Sommers, M. S., & Yeung. G (2022). [The Child Subglottal Resonances Database](https://catalog.ldc.upenn.edu/LDC2022S02). *Linguistic Data Consortium*: University of Pennsylvania.
2. Alwan, A., **Lulich, S. M.**, & Sommers, M. S. (2015). [The Subglottal Resonances Database](https://catalog.ldc.upenn.edu/LDC2015S03). *Linguistic Data Consortium*: University of Pennsylvania.
3. **Lulich, S. M.** (2012). Derivation and acoustic effects of an area function for the laryngeal subglottis. *The Phonetician*, 105/106, 25-36.
4. †Csapó, T. G., †Gráczi, T. E., Bárkányi, Z., †Beke, A., & **Lulich, S. M.** (2009). Patterns of Hungarian vowel production and perception with regard to subglottal resonances. *The Phonetician*, 99/100, 7-28.

**Invited Conference Presentations**

†Student

1. Berkson, K. H., †Lotven, S., †Wamsley, J., †Sung, Z., †Thang, P., †Thawngza, T., de Jong, K., Kuebler, S., **Lulich, S. M.** (2018). [Kuki-Chin languages in Indiana: Investigating typologically rare sounds in a developing community of collaboration](https://asa.scitation.org/doi/abs/10.1121/1.5068473). *Journal of the Acoustical Society of America*, 144:1937.
2. Berkson, K. H., de Jong, K., **Lulich, S. M.**, Cavar, M. (2018). [Building a multilingual ultrasound corpus](https://asa.scitation.org/doi/abs/10.1121/1.5067614). *Journal of the Acoustical Society of America*, 144:1717.
3. **Lulich, S. M.** (2017). [Multimodal investigation of speech production featuring real-time three-dimensional ultrasound](https://asa.scitation.org/doi/abs/10.1121/1.4987880). *Journal of the Acoustical Society of America*, 141:3646.
4. **Lulich, S. M.** (2016). 3D/4D Ultrasound Imaging of Swallowing and Speech Production. [*4th International Workshop on Biomechanical and Parametric Modeling of Human Anatomy*](https://parametrichuman.org/event/pmha-2016/) *(PMHA)*.
5. **Lulich, S. M.** (2016). [Patterns of lingual articulation: A real-time three-dimensional ultrasound + palate study](https://asa.scitation.org/doi/abs/10.1121/1.4950526). *Journal of the Acoustical Society of America*, 2192.

**Contributed Conference Presentations**

†Student

1. **Lulich, S. M.**, †Diekhoff, M., Patel, R. R. (2021) Tongue position variability in sustained vowels produced by healthy children and young adults with and without a semi-occluded vocal tract: a pilot study. *Journal of the Acoustical Society of America*. December, 2021.
2. Palo, P., **Lulich, S. M.** (2021) An ultrasound study of rest position and pre-acoustic articulation in adults and children. *Journal of the Acoustical Society of America*. December, 2021.
3. Palo, P., **Lulich, S. M.** (2021) Characterizing end of utterance movements. *Acoustics Week in Canada*. October, 2021.
4. Cavar, M. E., **Lulich, S. M.**, †Alfaifi, A. H. (2021) Variation as a measure of under-specification and category: The case of palatalization and emphasis. *Manchester Phonology Meeting*. May, 2021.
5. †Alfaifi, A., Cavar, M. E., **Lulich, S. M.**, (2020). [Tongue root position in Hijazi Arabic voiceless emphatic and non-emphatic coronal consonants](https://asa.scitation.org/doi/abs/10.1121/1.5147167). *Journal of the Acoustical Society of America*. December, 2020.
6. †Charles, S., **Lulich, S. M.** (2020). [Development of formant frequency distributions in American English-speaking elementary school-aged children: a longitudinal study](https://asa.scitation.org/doi/abs/10.1121/1.5146945). *Journal of the Acoustical Society of America*. December, 2020.
7. **Lulich, S. M.** (2020). Ultrasound visualization and analysis using WASL. [*UltraFest IX*](https://ultrafest2020.indiana.edu/). October, 2020.
8. **Lulich, S. M.**, Karthik, E. M. V. N., Laporte, C. (2020). Automatic tongue surface extraction from 3D ultrasound using 3D SLURP. [*UltraFest IX*](https://ultrafest2020.indiana.edu/). October, 2020.
9. Cavar, M., Lulich, S. M. (2019). [Phonetics explains phonotactics: the case of velar consonants followed by front vowels in Polish](http://www.apap.kul.pl/files/30/apap/apap_book_of_abstracts_2019.pdf). *Approaches to Phonology and Phonetics.*
10. Patel, R. R., **Lulich, S. M.** (2019). [Vocal tract shape and acoustic adjustments of children during phonation with narrow flow-resistant tubes](http://aql2019.conference.mcgill.ca/). *Advances in Quantitative Laryngology*.
11. Cavar, M., **Lulich, S. M.** (2019). [(Re-)Interpreting Place Features in Feature Geometry](http://www.lel.ed.ac.uk/mfm/27mfm-abbk.pdf). *Manchester Phonology Meeting*. Manchester: May, 2019.
12. Cavar, M., **Lulich, S. M.** (2019). [The role of the tongue root in palatalization: the softness distinction in Russian re-interpreted](http://sites.hss.univr.it/linguisticsinverona/Data/OCP16_paper_70.pdf). *Old World Conference in Phonology*. Verona: January, 2019.
13. †Feehan, C., **Lulich, S. M.** (2019). [Voice actors imitating child speech: A study of using 3D ultrasound](https://asa.scitation.org/doi/abs/10.1121/1.5102023). *Journal of the Acoustical Society of America*, 145:1930.
14. de Jong, K., Berkson, K. H., **Lulich, S. M.**, †Myers, S., †Bohnert, A. (2019). [The lingual topography of American English laterals in onsets and codas](https://asa.scitation.org/doi/abs/10.1121/1.5102009). *Journal of the Acoustical Society of America*, 145:1928.
15. †Charles, S., **Lulich, S. M.** (2019). [An ultrasound study of American English laterals produced by first graders](https://asa.scitation.org/doi/abs/10.1121/1.5101564). *Journal of the Acoustical Society of America*, 145:1795*.*
16. Cavar, M., **Lulich, S. M.** (2018). [Tongue root advancement in palatalization of Russian and Polish consonants measured with 3D ultrasound](https://www.uni-goettingen.de/de/book+of+abstracts+%28.pdf%29/599019.html). *Formal Descriptions of Slavic Languages*. Goettingen: December, 2018.
17. **Lulich, S. M.** (2018). [Registration and fusion of 3D head-neck MRI and 3D/4D tongue ultrasound](https://asa.scitation.org/doi/abs/10.1121/1.5068345). *Journal of the Acoustical Society of America*, 144:1904.
18. †Diekhoff, M., **Lulich, S. M.** (2018). [Speech-language pathology student-clinicians’ self-awareness of tongue position during rhotic sound production in American English](https://asa.scitation.org/doi/abs/10.1121/1.5068167). *Journal of the Acoustical Society of America*, 144:1856.
19. Cavar, M., **Lulich, S. M.** (2018). [Sub-articulatory interactions in palatalization processes](https://asa.scitation.org/doi/abs/10.1121/1.5067638). *Journal of the Acoustical Society of America*, 144:1722.
20. Whalen, D. H., Noiray, A., **Lulich, S. M.** (2018). [Tutorial on Ultrasound Evidence in Phonology](http://labfon.letras.ulisboa.pt/LabPhon16/se-02.html). *LabPhon 16*. Lisbon: June, 2018.
21. Cavar, M., **Lulich, S. M.** (2018). [The position of the tongue root in the articulation of posterior sibilants in Polish](https://www.researchgate.net/profile/Matgorzata_Cavar/publication/324592635_The_position_of_the_tongue_root_in_the_articulation_of_posterior_sibilants_in_Polish/links/5b1161bda6fdcc4611da8fb9/The-position-of-the-tongue-root-in-the-articulation-of-posterior-sibilants-in-Polish.pdf). *Journal of the Acoustical Society of America*, 143:1967.
22. **Lulich, S. M.**, Cavar, M. (2018). [The role of tongue root advancement in palatalization: Evidence from Polish](http://www.lel.ed.ac.uk/mfm/26mfm-abbk.pdf). *Manchester Phonology Meeting*. Manchester: May, 2018.
23. **Lulich, S. M.** (2017). [Acquisition and analysis of 3D/4D ultrasound recordings of speech](https://www.uni-potsdam.de/fileadmin01/projects/lola/docs/Book_of_abstracts.pdf). *UltraFest VIII*. Potsdam: October, 2017, pp. 33-34.
24. Laporte, C., **Lulich, S. M.** (2017). [Towards automated segmentation of the moving tongue surface in 3D ultrasound](https://www.uni-potsdam.de/fileadmin01/projects/lola/docs/Book_of_abstracts.pdf). *UltraFest VIII*. Potsdam: October, 2017, pp. 65-66.
25. **Lulich, S. M.** (2017). [Non-invasive measurement of acoustic coupling between the clarinet bore and its player’s vocal tract](https://asa.scitation.org/doi/abs/10.1121/1.4988159). *Journal of the Acoustical Society of America*, 141:3723.
26. **Lulich, S. M.**, †Nelson, M., De Jong, K., Berkson, K. H. (2017). [Anatomically oriented Principal Components Analysis of three-dimensional tongue surfaces](https://asa.scitation.org/doi/abs/10.1121/1.4987651). *Journal of the Acoustical Society of America*, 141:3584.
27. †Foley, O., Piper, A. W., **Lulich, S. M.** (2017). [Three-dimensional analysis of liquid sounds produced by first graders](https://asa.scitation.org/doi/abs/10.1121/1.4988260). *Journal of the Acoustical Society of America*, 141:3747.
28. **Lulich, S. M.**, Cavar, M., †Nelson, M. (2017). [3-D ultrasound images of Polish high front vowels](https://asa.scitation.org/doi/abs/10.1121/2.0000728). *Journal of the Acoustical Society of America*, 141:3819.
29. Cavar, M., **Lulich, S. M.**, †Nelson, M. (2017). [Allophonic variation of Polish vowels in the context of prepalatal consonants](https://asa.scitation.org/doi/abs/10.1121/2.0000755). *Journal of the Acoustical Society of America*, 141:3820.
30. †Yeung, G., **Lulich, S. M.**, Toutios, A., Alwan, A., †Afshan, A. (2016). [Analysis of children’s high front vowel area function using three-dimensional ultrasound imaging](https://asa.scitation.org/doi/abs/10.1121/1.4971136). *Journal of the Acoustical Society of America*, 140:3448.
31. **Lulich, S. M.**, †Charles, S., Lulich, B. (2016). [Real-time three-dimensional tongue motion during clarinet performance](https://asa.scitation.org/doi/abs/10.1121/1.4950569). *Journal of the Acoustical Society of America*, 139:2203.
32. †Foley, O., †McNeil, S., †Schlimm, K., Piper, A. W., **Lulich, S. M.** (2016). [Rhotic articulation by first graders: A real-time three-dimensional ultrasound study](https://asa.scitation.org/doi/abs/10.1121/1.4950649). *Journal of the Acoustical Society of America*, 139:2219.
33. **Lulich, S. M.**, †Rhodes, B., †Nelson, M., Berkson, K. H., De Jong, K. (2016). [Three-dimensional tongue shapes of /r/ production in American English words](https://asa.scitation.org/doi/abs/10.1121/1.4950663). *Journal of the Acoustical Society of America*, 139:2222.
34. †Rhodes, B., Berkson, K. H., De Jong, K., **Lulich, S. M.** (2015). [Real-time three-dimensional ultrasound imaging of pre- and post-vocalic liquid consonants in American English](https://asa.scitation.org/doi/abs/10.1121/1.4920283). *Journal of the Acoustical Society of America*, 137:2268.
35. Alwan, A., **Lulich, S. M.**, †Arsikere, H. (2015). [The role of subglottal resonances in speech processing algorithms](https://asa.scitation.org/doi/abs/10.1121/1.4920497). *Journal of the Acoustical Society of America*, 137:2327.
36. †Abell, A., **Lulich, S. M.** (2015). [Dental, or retroflex, that is the question: A study of Mina stop consonants](https://asa.scitation.org/doi/abs/10.1121/1.4920663). *Journal of the Acoustical Society of America*, 137:2382.
37. †Abell, A., **Lulich, S. M.** (2014). [Articulation of sibilant fricatives in Colombian Spanish](https://asa.scitation.org/doi/abs/10.1121/1.4899664). *Journal of the Acoustical Society of America*, 136:2127.
38. Bent, T., **Lulich, S. M.**, Withnell, R. H., Shofner, W. (2014). [Acoustics-related research in the Department of Speech and Hearing Sciences at Indiana University](https://asa.scitation.org/doi/abs/10.1121/1.4899973). *Journal of the Acoustical Society of America*, 136:2199.
39. †Bonadies, M.,Withnell, R. H., **Lulich, S. M.** (2014). [Comparison of tidal breathing and reiterant speech breathing using whole body plethysmography](https://asa.scitation.org/doi/abs/10.1121/1.4899740). *Journal of the Acoustical Society of America*, 136:2144.
40. †Duvanenko, N., **Lulich, S. M.** (2014). [Relationship between lung volumes and subglottal resonances](https://asa.scitation.org/doi/abs/10.1121/1.4900162). *Journal of the Acoustical Society of America*, 136:2260.
41. †Janssen, S., **Lulich, S. M.** (2014). [Palate-related constraints on sibilant production in three dimensions](https://asa.scitation.org/doi/abs/10.1121/1.4899670). *Journal of the Acoustical Society of America*, 136:2128.
42. **Lulich, S. M.** (2014). [Combined analysis of real-time three-dimensional tongue ultrasound and digitized three-dimensional palate impressions: Methods and findings](https://asa.scitation.org/doi/abs/10.1121/1.4899568). *Journal of the Acoustical Society of America*, 136:2104.
43. **Lulich, S. M.**, †Bonadies, M., Lulich, M. D., Withnell, R. H. (2014). [Ultrasound study of diaphragm motion during tidal breathing and speaking](https://asa.scitation.org/doi/abs/10.1121/1.4899736). *Journal of the Acoustical Society of America*, 136:2144.
44. †Pedro, R., †Mazzocco, E., †Csapó, T. G., **Lulich, S. M.** (2014). [Investigation of a tongue-internal coordinate system for two-dimensional ultrasound](https://asa.scitation.org/doi/abs/10.1121/1.4899668). *Journal of the Acoustical Society of America*, 136:2128.
45. Sommers, M. S., Alwan, A., **Lulich, S. M.** (2014). [The role of subglottal acoustics in speech production and perception](https://asa.scitation.org/doi/abs/10.1121/1.4900156). *Journal of the Acoustical Society of America*, 136:2259.
46. †Talbert, C. M., **Lulich, S. M.** (2014). [Palate shape and the central tongue groove](https://asa.scitation.org/doi/abs/10.1121/1.4899666). *Journal of the Acoustical Society of America*, 136:2127.
47. †Tebout, M., **Lulich, S. M.** (2014). [Comparison of palate impressions and palate casts from three-dimensional laser-scanned digital models](https://asa.scitation.org/doi/abs/10.1121/1.4899672). *Journal of the Acoustical Society of America*, 136:2128.
48. **Lulich, S. M.** (2013). [Estimation of vocal tract input impedance at the glottis from formant measurements](https://asa.scitation.org/doi/abs/10.1121/1.4831425). *Journal of the Acoustical Society of America*, 134:4203.
49. †Morton, J. R., Sommers, M. S., **Lulich, S. M.**, Alwan, A., †Arsikere, H. (2013). [Acoustic features mediating height estimation from human speech](https://asa.scitation.org/doi/abs/10.1121/1.4830873). *Journal of the Acoustical Society of America*, 134:4072.
50. †Morton, J. R., **Lulich, S. M.**, Sommers, M. S. (2012). [The effects of prior access to talker information on vowel identification in single- and mixed-talker contexts](https://asa.scitation.org/doi/abs/10.1121/1.4755664). *Journal of the Acoustical Society*, *132:2078*.
51. †Arsikere, H., †Lee, Y., **Lulich, S. M.**, †Morton, J. R., Sommers, M. S., Alwan, A. (2010). [Relations among subglottal resonances, vowel formants, and speaker height, gender, and native language](https://s3.amazonaws.com/academia.edu.documents/40546751/Relations_among_subglottal_resonances_vo20151201-29859-ne275a.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1557193592&Signature=TtL9otWliHOIgxAKtuEkYj%2FT07g%3D&response-content-disposition=inline%3B%20filename%3DRelations_among_subglottal_resonances_vo.pdf). *Journal of the Acoustical Society of America*, 128:2288.
52. **Lulich, S. M.**, †Morton, J. R., Sommers, M. S., †Arsikere, H., †Lee, Y., Alwan, A. (2010). [A new speech corpus for studying subglottal acoustics in speech production, perception, and technology](https://www.researchgate.net/profile/John_Morton9/publication/47531348_A_new_speech_corpus_for_studying_subglottal_acoustics_in_speech_production_perception_and_technology/links/0a85e533d803c6aefb000000/A-new-speech-corpus-for-studying-subglottal-acoustics-in-speech-production-perception-and-technology.pdf). *Journal of the Acoustical Society of America*, 128:2288.
53. **Lulich, S. M.** (2010). [Effects of ambient pressure and gas mixture on a numerical model of subglottal acoustics and vowel spectra](https://asa.scitation.org/doi/abs/10.1121/1.3385276). *Journal of the Acoustical Society of America*, 127:2020.
54. **Lulich, S. M.**, Zañartu, M., Mehta, D. D., Hillman, R. E. (2009). [Source-filter interaction in the opposite direction: Subglottal coupling and the influence of vocal fold mechanics on vowel spectra during the closed phase](https://asa.scitation.org/doi/abs/10.1121/1.3269926). *Journal of the Acoustical Society of America*, 125:2638.
55. Chen, N. F., **Lulich, S. M.** (2009). [Automatic classification of consonant-vowel transitions based on subglottal resonances and second formant frequencies](https://asa.scitation.org/doi/abs/10.1121/1.4784085). *Journal of the Acoustical Society of America*, 125:2638.
56. **Lulich, S. M.** (2008). [On the relation between locus equations and subglottal resonances](https://asa.scitation.org/doi/abs/10.1121/1.3186740). *Journal of the Acoustical Society of America*, 124:2558.
57. Jung, Y., **Lulich, S. M.**, Stevens, K. N. (2008). [Development of subglottal quantal effects in young children](https://asa.scitation.org/doi/abs/10.1121/1.4782943). *Journal of the Acoustical Society of America*, 124:2519.
58. **Lulich, S. M.** (2006). [Modeling the effects of the lower airway on vowel spectra](https://asa.scitation.org/doi/abs/10.1121/1.4786268). *Journal of the Acoustical Society of America*, 119:3303.
59. Bachrach, A., **Lulich, S. M.**, Malyska, N. (2005). [A role for tracheal resonances in speech perception](https://asa.scitation.org/doi/abs/10.1121/1.4788575). *Journal of the Acoustical Society of America*, 117:2572.

**Invited Colloquia**

1. **Lulich, S. M.** (2018). Research from the Speech Production Laboratory. *Indiana University Department of Speech & Hearing Sciences Colloquium*. October, 2018.
2. **Lulich, S. M.** (2018). Beyond articulation: Tongue anatomy and deformation in phonetics and phonology. *Indiana University Department of Linguistics Colloquium*. September, 2018.
3. **Lulich, S.** **M.** (2017). Introduction to Ultrasound Imaging Research in the Speech Production Laboratory. *Indiana University Linguistics Club Colloquium*. December 8, 2017.
4. Berkson, K. H., **Lulich, S. M.** (2017). 3D/4D Ultrasound Research: New Methods, Challenges, and Insights. *Mississippi University for Women, Department of Speech Pathology*. November, 2017.
5. **Lulich, S. M.** (2016). Real-time three-dimensional ultrasound imaging of the vocal tract during speech and clarinet sound production. Colloquium presented at the *Institute for Natural Language Processing*, University of Stuttgart, Germany. July, 2016.
6. **Lulich, S.** M. (2014). Introducing the Speech Production Laboratory. *Indiana University Department of Linguistics Colloquium*. November, 2014.

**Honors and Awards**

**Fellow of the Acoustical Society of America**

Elected in Spring 2022

**Institute for Advanced Study**

* Selected to participate in the Recently Tenured Working Group (2021/2022)

**Trustees Teaching Award**

* Indiana University (2019)

**Best Student Paper**

* Acoustical Society of America
  + Bachrach, A., **Lulich, S. M.**, Malyska, N. (2005). A role for tracheal resonances in speech perception.

**Courses Taught**

**S702 Instrumentation for Speech, Language, and Hearing Sciences** (PhD course)

Indiana University, Bloomington, Fall 2020, Spring 2019.

Enrollment ~10.

**S683** **Research Forum** (PhD course)

Indiana University, Bloomington, Fall 2021, 2022, Spring 2022.

Enrollment variable.

**S682 2nd Year Project** (PhD course)

Indiana University, Bloomington, Fall 2021, 2022, Spring 2022.

Enrollment variable.

**S681 1st Year Project** (PhD course)

Indiana University, Bloomington, Fall 2021, 2022, Spring 2022.

Enrollment variable.

**S580 Critical Thinking about Research in Communication Sciences and Disorders** (MA course)

Indiana University, Bloomington, Fall 2013, 2014.

Enrollment ~40

**S555 Motor Speech Disorders** (MA course)

Indiana University, Bloomington, Fall 2021, 2022.

Enrollment ~30-40

**S515 Reading Research in Audiology** (AuD course)

Indiana University, Bloomington, Spring 2012, 2015.

Enrollment ~30

**S425 Speech Imaging** (undergraduate senior seminar)

Indiana University, Bloomington, Fall 2017, 2018, Spring 2017.

Enrollment ~10-25.

**S350 Speech Science** (undergraduate course)

Indiana University, Bloomington, Fall 2017, 2018, 2019, 2021, Spring 2018, 2020, 2022.

Enrollment ~40-60

**S311 Introduction to Research Methods** (undergraduate course)

Indiana University, Bloomington, Fall 2016, 2019, Spring 2018, 2019, 2020.

Enrollment ~25-45

**S302 Acoustics for Speech and Hearing Science** (undergraduate course)

Indiana University, Bloomington, Fall 2013, 2014, 2015, 2016, Spring 2014, 2015, 2017.

Enrollment ~50-70

**S201 Speech Anatomy and Physiology** (undergraduate course)

Indiana University, Bloomington, Fall 2020.

Enrollment ~65

**L306 Introduction to Phonetics** (undergraduate course)

Indiana University, Bloomington, Fall 2012.

Enrollment ~35

**L210 Word Crime: Language as Evidence** (undergraduate course)

Indiana University, Bloomington, Fall 2012.

Enrollment ~15

**L700 Signal Processing for Linguistics** (PhD course)

Indiana University, Bloomington, Fall 2012.

Enrollment ~15

**Speech Acoustics** (graduate course; taught by video conference)

Budapest University of Technology and Economics, Spring 2009.

Enrollment ~20

**Speech Communication** (PhD course)

Massachusetts Institute of Technology, Spring 2008.

Enrollment ~ 20

**Students and Visiting Researchrs**

**Post-Doctoral Fellows**

Pertti Palo 2021-present

**External PhD Students**

Sarah Li 2022-present

Biomedical Engineering

University of Cincinnati

Supervisor: Suzanne Boyce

Role: outside F31 mentor and dissertation committee member

**External MA Students**

Suzon Olory 2022-present

Electrical Engineering

École de Technologie Supérieure

Supervisor : Catherine Laporte

Role: outside co-supervisor

**PhD Students**

Carey Smith (Speech, Language & Hearing Sciences) in progress

Role: advisory committee chair

Megan Diekhoff (Speech, Language & Hearing Sciences) in progress

Role: advisory committee chair

Yi Liu (Speech, Language & Hearing Sciences) in progress

Role: dissertation committee member

Donghyeon Yun (Speech, Language & Hearing Sciences) in progress

Role: dissertation committee member

Ryan Anderson (Speech, Language & Hearing Sciences) in progress

Role: dissertation committee member

Dylan Pearson (Speech, Language & Hearing Sciences) in progress

Role: dissertation committee member, minor representative (Cog. Sci.)

Brandon Merritt (Speech, Language & Hearing Sciences) 2022

Role: dissertation committee member

Cole Zhang (Speech, Language & Hearing Sciences) 2022

Role: dissertation committee member

Abdullah Alfaifi (Linguistics) 2022

Role: dissertation committee member, minor representative

Sherman Charles (Speech, Language & Hearing Sciences, Linguistics) 2021

Role: dissertation committee chair

Eileen Brister (Speech, Language & Hearing Sciences) 2021

Role: dissertation committee member

Colette Feehan (Linguistics) 2021

Role: dissertation committee member, minor representative

Chisato Kojima (Second Language Acquisition, Linguistics) 2019

Role: dissertation committee member, minor representative

Jonathan North Washington (Linguistics, Central Eurasian Studies) 2016

Role: dissertation committee member, minor representative

**Undergraduate Students**

Nicole Neuenschwander

* Speech, Language & Hearing Sciences Honors Program 2022-2023

Joy Banda

* Speech, Language & Hearing Sciences Honors Program 2022-2023

Erica Beckstrom

* Speech, Language & Hearing Sciences Honors Program 2021-2023

Ryane Hohman

* Undergraduate Research Grant [co-mentored with Dr. Rita Patel] 2021-2022

Christina Shirley

* Speech, Language & Hearing Sciences Honors Program 2021-2022

Claire Callistein

* Speech, Language & Hearing Sciences Honors Program 2021-2022

Rachel Hopf

* Speech & Hearing Sciences Honors Program 2019-2020

Megan Diekhoff

* Speech & Hearing Sciences Honors Program 2018-2019
* Chuck Watson Award for Best Honors Thesis 2019
* Undergraduate Research Grant 2018
* Robert W. Young Award for Undergraduate Research in Acoustics 2018

Shivani Patel

* Undergraduate Research Grant [co-mentored with Dr. Rita Patel] 2019

Alessandra Verdi

* Undergraduate Research Grant [co-mentored with Dr. Rita Patel] 2018

Alyssa Book

* Speech & Hearing Sciences Honors Program 2016-2017
* Chuck Watson Award for Best Honors Thesis 2017

Alexandra “Andy” Abell-Bertola

* Speech & Hearing Sciences Honors Program 2014-2015
* McNair Scholar 2014-2015

**Society Memberships**

Acoustical Society of America

IEEE, Signal Processing Society

International Speech Communication Association (ISCA)

**Ad-Hoc Journal and Conference Reviewer**

Clinical Linguistics & Phonetics

Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization

ICASSP  
IEEE Signal Processing Letters

IEEE Transactions on Audio, Speech, and Language Processing

INTERSPEECH

Journal of the Acoustical Society of America

Journal of the Acoustical Society of America – Express Letters

Journal of Communication Disorders

Journal of Experimental Psychology

Journal of Phonetics

Journal of the Association of Laboratory Phonology

Journal of Speech Language Hearing Research

LabPhon

Linguistic Discovery

Phonology

PLOS One

Transactions of the Philological Society

**Ad-Hoc Grant Reviewer**

National Science Foundation, BCS-Linguistics

Austrian Science Fund (FWF)

**Conferences, Special Sessions, Workshops**

Acoustical Society of America, Virtual Technology Task Force, May, 2020 – present. Role: appointed member, representative from Speech Communication Technical Committee.

UltraFest IX virtual conference in Bloomington, Indiana, October 21-24, 2020. Role: Lead organizer.

LabPhon16 conference, Tutorial on Ultrasound Evidence in Phonology in Lisbon, Portugal, June 19, 2018. Role: Co-organizer with Doug Whalen and Aude Noiray.

173rd Meeting of the Acoustical Society of America in Boston, Massachusetts, June 27, 2017. Session 3aSC: Speech Communication: Prosody. Role: Chair.

168th Meeting of the Acoustical Society of America in Indianapolis, Indiana, October 30, 2014. Session 4aSCa: Speech Communication: Subglottal resonances in speech production and perception. Role: Co-chair and co-organizer with Abeer Alwan and Mitchell Sommers.