

CURRICULUM VITAE

(*partial*)

Brad H. Story

May 2009

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EDUCATIONAL AND PROFESSIONAL HISTORY

A. Higher Education

| | | | |
|------|-------|----------------------------|-----------------------------|
| 1995 | Ph.D. | Speech and Hearing Science | University of Iowa |
| 1987 | B.S. | Applied Physics | University of Northern Iowa |

B. Professional and Academic Employment

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|--------------|------------------------------|---|--|
| 2006-present | Associate Professor | Dept. of Speech, Language, and Hearing Sciences | University of Arizona |
| 2000-2006 | Assistant Professor | Dept. of Speech and Hearing Sciences | University of Arizona |
| 1997-2000 | Senior Scientist | WJ Gould Voice Research Center | Denver Center for the Performing Arts |
| 1995-1999 | Adjunct Assistant Professor | Dept. of Speech Path. and Aud. | University of Iowa |
| 1994-1997 | Assistant Research Scientist | Dept. of Speech Path. and Aud. | University of Iowa |
| 1991-1994 | Pre-Doctoral Trainee | National Center for Voice and Speech | University of Iowa |
| 1987-1991 | Acoustical Engineer | Donaldson Company, Inc. | Minneapolis, MN |

PUBLICATIONS

A. Refereed Journal Articles

1. Story, B.H., (in press). Vowel and consonant contributions to vocal tract shape, *J. Acoust. Soc. Am.*
2. Alku, P., Magi, C., Yrttiaho, S., Bäckström, & Story, B.H., (2009). Closed-phase covariance analysis based on constrained linear prediction for glottal inverse filtering, *J. Acoust. Soc. Am.*, 125(5), 3289-3305.
3. Story, B.H., (2009). Vocal tract modes based on multiple area function sets from one speaker, *J. Acoust. Soc. Am.*, 125(4), EL141-EL147.
4. Bunton, K., and Story, B.H., (2009). Identification of synthetic vowels based on selected vocal tract area functions, *J. Acoust. Soc. Am.*, 125(1), 19-22.
5. Lowell, S.Y., Barkmeier-Kraemer, J.M., Hoit, J.D., and Story, B.H., (2008). Respiratory and laryngeal function during spontaneous speaking in teachers with voice disorders, *J. Speech, Lang., and Hear. Res.*, 51, 333-349.
6. Story, B. H., (2008). Comparison of Magnetic Resonance Imaging-based vocal tract area functions obtained from the same speaker in 1994 and 2002, *J. Acoust. Soc. Am.*, 123(1), 327-335.

7. Carmichel, E.L., Harris, F.P., and Story, B.H., (2007). Effects of binaural electronic hearing protectors on localization and response time to sounds in the horizontal plane, *Noise and Health*, 9(37), 83–95.
8. Story, B. H., (2007). A comparison of vocal tract perturbation patterns based on statistical and acoustic considerations, *J. Acoust. Soc. Am. Exp. Let.*, 122(4), EL107–EL114.
9. Sapir, S., Spielman, J., Ramig, L.O., Story, B.H., & Fox, C., (2007). Effects of Intensive Voice Treatment (LSVT) on Vowel Articulation in Dysarthric Individuals with Idiopathic Parkinson Disease: Acoustic and Perceptual Findings, *J. Spch. Lang. Hear. Res.*, 50, 899-912.
10. Story, B. H., (2007). Time-dependence of vocal tract modes during production of vowels and vowel sequences, *J. Acoust. Soc. Am.*, 121(6), 3770–3789.
11. Pruthi, T., Espy-Wilson, C., and Story, B. H., (2007). Simulation and analysis of nasalized vowels based on magnetic resonance imaging data, *J. Acoust. Soc. Am.*, 121(6), 3858–3873.
12. Mathur, S., Story, B. H., and Rodriguez, J. J., (2006). Vocal-tract modeling: Fractional elongation of segment lengths in a waveguide model with half-sample delays, *IEEE Transactions on Audio, Speech and Language Processing*, 14(5), 1754–1762.
13. Lowell, S., and Story, B.H., (2006). Simulated effects of cricothyroid and thyroarytenoid muscle activation on vocal fold vibration in males, *J. Acoust. Soc. Am.*, 120, 386–397.
14. Farinella, K. A., Hixon, T. J., Hoit, J. D., Story, B. H., and Jones, P. A., (2006). Listener perception of respiratory-induced voice tremor, *Am. J. of Speech, Lang. Pathology*, 15, 72–84.
15. Alku, P., Story, B. H., and Airas, M., (2006). Estimation of the voice source from speech pressure signals: Evaluation of an inverse filtering technique using physical modeling of voice production, *Folia Phoniatica et Logopaedica*, 58(2), 102-113.
16. Story, B. H., (2006). A technique for “tuning” vocal tract area functions based on acoustic sensitivity functions, *J. Acoust. Soc. Am.*, 119(2), 715–718.
17. Story, B. H., (2005). Synergistic modes of vocal tract articulation for American English vowels, *J. Acoust. Soc. Am.*, 118(6), 3834–3859.
18. Story, B.H., (2005). A parametric model of the vocal tract area function for vowel and consonant simulation, *J. Acoust. Soc. Am.* 117(5), 3231–3254.
19. Bergan, C.C., Titze, I.R., and Story, B.H., (2004). Perception of two vocal qualities in a synthesized vocal utterance: Ring and pressed voice, *J. Voice*, 18(3), 305-317.
20. Story, B. H. (2004). Vowel acoustics for speaking and singing, *Acta Acustica united with Acustica*, 90(4), 629–640.
21. Story, B.H., (2004). On the ability of a physiologically-constrained area function model of the vocal tract to produce normal formant patterns under perturbed conditions, *J. Acoust. Soc. Am.* 115(4), 1760-1770.
22. Titze, I.R., Bergan, C.C., Hunter, E., and Story, B.H., (2003). Source and filter adjustments affecting the perception of the vocal qualities twang and yawn, *Logopedics, Phoniatrics, and Vocology*, 28(4), 147-155.
23. Sapir, S., Spielman, J., Ramig, L., Hinds, S.L., Countryman, S., Fox, C., and Story, B.H. (2003). Effects of Intensive Voice Treatment (the Lee Silverman Voice Treatment (LSVT)) on Ataxic Dysarthria: A Case Study, *American Journal of Speech-Language Pathology*, 12, 387-399.

24. Titze, I.R., and Story, B.H., (2002). Rules for controlling low-dimensional vocal fold models with muscle activities, *J. Acoust. Soc. Am.*, 112(3), 1064-1076.
25. Story, B.H., and Titze, I.R., (2002). A preliminary study of voice quality transformation based on modifications to the neutral vocal tract area function, *J. Phonetics*, 30, 485–509.
26. Titze, I.R., Story, B.H., Smith, M., and Long, R., (2002). A reflex resonance model of vocal vibrato, *J. Acoust. Soc. Am.*, 111(5), 2272–2282.
27. Story, B.H., Titze, I.R., and Hoffman, E.A., (2001). The relationship of vocal tract shape to three voice qualities, *J. Acoust. Soc. Am.*, 109, 1651–1667.
28. Tom, K., Titze, I.R., Hoffman, E.A., and Story, B.H., (2001). 3-D vocal tract imaging and formant structure: Varying vocal register, pitch, and loudness, *J. Acoust. Soc. Am.*, 109(2), 742-747.
29. Story, B.H., Laukkanen, A-M., and Titze, I.R., (2000). Acoustic impedance of an artificially lengthened and constricted vocal tract, *J. Voice*, 14(4), 455-469.
30. Titze, I.R., Story, B.H., Burnett, G., Holzrichter, J., Ng, L., and Lea, W. (1999). Comparison between electroglottography and electromagnetic glottography, *J. Acoust. Soc. Am.*, 107(1), 581-588.
31. Story, B.H., and Titze, I.R., (1998). Parameterization of vocal tract area functions by empirical orthogonal modes, *J. Phonetics*, 26(3), 223-260.
32. Story, B.H., Titze, I.R., and Hoffman, E.A., (1998). Vocal tract area functions for an adult female speaker based on volumetric imaging, *J. Acoust. Soc. Am.*, 104(1), 471-487.
33. Story, B.H., Titze, I.R., and Wong., D., (1997). A simplified model for the simulation and transformation of speech, *Engineering Applications of Artificial Intelligence*, 10(6), 593-601.
34. Titze, I.R., Wong, D., Story, B.H., and Long, R., (1997). Considerations in voice transformation with physiologic scaling principles, *Speech Comm.*, 22, 113-123.
35. Titze, I.R., and Story, B.H., (1997). Acoustic interactions of the voice source with the lower vocal tract, *J. Acoust. Soc. Am.*, 101(4), 2234-2243.
36. Story, B.H., Titze, I.R., and Hoffman, E.A., (1996). Vocal tract area functions from magnetic resonance imaging, *J. Acoust. Soc. Am.*, 100(1), 537-554.
37. Berry, D.A., Herzel, H., Titze, I.R., and Story, B.H., (1996). Bifurcations in excised larynx experiments, *J. Voice*, 10(2), 129-138.
38. Story, B.H., and Titze, I.R., (1995). Voice simulation with a body-cover model of the vocal folds, *J. Acoust. Soc. Am.*, 97(2), 1249-1260.
39. Titze, I.R., Mapes, S.J., and Story, B.H., (1994). Acoustics of the tenor high voice, *J. Acoust. Soc. Am.*, 95(2), 1133-1142.

B. Non-Refereed Proceedings Articles and Tutorials

1. Alku, P., Story, B.H., and Airas, M., Evaluation of an inverse filtering technique using physical modeling of voice production, *Proceedings of the ICSLP 2004*.
2. Mathur, S., and Story, B.H., (2003). Vocal tract modeling: Implementation of continuous length variations in a half-sample delay Kelly-Lochbaum model, *Proceedings of IEEE International Symposium on Signal Processing and Information Technology*, 14-17 December 2003, Darmstadt, Germany.

3. Story, B.H., (2003). Using imaging and modeling techniques to understand the relation between vocal tract shape to acoustic characteristics, Proceedings of the Stockholm Musical Acoustics Conference (SMAC), Stockholm, Sweden, 6–9 August. [**Invited**].
4. Story, B.H., (2003). Physical modeling of voice and voice quality, Proceedings of VOQUAL03 (Voice Quality: Functions, Analysis and Synthesis), Geneva, Switzerland, 27–29 August. [**Invited**].
5. Story, B.H., (2002). An overview of the physiology, physics, and modeling of the sound source for vowels, *Acoustical Science and Technology*, 23(4), 195–206. [**Invited**].
6. Titze, I.R., and Story, B.H., (2002). Voice quality: What is most characteristic about “You” in speech, *Echoes (Acoust. Soc. Am.)*, 12(4), pages 1 & 4.
7. Verdolini, K., Story, B., and Taylor, M., (2001). Investigation of perceptual and articulatory correlates of tonal ideals in German and Italian schools of classical singing, Proceedings of the 17th International Congress on Acoustics, Rome, Italy, 2–7 September, 2001.
8. Story, B.H., and Titze, I.R., (2000). An investigation of voice quality based on modifications of the neutral vocal tract shape, Proceedings of the 5th Speech Production Seminar, Kloster Seeon, Germany, 1–4 May, 2000.
9. Story, B.H., Titze, I.R., and Long, R., (1998). Synthesis of sentence-level speech based on measured vocal tract area functions, Proceedings of the ICA/ASA Joint Meeting, Seattle, WA, 20-26 June, 2663-2664.
10. Long, R., Story, B.H., and Titze, I.R., (1998). Vocal tract shape estimation using three non-invasive transducers, Proceedings of the ICA/ASA Joint Meeting, Seattle, WA, 20-26 June, 2661-2662.
11. Druker, D.G., Titze, I.R., and Story, B.H., Glottal source parameter estimation by comparison of measured signals with simulated signals, Proceedings of the ICA/ASA Joint Meeting, Seattle, WA, 20-26 June, 251-252.
12. Michaelis, D., Fröhlich, M., Strube, H.W., Kruse, E., Story, B., and Titze, I.R., (1998). Some simulations concerning jitter and shimmer measurement, Proceedings of the 3rd International Workshop on Advances in Quantitative Laryngoscopy, June, 19-20, Universitätsklinikum, RWTH Aachen.
13. Michaelis, D., Fröhlich, M., Strube, H.W., Kruse, E., Story, B.H., Titze, I.R., (1998). Grenzen der jitter- und shimmer-messung pathologischer stimmen mit dem unüberwachten waveform-matching-verfahren, in *Fortschritte der Akustik, DAGA 98*, Zurich, Switzerland, 23-27 March.
14. Patterson, D.K., Pepperberg, I.M., Story, B.H., and Hoffman, E.A., (1997). How parrots talk: Insights based on CT scans, image processing, and mathematical models, *SPIE Proc. Physiology and Function from Multidimensional Images*, 3033, Newport Beach, CA, 22-28 Feb.
15. Story, B.H., Hoffman, E.A., and Titze, I.R., (1997). Volumetric image-based comparison of male and female vocal tract shapes, *SPIE Proc. Physiology and Function from Multidimensional Images*, 3033, Newport Beach, CA, 22-28 Feb., 25-37.
16. Story, B.H., Titze, I.R., and Wong, D., (1996). A simplified model for simulation and transformation of speech, *Proc. of the IEEE Joint Symposia on Systems and Intelligence*, Rockville, MD. 4-5 Nov.
17. Titze, I.R., Wong, D., Lange, R., and Story, B.H., (1996). Comparison of three techniques for voice transformation, in *Proc. of 1st ESCA Tutorial and Research Workshop on Speech Production Modeling and 4th Speech Production Seminar*, Autrans, France, pp. 215-220.
18. Story, B.H., Hoffman, E.A., and Titze, I.R., (1996). Vocal tract imaging: A comparison of MRI and EBCT, *SPIE Proc. Physiology and Function from Multidimensional Images*, 2709, Newport Beach, CA, 10-15 Feb.

19. Story, B.H., Hoffman, E.A., and Titze, I.R., (1995). Speech simulation based on MRI images of the vocal tract, SPIE Proc. Physiology and Function from Multidimensional Images, 2433, San Diego, CA, 26 Feb- 2 Mar.
20. Tom, K., Titze, I.R., Hoffman, E.A., and Story, B.H., Volumetric EBCT imaging of the vocal tract applied to male falsetto singing, SPIE Proc. Physiology and Function from Multidimensional Images, 2709, Newport Beach, CA, 10-15 Feb.

C. Book Chapters

1. Story, B. H., (2007). Modification of emotional speech and voice quality based on changes to the vocal tract structure, In *Emotions in the Human Voice: Volume I*, K. Izdebski, Editor, 123–136.

WORK IN PROGRESS

A. Manuscripts Submitted

Story, B.H., (submitted February 2009). Relation of vocal tract shape to formant transitions for stop consonants, *J. Phonetics*.

B. Data Collection/Analysis/Synthesis in Progress

Bunton, K., and Story, B.H., Perception of vowels synthesized with a time-varying area function model.

Story, B.H. Mapping articulatory movement patterns from X-ray microbeam data to a parametric area function model of the vocal tract.

Story, B.H., Computer simulation of speech production at the sentence level.

Story, B.H., and Bunton, K., Acoustic effects of vocal tract scaling from child to adult.

Story, B.H., Transformation of voice quality, emotion, and articulation rate in speech simulation model.

Story, B.H., Mapping of formant frequencies to vocal tract shapes (area functions).

Story, B.H., Study of the interaction of a vocal fold model with the acoustic resonances of the vocal tract.

Samlan, R., and Story, B.H., Simulation and perception of breathy voice.

Barkmeier, J., and Story, B.H., Simulation and perception of vocal tremor.

MEDIA

A. Educational Performances in Professional Voice

1998: *Pavarobotti: Voices of People and Machines*, The Whitaker Foundation, LaJolla, CA

1997: *Birth of Pavarobotti*, Adams Mark Hotel, NATS Convention, St. Louis, MO

1995: *Voices of People and Machines*, University of Northern Iowa, Cedar Falls, Iowa

1993: *Voices of People and Machines*, Voice Foundation Meeting, Warwick Hotel, Philadelphia, PA

1993: *Voices of People and Machines*, McCormick Auditorium, Northwestern University

1993: *Voices of People and Machines*, Boettcher Concert Hall, Acoustical Society of America Meeting, Denver, CO

B. Videotape productions

2000: Scientific Advisor/Illustrator for *The World Within Your Voice*, a video for network television produced by Denver Center Media at the Denver Center for the Performing Arts.

SCHOLARLY PRESENTATIONS

A. Colloquia

Story, B.H., (February, 2006). Common modes of vocal tract articulation for vowels, Speech and Hearing Sciences Colloquium, Arizona State University, **[Invited]**.

Story, B.H., (January, 2001). An overview of the acoustics and biomechanics of speech, Physics Colloquium, University of Arizona. **[Invited]**

Story, B.H., (February, 2001). Volumetric imaging of the vocal tract for purposes of speech modeling, Speech and Hearing Sciences Colloquium, University of Arizona.

Story, B.H., (April, 1994). Mufflers, Mouths, and Vocal Cords, Physics Colloquium, University of Northern Iowa. **[Invited]**

Story, B.H., (February, 1994). Voice simulation with a body-cover model of the vocal folds, Speech and Hearing Sciences Colloquium, University of Iowa.

B. Seminars

Story, B.H., (November, 2007). Simulation of speech and singing based on a model of the time-varying vocal tract shape, Applied Mathematics Colloquia Series, University of Arizona. **[Invited]**

Story, B.H., (October, 2007). A model of time-dependent changes of the vocal tract shape for simulation of speech and singing, Biomedical Engineering Seminar Series, University of Arizona. **[Invited]**

Story, B.H., (August, 2003). Physical modeling of voice and voice quality, VOQUAL03, The ISCA Research and Tutorial Workshop: "Voice Quality: functions, analysis and synthesis," Geneva, Switzerland, August 27-29. **[Invited]**.

Story, B.H., (April, 2003). Modeling of speech production based on MRI studies, Harvard-MIT Speech and Hearing Bioscience and Technology Program (SHBTP) Seminar series. **[Invited]**

Story, B.H., (January, 2002). National Association of Teachers of Singing (NATS) Winter Workshop, Pedagogy 101: Breathing and Acoustics, faculty member, Tucson, AZ. **[Invited]**

Story, B.H., (October, 2001). An Introduction to Motor Speech "Tubology," Presented at the Motor Control Group Meeting, University of Arizona, Tucson, AZ.

Story, B.H., (November, 2000). Speech modeling using geometric eigenmodes of the vocal tract, Cognitive Science Seminar, University of Arizona. **[Invited]**

Story, B.H., (November, 2000). Modeling the vocal tract: An overview of voice and speech acoustics, Biomedical Engineering Seminar Series, University of Arizona. **[Invited]**

Story, B.H., (July, 1999). Voice Seminar 1999: The what and why of voice care and development, faculty member (voice science), Logan, UT. **[Invited]**

Story, B.H., (March, 1999). 3-D Imaging of the Vocal Tract, Voice Education Seminar, Denver Center for the Performing Arts.

Story, B.H., (February, 1998). Preserving and using our voices in the communication century, Given to the Western States Communication Association Convention, Denver, CO, Presenters: Florence Blager, Ph.D., Brad Story, Ph.D., and Gary Logan, M.F.A.

Story, B.H., (May, 1995). The Larynx and the Vocal Tract: Partners in Sound, Vocal Performance and Pedagogy Institute with Richard Miller, Cedar Falls, IA.

Titze, I.R. and Story, B.H., (May, 1993). From empirical data to physiologically realistic vocal fold models, Presented at the Third Seminar on Speech Production: Models and Data, Saybrook Point Inn, Old Saybrook, CT, May 1993.

C. Symposia

Verdolini, K., Story, B., Szuminsky, N., Roth, D., Urban-Grillo, E., Steinhauer, K., Branstetter, B., and Titze, I., (2006). MRI Evidence regarding the application of voice-adapted maximum power transfer theorem to human subjects, Paper presented to the 35th Symposium on Care of the Professional Voice, Philadelphia, PA.

Lowell, S., Barkmeier-Kraemer, J., Hoit, J., and Story, B., (2006). Respiratory and laryngeal function during spontaneous speaking in teachers with a voice disorder, Paper presented to the 35th Symposium on Care of the Professional Voice, Philadelphia, PA.

Story, B.H., (2005) Physical modeling of speech and voice quality, XV Pacific Voice Conference, Pixar Studios, Emeryville, CA, 11-12 March. **[Invited]**

Story, B.H., (June, 2003). The use of imaging techniques and models to understand the production of speech and song, Paper presented to the 32nd Symposium on Care of the Professional Voice, Philadelphia, PA. **[Invited]**.

Story, B.H., (July, 1998). Physiologically-based estimate of vocal tract shape from formant frequencies, Presented at the 1998 Meeting of the National Center for Voice and Speech, Madison, WI.

Titze, I.R., Hoffman, H., and Story, B.H., (June, 1997). Biomechanical modeling of unilateral vocal fold paralysis, Presented at the 26th Annual Symposium: Care of the Professional Voice, Philadelphia, PA.

Story, B.H., (July, 1997). Vocal exercises for virtual singers, Presented at the Meeting of the National Center for Voice and Speech.

Story, B.H. and Titze, I.R., (June, 1993). Animation of vocal tract pressures and formant spectra, Presented at the 22nd Annual Symposium: Care of the Professional Voice, Philadelphia, PA.

D. Conferences

Story, B.H., (February, 2009). Simulation of speech production with kinematic models of the vocal tract and vocal folds, Presented at the International Symposium on Biomechanical and Physiological Modeling and Speech Science, JAIST, (Kanazawa, Japan), **[Invited]**

Story, B.H., (January, 2009). Acoustics of singing, Presented at the Auditory Cognitive Neuroscience Society Meeting, (Tucson, AZ). **[Invited]**

Story, B.H., (November, 2008). A model of time-dependent changes of the vocal tract shape, Presented in "Progress in Speech Science Session" at the ASHA Annual Convention, (Chicago, IL). **[Invited]**

- Story, B.H., (November, 2008). Quantal events generated by the structural and temporal variation of the vocal tract, Presented at the 156th Acoustical Society Meeting, 124, 2527, (Miami, FL). [**Invited**]
- Story, B.H., (August, 2008). Simulation of speech production with kinematic models of the vocal tract and vocal folds, International Conference on Vocal Fold Physiology and Biomechanics, (Tampere, Finland). [**Invited**]
- Story, B. H., and Bunton, K. (March, 2008). Comparison of vocal tract modes for production of vowels and consonants, Presented at the 2008 Conference on Motor Speech, Monterey, CA.
- Bunton, K., and Story, B.H. (March, 2008). Acoustic characteristics of VCV utterances in the speech of children, Presented at the 2008 Conference on Motor Speech, Monterey, CA.
- Story, B.H., (January, 2008). Sources of Variance in Speech Acoustics, Presented at the 2nd Auditory Cognitive Science Society Meeting, (Tucson, AZ). [**Invited**]
- Story, B.H., (June, 2007). Acoustically-guided vocal tract modifications for singing, Presented at the 153rd Acoustical Society Meeting, 121, 3087, (Salt Lake City, UT). [**Invited**]
- Story, B.H., (June, 2007). The acoustic consequences of time-dependent changes of the vocal tract shape, Presented at the 153rd Acoustical Society Meeting, 121, 3158, (Salt Lake City, UT). [**Invited**]
- Story, B.H. and Bunton, K., (December, 2006). Comparison of vocal tract shaping patterns derived from articulatory fleshpoint data and MRI-based area functions, Presented at the 152nd Acoustical Society Meeting, 120, 3373, (Honolulu, HI).
- Tucker, B., and Story, B.H., (December, 2006). The relation of the temporal variation of F2 to articulator movement, Presented at the 152nd Acoustical Society Meeting, 120, 3372, (Honolulu, HI).
- Sapir, S., Spielman, J.L., Ramig, L.O., Story, B.H., and Fox, C., (September, 2006). Impact of Intensive Vocal Loudness (LSVT) on Vowel Articulation in Parkinsonian Speech: Acoustic and Perceptual Findings, Presented at the 10th Congress of the European Federation of Neurological Societies, Glasgow, UK.
- Li, K., and Story, B.H., (June 2006). Formant deflection directions of the voiced alveolar stop consonant in different vowel contexts, Presented at the 151st Acoustical Society Meeting, *J. Acoust. Soc. Am.*, 119(5) pt. 2, 3244, (Providence, RI).
- Story, B. H., (March, 2006). Common modes of vocal tract articulation based on kinematic data, Presented at the 2006 Conference on Motor Speech, Austin, TX.
- Story, B. H., (October, 2005). Common modes of vocal tract articulation for vowels, Presented at the 150th Acoustical Society Meeting, *J. Acoust. Soc. Am.*, 118(3) pt. 2, 2025, (Minneapolis, MN).
- Story, B. H., (August, 2005). Acoustics of the vocal tract, Presented at the International Congress of Voice Teacher 6th Conference, *Sound and Nature: Celebrating the Spirit of Song*, (Vancouver, BC). [**Invited**].
- Story, B. H., (May, 2005). Acoustically-guided articulation patterns for vowel production. Presented at the 149th Acoustical Society Meeting, *J. Acoust. Soc. Am.*, 117(4), 2619, (Vancouver, BC).
- Farinella, K., and Story, B. H., (May, 2005). Simulation and analysis of tremor in speech production. Presented at the 149th Acoustical Society Meeting, *J. Acoust. Soc. Am.*, 117(4), 2544, (Vancouver, BC).
- Story, B. H., (November, 2004). A formant-to-area transformation based acoustic sensitivity functions, Presented at the 148th Acoustical Society Meeting, *J. Acoust. Soc. Am.*, 116(4) pt. 2, 2631, (San Diego, CA).

- Farinella, K.A., Hixon, T.J., Hoit, J.D., and Story, B.H., (March, 2004). Listener perception of respiratory induced voice tremor, 2004 Conference on Motor Speech, Albuquerque, NM.
- Story, B.H., (November, 2003). Simulation of VCV syllables with a parametric area function model of the vocal tract, Presented at the 146th Acoustical Society Meeting, J. Acoust. Soc. Am., 114(4) pt. 2, 2394, (Austin, Texas).
- Li, K., and Story, B.H., (November, 2003). An investigation of perceptual tolerance limits of stop constriction regions along the vocal tract. Presented at the 146th Acoustical Society Meeting, J. Acoust. Soc. Am., 114(4) pt. 2, 2337, (Austin, Texas).
- Story, B.H., (August, 2003). Using imaging and modeling techniques to understand the relation between vocal tract shape to acoustic characteristics, Stockholm Musical Acoustics Conference (SMAC), Stockholm, Sweden. **[Invited]**.
- Story, B.H., (December, 2002). A parametric area function model of three female vocal tracts based on orthogonal modes, Presented at the 144th Acoustical Society Meeting, J. Acoust. Soc. Am., 112(5) pt. 2, 2418, (Cancun, Mexico).
- Story, B.H., (November, 2002). Understanding familial voice traits & vocal fatigue from outside to inside: Biomechanics of phonation, Collaborative session with S. Thibeault, E. Buder, J. Barkmeier, and K. Fisher, Presented at the ASHA Annual Convention, (Atlanta, GA). **[Invited]**
- Story, B.H., (November, 2002). Computer science and technology: Stretching our wings toward the future (computer simulation of speech), Collaborative session with A. Holland, R. Cole, and B. MacWhinney, Presented at the ASHA Annual Convention, (Atlanta, GA). **[Invited]**
- Story, B.H., (September, 2002). A comparison of acoustic impedances calculated for male and female vocal tracts, Presented at the Third International Conf. on Voice Physiology and Biomechanics, (Denver, CO).
- Story, B.H., (December, 2001). A Distinctive Region Model (DRM) based on empirical vocal tract area functions, Presented at the Acoustical Society Meeting, J. Acoust. Soc. Am., 110(5) pt. 2, (Fort Lauderdale, FL).
- Story, B.H., (October, 2001). Potential uses of advanced imaging techniques for the study of swallowing, Dysphagia Research Society, Albuquerque, NM, October 11, 2001. **[Invited]**
- Story, B.H., (June, 2001). Speech synthesis by mapping articulator movement patterns to a shape-based area function model of the vocal tract, Presented at the Acoustical Society Meeting, J. Acoust. Soc. Am., 109(5), pt. 2, 2444, (Chicago, IL).
- Story, B.H., (December, 2000). A study of compensation for a labial perturbation of the vowel /u/ using an area function model of the vocal tract, Presented at the Acoustical Society Meeting, J. Acoust. Soc. Am., 108(5) pt. 2, 2509, (Newport Beach, CA).
- Spielman, J.L., Ramig, L.O., Story, B.H., and Fox, C., (November, 2000). Expansion of vowel space in Parkinson's disease following LSVT, Presented at the ASHA Annual Convention.
- Story, B.H., and Titze, I.R., (March, 1999). A preliminary study of speech transformation using empirically defined articulatory modes, Presented at the Acoustical Society Meeting, J. Acoust. Soc. Am., 105(2) pt. 2, 1092, 1999 (Berlin, Germany).
- Edgerton, M.E., Bless, D., Thibeault, S., Fagerholm, M., and Story, B.H., (March, 1999). Acoustic analysis of reinforced harmonics, Presented at the Acoustical Society Meeting, J. Acoust. Soc. Am., 105(2) pt. 2, 1329, 1999 (Berlin, Germany).

Story, B.H., and Titze, I.R., (March, 1999). Possible effects of vocal tract shape on vocal fold vibration, Presented at the Second International Conf. on Voice Physiology and Biomechanics, (Berlin, Germany).

Story, B.H., Titze, I.R., and Long, R., (June, 1998). Simulation of sentence-level speech based on measured vocal tract area functions, Presented at the Acoustical Society Meeting, *J. Acoust. Soc. Am.*, 103, 3056 (Seattle, WA).

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Wong, D., Story, B.H., Long, R.K., and Titze, I.R., (May, 1997). A speech-to-area mapping for simulation and transformation of sentence level speech, Presented at the First International Conf. on Voice Physiology and Biomechanics, (Evanston, IL).

Story, B.H., and Titze, I.R., (May, 1997). A body-cover model of the vocal folds with muscular control, Presented at the First International Conf. on Voice Physiology and Biomechanics, (Evanston, IL).

Wong, D., Lange, R., Long, R., Story, B.H., and Titze, I.R., (December, 1996). LPC-based voice transformation from adult to child, Presented at the Acoustical Society Meeting, *J. Acoust. Soc. Am.*, 100(4) pt. 2, 2762, (Honolulu, HI).

Long, R., Wong, D., Lange, R., Story, B.H., and Titze, I.R., (December, 1996). Transformation from normal to twang and sob vocal qualities, Presented at the Acoustical Society Meeting, *J. Acoust. Soc. Am.*, 100(4) pt. 2, 2663, (Honolulu, HI).

Berry, D. A., Titze, I. R., Story, B. H., and Herzel, H., (December, 1995). Bifurcations in excise larynx experiments, Presented at the Acoustical Society Meeting, *J. Acoust. Soc. Am.*, 98(5) pt 2, 2930, (St. Louis, MO).

Alipour, F., and Story, B. H., (December, 1995). A three-dimensional solution of the wave equation in a model of the vocal tract, Presented at the Acoustical Society Meeting, *J. Acoust. Soc. Am.*, 98(5), pt 2, 2930, (St. Louis, MO).

Story, B. H., Titze, I. R., and Hoffman, E. A., (December, 1995). Vocal tract shapes and area functions from magnetic resonance imaging (MRI), Presented at the Acoustical Society Meeting, *J. Acoust. Soc. Am.*, 98(5) pt 2, 2930, (St. Louis, MO).

Story, B.H. and Titze, I.R., (October, 1993). Voice simulation with a three mass model of the vocal folds, Presented at the Acoustical Society Meeting, (Denver, CO).

Titze, I.R., Story, B.H., Luschei, E., and Hirano, M., (1992). Combined control strategies of cricothyroid and thyroarytenoid muscles and lung pressure in regulating F₀, Presented at the 1992 Speech Motor Control/Motor Disorders Conference in Boulder, CO.

E. Guest Classroom Lectures

Story, B. H. (January, 2009). Mechanisms of human sound production, presented to SPH 207.

Story, B. H. (January, 2008). Mechanisms of human sound production, presented to SPH 207.

Story, B. H. (September, 2007). Mechanisms of human sound production, presented to SPH 207.

- Story, B. H. (April, 2007). Acoustic sensitivity of the vocal tract, presented to SPH 367.
- Story, B. H. (January, 2007). Mechanisms of human sound production, presented to SPH 207.
- Story, B. H. (September, 2006). Mechanisms of human sound production, presented to SPH 207.
- Story, B. H. (April, 2005). Physiology and mechanics of phonation, presented to SPH 261 (Speech Anatomy and Physiology), three lectures.
- Story, B. H. (April, 2005). Auditory masking, presented to SPH 280 (Hearing Science), two lectures.
- Story, B. H. (November, 2005). Common modes of vocal tract articulation for vowels, presented to BME (Biomedical Eng.) 496c/595c.
- Story, B. H. (October, 2004). Using imaging and modeling techniques to understand the relation between vocal tract shape and acoustic characteristics, presented to BME (Biomedical Eng.) 496c/595c.
- Story, B. H., (April & November, 2004). Introduction to hearing, presented to SPH 207.
- Story, B. H. (January & April, 2004). Acoustics and auditory masking, presented to SPH 280 (Hearing Science), three lectures.
- Story, B.H., (April, 2002). Introduction to the science of singing, presented to Vocal Pedagogy Course, Dept. of Music, University of Arizona.
- Story, B.H., (November, 2001 & 2002). Speech acoustics, presented to Experimental Phonetics Course, Dept. of Speech and Hearing Sciences, University of Arizona.
- Story, B.H., (November, 1998). Acoustics of speech, presented to Linguistic Phonetics, University of Colorado.
- Story, B.H., (June, 1998). Research in speech science, presented to Sci. Meth. in Spch., Lang., & Hear., University of Colorado.
- Story, B.H., (February, 1998). An overview of voice and speech, presented to Human Communication Course, University of Colorado.

GRANTS

Federal

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Consultant; Principal Investigator, Katherine Verdolini
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- 2000–2011 Research Grant
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(*Eigenmodes in Speech Dynamics* → *Quantitative Modeling of Speech*)
- 1995–2000 Research Grant
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