

# Adam C. Lammert, Ph.D.

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## RESEARCH & TEACHING INTERESTS

- Computational Neuroscience, Neuroengineering, Cognitive Science
- Artificial Intelligence, Machine Learning, Data Science
- Biomedical Technologies, Speech & Hearing Technologies

## EDUCATION

- Ph.D., Computer Science**, University of Southern California *2014*
- Thesis: Structure and Function in Speech Production
  - Awarded Best Dissertation in Computer Science
- M.S., Computer Science**, North Carolina State University *2006*
- Thesis: Artificial Intelligence Techniques to Automate Digital Design
- A.B., Cognitive Science**, Vassar College *2004-Present*
- Thesis: Helical Klinotaxis Allows for Robust Stimulus Orientation
  - Cum Laude in Materia Subjecta
  - Minor in Computer Science

## PROFESSIONAL EXPERIENCE

- Assistant Professor**, Worcester Polytechnic Institute *2019-Present*  
Department of Biomedical Engineering (primary appointment)  
Program in Neuroscience (core faculty)  
Department of Computer Science (joint appointment)  
Department of Bioinformatics & Computational Biology (joint appointment)
- Adjunct Assistant Professor**, MGH Institute of Health Professions *2018-Present*  
Rehabilitation Sciences Program (Faculty Sponsor: Dr. Jordan Green)
- Research Scientist**, MIT Lincoln Laboratory *2015-2019*  
Bioengineering Systems & Technologies Group
- Visiting Assistant Professor**, Swarthmore College *2014-2015*  
Department of Computer Science
- Research Assistant**, University of Southern California *2008-2014*  
Signal Analysis and Interpretation Laboratory (PI: Dr. Shrikanth Narayanan)
- Lab Manager**, Veterans Affairs Northern California Health Care System *2006-2008*  
Speech and Hearing Research Laboratory (PI: Dr. Pierre Divenyi)

## HONORS & AWARDS

- Faculty Academic Advisor of the Year Award**, Nominee *2023*  
Worcester Polytechnic Institute
- Teacher of the Year Award**, Winner *2021*

Department of Biomedical Engineering, Worcester Polytechnic Institute

- Best Reviewer Award**, Winner 2021  
IEEE Open Journal of Engineering in Biology and Medicine
- Editor's Choice Paper Award**, Winner 2015  
Phonetica International Journal of Phonetic Science
- Topic: Gestural Control in the English Past-Tense Suffix
- Best Dissertation Award**, Winner 2015  
Department of Computer Science, University of Southern California
- Topic: Structure & Function in Speech Production
- Raymond H. Stetson Scholarship in Phonetics and Speech Science**, Winner 2013  
Acoustical Society of America
- ARCS Foundation Research Scholarship**, Winner 2011  
Achievement Rewards for College Scientist Foundation
- Best Student Paper (Northern Digital Inc. Excellence Award)**, Winner 2011  
International Seminar on Speech Production
- Topic: Morphological Variation in the Adult Vocal Tract
- Best Paper Award**, (1 of the 20 best, top 3%) 2010  
INTERSPEECH 2010, Makuhari, Japan
- Topic: Estimating the Forward Kinematics of a Geometric Vocal Tract Model
- Best Paper Award**, (1 of the 20 best, top 3%) 2010  
INTERSPEECH 2010, Makuhari, Japan
- Topic: Automatic Classification of Married Couples' Behavior using Audio

## TEACHING EXPERIENCE

*Key – WPI: Worcester Polytechnic Institute; USC: University of Southern California; NCSU: North Carolina State University; MIT: Massachusetts Institute of Technology; BME: Biomedical Engineering; CS: Computer Science; LING: Linguistics; BIO: Biological Sciences; COGS: Cognitive Science; MQP: Major Qualifying Project; IQP: Interactive Qualifying Project; F: Fall Semester; S: Spring Semester*

### **Courses Taught**

BME 595: Neuroengineering, WPI S22, F22  
BME 2211: Biomedical Data Analysis, WPI S20, F20, S21, F21, S22, S23  
CS 35: Data Structures & Algorithms, Swarthmore F14, F15  
CS 31: Introduction to Computer Systems, Swarthmore F14

### **Curricular Projects & Independent Studies Advised**

BME 598: Integrative & Comparative Biology, WPI S23  
BME MQP: Behavioral Assay for Tinnitus Characterization, WPI F22/S23  
BME MQP: Multimodal Detection of Sleep Apnea, WPI F22  
CS MQP: Data Analysis Pipeline for Biomedical Signals, WPI F21/S22  
BME 4999: Rehabilitation Engineering, WPI S21  
CS MQP: Data Management & Analysis Pipeline for Biomedical Signals, WPI F20/S21  
BME MQP: Ultrasound Probe that Requires No Topical Gel on the Skin, WPI F20/S21  
CS IQP: Effects of Exercise on Cognitive Load, WPI F19/S20  
CS IQP: Tool to Improve Outcomes for Concussed Athletes, WPI F19/S20  
CS 93: Speech Synthesis, Swarthmore S15

### Teaching Assistantships

BIO 521: <u>Hearing &amp; Communication Neuroscience</u> , USC	S14
CS 561: <u>Artificial Intelligence</u> , USC	F11, F12, S14
LING 582: <u>Experimental Phonetics</u> , USC	F09, F13
CS 506: <u>Architecture of Parallel Computers</u> , NCSU	F05
CS 236: <u>Computer Organization &amp; Logic</u> , NCSU	S05
COGS 219: <u>Research Methods in Cognitive Science</u> , Vassar	S04
COGS 211: <u>Perception &amp; Action</u> , Vassar	F02, F03

### Outreach Activities

<u>Data Science for Health &amp; Medicine</u> , MIT Beaverworks Summer Institute	S19
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### FELLOWSHIPS & FUNDING

**Principal Investigator**, Worcester Polytechnic Institute 2021-2022  
UMass Center for Clinical and Translational Science Pilot Projects Grant (\$50k)  
Study Title: Tinnitus Characterization Using Reverse Correlation With Applications to Retraining Therapies

**Principal Investigator**, Worcester Polytechnic Institute 2020-2021  
Worcester Polytechnic Institute Grant Seed Funding (\$8.5k)  
Study Title: Stroke Rehabilitation through Gaming: Proactively Predicting Non-Adherence to Facilitate Just-In-Time Interventions

**Principal Investigator**, MIT Lincoln Laboratory 2017-2019  
US Army Medical Research & Materiel Command Grant (\$360k)  
Study Title: Multimodal Cognitive State Assessment Platform

**Principal Investigator**, MIT Lincoln Laboratory 2016-2019  
Assistant Secretary of Defense (R&E) Research Grant (\$1.92M)  
Study Title: Sensorimotor Tracking of Neurological Disorders: Traumatic Brain Injury

**Principal Investigator**, MIT Lincoln Laboratory 2016-2019  
US Army Medical Research & Materiel Command Grant (\$600k)  
Study Title: Operational Pilot Fatigue Monitoring Through Voice

**Principal Investigator**, MIT Lincoln Laboratory 2015-2017  
US Army Medical Research & Materiel Command Grant (\$350k)  
Study Title: Cognitive Change Detection in Traumatic Brain Injury Using Voice

**Co-Investigator**, University of Southern California 2015-2019  
NSF Medium Collaborative Research Grant (S. Narayanan, P.I.)  
Study Title: Understanding Individual-Level Speech Variability

**Research Program Consultant**, University of Southern California 2015-2020  
NIH R01 Research Grant (S. Narayanan, P.I.)  
Study Title: Dynamics of Speech Vocal Tract Shaping

**Principal Investigator**, Swarthmore College 2014-2015  
Faculty Research Support Grant  
Study Title: Implementation of a Novel Articulatory Synthesizer

**Co-Principal Investigator**, University of Southern California 2012-2013

Diploma in Innovation Research Grant (Benjamin Parrell, Co-P.I.)  
Study Title: Ultrasound Imaging of Glottal Dynamics During Speech

**Graduate Trainee**, University of Southern California *2011-2013*  
NIH T32 Doctoral Training Fellowship (S. Bottjer, & N. Segil, Co-P.I.s)  
Study Title: Hearing & Communication Neuroscience

**Graduate Trainee**, University of Southern California *2008-2010*  
Annenberg Foundation Graduate Fellowship

**Graduate Invitee**, Boston University Center for Biodynamics *2008*  
Air Force Office of Scientific Research Workshop Grant (P. Divenyi, P.I.)  
Topic: Brain Rhythms in Speech Perception and Production

**Joint Research Fellow**, École Normale Supérieure, Paris, France *2007*  
NSF Collaborative Research Grant (P. Divenyi, P.I.)  
Topic: Separating Speech from Speech Noise to Improve Intelligibility

**Undergraduate Research Fellow**, Vassar College *2007*  
Undergraduate Research Summer Institute Fellowship (J. Long, P.I.)  
Topic: Biologically Inspired Control of Perception-Action Systems

#### RESEARCH ADVISING AND MENTORSHIPS

##### **Graduate Student Advising**

Bridget Rinkel, WPI Neuroscience Masters *2022-Present*  
Topic: Development of a Detection Algorithm for G-Induced Loss of Consciousness in Military Pilots

Alec Hoyland, WPI Biomedical Engineering PhD *2021-Present*  
Topic: Tinnitus Characterization Using Reverse Correlation With Applications to Retraining Therapies

Apiwat Ditthapron, WPI Computer Science PhD *2021-Present*  
Topic: An automated mild traumatic brain injury screening using smartphone voice recording

Benjamin Roop, WPI Neuroscience Masters *2020-2022*  
Topic: Improve efficiency of the reverse correlation method using compressive sensing

Apiwat Ditthapron, WPI Computer Science Masters *2019-2021*  
Topic: Speech-based traumatic brain injury assessment using deep learning methods with limited labeled data

##### **Undergraduate Research Mentorships**

Gidey Gezae, Worcester Polytechnic Institute *2023-Present*  
Topic: Reverse Correlation Instruction Optimization With Applications to Tinnitus Characterization

Chase Beausoleil, Worcester Polytechnic Institute *2023-Present*  
Topic: Investigation of Human Noise Perception With Applications to Tinnitus Characterization

Jack Brazer, Worcester Polytechnic Institute *2023-Present*  
Topic: Reverse Correlation Protocol Optimization With Applications to Tinnitus Characterization

- Kyle Johns, Worcester Polytechnic Institute 2021  
Topic: Probing latent perceptual representations using the reverse correlation method
- Alexis Compton, Worcester Polytechnic Institute 2021-2022  
Topic: Stimulus whitening to improves the efficiency of reverse correlation
- Nelson Barnett, Worcester Polytechnic Institute 2020-2022  
Topic: Quantifying coordination and predicting fall risk in a model of human gait  
Winner: WPI BME Outstanding Undergraduate Research Award 2022
- Samantha Peznola, Worcester Polytechnic Institute 2020-2022  
Topic: Analysis of adherence and play patterns in game-based rehabilitation program for stroke  
Winner: WPI BME Outstanding Undergraduate Research Award 2021
- Elisabeth Lynn, Worcester Polytechnic Institute 2019-2022  
Topic: Analysis of singing style using real-time magnetic resonance imaging. WPI.  
Winner: WPI BME Outstanding Undergraduate Research Award 2023
- Marc Rosenthal, Worcester Polytechnic Institute 2019  
Topic: Model of muscular impairment and sensorimotor pathology
- Tessa Jones & Martina Costagliola, Swarthmore College 2015  
Topic: Development of a novel, region-based articulatory speech synthesizer
- Gautam Mohan & Katherine Hamilton, Swarthmore College 2014-2015  
Topic: Realtime voice activity and pitch modulation for laryngectomy transducers using head and facial gestures
- Li Hsuan Lu, University of Southern California 2012-2014  
Topic: Cross-Linguistic Analysis of Fricative Production using Real-Time MRI

## JOURNAL ARTICLES

*Key: \*award winning paper; \_\_\_ graduate co-author; .....undergrad co-author*

*Journal articles represent the most important mode of publication in my research area. Manuscripts in this category are typically 6-12 pages in length. Reviews are usually rendered by 2-4 peer reviewers, leading to at least one round of rebuttal.*

*Quick Stats – 31 total journal articles, including:*

- 16 as first or last author
- 10 with graduate co-author
- 4 with undergrad co-author

Roop, B., Parrell, B. & Lammert, A.C. (in revision). A Compressive Sensing Approach for Inferring Cognitive Representations with Reverse Correlation. Submitted to Behavior Research Methods (1.Sept.2022). Preprint currently in available at bioRxiv.

Noufi, C., Lammert, A. C., Mehta, D. D., Williamson, J. R., Ciccarelli, G., Sturim, D., Green, J.R., Quatieri, T.F. & Campbell, T. F. (2022). Longitudinal Acoustic Speech Tracking Following Pediatric Traumatic Brain Injury. arXiv preprint arXiv:2209.04406.

Rowe, H.P., Gochyyev, P., Lammert, A.C., Lowit, A., Spencer, K.A., Dickerson, B.C., Berry, J.D. & Green, J.R. (in press). The Efficacy of Acoustic-Based Articulatory Phenotyping for

Characterizing and Classifying Four Divergent Neurodegenerative Diseases Using Sequential Motion Rates. *Journal of Neural Transmission*.

Peznola, S., Gauthier, L.V., Roop, B., Claypool, M. & Lammert, A.C. (in press). Compliance with in-home self-managed rehabilitation post-stroke is largely independent of scheduling approach. Accepted at *Archives of Physical Medicine and Rehabilitation*.

Barnett, N. & Lammert, A.C. (2023). Dynamic Stability of Passive Dynamics Walking After Tripping. *Journal of Biomechanical Engineering*, 145(4), 044501.

Compton, A., Roop, B.W., Parrell, B. & Lammert, A.C. (2022). Stimulus Whitening Improves the Efficiency of Reverse Correlation. *Behavior Research Methods* 1-9.

Ditthapron, A., Lammert, A. C., & Agu, E. O. (2022). Continuous TBI monitoring from Spontaneous Speech using Parametrized Sinc Filters and a Cascading GRU. *IEEE Journal of Biomedical and Health Informatics*.

Ramanarayanan, V., Lammert, A.C., Rowe, H.P., Quatieri, T.F. & Green, J. (2021). Speech as a Biomarker: Opportunities, Interpretability, and Challenges. *Perspectives of the ASHA Special Interest Groups*, 1-8.

Rowe, H.P., Stipancic, K.L., Lammert, A.C. & Green, J.R. (2021). Validation of an Acoustic-Based Framework of Speech Motor Control: Assessing Criterion and Construct Validity using Kinematic and Perceptual Measures. *Journal of Speech, Language, and Hearing Research*, 64(12), 4736-4753.

Lynn, E., Narayanan, S.S. & Lammert, A.C. (2021). Dark tone quality and vocal tract shaping in soprano song production: insights from real-time MRI. *Journal of the Acoustical Society of America - Express Letters*, 1(7), 075202.

Ditthapron, A., Agu, E. & Lammert, A.C. (2021). Privacy-Preserving Deep Speaker Separation for Smartphone-Based Passive Assessment of Speech Impairments. *IEEE Open Journal of Engineering in Biology and Medicine*.

Rao, H.M., Talkar, T., Ciccarelli, G.A., Nolan, M., O'Brien, A., Vergara-Diaz, G., Sherrill, D., Zafonte, R., Palmer, J.S., Quatieri, T.F., McKindles, R.J., Bonato, P., & Lammert, A.C. (2020). Sensorimotor Conflict Tests in an Immersive Virtual Environment Reveal Subclinical Impairments in Mild Traumatic Brain Injury. *Scientific Reports*.

Rao, H.M., Smalt, C.J., Rodriguez, A., Wright, H., Mehta, D.D., Brattain, L.J., Edwards, H., Lammert, A., Heaton, K.J. & Quatieri, T.F. (2020). Predicting Cognitive Load and Operational Performance in a Simulated Marksmanship Task. *Frontiers in Human Neuroscience*, 14.

Heaton, K., Williamson, J., Lammert, A.C., Finkelstein, K., Haven, C., Sturim, D., Smalt, C. & Quatieri, T. (2020). Predicting Changes in Performance Due to Cognitive Fatigue: A Multimodal Approach Based on Speech Motor Coordination and Electrodermal Activity. *The Clinical Neuropsychologist*, 1-25.

Lammert, A.C., Melot, J., Sturim, D.E., Hannon, D.J., DeLaura, R., Williamson, J.R., Ciccarelli, G. & Quatieri, T.F. (2020). Analysis of Phonetic Balance in Standard English Passages. *Journal of Speech, Language and Hearing Research*, 63(4), 917-930.

- Parrell, B., & Lammert, A. (2019). Bridging Dynamical Systems and Optimal Trajectory Approaches to Speech Motor Control with Dynamic Movement Primitives. *Frontiers in Psychology*, 10, 2251.
- Hagedorn, C., Sorensen, T., Lammert, A.C., Toutios, A., Goldstein, L.M., Byrd, D., & Narayanan, S.S. (2019). Engineering Innovation in Speech Science: Data and Technologies. *Perspectives of the American Speech and Hearing Association Special Interest Groups*, 4(2), 411-420.
- Lammert, A., Parrell, B., Ciccarelli, G. & Quatieri, T. (2019). Current Models of Speech Motor Control: A Overview of Architectures & Properties. *Journal of the Acoustical Society of America*, 145(3), 1456.
- Lammert, A., Shadle, C., Narayanan, S. & Quatieri, T. (2018). Speed-Accuracy Tradeoffs in Human Speech Production. *PLoS ONE* 13(9), e0202180.
- Li, M., Kim, J., Lammert, A., Ghosh, P.K., Ramanarayanan, V. & Narayanan, S. (2016). Speaker verification based on the fusion of speech acoustics and inverted signals. *Computer, Speech & Language*, 36: 196-211.
- Lammert, A., & Narayanan, S. (2015). On Short-Time Estimation of Vocal Tract Length from Formant Frequencies. *PLoS ONE* 10(7), e0132193.
- \*Lammert, A., Ramanarayanan, V., Goldstein, L. & Narayanan, S. (2014). Gestural Control in the English Past-Tense Suffix: an Articulatory Study using Real-Time MRI. *Phonetica*, 71(4): 229-248.
- Narayanan, S., Toutios, A., Ramanarayanan, V., Lammert, A., Kim, J., Nayak, K., Kim, Y.-C., Zhu, Y., Bresch, E., Goldstein, L, Byrd, D., Katsamanis, A. & Proctor, M. (2014). Real-time magnetic resonance imaging and electromagnetic articulography database for speech production research (TC). *Journal of the Acoustical Society of America*, 136(3): 1307-1311.
- Ramanarayanan, V., Lammert, A., Goldstein, L. & Narayanan, S. (2014). Do articulatory settings facilitate efficient postural motor control of vocal tract articulators? *PLoS ONE* 9(8), e104168.
- Kim, J., Lammert, A., Ghosh, P.K. & Narayanan, S.S. (2014). Co-registration of speech production datasets from electromagnetic articulography and real-time magnetic resonance imaging. *Journal of the Acoustical Society of America*, 135: EL115.
- Lammert, A., Proctor, M. & Narayanan, S. (2013). Interspeaker Variability in Hard Palate Morphology and Vowel Production. *Journal of Speech, Language and Hearing Research*, 56: S1924-S1933.
- Lammert, A., Proctor, M. & Narayanan, S. (2013). Morphological Variation in the Adult Hard Palate and Posterior Pharyngeal Wall. *Journal of Speech, Language and Hearing Research*, 56: 521-530.
- Lammert, A., Goldstein, L., Narayanan, S. & Iskarous, K. (2013). Statistical Methods for Estimation of Direct and Differential Kinematics of the Vocal Tract. *Speech Communication*, 55: 147-161.

Black, M.P, Katsamanis, A., Baucom, B.R., Lee, C.-C., Lammert, A.C., Christensen, A., Georgiou, P.G. & Narayanan, S.S. (2013). Toward automating a human behavioral coding system for married couples' interactions using acoustic features. *Speech Communication*, 55: 1-21.

Long, J.H. Jr., Koob, T.J., Irving, K., Combie, K., Engel, V., Livingston, N., Lammert, A.C. & Schumacher, J. (2006). Biomimetic evolutionary analysis: Testing the adaptive value of vertebrate tail stiffness in autonomous swimming robots. *J. Experimental Biology*, 209: 4732-4746.

Long, J.H. Jr., Lammert, A.C., Pell, C.A., Kemp, M., Strother, J., Crenshaw, H.C. & McHenry, M.J. (2004). A navigational primitive: biorobotic implementation of cycloptic helical klinotaxis in planar motion. *IEEE J. Oceanic Engineering*, 29: 795-806.

### BOOK CHAPTERS

Proctor, M., Zhu, Y., Lammert, A., Toutios, A., Sands, B., & Narayanan, S. (2020). Studying Clicks Using Real-Time MRI. In *Click Consonants* (pp. 210-240). Brill.

Proctor, M., Zhu, Y., Lammert, A., Toutios, A., Sands, B., Hummel, U., & Narayanan, S. (2016). Click consonant production in Khoekhoe: A real-time MRI study. In *Khoisan Languages and Linguistics—Proceedings of the 5th International Symposium, July 13–17, 2014, Riezlern/Kleinwalsertal* (pp. 337-366).

Divenyi, P., & Lammert, A. (2007). The time course of listening bands. In *Hearing - From sensory processing to perception*, B. Kollmeier, G. Klump, V. Hohmann, U. Langemann, M. Mauermann, S. Uppenkamp, and J. Verhey (Eds.). Berlin, Heidelberg (Germany): Springer Verlag.

Wessel, D., Divenyi, P. & Lammert, A. (2006). Dynamics of the Singing Voice. Section Introduction In *Dynamics of Speech Production and Perception*, P.L. Divenyi & G. Meyer (Eds.), Amsterdam (Netherlands): IOS Press.

### TECHNICAL REPORTS

Quatieri, T.F., Williamson, J.R., Lammert, A.C., Heaton, K.J. & Palmer, J.S. (2020). Noninvasive Biomarkers of Neurobehavioral Performance. *Lincoln Laboratory Journal*, 24(1).

Lammert, A.C., Heaton, K.J. & Quatieri, T.F. (2019). Novel Application of Vocal and Facial Markers for Evaluating Cognitive Status Following Exposure to Chemical Hazards, Defense Health Program (DHP) Joint Program Committee 5 (JPC-5) Report for Project 19760 (in DTIC).

Collins, P., Hachen, N., Hannon, D., Lacirignola, J., Lammert, A., McKindles,, R., Mroszczyk, K., Nargi, F., Palmer, J., Petrovick, M., Quatieri, T., Swiston, A., Telfer, B., Vongsvarnrungruang, J. & Young, W. (2018). Health Readiness and Performance System (HRAPS) Gap Analysis Study Final Report (USAMMDA Report No. PSM-10).

Lammert, A., Chang, A., Chang, K., Sloboda, J., Palmer, J. & Claypool, K. (2018). Mathematical Models for Pilot Fatigue Forward Prediction: Analysis of Current Practice at Air Mobility Command with Recommendations (USTRANSCOM Report No. USTC-PM-047).

### REFEREED CONFERENCE PUBLICATIONS

*Key: \*award winning paper; \_\_\_ graduate co-author; \_\_\_\_\_undergrad co-author*



*Refereed conference papers represent an important mode of publication for researchers working in computational fields. Manuscripts in this category are typically 4-6 pages in length. Reviews are usually rendered by 2-4 peer reviewers, resulting in a decision of accept or reject without the possibility for rebuttal. Acceptance rates vary between 30-70%.*

*Quick Stats – 45 total refereed conference publications, including:*

- 17 as first or last author
- 7 with graduate co-author
- 2 with undergrad co-author

Ditthapron, A.C., Agu, E. & Lammert, A.C. (2023). Masking Kernel for Learning Energy-Efficient Representations for Speaker Recognition and Mobile Health. INTERSPEECH-2023.

Ditthapron, A.C., Agu, E. & Lammert, A.C. (2021). Learning from Limited Data for Speech-based Traumatic Brain Injury Detection. International Conference on Machine Learning and Applications.

Chen, T., Lammert, A., & Parrell, B. (2021). Modeling sensorimotor adaptation in speech through alterations to forward and inverse models. INTERSPEECH-2021, 3201-3205.

Ciccarelli, G., Nolan, M., Rao, H., Talkar, T., O'Brien, A., Vergara-Diaz, G., Zafonte, R., Quatieri, T.F., McKindles, R.J., Bonato, P., Lammert, A.C. (2020). Human balance models optimized using a large-scale, parallel architecture with applications to mild traumatic brain injury. HPEC2020.

Seneviratne, N., Williamson, J.R., Lammert, A.C., Quatieri, T.F. & Espy-Wilson, C. (2020). Extended Study on the Use of Vocal Tract Variables to Quantify Neuromotor Coordination in Depression. INTERSPEECH-2020.

Talkar, T., Yuditskaya, S., Williamson, J.R., Lammert, A.C., Rao, H., Hannon, D., O'Brien, A., Vergara-Diaz, G., DeLaura, R., Sturim, D., Ciccarelli, G., Zafonte, R., Palmer, J., Bonato, P. & Quatieri, T.F. (2020). Detection of Subclinical Mild Traumatic Brain Injury (mTBI) Through Speech and Gait. INTERSPEECH-2020.

Williamson, J., Heaton, K.J., Lammert, A.C., Finkelstein, K., Sturim, D., Smalt, C.J., Ciccarelli, G. & Quatieri, T. (2020). Audio, Visual, and Electrodermal Arousal Signals as Predictors of Mental Fatigue Following Sustained Cognitive Work. IEEE Engineering in Medicine and Biology Conference.

Lynn, E., Narayanan, S.S. & Lammert, A.C. (2020). Vocal Tract Shaping and Dark Tone Quality - An Investigation Using Real-Time MRI. 12th International Seminar on Speech Production.

Seneviratne, N., Espy-Wilson, C., Williamson, J., Lammert, A. & Quatieri, T. (2020). Classification of Depression by Quantifying Neuromotor Coordination Using Inverted Vocal Tract Features. 12th International Seminar on Speech Production.

Rowe, H., Maffei, M., Gutz, S., Lammert, A., & Green, J. (2020). Profiling Speech Motor Control: Validation of Novel and Existing Acoustic Features. 12th International Seminar on Speech Production.

Sorensen, T., Tiede, M., Lammert, A., Goldstein, L. & Narayanan, S. (2020). Fitts' law in tongue and lip movements of repetitive speech. 12th International Seminar on Speech Production.

- Lammert, A., Williamson, J., Seneviratne, N., Espy-Wilson, C. & Quatieri, T. (2020). A Coupled Oscillator Planning Account of the Speech Articulatory Coordination Metric With Applications to Disordered Speech. 12th International Seminar on Speech Production.
- Parrell, B. & Lammert, A. (2020). Modeling adaptation in speech motor control. 12th International Seminar on Speech Production.
- Espy-Wilson, C., Lammert, A.C., Seneviratne, N. & Quatieri, T. (2019). Assessing Neuromotor Coordination in Depression Using Inverted Vocal Tract Variables. In INTERSPEECH-2019.
- Noufi, C., Lammert, A.C., Williamson, J., Mehta, D., Ciccarelli, G., Sturim, D., Green, J., Campbell, T. & Quatieri, T.F. (2019). Vocal Biomarker Assessment Following Pediatric Traumatic Brain Injury: A Retrospective Cohort Study. In INTERSPEECH-2019.
- Williamson, J., Quatieri, T., Lammert, A., Mitchell, K., Finkelstein, K., Ekon, N., Dillon, C., Kenefick, R. & Heaton, K. (2018). The Effect of Exposure to High Altitude and Heat on Speech Articulatory Coordination. In INTERSPEECH-2018.
- Sloboda, J., Lammert, A., Williamson, J., Smalt, C., Mehta, D., Curry, I., Heaton, K., Palmer, J. & Quatieri, T. (2018). Vocal biomarkers for cognitive performance estimation in a working memory task. In INTERSPEECH-2018.
- Lammert, A., Williamson, J., Hess, A., Patel, T., Quatieri, T., Liao, H.J., Lin, A. & Heaton, K. (2017). Noninvasive estimation of cognitive status in mild traumatic brain injury using speech production and facial expression. Submitted to Affective Computing and Intelligent Interaction in May, 2017.
- Sorensen, T., Skordilis, Z., Toutios, A., Kim, Y.-C., Zhu, Y., Kim, J., Lammert, A., Ramanarayanan, V., Goldstein, L., Byrd, D., Nayak, K. & Narayanan, S. (2017). Database of volumetric and real-time vocal tract MRI for speech science. In INTERSPEECH-2017.
- Lammert, A., Shadle, C., Narayanan, S. & Quatieri, T. (2016). Investigation of Speed-Accuracy Tradeoffs in Speech Production Using Real-Time Magnetic Resonance Imaging. In INTERSPEECH-2016.
- Horwitz-Martin, R., Quatieri, T., Lammert, A., Williamson, J., Yunusova, Y., Godoy, E., Mehta, D. & Green, J. (2016). Relation of Automatically Extracted Formant Trajectories with Intelligibility Loss and Speaking Rate Decline in Amyotrophic Lateral Sclerosis. In INTERSPEECH-2016.
- Proctor, M., Zhu, Y., Lammert, A., Toutios, A., Sands, B. & Narayanan, S. (2014). Articulatory Coordination in Nama Click Consonants. In Proceedings of the Australasian International Speech Science & Technology Conference.
- Hagedorn, C., Lammert, A., Bassily, M., Zu, Y., Sinha, U., Goldstein, L. & Narayanan, S. (2014). Characterizing Post-Glossectomy Speech Using Real-time MRI. In Proceedings of the 10th International Seminar on Speech Production.
- Li, M., Lammert, A., Kim, J., Ghosh, P.K. & Narayanan, S. (2013). Automatic Classification of Palatal and Pharyngeal Wall Shape Categories from Speech Acoustics and Inverted Articulatory Signals. In the ISCA Workshop on Speech Production in Automatic Speech Recognition.

- Smith, C. & Lammert, A. (2013). Identifying consonantal tasks via measures of tongue shaping: a real-time MRI investigation of the production of vocalized syllabic /l/ in American English. In INTERSPEECH-2013.
- Proctor, M., Goldstein, L., Lammert, A., Byrd, D., Toutios, A. & Narayanan, S. (2013). Velic Coordination in French Nasals: a Real-time Magnetic Resonance Imaging Study. In INTERSPEECH-2013.
- Ramanarayanan, V., Lammert, A., Goldstein, L. & Narayanan, S. (2013). Articulatory settings facilitate mechanically advantageous motor control of vocal tract articulators. In INTERSPEECH-2013.
- Hovy, D., Anumanchipalli, G.K., Parlikar, A., Vaughn, C., Lammert, A., Hovy, E. & Black, A. (2013). Analysis and Modeling of "Focus" in Context. In INTERSPEECH-2013.
- Lammert, A., Ramanarayanan, V., Proctor, M. & Narayanan, S. (2013). Vocal Tract Cross-Distance Estimation from Real-Time MRI using Region-of-Interest Analysis. In INTERSPEECH-2013.
- Kim, J., Lammert, A., Narayanan, S. & Ghosh, P. (2013). Spatial and Temporal Alignment of Multimodal Human Speech Production Data: Real Time Imaging, Flesh Point Tracking and Audio. In ICASSP-2013.
- Ramanarayanan, V., Ghosh, P.K., Lammert, A. & Narayanan, S. (2012). Exploiting speech production information for automatic speech and speaker modeling and recognition - possibilities and new opportunities. In APSIPA-2012.
- Georgiou, P.G., Black, M.P., Lammert, A.C., Baucom, B.R. & Narayanan, S.S. (2011). That's aggravating, very aggravating: Is it possible to classify behaviors in couple interactions using automatically derived lexical features? In ACII-2011, 87-96.
- Lammert, A., Proctor, M., Katsamanis, A. & Narayanan, S. (2011). Morphological Variation in the Adult Vocal Tract: A Modeling Study of its Potential Acoustic Impact. In INTERSPEECH-2011, 2813-2816.
- Narayanan, S., Bresch, E., Ghosh, P., Goldstein, L., Katsamanis, A., Kim, Y., Lammert, A., Proctor, M., Ramanarayanan, V., & Zhu, Y. (2011). A Multimodal Real-Time MRI Articulatory Corpus for Speech Research. In INTERSPEECH-2011, 837-840.
- Proctor, M., Lammert, A., Katsamanis, A., Goldstein, L., Hagedorn, C., & Narayanan, S. (2011). Direct Estimation of Articulatory Kinematics from Real-time Magnetic Resonance Image Sequences. In INTERSPEECH-2011, 281-284.
- \*Lammert, A., Proctor, M., & Narayanan, S. (2011). Morphological Variation in the Adult Vocal Tract: A Study Using rtMRI, In Proceedings of the 9th International Seminar on Speech Production.
- Lammert, A., Proctor, M., Goldstein, L., Pouplier, M., & Narayanan, S. (2011). Automatic identification of stable modes and fluctuations in a repetitive task using real-time MRI, In Proceedings of the 9th International Seminar on Speech Production.
- Ramanarayanan, V., Lammert, A., Byrd, D., Goldstein, L., & Narayanan, S. (2011). Planning and Execution in Soprano Singing and Speaking Behavior: an Acoustic/Articulatory Study

Using Real-Time MRI, In Proceedings of the 9th International Seminar on Speech Production.

Kumar, N., Lammert, A., Englot, B., Hover, F. & Narayanan, S. (2011). Directional Descriptors Using Zernike Moment Phases for Object Orientation Estimation in Underwater Sonar Images. In Proceedings of ICASSP 2011 in Prague, Czech Republic.

\*Lammert, A., Goldstein, L., & Iskarous, K. (2010). Locally-Weighted Regression for Estimating the Forward Kinematics of a Geometric Vocal Tract Model. In INTERSPEECH-2010, 1604-1607.

Lammert, A., Proctor, M., & Narayanan, S. (2010). Data-Driven Analysis of Realtime Vocal Tract MRI using Correlated Image Regions. In INTERSPEECH-2010, 1572-1575.

\*Black, M., Katsamanis, A., Lee, C., Lammert, A., Baucom, B., Christensen, A., Panayiotis, G., and Narayanan, S. (2010). Automatic Classification of Married Couples' Behavior using Audio Features. In INTERSPEECH-2010, 2030-2033.

Lee, C., Black, M., Katsamanis, A., Lammert, A., Baucom, B., Christensen, A., Panayiotis, G., & Narayanan, S. (2010). Quantification of Prosodic Entrainment in Affective Spontaneous Spoken Interactions of Married Couples. In INTERSPEECH-2010, 793-796.

Lammert, A., Bresch, E., Goldstein, L., & Narayanan, S. (2010). Gestural control in the English past-tense suffix: an articulatory study using real time MRI. In Proceedings of the 12th Conference on Laboratory Phonology. Albuquerque, New Mexico.

Lammert, A., Ellis, D. & Divenyi, P. (2008). Data-driven articulatory inversion incorporating articulator priors. In the ISCA Workshop on Statistical and Perceptual Audition, 29-34.

## OTHER CONFERENCE PUBLICATIONS

*Key: \*award winning paper; \_\_\_ graduate co-author; .....undergrad co-author*

*Publications in this category represent regular conference short papers and abstracts. Reviews usually only assess relevance to the conference topic, resulting in a decision of accept or reject without the possibility for rebuttal. Acceptance rates typically very high. All publications in this category have associated poster or oral presentations.*

*Quick Stats – 38 total other conference publications, including:*

- 15 as first or last author*
- 5 with graduate co-author*
- 8 with undergrad co-author*

Hoyland, A., Barnett, N.V., Roop, B.W., Alexandrou, D., Parrell, B., Chari, D.A. & Lammert, A.C. (2023). Characterizing Complex Tinnitus Sounds Using Reverse Correlation: A Feasibility Study. Annual Midwinter Meeting of the Association for Research in Otolaryngology.

Chen, T., Lammert, A.C. & Parrell, B. (2021). Modeling sensorimotor adaptation in speech through alterations to forward and inverse models. Boston Speech Motor Control Symposium.

Peznola, S., Gauthier, L.V., Roop, B., Claypool, M., Agu, E. & Lammert, A. (2021). Establishing Adherence-Related Player Profiles for a Serious Gaming Rehabilitation Paradigm. UMOVE Student Research Symposium.

- Rao, H.M., Smalt, C.J., Rodriguez, A., Wright, H., Mehta, D.D., Brattain, L.J., Edwards, H., Lammert, A., Heaton, K.J., Quatieri, T.F. (2020). Predicting Cognitive Load and Operational Performance in a Simulated Marksmanship Task. Military Health System Research Symposium.
- Quatieri, T.F., Nowinsky, L., Williamson, J., Hannon, D., Lammert, A., Rao, H., Yuditskaya, S., Sturim, D., Claypool, K., Saro, H., Stamm, C., Mody, M., Palmer, J. & McDougle, C. (2019). Objective measures of articulatory complexity in autism spectrum disorder. Society for Neuroscience.
- Sturim, D., Quatieri, T.F., Rao, H., Williamson, J., Lammert, A. & Talavage, T. (2019). Investigation of the relationship of vocal, eye-tracking, and fMRI ROI time-series measures with preclinical mild traumatic brain injury. Society for Neuroscience.
- Ciccarelli, G., Nolan, M., Talkar, T., Rao, H., O'Brien, A., Vergara-Diaz, G., Edwards, H., Sherrill, D., Palmer, J., Zafonte, R., Quatieri, T., Bonato, P., McKindles, R. & Lammert, A. (2019). Toward Validation of mTBI Phenotyping with Neurocomputational Models of Static Balance and Dynamic Walking. Military Health Systems Research Symposium.
- Yuditskaya, S., Williamson, J., Lammert, A., Hannon, D., DeLaura, R., Sturim, D., Ciccarelli, G., Palmer, J. & Quatieri, T. (2019). mTBI Detection using Coordination of Vocal Dynamics in a Deep Learning Context. Military Health Systems Research Symposium.
- Talkar, T., Lammert, A. & Quatieri, T.F. (2019). Control Modeling Toward Understanding Articulatory Disfluency in Autism Spectrum Disorder. Journal of the Acoustical Society of America.
- Ciccarelli, G.A., Nolan, M., Rao, H.M., O'Brien, A., Vergara-Diaz, G., Edwards, H., Zafonte, R., Palmer, J.S., Quatieri, T.F., Bonato, P., McKindles, R.J. & Lammert, A.C. (2018). Sensorimotor phenotyping of mild traumatic brain injury and balance: models for mechanism identification. Society for Neuroscience.
- Rao, H.M., Ciccarelli, G.A., Nolan, M., O'Brien, A., Vergara-Diaz, G., Edwards, H., Zafonte, R., Palmer, J.S., Quatieri, T.F., Bonato, P., McKindles, R.J. & Lammert, A.C. (2018). Sensorimotor phenotyping of mild traumatic brain injury and balance: Feature-based Behavioral Characterization. Society for Neuroscience.
- Ciccarelli, G., Rodriguez, A., Williamson, J., Hannon, D., DeLaura, R., Lammert, A., Sturim, S., Palmer, J., Talavage, T., Lin, A., Heaton, K., Brown, E., Dacanay, B. & Quatieri, T. (2018). Validating Speech Algorithms on a Pooled mTBI Data Set for a Mobile Diagnostic Application. Military Health Systems Research Symposium.
- Ciccarelli, G.A., Nolan, M., Rao, H.M., O'Brien, A., Vergara-Diaz, G., Edwards, H., Zafonte, R., Palmer, J.S., Quatieri, T.F., Bonato, P., McKindles, R.J. & Lammert, A.C. (2018). Sensorimotor phenotyping of mild traumatic brain injury and balance: models for mechanism identification. Military Health Systems Research Symposium.
- Zafonte, R., Palmer, J.S., Quatieri, T.F., McKindles, R.J., Lammert, A.C. & Bonato, P. (2018). Identifying Phenotypes in Patients with Traumatic Brain Injury to Develop Optimal Rehabilitation Interventions. 4th Federal Interagency Conference on Traumatic Brain Injury, Special Session on Clinical Trials.

- Palmer, J., Williamson, J., Lammert, A., McKindles, R., Yu, B., Nolan, M., Perricone, J. & Quatieri, T. (2018). Neuromotor Incoordination Index as a Measure of Physical and Cognitive Fatigue. 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society
- Lammert, A., Williamson, J., Hess, A., Patel, T., Quatieri, T., Liao, H.J., Lin, A. & Heaton, K. (2017). Noninvasive estimation of cognitive changes in mild traumatic brain injury using speech production and facial expression. Military Health Systems Research Symposium.
- Costagliola, M., Jones, T.K. and Lammert, A. (2016). A virtual vocal tract: a novel approach to articulatory speech synthesis. Fifth Mid-Atlantic Student Colloquium on Speech, Language and Learning. University of Pennsylvania, Philadelphia, USA.
- Mohan, G., Hamilton, K., Grassberger, A., Lammert, A. & Waterman, J. (2015). Realtime voice activity and pitch modulation for laryngectomy transducers using head and facial gestures. Journal of the Acoustical Society of America.
- Lammert, A. & Narayanan, S. (2014). Development of a parametric basis for vocal tract area function representation from a large speech production database. Journal of the Acoustical Society of America. 135(4):2198.
- Blaylock, R., Lammert, A., Goldstein, L. & Narayanan, S. (2014). Gestural coordination of the velum in singing can be different from coordination in speech. Journal of the Acoustical Society of America. 135(4):2199.
- Parrell, B., Lammert, A., Narayanan, S. & Goldstein, L. (2013). Simulations of Sound Change Resulting from Frequencies of Acoustic Realizations. Journal of the Acoustical Society of America. 134(5):4167.
- Hagedorn, C., Lammert, A., Bassily, M., Zu, Y., Sinha, U., Goldstein, L. & Narayanan, S. (2013). Characterizing Post-Glossectomy Speech Using Real-time MRI. Journal of the Acoustical Society of America. 134(5):4205.
- Lammert, A., Hagedorn, C., Proctor, M., Goldstein, L. & Narayanan, S. (2013). Interspeaker variability in relative tongue size and vowel production. Journal of the Acoustical Society of America. 134(5):4205.
- Lammert, A. & Narayanan, S. (2013). On Instantaneous Vocal Tract Length Estimation from Formant Frequencies. Journal of the Acoustical Society of America. 133(5):3248.
- Ramanarayanan, V., Lammert, A. & Narayanan, S. (2013). Does Articulatory Setting Provide Some Mechanical Advantage For Speech Motor Action? Journal of the Acoustical Society of America. 133(5):3608.
- Lu, L.H., Ramanarayanan, V., Lammert, A. & Narayanan, S. (2013). A Comparative Cross-Linguistic Study of Vocal Tract Shaping in Sibilant Fricatives in English, Serbian and Mandarin Using Real-Time Magnetic Resonance Imaging. Journal of the Acoustical Society of America. 133(5):3611.
- Kim, J., Lammert, A., Proctor, M. & Narayanan, S. (2012). Co-Registration of Articulographic and Real-Time MRI Data for Multimodal Analysis of Rapid Speech. Journal of the Acoustical Society of America, 132(3):2090.

- Lammert, A., Ramanarayanan, V., Goldstein, L., Iskarous, K., Saltzman, E., Nam, H. & Narayanan, S. (2011). Statistical Estimation of Speech Kinematics from Real-Time MRI Data. *Journal of the Acoustical Society of America*, 130(4):2549.
- Goldstein, L., Proctor, M. & Lammert, A. (2011). Analysis of Rhythmic Entrainment in Speech Production using Real-time Magnetic Resonance Imaging. *Journal of the Acoustical Society of America*, 130(4):2568.
- Parrell, B., Lammert, A., Goldstein, L., Byrd, D. & Narayanan, S. (2011). Imaging and Quantification of Glottal Kinematics with Ultrasound During Speech. *Journal of the Acoustical Society of America*, 130(4):2548.
- Divenyi, P. & Lammert, A. (2011). Perceptual Recovery of Phonetic Features in Blanked Segments of Disyllabic Words. *Journal of the Acoustical Society of America*, 130(4):2375.
- Proctor, M., Lammert, A., Goldstein, L. & Narayanan, S. (2010). Temporal Analysis of Articulatory Speech Errors using Direct Image Analysis of Realtime MRI. *J. Acoust. Soc. Am.*, 128(4):2289.
- Divenyi, P., Livingston, N., Lammert, A., Hu, K. & Wang, D. (2010). Age Effects in the Understanding of Noisy Speech Denoised by Estimated Ideal Binary Masks. *J. Acoust. Soc. Am.*, 127(3):1902.
- Lammert, A., Bresch, E., Byrd, D., Goldstein, L., & Narayanan, S. (2009). An Articulatory Study of Lexicalized and Epenthetic Schwa Using Real Time Magnetic Resonance Imaging. *J. Acoust. Soc. Am.*, 125(4):2569.
- Divenyi, P., Lammert, A., & Shinn-Cunningham, B. (2008). Perception of Gestural Information in Words with Deleted Sections. In *Proceedings of the 2008 MidWinter Meeting of the Association for Research in Otolaryngology in Phoenix AZ*.
- Divenyi, P., & Lammert, A. (2008). Do We Perceive Articulatory Gestures When We Listen to Speech? *J. Acoust. Soc. Am.*, 123(5):3179.
- Schumacher, J.W., Lammert, A.C. & Long, Jr., J.H. (2005). Evolutionary Robotics: Exploring the Origins of Early Vertebrates using Biomimetic Swimmers. In *Proceedings of the 2005 Meeting of the Society for Integrative and Comparative Biology in San Diego, California*.
- Long, J.H. Jr., Lammert, A.C., Strother, J. & McHenry, M.J. (2003). Biologically-Inspired Control of Perception-Action Systems: Helical Klinotaxis in 2D robots. In *Proceedings of the 13th International Symposium on Unmanned Untethered Submersible Technology in Lee, New Hampshire*.

## GUEST LECTURES

- Tinnitus Characterization Using Reverse Correlation with Applications to Habituation Therapies.** University of Pittsburgh Bioengineering Graduate Seminar Series. December 1st, 2022.
- Unsung Challenges to Building Speech Biomarker Systems: Episodic Predictions, Obscured Features, Small Data and Low Batteries.** 2022 American Speech and Hearing Association Convention, Invited Session on Digital Footprints: Use Digital Biomarkers to Support Clinical Decision Making in Motor Speech Disorders. November 17th, 2022.

**Bridging dynamical systems and optimal control approaches to speech motor control.** Symposium on Neural Bases of Speech Production, May 25, 2021.

**Health and Behavior in Human Speech Production.** Biomedical Engineering Department, Worcester Polytechnic Institute, November 11, 2019.

**Behavioral Analytics for Interactive Systems.** Computer Science Department, University of New Mexico, March 1, 2019.

**Behavioral Analytics for Neurocognitive Assessment.** Biomedical Engineering Department, Worcester Polytechnic Institute, February 26, 2019.

**Estimating Human States.** Human Machine Collaboration for National Security Workshop, MIT Lincoln Laboratory, November 6, 2018.

**Sensorimotor Tracking of Neurological Condition: Mild Traumatic Brain Injury.** Signal Analysis & Interpretation Laboratory, University of Southern California, August 1, 2018.

**Development of a behaviorally-relevant representation of vocal tract shape from a large speech production database.** Speech Production & Articulation kKnowledge Group, University of Southern California, July 30, 2018.

**Noninvasive neurological assessment for warfighters.** Invited seminar at the Defense Technology Seminar, Lexington, MA, April 26<sup>th</sup>, 2018.

**Vocal markers of disease based on timing, coordination, and morphology of articulation.** Invited seminar at Pfizer Research and Technology Center, Cambridge, MA, April 24<sup>th</sup>, 2018

**Variability in Communication, Perception & Action: Understanding and Applications.** Computer Science Department, Middlebury College, March 21<sup>st</sup>, 2018.

**Sensorimotor tracking of neurological disorders: mild traumatic brain injury.** Invited talk at MIT Advanced Research and Technology Symposium, March 6<sup>th</sup>, 2018.

**Sensorimotor tracking of neurological condition.** Invited seminar at MIT Lincoln Laboratory, February 1<sup>st</sup>, 2017.

**Structure and Function in Speech Production.** Haskins Laboratories, New Haven, CT, February 12<sup>th</sup>, 2015.

**Introduction to Speech for Computer Scientists.** For Computer Science 65: Natural Language Processing, Swarthmore College, December 9<sup>th</sup>, 2014.

**Structure and Function in Speech Production.** Computer Science Department, Swarthmore College, June 1<sup>st</sup>, 2014.

**Structure and Function in Speech Production.** Bioengineering Systems and Technologies Group, MIT Lincoln Laboratory, April 11<sup>th</sup>, 2014.

**Introduction to Speech for Computer Scientists.** For Computer Science 561: Foundations of Artificial Intelligence, University of Southern California, September 18<sup>th</sup>, 2012.



**Finding Structure in Data: Methods and Applications to LSA.** Invited talk as guest of the AI Division, Information Science Institute, May 28<sup>th</sup>, 2010.

**The Human Vocal Instrument.** Invited talk as guest of Professor Sheila Woodward, University of Southern California Thornton School of Music, February 17<sup>th</sup>, 2010.

**Articulatory inversion: implementing improvements and exploring implications for perceptual studies.** Invited talk as guest of Professor Nelson Morgan, International Computer Science Institute, July 28<sup>th</sup>, 2008.

**Interests and Computational Challenges of Earlab.** Invited talk as guest of Professor Dan Ellis, Columbia University, February 2<sup>nd</sup>, 2007.

## SERVICE

### **Editorial Board & Associate Editor**

- IEEE Journal of Engineering in Medicine and Biology (OJEMB)

### **Review Service**

- IEEE Open Journal of Engineering in Biology and Medicine
- PLOS ONE
- Computer, Speech and Language
- Laboratory Phonology
- Journal of Speech, Language and Hearing Research
- Journal of the Acoustical Society of America
- International Seminar on Speech Production
- The Cleft Palate-Craniofacial Journal
- The Handbook of Clicks

### **Program & Organizing Committee Member**

- Boston Speech Motor Control Symposium, 2021
- Affective Computing and Intelligent Interaction conference, 2021
- Affective Computing and Intelligent Interaction conference, 2019
- Affective Computing and Intelligent Interaction conference, 2017

### **Session Chair**

- International Seminar on Speech Production, 2020
- Affective Computing and Intelligent Interaction conference, 2017
- Interspeech, 2016

### **University Service**

- 2022-2023, Interim Chair, Biomedical Engineering DEI Committee
- 2021-Present, WPI Systems Biology Development Committee
- 2021-2022, WPI BME Faculty Search Committee
- 2021-Present, Chair, WPI BME Undergraduate Research Award Committee
- 2019-Present, WPI Neuroscience Task Force
- 2019-Present, WPI Biomedical Engineering Graduate Studies Committee
- 2014-2015, Organizer, Swarthmore Computer Science Seminar Series

### **Thesis Committees**

- Nan Lin. (2023). Ph.D. qualifying exam committee, WPI.
- Hamza Abujrida. (2022). Ph.D. exam committee, WPI.
- Andrew Wilzman. (2022). Ph.D. qualifying exam committee, WPI.
- Sarah Gutz (2022). Ph.D. exam committee, MGH-IHP.

- Andre Figueroa Milla (2021). Ph.D. exam committee, WPI.
- Rozanne Mungai (2021). Ph.D. exam committee, WPI.
- Shaoju Wu (2021-2022). Ph.D. exam committee, WPI.
- Hannah Rowe (2021-2022). Ph.D. exam committee, MGH-IHP.
- Allison Howell-Munson. (2020). Ph.D. exam committee, WPI.
- Hamilton White. (2020). Ph.D. committee chair, WPI.
- Kyle Murdock. (2020). Ph.D. qualifying exam committee, WPI.
- Nicole Mattson (2020). M.S. thesis committee, WPI.
- Mahvash Jebeli. (2020). Ph.D. exam committee, WPI.
- Ruojun Li. (2019). Ph.D. exam committee, WPI.
- Lara Weed. (2019-2020). senior thesis committee, University of Vermont.

#### MEMBERSHIPS

<b>Association for Research in Otolaryngology</b>	<i>2022-Present</i>
<b>International Speech Communication Association</b>	<i>2010-Present</i>
<b>Acoustical Society of America</b>	<i>2009-Present</i>
<b>Psi Chi</b> , The National Honor Society in Psychology	<i>2003-Present</i>

#### MEDIA ATTENTION

- Sensorimotor Tracking of Neurological Disorders.** Featured in the July, 2018 issue of National Geographic as part of an article entitled "How Technology and Smarts Help Athletes Push the Limits"
- Sensorimotor Control of Mobile Robots.** Mentioned in the book Darwin's Devices: What Evolving Robots Can Teach Us About the History of Technology (2012) by John H. Long, Jr.