

## KATE E. BUNTON

### CHRONOLOGY OF EDUCATION

- 1990 B.S. Speech and Hearing Sciences University of Iowa  
Minor: Aging Studies  
Dean's List (1988-1990)
- 1993 M.S. Communicative Disorders University of Wisconsin-Madison  
Thesis: *"Evaluation of reiterant force impulse tasks in the tongue"*  
Advisor: Gary Weismer, Ph.D.
- 1999 Ph.D. Communicative Disorders University of Wisconsin-Madison  
Dissertation: *"An acoustic item-analysis of intelligibility"*  
Advisor: Gary Weismer, Ph.D.
- 2000-2002 Postdoctoral Fellow University of Arizona  
Institute for Neurogenic Communication Disorders & Department of Speech, Language, and  
Hearing Sciences  
Advisor: Thomas J. Hixon, Ph.D.

### PROFESSIONAL CREDENTIALS

- 1993- present Certificate of Clinical Competence: American Speech-Language-Hearing Association  
2000-present License: State of Arizona, Speech-Language Pathologist

### CHRONOLOGY OF EMPLOYMENT

- 8/00-8/02 Postdoctoral Fellow Institute for Neurogenic Communication Disorders  
University of Arizona
- 8/02-8/06 Assistant Research Scientist Institute for Neurogenic Communication Disorders  
University of Arizona
- 1/03-12/09 Adjunct Lecturer Department of Speech, Language, and Hearing Sciences  
University of Arizona
- 8/06-1/10 Assistant Research Scientist Department of Speech, Language, and Hearing Sciences  
University of Arizona
- 1/10-present Associate Professor Department of Speech, Language, and Hearing Sciences  
University of Arizona
- 1/17-present Director of Graduate Studies Department of Speech, Language, and Hearing Sciences  
University of Arizona
- 1/20-5/20 Interim Associate Department of Speech, Language, and Hearing Sciences  
Department Head University of Arizona

## **SERVICE/OUTREACH**

### **Local/State Outreach**

2019 In-service "Careers in Speech, Language, and Hearing Science." Educational Meeting sponsored by the Women in Medicine & Science Pre-Health Club at the University of Arizona

### **National/International Outreach**

2015-2016 Chair, Stetson Scholarship Committee, Acoustical Society of America  
2016 Reviewer, Lee Silverman Voice Foundation Student Scholarship Committee  
2017 External Promotion and Tenure Review (1 dossier)  
2017-2018 Editorial Board Member, *Journal of Speech, Language, and Hearing Research-Speech*  
2018-2020 Guest Editor, *American Journal of Speech-Language Pathology*  
2018-2019 Reviewer, Plural Publishing (2 textbooks)  
2019 External Promotion and Tenure Review (2 dossiers)  
2019-present Editor, *Journal of Speech, Language, and Hearing Research-Speech*

### **Departmental**

#### Sciences

2011-present Chair, Curriculum Committee, Department of Speech, Language, and Hearing Sciences  
2011-present Planning Committee, Grunewald Blitz Conference for Communication Disorders in Children  
2014-2015 Search Committee, Department of Speech, Language, and Hearing Sciences (2 positions)  
2015-present Chair, Professional Exam Committee  
2016-2017 Chair, Clinical Faculty Search Committee, SLHS (1 position)  
2017-present Chair, Teaching Portfolio Review Committee for Promotion and Tenure  
2018-present Chair, Departmental Program-Level Learning Outcomes Assessment Committee

### **College Committees**

2017-present Member, College of Science 100% Engagement Committee  
2020-present Member, College of Science Graduate Assistant and Postdoc Student Re-entry committee

### **University Committees**

2015-2020 Judge, Student Showcase program sponsored by the Graduate and Professional Student Council  
2016-2020 Reviewer, Graduate and Professional Student Council Centennial Achievement Awards Committee  
2017-2019 Reviewer, Graduate and Professional Student Council Centennial Travel Awards Committee  
2019-2020 Faculty Associate, Higher Learning Accreditation Committee, Office of Academic Affairs  
2020-present Member, Faculty Annual Review/Pay Equity Taskforce

**PUBLICATIONS** (\* co-author is a student advisee)

**Chapters in Scholarly Books and Monographs**

**Bunton, K.** & Huber, J. (2018). Articulation and Resonance (Chapter 12), In *Anatomy and Physiology of Speech and Hearing*, B. Rousseau and R. Branski, Eds., Theime Publishing: New York, NY.

**Refereed Journal Articles**

\*Samlan, R., Story, B. H., **Bunton, K.** & Lotto, A. (2014). The acoustic and perceptual effects of left-right laryngeal asymmetries based on computational modeling. *Journal of Speech, Language, and Hearing Research*, 57, 1619-1637.

**Bunton, K.** (2015) Effects of nasal port area on perception of nasality and measures of nasalance based on computational modeling. *Cleft Palate-Craniofacial Journal*. 52(1), 110-114.

Story, B.H., and **Bunton, K.** (2016). Formant measurement in children's speech based on spectral filtering, *Speech Communication*, 76, 93-111. <http://dx.doi.org/10.1016/j.specom.2015.11.001>

**Bunton, K.**, and Story, B. H. (2016). Arizona Child Acoustic Database Repository. *Folia Phoniatica et Logopaedica*, 68(3), 107-111.

\*Neely, K. D., **Bunton, K.**, and Story, B. H. (2016). A modeling study of the effects of vocal tract movement duration and magnitude on the F2 trajectory in CV words. *Journal of Speech, Language, and Hearing Research*, 59, 1327-1334.

Story, B. H., & **Bunton, K.** (2017). An acoustically-driven vocal tract model for stop consonant production, *Speech Communication*, 87, 1-17.

Story, B.H. & **Bunton, K.** (2017). Vowel space density as an indicator of speech performance. *Journal of the Acoustical Society of America Express Letters*.

**Bunton, K.**, & Hoit, J. D. (2018). Development of velopharyngeal closure for vocalization during the first 2 years of life. *Journal of Speech, Language, and Hearing Research*, 61(3), 549-560.

**Bunton, K.** (2018). Update on Velopharyngeal Closure in Young Children. *Perspectives of the ASHA Special Interest Groups*, 3(5), 4-12.

Story, B. H., Vorperian, H., **Bunton, K.**, & Durtschi, R. (2018). An age-dependent vocal tract model for males and females based on anatomic measurements, *Journal of the Acoustical Society of America*, 143(5), 3079–3102.

\*Casilio, M., Rising, K., Beeson, P. M., **Bunton, K.**, & Wilson, S. M. (2019). Auditory-perceptual rating of connect speech in aphasia. *American Journal of Speech-Language Pathology*.  
[https://doi.org/10.1044/2018\\_AJSLP-18-0192](https://doi.org/10.1044/2018_AJSLP-18-0192)

Story, B. & **Bunton, K.** (2019). A model of speech production based on the acoustic relativity of the vocal tract. *Journal of the Acoustical Society of America*, 246(4), 2522-2528. <https://doi.org/10.1121/1.5127756>

Story, B. & **Bunton, K.** (revision submitted). Perception of discrete units of speech defined by the acoustic relativity of the vocal tract. *Journal of the Acoustical Society of America*.

## Electronic Database

**Bunton, K.** & Story, B. H. (2014) Arizona Child Acoustic Database.

<http://arizona.openrepository.com/arizona/handle/10150/316065> (updated biannually)

## CONFERENCES/SCHOLARLY PRESENTATIONS

### Colloquia

**Bunton, K.** & Brown, V. (October, 2017). Velopharyngeal closure in infants and toddlers. Speech, Language, and Hearing Sciences Homecoming program, University of Arizona, Tucson

### Seminars

**Bunton, K.** (January, 2020) A Practical Approach to Treating Stuttering in School-Age Children. Inservice presented to the Tucson Unified School District Speech-Language Pathology Team, Tucson, AZ.

### Conferences (Peer-reviewed)

Story, B. H. & **Bunton, K.** (March, 2014). Vocal tract area functions for child talkers. Presented at the 17<sup>th</sup> Biennial Conference on Motor Speech Disorders: Motor Speech Disorders and Speech Motor Control: Sarasota, FL.

Story, B.H., and **Bunton, K.** (April 2014). A model of children's speech production, presented at the 2014 International Conference on Vocal Fold Physiology and Biomechanics, Salt Lake City, UT.

\*Wilson, M., \*Chong, C., \*Lougher, A., **Bunton, K.** & Hoit, J. (April, 2014). Velopharyngeal closure for words versus nonwords in toddlers. Paper presented at the Arizona Speech-Language-Hearing Association Convention, Tucson, AZ.

\*Turner, J., & **Bunton, K.** (April, 2014). Effectiveness of assistive technology teams in classroom AAC implementation. Paper presented at the Arizona Speech-Language-Hearing Association Convention, Tucson, AZ.

\*Neely, K., **Bunton, K.** & Story, B. H. (April, 2014). Variation in formant trajectories as evidence for articulatory gesture overlap. Paper presented at the Arizona Speech-Language-Hearing Association Convention, Tucson, AZ.

**Bunton, K.**, \*Lougher, A., \*Chong, C. & Hoit, J. (November, 2014). Perception of nasality and velopharyngeal closure in infants. Paper presented at the American Speech-Language-Hearing Association Convention, Orlando, FL.

\*Rumery, K., \*Chong, C., \*Lougher, A., Hoit, J. & **Bunton, K.** (April, 2015). Velopharyngeal closure during the first two years of life. Paper presented at the Arizona Speech-Language-Hearing Association Convention, Tempe, AZ.

Story, B. H. & **Bunton, K.** (May, 2015). A spectral filtering method for tracking formants in children's speech. Paper presented at the 169<sup>th</sup> Acoustical Society Meeting, Pittsburg, PA, Journal of the Acoustical Society of America, 137(4), 2305.

\*Neely, K., Samlan, R., & **Bunton, K.** (November, 2015) The impact of the Parkinson Wellness Recovery (PWR!) physical therapy program on speech production. Paper presented at the American Speech-Language-Hearing Association Convention, Denver, CO.

- Bunton, K.,** \*Rumery, K., & Hoit, J. (November, 2015). Development of velopharyngeal closure: Motor or language skill? Paper presented at the American Speech-Language-Hearing Association Convention, Denver, CO.
- Bunton, K.,** & Hoit, J. (March, 2016). Velopharyngeal Closure During the First 24 Months of Life in Typically Developing Children. Presented at the 18<sup>th</sup> Biennial Conference on Motor Speech Disorders: Motor Speech Disorders and Speech Motor Control. Newport, CA.
- \*Neely, K., Story, B., & **Bunton, K.** (March, 2016). Comparison of lip rounding by children and adults. Presented at the 18<sup>th</sup> Biennial Conference on Motor Speech Disorders: Motor Speech Disorders and Speech Motor Control: Newport, CA.
- Story, B., Vorperian, H., & **Bunton, K.,** (March, 2016). Effects of vocal tract growth on gender and vowel identification based on simulated children's vowels. Presented at the 18<sup>th</sup> Biennial Conference on Motor Speech Disorders: Motor Speech Disorders and Speech Motor Control. Newport, CA.
- Story, B.H., and **Bunton, K.** (March, 2016). Simulations of child-like speech as test material for speech analysis algorithms. Presented at the International Conference on Vocal Fold Physiology and Biomechanics, Viña del Mar, Chile.
- Story, B.H., and **Bunton, K.** (November, 2016). Identification of stop consonants produced by an acoustically-driven model of a child-like vocal tract, Presented at the 5th Meeting of the Acoustical Society of American and Acoustical Society Japan, Honolulu, HI.
- Story, B.H., and **Bunton, K.** (October, 2016). Speech performance density as an indicator of clear speech. Presented at the 2016 Fall Voice Conference, Scottsdale, AZ.
- \*Casilio, M., Rising, K., Beeson, P. M., **Bunton, K.,** & Wilson, S. M. (April, 2017). Patterns of connected speech features in aphasia. Presented at the Arizona Speech-Language-Hearing Association Convention, Tucson, AZ.
- \*Taylor, G., **Bunton, K.,** and Story, B., (2017). Clear Speech modifications in children aged 6-10 years. Presented at the Arizona Speech-Language-Hearing Association Convention, Tucson, AZ.
- \*Swink, N., Darling-White, M., and **Bunton, K.** (2017). Evaluating the effect of instruction and task on the acoustic characteristics of speech production in older adults. Presented at the Arizona Speech-Language-Hearing Association Convention, Tucson, AZ.
- \*Casilio, M., Rising, K., Beeson, P. M., **Bunton, K.,** & Wilson, S. M. (June, 2017). Patterns of connected speech features in aphasia. Presented at the Clinical Aphasiology Conference, Snowbird, UT.
- Story, B. & **Bunton, K.** (November, 2017). The relation of auditory perceptual ratings of nasality to nasal port area in connected speech. Paper presented at the 174<sup>th</sup> meeting of the Acoustical Society of America, New Orleans, LA.
- Story, B., **Bunton, K.,** & Vorperian, H. (February, 2018). Intelligibility of monosyllabic words produced by an acoustically-driven model of the vocal tract. Presented at the 19<sup>th</sup> Biennial Conference on Motor Speech Disorders: Motor Speech Disorders and Speech Motor Control. Savannah, GA.

Story, B. H., **Bunton, K.**, & \*Diamond, R. (April, 2018). Changes in vowel space characteristics during speech development based on longitudinal of measurements of formant frequencies. Paper presented at the 175<sup>th</sup> Acoustical Society Meeting, Minneapolis, MN, *The Journal of the Acoustical Society of America*, 143(3), 1971-1971.

Story, B. H., & **Bunton, K.**, (July, 2018). Speech performance density as a measure of long-term speaking characteristics, Presented at the 11th International Conference on Voice Physiology and Biomechanics, Michigan State University, Lansing, MI.

Story, B.H. & **Bunton, K.** (February, 2020). The relation of nasal coupling area to the perception of stop versus nasal consonants. Presented at the 20<sup>th</sup> Biennial Conference on Motor Speech Disorders: Motor Speech Disorders and Speech Motor Control: Santa Barbara, CA.

Story, B.H. & **Bunton, K.** (December, 2020). Articulation and identification of voiced stop consonants produced by acoustically-driven vocal tract modulations. Paper presented at the 179<sup>th</sup> Acoustical Society Meeting, Acoustics Virtually Everywhere (virtual conference).

## **GRANTS**

### **Federal (completed)**

2010-2017      NIH/NIDCD R01-DC10140 (J.D. Hoit, PI) "Velopharyngeal Function for Oral Sound Production in Healthy Children" Role: Co-Investigator (50% responsible) (Total award amount = \$1,572,876)

2011-2018      NIH/NIDCD R01-DC011275 (B.H. Story, PI) "An Acoustic Model of Child-like Speech" Role: Co-Investigator (40% responsible) (Total award amount = \$1,587,310)

2012-2017      NSF Research Grant 1052655 (B.H. Story & K. Bunton, Co-PI) "A Model of Vowel Production in Children" (50% responsible) (Total award amount = \$253,318)

### **Submitted (Federal-not funded)**

2015              National Heart, Lung, and Blood Institute (R. Fergosi, PI). "Testing the Efficacy of Tongue Muscle Training as a Non-Invasive Approach for the Treatment of Obstructive Sleep Apnea" (15% responsible (Total award amount requested= \$690,750))

2018              NIH/NIDCD R01 DC017151-01 (E. Bailey, PI) "Coordination of orofacial musculature for speech and sound production" (15% responsible (Total award amount requested=\$1,000,000))

## **REGULAR ASSIGNED TEACHING LOAD**

SLHS 471/571 Speech Sound Disorders  
SLHS 501 Professional Issues  
SLHS 510 Counseling for Communication Disorders  
SLHS 572 Speech Disorders

## **Individual Student Contact**

### ***Advising***

2011-2019 Non-Degree Seeking Student Advisor (8 students/year)  
2011-present Individual graduate student advising (14 Master's Students/year)  
Department Liaison for College of Science Undergraduate Advisor  
Department orientation advising presentations (held in August, 4 separate student groups)

### ***Mentoring***

2013-2016 Co-director of monthly Speech Working Group Research Meetings  
2016-present Coordinated SLHS faculty-PhD student monthly meetings (with student leader)

## **Participation in Honors Program**

### ***Honors Contracts***

Fall, 2014 3 students (SLHS 471 Speech Sound Disorders)  
Fall, 2015 1 student (SLHS 471 Speech Sound Disorders)  
Fall, 2016 1 student (SLHS 471 Speech Sound Disorders)

### ***Honors Thesis***

2020 Alex Folger, *What Role Palatal Surgeries Play In the Speech Production Skills of Children with Cleft Lip?*

### ***Clinical Instruction***

Spring 2015 Supervised two graduate students providing therapy to a child with a history of cleft lip/palate  
Conducted evaluation with graduate student for client with Trisomy 8 Mosaicism Syndrome  
Fall, 2015 Conducted evaluation with graduate students for three children who were stuttering and  
implemented parent-based intervention programs  
Spring, 2017 Mentored clinical fellow in speech-language pathology and graduate student during bimonthly  
cleft palate (plastics) clinic held at Children's Rehabilitation Services, Tucson, AZ.  
Spring, 2018 Clinical Fellow mentor, Children's Rehabilitation Services, Tucson, AZ.

## **Master's Committees**

### ***Thesis Committee Chair-In Progress***

2020 Lydia Dinkel

### ***Thesis Committee Chair-Completed***

2014 Kim Neely, *Variation in F2 trajectories as evidence for articulatory gesture overlap: A modeling study*  
2014 Jenna Turner, *Effectiveness of Assistive Technology Teams in Classroom AAC Implementation*  
2016 Alana Turner, *Acoustic Cues to Understanding Clear Speech*  
2017 Griffin Taylor, *Clear Speech modifications in children aged 6-10 years*

- 2017 Natasha Swink (co-chair with Dr. Darling-White), *Evaluating the effect of instruction and task on the acoustic characteristics of speech production in older adults.*
- 2018 Angelica McCarron, *Acoustic Variability in the Fluent Connected Speech of Adults who Stutter*
- 2018 Sarah Monti, *Frailty and Voice: Acoustic Analysis of Connected Speech in Single and Dual Task Conditions*

**Thesis Committee Member-Completed**

- 2015 Catherine Chong, *Barriers to Graduate Study for Minorities in the Fields of Speech, Language, and Hearing Sciences.*
- 2015 Kaitlyn Kelhetter, *Velopharyngeal Function During Speech Production in Individuals with Amyotrophic Lateral Sclerosis*
- 2017 Marianne Casilio, *Patterns of connected speech features in aphasia.*
- 2018 Atha Zimmerman, *The case of the zissorz: Dialect or disorder?*

**Other Committee Chair-Completed**

- 2019 Sara Mohr, Certificate in Science Communication

**Doctoral Committees**

**Dissertation Committee Chair-In Progress**

- 2020-present Florian Hafner (Linguistics; co-chair with Andy Wedel)

**Dissertation Committee Member-Completed**

- 2014-2015 Megan Kittleson \*student graduated in 2017, she reworked her committee based on dissertation project

**Doctoral Committee Member-Completed**

- 2014 Kim Neely \*student withdrew from the program
- 2019 Florian Hafner (Linguistics)
- 2020 Kristen Ackley

**CONTRIBUTION TO INSTRUCTIONAL INNOVATIONS AND COLLABORATIONS**

**Teaching Workshops offered through the Office of Instruction and Assessment, University of Arizona**

- Spring, 2016 Designing Coursework in the Nature and Treatment of Stuttering
- Spring, 2019 Leadership in the Classroom Diversity & Inclusion Certificate
- Fall, 2019 Preventing Discrimination and Harassment for Supervisors & Faculty
- Spring, 2020 Harassment and Discrimination Prevention Certificate
- Summer, 2020 See and Do webinars (6 use of technology topics and 2 teaching strategies attended)

**UA AAU Undergraduate STEM Education**

- 2014-2015 UA-AAU Undergraduate STEM Education Project Faculty Learning Community Participant (Lisa Elfring, facilitator)

**Faculty Learning Community**

- 2014-2015 Participant, UA-AAU Undergraduate STEM Education Project Faculty Learning Community
- 2015 Member, Faculty Learning Community
- 2016-present Faculty Facilitator, Faculty Learning Community



**Teaching Workshops (outside of the University of Arizona)**

2016 Participant, Design and Coursework in the Nature and Treatment of Stuttering, Co-Sponsored by the Stuttering Foundation and The University of Iowa, Iowa City, IA.

**Teaching/Mentoring Grant**

2020 Mentor for American Speech, Language, and Hearing Association, Advancing Academic-Research Career (AARC) Award, mentee Katelyn Kotlarek, Assistant Professor, University of Wyoming, \$5000