

Brian B. Monson

Curriculum Vitae

August 2010

Speech, Language, and Hearing Sciences

University of Arizona, PO Box 210071, Tucson, AZ 85721

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EDUCATION AND EMPLOYMENT

Degrees

- (current) **Ph.D.** Speech, Language, and Hearing Science, University of Arizona
Dissertation title: High-Frequency Energy in Speech and Voice
Minor, Neuroscience
Minor, Theatre Arts (Musical Theatre)
- 2006 **M.S.** Physics (Acoustics), Brigham Young University
Thesis title: Optimization of Active Noise Control for Small Axial Cooling Fans
Minor, Vocal Performance
- 2003 **B.S.** Electrical Engineering, *Cum Laude*, Utah State University

Research Experience

- Jan. 2008 – present Perception of high-frequency energy (above 5 kHz) in speech, voice, and singing
Mentors: Brad H. Story, Andrew J. Lotto
- Sept. 2008 – Dec. 2008 Audibility of high-frequency energy in loud and soft phonation of singers
Location: Dept. of Speech, Music, and Hearing (TMH), The Royal Institute of Technology (KTH), Stockholm, Sweden
Mentors: Sten Ternström, Andrew J. Lotto
- Aug. 2007 – Dec. 2007 Breathing measurement techniques for speech and singing
Mentor: Thomas J. Hixon
- Aug. 2005 – Aug. 2007 Estimation and modeling of vocal tract shapes for singing
Mentors: Brad H. Story, J. Arden Hopkin
- June 2005 – Dec. 2006 Finite-element modeling of vocal fold vibration with vocal nodules
Mentor: Scott L. Thomson
- June 2005 – June 2006 Real-time vowel formant tracking software for deaf children learning speech
Mentor: Samuel G. Fletcher
- Aug. 2003 – Aug. 2006 Active noise control of axial cooling fans
Mentor: Scott D. Sommerfeldt
- Feb. 2005 – April 2005 Directivity measurements of human speech and voice
Mentor: Timothy W. Leishman
- May 2003 – Nov. 2004 Active noise control of tractor cabin noise

Aug. 2002 – Aug. 2003 **Mentor:** Scott D. Sommerfeldt
English to Korean speech recognition and translation software

Relevant Employment

Aug. 2009 – present Research Associate, The National Center for Voice and Speech, University of Utah
July 2008 – Aug. 2008 Instructor, Speech/Hearing Science Dept., University of Arizona
June 2003 – Aug. 2006 Research Assistant, Brigham Young University
Aug. 2004 – Dec. 2004 Instructor, Physics Dept., Brigham Young University
May 2002 – Aug. 2002 Audio Engineering Technician, IVIE Tech. Inc., Lehi, UT
May 2002 – Jan 2003 Sound Engineer, Eclipse Inc., Salt Lake City, UT

Teaching Experience

University of Arizona

Summer 2008 *Instructor*, SP H 267: Acoustics for the Speech and Hearing Sciences
Acoustics course for speech, language, and hearing science majors

Brigham Young University

Spring 2006 *Graduate Teaching Assistant*, Music 161: Voice Technique
Introductory voice technique course for music majors with small group voice instruction
Fall 2004 *Instructor*, Physics 167: Descriptive Acoustics of Music and Speech
Introductory acoustics course for audiology, speech/language pathology, music, and physics majors

HONORS AND AWARDS

2010 Graduate and Professional Student Council *Travel Grant*, University of Arizona
2010 Lessons for Success: Developing the Emerging Scientist *Conference Travel Fellowship*, American Speech-Language-Hearing Association (ASHA)
2009 Graduate and Professional Student Council *Travel Grant*, University of Arizona
2009 *Galileo Circle Scholar Award*, College of Science, University of Arizona
2007 Acoustical Society of America 153rd Meeting *Best Student Paper Award* in Musical Acoustics, First Prize
2006 Center for Science, Medicine, and the Performing Arts *Fellowship* (4 years), Department of Speech, Language, and Hearing Sciences, University of Arizona
2006 Graduate Studies *Research Presentation Award*, Brigham Young University
2006 Society for Education, Music, and Psychology Research (SEMPRE) *Conference Award*

- 2004 Acoustical Society of America 147th Meeting *Outstanding Young Presenter Award* in Noise
- 2003 Physics and Astronomy *Scholarship* (3 years), Brigham Young University
- 2003 Graduate *Cum Laude*, Utah State University
- 2002 Tau Beta Pi inductee, Engineering Honour Society, Utah Gamma Chapter
- 1997 Presidential *Scholarship* (4 years, Academic), Utah State University
- 1997 *Eagle Scout Award*, Boy Scouts of America

GRANTS/RESEARCH AWARDS

- 2010 – 2011 Principal Investigator, *High-frequency energy in speech and voice*, National Institutes of Health, F31DC010533-01A1 (Research Training Grant)

PUBLICATIONS AND PRESENTATIONS

Peer-Reviewed Publications

- Monson, B. B.**, Sommerfeldt, S. D., and Gee, K. L. (2007). “Improving compactness for active noise control of a small axial cooling fan”, *Noise Control Eng. J.*, 55(4), 397-407.

Conference Publications

- Monson, B. B.** and Sommerfeldt, S. D. (2004). “Global Active Control of Tonal Noise from Small Axial Cooling Fans”, *Proc. ACTIVE 04*, a04_040

Sommerfeldt, S. D., **Monson, B. B.**, and Duke, C. (2004). “Quieting Computer Fans: Fighting Sound with Sound”, Lay language paper, Acoustical Society of America 147th Meeting, New York, NY (**invited**)

Publications in preparation

- Monson, B. B.**, Ternström, S., and Lotto, A. J. “Detection of high-frequency energy changes in sustained vowels produced by singers.” (submitted)

Hunter, E. J., **Monson, B. B.**, and Montequin, D. “Relations between the voice and the ear with clinical implications.”

Abstracts/Presentations in Professional Conferences

- Monson, B. B.** (presenter), Story, B. H., and Lotto, A. J. (2010). “Perception of High-Frequency Energy in Singing”, The 5th International Physiology and Acoustics of Singing Conference (PAS5), Aug 10-13, Stockholm, Sweden

Monson, B. B. (2010). “A Studio with a View: Employing Visualization Software in Your Daily Teaching”, NATS 51st National Conference, July 2-5, Salt Lake City, UT (**invited**)

Monson, B. B. (presenter), Ternström, S., and Lotto, A. J. (2009). “Audibility of High Frequency in Voice”, Voice Foundation’s 38th Annual Symposium: Care of the Professional Voice, June 3-7, Philadelphia, PA

Monson, B. B. (presenter), Ternström, S., and Lotto, A. J. (2009). “Audibility of High Frequency Energy in Speech and Voice”, Auditory Cognitive Neuroscience Society Conference (poster session), January 9-10, Tucson, AZ

Monson, B. B. (2007). “The 1:6 Ratio in Vocal Pedagogy”, Acoustical Society of America 153rd Meeting, June 4-8, Salt Lake City, UT (**invited**)

Monson, B. B. (presenter) and Thomson, S. L., (2006). “Modeling the Influence of Vocal Nodules on Vocal Fold Vibration”, Voice Foundation’s 35th Annual Symposium: Care of the Professional Voice, June 1-4, Philadelphia, PA

Monson, B. B. (presenter), Hopkin, J. A., and Ence, K. (2006). “The 1-to-6 ratio: Is it real?”, The 3rd International Physiology and Acoustics of Singing Conference (PAS3), May 10-13, York, England

Monson, B. B. (presenter) and Sommerfeldt, S. D. (2004). “Optimal Configurations for Active Control of Axial Fans”, Acoustical Society of America 148th Meeting, Nov. 15-19, San Diego, CA

Monson, B. B. (presenter) and Sommerfeldt, S. D. (2004). “Global Active Control of Tonal Noise from Small Axial Cooling Fans”, ACTIVE 04, September 20-22, Williamsburg, VA

Monson, B. B. (presenter), Sommerfeldt, S. D., Duke, C. (2004). “Active Noise Control of Small Axial Cooling Fans”, Acoustical Society of America 147th Meeting, May 24-28, New York, NY

Invited Lectures/Presentations

The Department of Speech, Language, and Hearing Sciences Colloquium Series, University of Arizona, January 26, 2009.

The Marcus Wallenberg Laboratory (MWL) for Sound and Vibration Research Seminar, The Royal Institute of Technology, Stockholm, Sweden, December 3, 2008.

The Acoustical Society of America Brigham Young University Student Chapter Technical Meeting, April 13, 2006.

The Acoustical Society of America Brigham Young University Student Chapter Technical Meeting, September 15, 2005.

SERVICE/LEADERSHIP

2007 – 2008 *Reviewer*, Journal of the Acoustical Society of America

2005 – 2007	<i>Chair, Acoustical Society of America Student Council</i>
2005 – 2006	<i>Student Council Representative, Acoustical Society of America (Musical Acoustics Technical Committee)</i>
2005 – 2006	<i>Chair, BYU Student Chapter Executive Council, Acoustical Society of America</i>
2005 – 2006	<i>Vice President, Brigham Young University Singers</i>
2005	<i>Founder, BYU Student Chapter, Acoustical Society of America</i>
2004 – 2005	<i>Student Council Representative, Acoustical Society of America (Signal Processing Technical Committee)</i>
2001 – 2002	<i>President, Cache Valley Young Single Adult Council, Logan, UT</i>
2000 – 2001	<i>Student Council President, Logan Institute of Religion, West Campus, Logan, UT</i>
1998 – 2000	<i>Volunteer Church Representative, Seoul, Korea</i>

COMPUTER SKILLS

Software: Matlab, C/C++, Assembly, PSpice, Mathcad, Maple, Praat, Audacity, Alvin

Hardware: Interfacing, Audio, Circuit Design/Assembly, PC Board Layout Design

FOREIGN LANGUAGE SKILLS

Korean (fluent), Swedish (written)

VOICE INSTRUCTION

Private

2009 – present	Classical, Lewis Quinn (BYU)
2006 – 2007	Belt/Mix/Classical, Devin Toma (Tucson)
2005 – 2006	Classical, Clayne Robison (BYU)
2006	Belt/Musical Theatre, Gayle Lockwood (BYU)
2002	Classical (USU)

Group

2005	Belt/Musical Theatre, Gayle Lockwood
2004 – 2005	Classical, Clayne Robison

SINGING EXPERIENCE

2010 – present	Mormon Tabernacle Choir, Salt Lake City, UT
2008	Ensemblen and Engelbrekts Vokalensemble, Stockholm, Sweden
2000, 2007	Sun Valley Carolers, Sun Valley, ID
2003 – 2004, 2005 – 2006	Brigham Young University Singers, Provo, UT
2004 – 2005	Meistersinger Guild, Provo, UT
2001, 2003	Utah State University Chamber Singers, Logan, UT
2000 – 2001, 2003	LDS Institute New Horizons Show Choir, Logan, UT
2001 – 2002	Utah State University Sunburst Singers, Logan, UT

STAGE PERFORMANCE EXPERIENCE

2009 Cleopas, *Savior of the World*, The Church of Jesus Christ of
Latter-day Saints, Salt Lake City, UT

2007 Lumiere, *Beauty and the Beast*, Hale Center Theatre, Orem, UT

2006 – 2007 Singer/Dancer, *Witnesses*, Millenium, Tucson Institute of Religion,
Tucson, AZ

2006 Don Alfonso, *Così fan tutte* (scenes), BYU Opera, Provo, UT

2005 Moose, *Crazy for You*, SCERA Theatre, Orem, UT

2005 Sergeant of Police, *Pirates of Penzance*, BYU Opera, Provo, UT

2001 – 2002 Singer/Dancer, *The Glenn Miller Show*, USU Sunburst Program,
Logan, UT