Curriculum Vitae
Michael T. Johnson

Associate Dean for Undergraduate Education and Student Success
Professor and Chair, Electrical and Computer Engineering,
University of Kentucky College of Engineering
453 F. Paul Anderson Tower, Lexington, KY 40506, Phone (859) 257-0717
Email: mike.johnson@uky.edu
Web page: http://johnson.engineering.uky.edu/

CURRICULUM VITAE EXECUTIVE SUMMARY

Publications: **52 journal papers, over 150 refereed publications/presentations**
Citations ≈3400, h-index 31, i10-index 68 (Google scholar August 2023)

Grant funding: **6 major grants, over $3.5 million in external funding ($2.7m as PI)**
Multi-institution, interdisciplinary, international collaborations

Students: **8 PhD graduates, 14 MS graduates**

Leadership: **Associate Dean for Undergrad Education and Student Success, UK COE (2023-)**
President, Southeast ECE Department Heads Association (2021-22)
SEC Academic Leadership Development Program, (2019-2020)
Department Chair, UK ECE (2016-present)
Director, UK CoE Scholars in Engineering Leadership (2017-2020)
Chair of Marquette Board of Graduate Studies (2012-2016)
Director of Graduate Studies, Marquette EECE (2009-2012)
Senior Visiting Professor, Tsinghua University (2008-2009, 2014-2015)
Engineering Manager (1993-1996)

Honors: **Featured in "Groundbreaking Thinkers in Wisconsin" series 2007**
Marquette COE Researcher of the Year 2006-2007
Engineers and Scientists of Milwaukee Young Engineer of the Year 2006
HKN EECE Teacher of the year 2005, 2014

RESEARCH SPECIALIZATION

- Speech Processing: speech recognition and enhancement, natural language processing
- Signal Processing: bioacoustics, microphone array processing, signal enhancement
- Pattern Recognition and Machine Learning: statistical estimation and classification

EDUCATION

Doctor of Philosophy, School of Electrical and Computer Engineering, August 2000
Purdue University, West Lafayette, IN GPA: 4.00/4.00
"Incorporating Prosodic Information and Language Structure into Speech Recognition Systems"
Advisor: Dr. Leah H. Jamieson

Master of Science in Electrical Engineering (concentration Digital Signal Processing), Dec. 1994
University of Texas at San Antonio, San Antonio, TX GPA: 4.00/4.00
"An Adaptive Texture Model Based on Markov Random Fields"
Advisor: Dr. Mita Desai

Bachelor of Science, Engineering with Electrical Concentration, April 1990
LeTourneau University, Longview, TX GPA: 3.60/4.00

Bachelor of Science, Computer Science and Engineering with minor in Mathematics, April 1989
LeTourneau University, Longview, TX GPA: 3.57/4.00

ACADEMIC WORK EXPERIENCE

8/2016 – present University of Kentucky, Lexington, KY

- *Department Chair, Electrical and Computer Engineering* (2016-present)
- *Full Professor, Electrical and Computer Engineering* (2016 - present)

8/2000 – 8/2016 Marquette University, Milwaukee, WI

- *Full Professor, Electrical and Computer Engineering*: (2013 - 2016)
- *Director of Graduate Studies, Electrical and Computer Engineering*: (2009 - 2012)
- *Associate Professor with Tenure, Electrical and Computer Engineering* (2007 – p2009)
- *Assistant Professor, Electrical and Computer Engineerin*g: (2000 – 2007)

2008-2009 and 2014-2015 Tsinghua University, Beijing, China (two 1-year sabbaticals)

- *Senior Visiting Faculty, Electronic Engineering Dept.* While on sabbatical, taught courses and collaborated on research in speech processing with Prof. Liu Jia.

9/1996 – 8/2000 Purdue University, West Lafayette, IN

- *Graduate Research Assistant, Audiology Dept.:* (5/97 to 5/00) Research focused on studying the consistency of speech articulator movement in children and young adults.
- *Graduate Research Assistant, ECE Dept.:* (1/97 to 1/98) Part of an NSF-funded research grant working on interfacing speech recognition and language processing systems.
- *Teaching Assistant, ECE Dept.:* (9/96 to 12/96 and 1/98 to 5/98) Assisted with a course in Speech Processing and taught a laboratory course in Digital Circuits.

1/1993 - 9/1993 University of Texas at San Antonio, San Antonio, TX

- *Graduate Research Assistant, UTSA Image Processing Lab:* Did research in the field of biological image processing as part of masters thesis in mammogram image analysis.

INDUSTRIAL WORK EXPERIENCE

9/1993 - 7/1996 SNC Manufacturing, Oshkosh, WI

- *Engineering Manager, Telecommunications Division (11/94 - 7/96):* Responsible for all new and existing product lines, including design, project management, and personnel.
- *Senior Engineer (9/93-11/94):* Project lead for new products, primarily in the area of SNC's Lyte Lynx line of fiber-optic interfaces for high-voltage environments.

9/1991 - 1/1993 Datapoint Corporation , San Antonio, TX

- *Engineer II*: Hardware engineer on the ArcnetPlus networking and MINX videoconferencing projects. Lead engineer on the PC HUB project for ArcnetPlus.

5/1990 - 9/1991 Micronyx, Inc. / Micro Technology Services, Inc., Richardson, TX

- *Design Engineer:* Telecommunications and embedded microprocessors design, at both hardware and software levels, for Micronyx and its spin-off company MTSI.

5/1989 - 8/1989 GTE , Ft. Wayne, IN *Engineering Intern:* Designed circuits for Business Services, including a project restructuring an analog phone system into a digital carrier system.

6/1988 - 8/1988 NBS , Ft. Wayne, IN *Electrical Technician:* Gained experience with troubleshooting circuit boards, soldering, and designing and building test equipment.

PUBLICATIONS

Peer-reviewed Journal Publications

1. Rahim Soleymanpour, Mohammad Soleymanpour, Anthony J Brammer, Michael T Johnson, Insoo Kim, Speech Enhancement Algorithm Based on a Convolutional Neural Network Reconstruction of the Temporal Envelope of Speech in Noisy Environments, IEEE Access, Volume 11, 5328-5336, January 2023.
2. Julie N. Oswald, Amy M. Van Cise, Angela Dassow, Taffeta Elliott, Michael T. Johnson, Andrea Ravignani, Jeffrey Podos, A Collection of Best Practices for the Collection and Analysis of Bioacoustic Data, Applied Sciences, Volume 12, No. 23, November 2022.
3. Chao Li; Wang, Qiyue Wang, Wenhua Jiao, Michael T. Johnson, Yuming Zhang, Deep Learning-Based Detection of Penetration from Weld Pool Reflection Images, Volume 99 No. 2, Welding Journal, September 2020.
4. Qiyue Wang, Wenhua Jiao, Rui Yu; Michael T. Johnson, Yuming Zhang, Virtual Reality Robot-Assisted Welding Based on Human Intention Recognition, IEEE Transactions on Automation Science and Engineering, Volume 17 No. 2, April 2020.
5. Yi Liu; Liang He; Jia Liu; Michael T. Johnson, Introducing phonetic information to speaker embedding for speaker verification, EURASIP Journal on Audio, Speech, and Music Processing, December 2019.
6. Qiyue Wang, Yongchao Cheng, Wenhua Jiao, Michael T. Johnson, Yuming Zhang, Virtual reality human-robot collaborative welding: A case study of weaving gas tungsten arc welding, Journal of Manufacturing Processes, Volume 49, 2019.
7. Qiyue Wang, Wenhua Jiao, Rui Yu, Michael Johnson, YuMing Zhang, 2019. Modeling of Human Welder Operation in Virtual Reality Human-Robot Interaction Welding System. IEEE Robotics and Automation Letters, 4(3): 2958-2964, July 2019.
8. Ruijie Yan,·Liangrui Peng,·Shanyu Xiao,·Michael T. Johnson,·Shengjin Wang, Dynamic temporal residual network for sequence modeling. International Journal on Document Analysis and Recognition, Volume 22, 235–246, July 2019.
9. Liang He, Xianhong Chen, Can Xu, Yi Liu, Jia Liu, Michael T. Johnson, Latent class model with application to speaker diarization, EURASIP Journal on Audio, Speech, and Music Processing, July 2019.
10. Jian Kang, Wei-Qiang Zhang, Weiwei Liu, Jia Liu., Michael T. Johnson, Lattice Based Transcription Loss for End-to-End Speech Recognition, Journal of Signal Processing Systems, Volume 90 Issue 7, pp 1013-1023, July 2018
11. Jian Kang, Wei-Qiang Zhang, WeiWei Liu, Jia Liu, Michael T. Johnson, Advanced recurrent network-based hybrid acoustic models for low resource speech recognition, EURASIP Journal on Audio, Speech, and Music Processing, 2018.
12. Liang He, Xianhong Chen, Can Xu, Jia Liu, Michael T. Johnson, Local Pairwise Linear Discriminant Analysis for Speaker Verification, IEEE Signal Processing Letters Volume 25 No. 10, 1575-1579, 2018.
13. Jeffrey Berry, Andrew Kolb, James Schroeder, Michael T. Johnson, Jaw Rotation in Dysarthria Measured With a Single Electromagnetic Articulography Sensor, American Journal of Speech – Language Pathology, June 2017.
14. Ji, An; Johnson, Michael T; Berry, Jeffrey J., Parallel Reference Speaker Weighting for Kinematic-Independent Acoustic-to-Articulatory Inversion, IEEE/ACM Transactions on Audio, Speech, and Language Processing",24,10, October 2016, 1865-1875.

15. Xu-Kui Yang, Liang He, Dan Qu, Wei-Qiang Zhang, Michael T Johnson, Semi-supervised feature selection for audio classification based on constraint compensated Laplacian score, EURASIP Journal on Audio, Speech, and Music Processing, 1, 2016, 1-10.
16. Liu Wei-Wei,Cai Meng, Zhang·Wei-Qiang Zhang, Liu Jia, Johnson Michael T., "Discriminative Boosting Algorithm for Diversified Front-End Phonotactic Language Recognition," Journal of Signal Processing Systems, February 2016.
17. Wei-Qiang Zhang, Cong Guo, Qiao Zhang, Jian Kang, Liang He, Jia Liu, and Michael T. Johnson， A Speech Enhancement Algorithm Based on Computational Auditory Scene Analysis. Journal of Tianjin University, in press, 2015. (Chinese journal. Original language citation: 张卫强，郭璁，张乔，康健，何亮，刘加，and Michael T. Johnson, 种基于计算听觉场景分析的语音增强算法，天津大学学报.)
18. B.T.W. Bochera, K. Cherukurib, J.S. Makib, M. Johnson, D.H. Zitomer, Relating methanogen community structure and anaerobic digester function, Water Research, 70 (1), March 2015, 425-435.
19. PM Scheifele, MT Johnson, M Fry, B Hamel, K Laclede, Vocal classification of vocalizations of a pair of Asian Small-Clawed otters to determine stress, The Journal of the Acoustical Society of America, 138 (1), EL105-EL109, 2015.
20. Trawicki, Marek B. and Johnson, Michael T., "Beta-order minimum mean-square error multichannel spectral amplitude estimation for speech enhancement", International Journal of Adaptive Control and Signal Processing, January 2015.
21. Arik Kershenbaum, Daniel Blumstein, Marie Roch, Michael T. Johnson, et. al., Acoustic sequences in non-human animals: a tutorial review and prospectus, Biological Reviews, 2014.
22. C Yu, KK Wójcicki, PC Loizou, JHL Hansen, MT Johnson, "Evaluation of the importance of time-frequency contributions to speech intelligibility in noise", *The Journal of the Acoustical Society of America*, vol. 135, no. 5, May 2014, 3007-3016.
23. Marek B. Trawicki, Michael T. Johnson , "Speech enhancement using Bayesian estimators of the perceptually-motivated short-time spectral amplitude (STSA) with Chi speech priors", *Speech Communication*, vol. 57, no. 2, February 2014, pp101-103.
24. Liu Weiwei, Zhang Weiqiang, Johnson Michael T., Liu Jia, "Homogenous ensemble phonotactic language recognition based on SVM supervector reconstruction", EURASIP Journal on Audio, Speech, and Music Processing vol. 2014 no. 1, January 2014, pp 1-13.
25. Junhong Zhao, Wei-Qiang Zhang, Hua Yuan, Michael T Johnson, Jia Liu, Shanhong Xia, "Exploiting contextual information for prosodic event detection using auto-context", *EURASIP Journal on Audio, Speech, and Music Processing*, vol. 2013, no. 1, December 2013 pp 1-14.
26. Marek B. Trawicki, Michael T. Johnson , "Distributed multichannel speech enhancement based on perceptually-motivated Bayesian estimators of the spectral amplitude", *IET Signal Processing*, vol. 7, no.4, April 2013, pp. 337-344.
27. An Ji, Michael T. Johnson, Edward J. Walsh, JoAnn McGee, Doug L. Armstrong, Discrimination of individual tigers (Panthera tigris) from long distance roars, *The Journal of the Acoustical Society of America*,vol. 133 no. 3, March 2013, pp1762-1769.
28. Yongzhe Shi, Weiqiang Zhang, Jia Liu, Michael T. Johnson, "RNN language model with word clustering and class-based output layer", *EURASIP Journal on Audio, Speech, and Music Processing* vol. 2013 no. 1, January 2013, pp1-7.

29. Peter M. Scheifele, Michael T. Johnson, David C. Byrne, John G. Clark, Ashley Vandlik, Laura W. Kretschmer, Kristine E. Sonstrom, "Noise impacts from professional dog grooming forced-air dryers", *Noise and Health*, vol. 14 no. 60, October 2012, p224-226.
30. Wen-Lin Zhang, Wei-Qiang Zhang, Bi-Cheng Li, Dan Qu and Michael T. Johnson, "Bayesian Speaker Adaptation Based on a New Hierarchical Probabilistic Model", *IEEE Transactions on Speech and Language Processing*, vol. 20 no. 7, July 2012, pp2002-2015.
31. Yuxiang Shan, Yan Deng, Jia Liu, Michael T. Johnson, "Phone lattice reconstruction for embedded language recognition in LVCSR", *EURASIP Journal on Audio Speech and Music Processing*, vol. 2012, no. 15, April 2012, pp1-13.
32. Marek B. Trawicki, Michael T. Johnson, "Distributed multichannel speech enhancement with minimum mean-square error short-time spectral amplitude, log-spectral amplitude, and spectral phase estimation". *Signal Processing*, vol. 92 no. 2, February 2012, pp 345-356.
33. Peter M. Scheifele, Michael T. Johnson, Laura W. Kretschmer, John G. Clark, Deborah Kemper, Gopu Potty, "Ambient habitat noise and vibration at the Georgia Aquarium", *The Journal of the Acoustical Society of America*, vol. 132 no. 2, February 2012, EL88-EL94.
34. Wei Qiang Zhang, Liang He, Yan Deng, Jia Liu, Michael T. Johnson, "Time-Frequency Cepstral Features and Heteroscedastic Linear Discriminant Analysis for Language Recognition", IEEE transactions on audio, speech, and language processing vol. 19 no. 2, February 2011, pp.266-276.
35. Kuntoro Adi, Michael T. Johnson, and Tomasz S. Osiejuk, "Acoustic Censusing using Automatic Vocalization Classification and Identity Recognition," *Journal of the Acoustical Society of America*, vol. 127, no. 2, February 2010, pp 874-883.
36. Yao Ren, Michael T. Johnson, Patrick J. Clemins, Michael Darre, Sharon Stuart Glaeser, Tomasz S. Osiejuk, and Ebenezer Out-Nyarko, "A Framework for Bioacoustic Vocalization Analysis Using Hidden Markov Models", *Algorithms*, vol. 2 no. 3, November 2009, pp 1410-1428.s
37. Yanmin Qian, Jia Liu, Michael T. Johnson "Efficient Embedded Speech Recognition for Very Large Vocabulary Mandarin Car-Navigation Systems," *IEEE Transactions on Consumer Electronics*, vol. 55, no. 3, August 2009, 1496-1500.
38. Yao Ren, Michael T. Johnson, Jidong Tao, "Perceptually motivated wavelet packet transform for bioacoustic signal enhancement", *Journal of the Acoustical Society of America*, vol. 124, no. 1, July 2008, 316-327.
39. Jidong Tao, Michael T. Johnson, Tomasz S. Osiejuk, "Acoustic model adaptation for ortolan bunting (*Emberiza hortulana* L.) song type classification", *Journal of the Acoustical Society of America*, vol. 123, no. 3, March 2008, 1582-1590.
40. Michael T. Johnson, Xiaolong Yuan, Yao Ren, "Speech signal enhancement through adaptive wavelet thresholding", *Speech Communication*, vol. 49, No. 2, February 2007, pp 123-133.
41. Patrick Clemins and Michael T. Johnson, "Generalized perceptual linear prediction (gPLP) features for animal vocalization analysis", *Journal of the Acoustical Society of America*, Vol. 120, No. 1, July 2006, pp 527-534.

42. Richard J. Povinelli, Michael T. Johnson, Andrew C. Lindgren, Felice Roberts, and Jinjin Ye, "Statistical Models of Reconstructed Phase Spaces for Signal Classification", *IEEE Transactions on Signal Processing*, vol. 54, no. 6, June 2006, 2178-2186.
43. Michael T. Johnson and Richard J. Povinelli, "Generalized phase space projection for nonlinear noise reduction", *Physica D*, No. 201, February 2005, pp 306-317.
44. Kevin M. Indrebo, Richard J. Povinelli, and Michael T. Johnson, "Sub-banded Reconstructed Phase Spaces for Speech Recognition", *Speech Communication*, Vol. 48, No. 7, July 2006, pp 760-774.
45. Michael T. Johnson, "Capacity and Complexity of HMM Duration Modeling Techniques", *IEEE Signal Processing letters*, Volume 12, No. 5, May 2005, pp 407-410.
46. Patrick J. Clemins, Michael T. Johnson, Kirsten M. Leong, and Anne Savage, "Automatic Classification and Speaker Identification of African Elephant (Loxodonta Africana) vocalizations", *Journal of the Acoustical Society of America*, Volume 117, No. 2, February 2005, pp 956-963.
47. Michael T. Johnson, Richard J. Povinelli, Jinjin Ye, Xiaolin Liu, Andrew Lindgren, and Kevin Indrebo, "Time-Domain Isolated Phoneme Classification using Reconstructed Phase Spaces", *IEEE Transactions on Speech and Audio Processing*, Vol. 13, No. 4, July 2005, pp 458-466.
48. Richard J. Povinelli, Michael T. Johnson, Andrew C. Lindgren, and Jinjin Ye, "Time Series Classification using Gaussian Mixture Models of Reconstructed Phase Spaces", *IEEE Transactions on Knowledge and Data Engineering*, vol. 16, no. 6, June 2004, 779-783.
49. Kelly Stonger and Michael T. Johnson, "Optimal Calibration of PET Crystal Position Maps using Gaussian Mixture Models", *IEEE Transactions on Nuclear Science*, Vol. 51, No. 1, 2004, pp 85-90.
50. Yang Liu, Mary P. Harper, Michael T. Johnson, and Leah H. Jamieson, "The Effect of Pruning and Compression on Graphical Representations of the Output of a Speech Recognizer", *Computer Speech and Language*, Volume 17, 2003, pp. 329-256.
51. A.M. Surprenant, S.L. Hura, M.P. Harper, L.H. Jamieson, G.Long, S.M. Thede, A. Rout, T.H. Hsueh, S.A. Hockema, M.T. Johnson, P. Srinivasan, and C.M. White, "Familiarity and Pronouncibility of Nouns and Names*", Behavior Research, Methods, Instruments, & Computers*, Vol. 31, Nov. 1999, pp. 638-649.
52. Anne Smith, Michael Johnson, Clare McGillem, and Lisa Goffman "On the Assessment of Stability and Patterning of Speech Movements*", Journal of Speech, Language, and Hearing Research*, Vol. 43, 2000, pp 277-286.

<u>Peer-reviewed Conference Publications and Presentations</u>

53. Mohammad Soleymanpour, Michael T. Johnson, Rahim Soleymanpour, Jeffrey Berry, Synthesizing Dysarthric Speech Using Multi-speaker TTS for Dysarthric Speech Recognition, International Conference on Acoustics, Speech, and Signal Processing (ICASSP), May 2022, Singapore.
54. Narjes Bozorg, Michael T Johnson, Mohammad Soleymanpour, Autoregressive Articulatory WaveNet Flow for Speaker-Independent Acoustic-to-Articulatory Inversion,

2021 international Conference on Speech Technology and Human-Computer Dialog (SpeD), pp. 156-161, October 2021.

55. Subash Khanal, Michael T Johnson, Mohammad Soleymanpour, Narjes Bozorg, Mispronunciation Detection and Diagnosis for Mandarin Accented English Speech, 2021 international Conference on Speech Technology and Human-Computer Dialog (SpeD), pp. 62-67, October 2021.
56. Mohammad Soleymanpour, Michael T Johnson, Jeffrey Berry, Dysarthric Speech Augmentation Using Prosodic Transformation and Masking for Subword End-to-end ASR, 2021 international Conference on Speech Technology and Human-Computer Dialog (SpeD), pp. 42-46, October 2021.
57. Mohammad Soleymanpour, Michael T Johnson, Jeffrey Berry, Comparison in Suprasegmental Characteristics between Typical and Dysarthric Talkers at Varying Severity Levels, 2021 international Conference on Speech Technology and Human-Computer Dialog (SpeD), pp. 52-56, October 2021.
58. Mohammad Soleymanpour, Michael T Johnson, Jeffrey Berry, Increasing the Precision of Dysarthric Speech Intelligibility and Severity Level Estimate, International Conference on Speech and Computer, pp. 670-679, September 2021.
59. Subash Khanal, Michael T. Johnson, Narjes Bozorg, Articulatory Comparison of L1 and L2 Speech for Mispronunciation Diagnosis, IEEE Spoken Language Technology Workshop (SLT) 2021, January 2021, Shenzhen China.
60. Narjes Bozorg and Michael Johnson, Acoustic-to-Articulatory Inversion with Deep Autoregressive Articulatory-WaveNet, Interspeech 2020, October 2020, Shanghai China.
61. Jiaqi Xie, Ruijie Yan, Shanyu Xiao, Liangrui Peng, Michael T. Johnson, Weiqiang Zhang, Dynamic Temporal Residual Learning for Speech Recognition, International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2020, May 2020, Barcelona, Spain.
62. Jeffrey Berry and Michael T. Johnson, Perceived Acoustic Working Space Modulates Sensorimotor Learning, Motor Speech Conference, Santa Barbara, California, February 2020.
63. Narjes Bozorg and Michael T. Johnson, Reference speaker selection for kinematic-independent acoustic-to-articulatory-inversion, J. Acoust. Soc. Am., vol. 145, no. 3, pp. 1932–1932, Mar. 2019, presentation at the Spring 2019 Meetings of the Acoustical Society of America.
64. McGowan, Kevin B; Johnson, Michael T; Combs, Aleah; Soleymanpour, Mohammad; Acoustic, non-invasive measurement of velopharyngeal aperture using a high frequency tone, presentation at the Spring 2019 Meetings of the Acoustical Society of America.
65. Narjes Bozorg, Michael T. Johnson, Jeffrey Berry, Comparing Articulography Consistency Between L1 and L2 Speakers, IEEE International Symposium on Signal Processing and Information Technology, Ajman, United Arab Emirates, December 2019.
66. Narjes Bozorg, Michael T. Johnson, MLLR-PRSW for Kinematic-Independent Acoustic-to-Articulatory Inversion, IEEE International Symposium on Signal Processing and Information Technology, Ajman, United Arab Emirates, December 2019.
67. Kevin McGowan, Michael Johnson, Aleah Combs, Mohammad Soleymanpour, Acoustic, non-invasive measurement of velopharyngeal aperture using a high frequency tone, Annual Spring Meeting of the Acoustical Society of America, Louisville, Kentucky, May 2019. (JASA Vol.145(3), pp.1931-1931.)

68. Kevin McGowan, Michael Johnson, Aleah Combs, Mohammad Soleymanpour, Acoustic, non-invasive measurement of velopharyngeal aperture using a high frequency tone, International Congress of Phonetic Sciences (ICPhS) 2019, Melbourne, August 2019.
69. Narjes Bozorg and Michael T. Johnson, Comparing Performance of Acoustic-to-Articulatory Inversion for Mandarin Accented English and American English Speakers, International Symposium on Signal Processing and Information Technology, Louisville, KY, December 2018.
70. Sidrah Liaqat, Narjes Bozorg, Neenu Jose, Patrick Conrey, Antony Tamasi and Michael T. Johnson, Domain Tuning Methods for Bird Audio Detection, Detection and Classification of Acoustic Scenes and Events 2018, Surrey, UK, November 2018.
71. Chao Li, Qiyue Wang, Jinsong Chen, Michael Johnson, Qiang Chang, YuMing Zhang, Machine Learning Based Detection of Weld Joint Penetration from Weld Pool Reflection Images, 14th IEEE International Conference on Automation Science and Engineering, Munich, Germany, 2018.
72. Yi Liu, Liang He, Jia Liu, Michael T. Johnson, Speaker Embedding Extraction with Phonetic Information, Interspeech Hyderabad, India, 2018.
73. Yi Liu, Liang He, Yao Tian, Zhuzio Chen, Jia Liu, Michael T. Johnson, Comparison of multiple features and modeling methods for text-dependent speaker verification, Automatic Speech Recognition and Understanding Workshop (ASRU), Okinawa, Japan, 2017.
74. Yi Liu, Liang He, Weiqiang Zhang, Jia Liu, Michael T. Johnson, Investigation of Frame Alignments for GMM-based Digit-prompted Speaker Verification, Asia-Pacific Signal and Information Processing Association Annual Summit and Conference, Honolulu, Hawaii, November 2018.
75. Weilian Song, Tawfiq Salem, Nathan Jacobs, Michael T. Johnson, Detecting the Presence of Bird Vocalizations in Audio Segments Using a Convolutional Neural Network Architecture, 4th International Symposium on Acoustic Communication by Animals, Omaha, NE, July 2017.
76. Peter M. Scheifele, Giulia Raponi, Haylea Roark, and Lesa Scheifele, Michael T. Johnson, Neenu Jose, Vocalization and Hearing Acuity of the Asian Small-Clawed Otter (Amblonyx cinereus) in Response to Anthropogenic Noise, 4th International Symposium on Acoustic Communication by Animals, Omaha, NE, July 2017.
77. Jeff Berry, Andrew Kolb, James Schroeder, Michael T Johnson, Jaw rotation in dysarthria measured with a single electromagnetic articulography sensor, Proceedings of Spring 2017 Meetings on Acoustics, Boston, June 2017
78. Jeffrey J Berry, Abigail Stoll, Deriq Jones, Seyedramin Alikiaamiri, Michael T Johnson, Second language pronunciation training using acoustic-to-articulatory inversion, Proceedings of Spring 2017 Meetings on Acoustics, Boston, June 2017.
79. Berry, Jeffrey J; Bagin, Ramie; Schroeder, James; Johnson, Michael T; Sensitivity and specificity of auditory feedback driven articulatory learning in virtual speech, Proceedings of Spring 2017 Meetings on Acoustics, Boston, June 2017.
80. Andrew J Kolb, Michael T Johnson, Jeffrey Berry, Interpolation of Tongue Fleshpoint Kinematics from Combined EMA Position and Orientation Data, Sixteenth Annual Conference of the International Speech Communication Association (Interspeech), September 2015.

81. Yi Liu, Yao Tian, Liang He, Jia Liu, Michael T Johnson, Simultaneous Utilization of Spectral Magnitude and Phase Information to Extract Supervectors for Speaker Verification, ASV Spoofing Challenge 2015, presented at Interspeech 2015, September 2015.
82. Gui Jin, Michael T Johnson, Jia Liu, Xiaokang Lin, Voice conversion based on Gaussian mixture modules with Minimum Distance Spectral Mapping, 2015 5th International Conference on Information Science and Technology (ICIST), April 2015, pp. 356-359.
83. Berry, Jeffrey, Cassandra North, and Michael T. Johnson, Dynamic aspects of articulating with a virtual vocal tract in dysarthria, International Conference on Motor Speech, 2014.
84. Berry, Jeffrey, A Kolb, C North, and Michael T. Johnson, Acoustic and Kinematic Characteristics of Vowel Production through a Virtual Vocal Tract in Dysarthria, Interspeech, Singapore, September 2014.
85. Berry, Jeffrey, John Jaeger, M Wiedenhoeft, B Bernal, and Michael T. Johnson, Consonant Context Effects on Vowel Sensorimotor Adaptation, Interspeech, Singapore, September 2014.
86. Ji, An, Michael T. Johnson, and Jeffrey Berry, Palate-referenced Articulatory Features for Acoustic-to-Articulator Inversion, Interspeech, Singapore, September 2014.
87. Jianglin Wang and Michael T. Johnson, "Physiologically-motivated Feature Extraction for Speaker Identification", International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2014, Florence, Italy.
88. Jeffrey Berry, Cassandra North, and Michael T. Johnson, "Sensorimotor adaptation of speech using real-time articulatory resynthesis", International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2014, Florence, Italy.
89. An Ji, Michael T. Johnson, and Jeffrey Berry, "The Electromagnetic Articulography Mandarin Accented English (EMA-MAE) Corpus of Acoustic and 3D Articulatory Kinematic Data", International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2014, Florence, Italy.
90. Jeffrey Berry, An Ji, and Michael T. Johnson, "Dynamic aspects of vowel production in Mandarin-accented English", American Speech-Language-Hearing Association 2013, Chicago, IL, November 2013.
91. Jeffrey Berry, Christine Belchel, Cassandra North, and Michael T. Johnson, "Learning novel articulatory-acoustic mappings in dysarthria", American Speech Language Hearing Association 2013, Chicago, IL, November 2013.
92. Jianglin Wang and Michael T. Johnson, "Vocal source features for bilingual speaker identification", China SIP, July 2013, Beijing China.
93. An Ji, Michael T. Johnson, Jeffrey Berry, "Articulatory space calibration in 3D Electromagnetic Articulography", China SIP, July 2013, Beijing China.
94. Jeffrey Berry, Cassandra North, Benjamin Meyers, Michael T. Johnson, Speech sensorimotor learning through a virtual vocal tract, Proceedings of Spring 2013 Meetings on Acoustics, Montreal, June 2013.
95. An Ji, Jeffrey Berry, Michael T. Johnson, Vowel production in Mandarin accented English and American English: Kinematic and acoustic data from the Marquette

University Mandarin accented English corpus, Proceedings of Spring 2013 Meetings on Acoustics, Montreal, June 2013.

96. Jianglin Wang, MT Johnson, “Residual Phase Cepstrum Coefficients with Application to Cross-lingual Speaker Verification”, Interspeech 2012, Portland, September 2012.
97. Trawicki, Marek B. and Michael T. Johnson. "Improvements of the Beta-Order Minimum Mean-Square Error (MMSE) Spectral Amplitude Estimator using Chi Priors," Interspeech 2012, Portland, September 2012.
98. An Ji, Michael T. Johnson, Jeffrey Berry, “Tracking articulator movements using orientation measurements”, 2012 International Conference on Audio, Language and Image Processing (ICALIP), Shanghai, China, July 2012.
99. Marek B. Trawicki, Michael T. Johnson, An Ji, Tomasz S. Osiejuk, “Multichannel speech recognition using distributed microphone signal fusion strategies”, 2012 International Conference on Audio, Language and Image Processing (ICALIP), Shanghai, China, July 2012.
100. Jianglin Wang, An Ji, Michael T. Johnson, “Features for phoneme independent speaker identification”, 2012 International Conference on Audio, Language and Image Processing (ICALIP), Shanghai, China, July 2012.
101. Michael T. Johnson and Patrick Clemins, “Individual Identification using Hidden Markov Models for Population Monitoring and Assessment”, Invited Presentation to Special Session “Topical Meeting on Signal Processing of Subtle and Complex Acoustic Signals in Animal Communication”, Acoustical Society of America Spring 2010 Meeting, Baltimore, Maryland, April 2010.
102. Marek Trawicki and Michael T. Johnson, “Optimal Distributed Microphone Phase Estimation,” International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2009, Taiwan, April 2009, pp 2177-2180.
103. Yao Ren and Michael T. Johnson, “Auditory Coding based Speech Enhancement”, International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2009, Taiwan, April 2009, pp 4685-4688.
104. Marek B. Trawicki, Yao Ren, Michael T. Johnson, Tomasz S. Osiejuk, Distributed Multi-Channel Speech Enhancement of Ortolan Bunting (Emberiza Hortulana) Vocalizations, Acoustic Communication by Animals, Corvallis, Oregon, 2008, pp. 276-277.
105. Kuntoro Adi, Michael T. Johnson, Tomasz S. Osiejuk Hidden Markov Model (HMM) based animal acoustic censusing, Acoustic Communication by Animals, Corvallis, Oregon, 2008, pp. 3-4.
106. Ebenezer Otu-Nyarko, Peter Scheifele, Michael Darre, Michael Johnson, Classification of stressful vocalizations of captive laying chickens using the Hidden Markov Model (HMM), Acoustic Communication by Animals, Corvallis, Oregon, 2008, pp. 176-177.
107. Kristine Sonstrom, Peter Scheifele, Michael Darre, Michael Johnson, The classification of vocalizations to identify social groups of beluga whales in the St. Lawrence River Estuary using the Hidden Markov Model, Acoustic Communication by Animals, Corvallis, Oregon, 2008, pp 251-252.

108. Kuntoro Adi, Kristine E. Sonstrom, Peter M. Scheifele, Michael T. Johnson, "Unsupervised validity measures for vocalization clustering," International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2008, April 2008, pp 4377-4380.

109. Yao Ren, Michael T. Johnson, "An Improved SNR estimator for speech enhancement," International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2008, April 2008, pp 4901-4904.

110. Mohamed A. Mneimneh, Michael T. Johnson, Richard J. Povinelli, "A Heart Cell Model for the Identification of Myocardial Ischemia," International Conference on Health Informatics, Funchal Madeira, Portugal, January 2008.

111. Z. W. Slavens, R. S. Hinks, J. A. Polzin, and M. T. Johnson, "Improved MR Image Magnification by Generalized Interpolation of Complex Data," Proceedings of the 15th Annual Meeting of ISMRM, Berlin, Germany, (Abstract #1887), May 2007.

112. Craig A. Struble, Richard J. Povinelli, Michael T. Johnson, Dina Berchanskiy, Jidong Tao, Marek Trawicki, "Combined Conditional Random Fields and n-Gram Language Models for Gene Mention Recognition, Proceedings of the Second BioCreative Challenge Evaluation Workshop, Madrid, Spain, April 2007.

113. Xi Li, Jidong Tao, Michael T. Johnson, Joseph Soltis, Anne Savage, Kirsten M. Leong,, John D. Newman, Stress and Emotion Classification using Jitter and Shimmer Features, International Conference on Acoustics Speech and Signal Processing 2007 (ICASSP07), Honolulu, Hawaii, April 2007, pp 1081-1084.

114. Mohamed A. Mneimneh, Richard J. Povinelli, Michael T. Johnson " An Integrative Approach for the Measurement of QT interval" Computers in Cardiology, Valencia, Spain, September 2006, pp 329-332.

115. Mohamed A. Mneimneh, Edwin E. Yaz, Michael T. Johnson, Richard J. Povinelli "Adaptive Kalman Filter Approach for the Baseline Removing Baseline Wandering " Computers in Cardiology, Valencia, Spain, September 2006, pp. 253-256.

116. Richard J. Povinelli, Mohamed A. Mneimneh, Michael T. Johnson "Cardiac Model Based Approach to QT Estimation" Computers in Cardiology, Valencia, Spain, September 2006, pp. 333-336.

117. Patrick Clemins, Marek B. Trawicki, Kuntoro Adi, Jidong Tau, and Michael T. Johnson, "Generalized Perceptual Features for Vocalization Analysis across Multiple Species", International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2006, Toulouse, France, May 2006.

118. Kuntoro Adi, Michael T. Johnson, Cepstral moment normalization for robust individual identification of ortolan bunting (*emberiza hortulana L*), presented at the Spring 2006 meetings of the Acoustical Society of America, May 2006, Providence, RI

119. Anthony D. Ricke, Richard J. Povinelli, Michael T. Johnson. "Segmenting Heart Sound Signals," Computers in Cardiology, Leon, France, September 2005.

120. Marek Trawicki and Michael T. Johnson, "Automatic Song-Type Classification and Speaker Identification of Norwegian Ortolan Bunting (Emberiza Hortulana) Vocalizations", IEEE International Conference on Machine Learning in Signal Processing (MLSP), Mystic, Connecticut, September 2005.

121. Patrick J. Clemins and Michael T. Johnson, “Unsupervised Classification of Beluga Whale Vocalizations”, Spring 2005 Meetings of the Acoustical Society of America, Vancouver, May 2005.

122. Kevin M. Indrebo, Richard J. Povinelli, Michael T. Johnson. "Third-Order Moments of Filtered Speech Signals For Robust Speech Recognition," International Conference on Non-Linear Speech Processing (NOLISP) 2005, Barcelona, Spain, 151-157.

123. Jidong Tao and Michael T. Johnson, “Comparison and Evaluation of Animal Vocalization Enhancement Techniques”, Fall 2004 Meetings of the Acoustical Society of America, San Diego, November 2004.

124. Kuntoro Adi and Michael T. Johnson, “Automatic Song-type classification and individual identification of Ortolan Bunting (Emberiza Hortulana L) vocalizations”, Fall 2004 Meetings of the Acoustical Society of America, San Diego, November 2004.

125. Heather E. Ewalt and Michael T. Johnson, “Combining Multi-source Wiener Filtering with Parallel Beamformers to Reduce Noise from Interfering Talkers”, International Conference on Signal Processing (ICSP) 2004, Beijing, August 2004.

126. Kevin M. Indrebo, Richard J. Povinelli, and Michael T. Johnson, “A comparison of reconstructed phase spaces and cepstral coefficients for multi-band phoneme classification”, ICSP 2004, Beijing, August 2004.

127. Patrick Clemins and Michael T. Johnson, “Generalized perceptual features for animal vocalization classification”, Spring 2004 Meetings of the Acoustical Society of America, New York, May 2004.

128. Andrew Lindgren, Michael T. Johnson, and Richard J. Povinelli, Joint Frequency Domain and Reconstructed Phase Space Features for Speech Recognition”, International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2004, Montreal, May 2004.

129. Mike Zimmerman, Richard J. Povinelli, Michael T. Johnson, and Kris Ropella, “A Reconstructed Phase Space Approach for Distinguishing Ischemic from Non-Ischemic ST Changes using Holter ECG Data”, Computers in Cardiology, Thessolonica, Greece, September, 2003.

130. Patrick Clemins and Michael T. Johnson, “Automatic Classification of African Elephant (Loxodonta africana) Follicular and Luteal Rumbles”, 1st International Conference on Acoustic Communication by Animals, Baltimore, Maryland, July 2003, pp 81-82.

131. Patrick Clemins and Michael T. Johnson, “Automatic Type Classification and Speaker Identification of African Elephant (Loxodonta Africana) Vocalizations”, Spring 2003 Meetings of the Acoustical Society of America, Nashville, May 2003.

132. Heather E. Ewalt and Michael T. Johnson, “Multiple Speech Signal Enhancement using a Microphone Array”, Spring 2003 Meetings of the Acoustical Society of America, Nashville, May 2003.

133. Kevin M. Indrebo, Richard J. Povinelli, and Michael T. Johnson, “A Combined Sub-band and Reconstructed Phase Space Approach to Phoneme Classification”, Non-Linear Speech Processing (NOLISP) 2003, Le Croisic, France, May 2003.

134. Jinjin Ye, Michael T. Johnson, and Richard J. Povinelli, “Study of attractor variation in the reconstructed phase space of speech signals, NOLISP 2003, Le Croisic, France, May 2003.

135. Jinjin Ye, Michael T. Johnson, and Richard J. Povinelli, “Phoneme classification over reconstructed phase space using principal component analysis”, NOLISP 2003, Le Croisic, France, May 2003.

136. Xiaolin Liu, Richard J. Povinelli, and Michael T. Johnson, "Vowel classification by global dynamic modeling”, NOLISP 2003, Le Croisic, France, May 2003.

137. Andrew C. Lindgren, Michael T. Johnson, and Richard J. Povinelli, “Speech Recognition using Reconstructed Phase Space Features”, Proceedings of the International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2003, Hong Kong, April 2003, pp I-60 – I-63.

138. Patrick Clemins and Michael T. Johnson, “Application of Speech Recognition to African Elephant (Loxodonta Africana) Vocalizations”, Proceedings of ICASSP 2003, Hong Kong, April 2003, pp I-484 – I-487.

139. Michael T. Johnson, Andrew C. Lindgren, Richard J. Povinelli, and Xiaolong Yuan, “Performance of Nonlinear Speech Enhancement using Phase Space Reconstruction”, Proceedings of ICASSP 2003, Hong Kong, April 2003, pp I-872 – I-875.

140. Xiaolin Liu, Richard Povinelli, and Michael T. Johnson, “Detecting Determinism in Speech Phonemes”, IEEE Digital Signal Processing Workshop 2002, October 2002.

141. Jinjin Ye, Richard J. Povinelli, and Michael T. Johnson, “Phoneme Classification Using naïve Bayes Classifier in Reconstructed Phase Space”, IEEE Digital Signal Processing Workshop 2002, October 2002.

142. Richard J. Povinelli, Michael T. Johnson, Nabeel A.O. Demerdash, and John F. Bangura, “A Comparison of Phase Space Reconstruction and Spectral Coherence Approaches for Diagnostics of Bar and End-Ring Connector Breakage and Eccentricity Faults in Polyphase Induction Motors using Motor Design Particulars”, IEEE Industry Applications Society meetings 2002, October 2002.

143. Richard J. Povinelli, Felice M. Roberts, Kristina M. Ropella, and Michael T. Johnson, “Are Nonlinear Ventricular Arrhythmia Characteristics Lost, As Signal Duration Decreases?”, Computers in Cardiology 2002, September 2002.

144. Patrick Clemins and Michael T. Johnson, “Automatic Speech Recognition and Speaker Identification of Animal Vocalizations”, Measuring Behavior 2002, August 2002, pp 41-46.

145. Patrick Clemins, Heather Ewalt and Michael Johnson, “Time-aligned SVD Analysis for Speaker Identification”, International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2002, May 2002, p 4160.

146. Michael T. Johnson and Leah H. Jamieson, "Temporal Features for Broadcast News Segmentation", ISCA Workshop on Prosody in Speech Understanding and Recognition, October 2001.

147. Michael T. Johnson and Mary P. Harper, "Near Minimal Weighted Word Graphs for Post-processing Speech", International Workshop on Automatic speech Recognition and Understanding (ASRU), December 1999.

148. M.P. Harper, M.T. Johnson, L.H. Jamieson, S.A. Hockema, and C.M. White, "Interfacing a CDG Parser with an HMM Word Recognizer Using Word Graphs", Proceedings of the International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 1999, March 1999, pp 733-736.

149. Michael T. Johnson, Leah H. Jamieson, and Mary P. Harper "Interfacing Acoustic Models with Natural Language Processing Systems", Proceedings of the International Conference on Spoken Language Processing (ICSLP) 1998, December 1998, pp 2419-2422.

150. A.M. Supranant, S.L. Hura, M.P. Harper, L.H. Jamieson, G. Long, S.M. Thede, A. Rout, T.H. Hsueh, S.A. Hockema, M.T. Johnson, J.B. Laflen, P. Srinivasa, and C.M. White, "Familiarity and Pronouncibility of Nouns and Names: The Purdue Proper Name Database", Spring 1998 Meetings of the Acoustical Society of America, June 1998.

151. Michael Johnson and Mita Desai, "An Adaptive Approach for Texture Modelling", Proceedings of the International Conference on Image Processing (ICIP) 1994, November 1994.

152. Harold Longbotham, Michael Johnson, Jack Harris, and Redouan Rouzky, "The FatBear: a nonarithmetic pico filter", Proceedings of the SPIE, Image Algebra and Morphological Image Processing IV, July 1993, pp 128-139.

Selected Invited Presentations

- Keynote Speaker, Weld Penetration Identification Based on Convolutional Neural Network, The 2019 International Workshop on Intelligentized Welding Manufacturing, University of Kentucky, Lexington, Kentucky, November 2019.
- Invited Colloquium Speaker, Acoustic to Articulatory Inversion for Computer-Aided Pronunciation Training, University of Texas at San Antonio Department of Electrical and Computer Engineering Colloquium Series, April 2019.
- Keynote Speaker, IEEE Joint Louisville-Lexington Chapters Holiday Dinner, Louisville, Kentucky, December 2018.
- Invited speaker, Shanghai Jiaotong University Colloquium Series, “Electromagnetic Articulography for Speaker Independent Acoustic-to-Articulatory Inversion, April 2015.
- Invited speaker, University of Memphis Institute of Intelligent Systems Colloquium Series, “Applying Speech Technology to Animal Vocalizations”, April 2014.
- Invited speaker, NIMBioS Investigative Workshop on Analyzing Animal Vocal Sequences, “Using HMMs to model vocal structure and sequence for classification and identification”, October 2013.
- Featured Keynote Speaker, GE Healthcare Technology symposium, “Innovations and Applications of Artificial Intelligence and Bayesian Modeling”, August 2011.
- “Individual Identification using Hidden Markov Models for Population Monitoring and Assessment”, Invited Presentation to Special Session “Topical Meeting on Signal Processing of Subtle and Complex Acoustic Signals in Animal Communication”, at Acoustical Society of America Spring 2010 Meeting, Baltimore, Maryland, April 2010.
- Featured speaker at ShARE World Seminar 2008, “Innovation in Computation”, Tsinghua University, Beijing China, December 2008.

- Keynote speaker for annual Tau Beta Pi banquet, “The Dr. Dolittle Project: Applying Speech Processing to Animal Vocalizations,” November 2007.
- Presentation to Beijing Institute of Technology annual colloquia, “The Dr. Dolittle Project: Applying Speech Processing to Animal Vocalizations,” Beijing, China, May 2007.
- Presentation to Tsinghua University Center for Speech Technology, “The Dr. Dolittle Project: Applying Speech Processing to Animal Vocalizations,” Beijing, China, May 2007.
- Presentation to the Chinese Academy of Sciences, “The Dr. Dolittle Project: Applying Speech Processing to Animal Vocalizations,” Institute of Acoustics, Beijing, China, May 2007.
- Michael T. Johnson, “The Dr. Dolittle Project: Applying speech technology to animal vocalizations”, Sigma Xi annual banquet, April 27, 2007.
- Michael T. Johnson, “Speech Research at Marquette – The Dr. Dolittle Project”, Marquette Trustees Committee on Academic Affairs and Planning, March 3, 2004.
- Michael T. Johnson, “Speech Recognition and Chaos Theory: A new approach to signal analysis”, Lynde Bradley Science Club, Rockwell Automation, November 11, 2003.
- Michael T. Johnson, “The Dr. Dolittle Project: Applying human speech processing algorithms to other species”, UW Milwaukee Computer Science Department Colloquium, November 7, 2003.
- Michael T. Johnson, “Talking with the Animals: Automatic Classification and Identification of Animal Vocalizations using Speech Technology”, Keynote Speaker for Physics Club of Milwaukee Annual Banquet, June 5, 2002.
- Michael T. Johnson, “Speech Processing Research at Marquette (Elephants and Cocktail Parties)”, COE National Research Council meeting, April 26, 2002.
- Michael T. Johnson, “Speech and Signal Processing Research at Marquette”, Invited speaker at Sigma Xi annual meeting, February 20, 2002.

PhD Dissertation and MS Thesis

- Michael T. Johnson, "Incorporating Prosodic Information and Language Structure into Speech Recognition Systems", PhD Dissertation, Purdue University School of Electrical and Computer Engineering, August 2000.
- Michael T. Johnson, "An Adaptive Texture Model Based on Markov Random Fields", Masters Thesis, University of Texas at San Antonio, August 1994.

Student PhD Dissertations (primary advisor)

- Soleymanpour, Mohammad, “Synthesizing Dysarthric Speech Using Multi-speaker TTS for Dysarthric Speech Recognition”, PhD Dissertation, University of Kentucky, August 2022.
- Narjes Bozorg, “Articulatory Wavenet: Deep Autoregressive Model for Acoustic-to-Artictulatory Inversion”, PhD Dissertation, University of Kentucky, December 2020.

- An Ji, “Speaker Independent Acoustic-to-Articulatory Inversion”, PhD Dissertation, Marquette University, December 2014.
- Jianglin Wang, "Physiologically-motivated feature extraction methods for speaker recognition", PhD Dissertation, Marquette University, December 2013.
- Jidong Tao, “Acoustic Model Adaptation for Automatic Speech Recognition and Animal Vocalization Classification”, PhD Dissertation, Marquette University, May 2009.
- Marek Trawicki, “Distributed Multichannel Processing for Signal Enhancement”, PhD Dissertation, Marquette University, May 2009.
- Kuntoro Adi, “Hidden Markov model based animal acoustic censusing: learning from speech processing technology”, Ph.D. Dissertation, Marquette University, May 2008.
- Patrick J. Clemins, “Automatic Classification of Animal Vocalizations”, PhD Thesis, Marquette University, May 2005.

Student MS Theses (primary advisor)

- Subash Khanal, “Mispronunciation Detection and Diagnosis in Mandarin Accented English speech, Masters Thesis, University of Kentucky, May 2020.
- Jose, Neenu, “Speaker and Gender Identification using Bioacoustic Data Sets”, Masters Thesis, University of Kentucky, May 2018.
- Vonderhaar, Joe, “Speaker-specific Adaptation of Maeda Synthesis Parameters for Auditory Feedback”, Masters Thesis, Marquette University, May 2017.
- Jones, Deriq, “Development of Kinematic Templates for Automatic Pronunciation Assessment using Acoustic-to-Articulatory Inversion”, Masters Thesis, Marquette University, May 2017.
- Kelly Vonderhaar, Analysis of Interference between Electromagnetic Articulography and Electroglottograph Systems, Masters Thesis, Marquette University, August 2016.
- Xiangyu Zhou, Least-squares Mapping from Kinematic data to Acoustic Synthesis Parameters for Rehabilitative Acoustic Learning, Masters Thesis, Marquette University, May 2016.
- Andrew Kolb, Development of Software Tools and Analysis methods for the Use of Electromagnetic Articulography Data in Speech Research”, Masters Thesis, Marquette University, May 2015.
- Zac Slavens, “Generalized interpolation applied to MR image magnification and gradient nonlinearity correction”, Masters Thesis, Marquette University, May 2008.
- Xi Li, “SPEech Feature Toolbox (SPEFT) Design, and Emotional Speech Feature Extraction”, M.S. Thesis, Marquette University, August 2007.
- Anthony D. Ricke, “Automatic Frame Length, Frame Overlap, and Hidden Markov Model Topology for Automatic Speech Recognition of Animal Vocalizations”, M.S. Thesis, Marquette University, December 2006.
- Jinjin Ye, “Speech Recognition Using Time Domain Features from Phase Space Reconstructions”, M.S. Thesis, Marquette University, May 2004.
- Franck Hounkpevi, “Triphone Creation Through Rule-based Trajectory Interpolation for Continuous Speech Recognition”, M.S. Thesis, Marquette University, May 2003.

- Xiaolong Yuan, "Auditory Model-Based Bionic Wavelet Transform for Speech Enhancement", M.S. Thesis, Marquette University, May 2003.
- Andrew Lindgren, "Speech Recognition using Features extracted from Phase Space Reconstructions", M.S. Thesis, Marquette University, May 2003.
- Heather Ewalt, "Speech Signal Enhancement Using a Microphone Array", M.S. Thesis, Marquette University, December 2002.

Selected News and Magazine Articles

- "Listening to the Animal Kingdom", Discover Magazine, Marquette University, 2008, pp 14-15.
- "Decoding Calls of the Wild", by Mark Johnson, feature article in Milwaukee Journal Sentinel, part of "Brainpower: Groundbreaking Thinkers in Wisconsin", October 2008.
- "Say What?", cover article on Dr. Dolittle Project, Weekly Reader Science, Spring 2007.
- "Animal Talk", by Elena Cabral, Scholastic News Edition 5/6, December 18, 2006.
- "Animal "Speech" Project Aims to Decode Critter Communication", by Maryann Mott, National Geographic Online, http://news.nationalgeographic.com/news/2006/09/060926-dolittle-project.html, September 2006.
- "Parsing the Puffin's Patois", article on Dr. Dolittle Project by Rachel Metz, Wired News online, July 2006.
- "Quacking the Code", by Katie Pelech, article in Milwaukee Magazine, March 2006, p. 30.
- "What Jumbo tells Dumbo" by Alex Antunes, feature article in Computers in Science and Engineering (CISE) magazine, published by IEEE Computer Society, September-October 2005, pp 3-6.
- "Discoveries with Disney", article about collaborative project with Disney's Animal Kingdom published in MU Magazine, Fall 2003, p. 17.

GRANTS

Major Grants Funded

1. Michael T. Johnson (PI), Aaron Cramer (co-PI), Dan Ionel (co-PI), and Janet Lumpp (co-PI), GAANN Fellowship Program in Electrical and Computer Engineering at the University of Kentucky, Department of Education, 10/1/2019 – 9/30/2022. Total Budget $600,702 over 3 years. Supplement of $51,000 in 2020 for 1 additional fellow.
2. Jeffrey Berry (PI) and Michael T. Johnson (co-PI), "Speech Sensorimotor Control in Non-progressive Dysarthria", National Institutes of Health R-15, 7/1/2018 – 6/30/21. Total Budget $446,956 over 3 years ($166,428 to University of Kentucky as subcontract to Marquette University).
3. Michael T. Johnson (PI) and Jeffrey Berry (co-PI), "RI: Small: Speaker Independent Acoustic-Articulator Inversion for Pronunciation Assessment", National Science Foundation CISE Directorate, 2013. Total Budget $449,643 over 3 years.
4. Michael T. Johnson (PI) and Jeffrey Berry (co-PI), "EAGER: Acoustic-Articulator Modeling for Pronunciation Analysis", National Science Foundation CISE Directorate, 2011. Total Budget: $149,896.00 over 1 year.
5. Michael T. Johnson (PI), Elizabeth Mugganthaler (Fauna Communications Research Institute), Peter Scheifele (National Undersea Research Center, University of Connecticut), Mike Darre (Animal Sciences, University of Connecticut), Anne Savage (Disney Animal Kingdom), "The Dr. Dolittle Project: A Framework for Classification and Understanding of Animal Vocalizations", NSF IT-R program under CISE Directorate, 2003. Total Budget: $1,200,000 over 4 years.
6. Michael T. Johnson (PI) and Richard J. Povinelli, "Integration of Stochastic and Dynamical Methods for Speech Technology", NSF IT-R program under CISE directorate, 2001. Total Budget: $360,000 over 3 years.
7. Richard J. Povinelli (PI), Nabeel A. O. Demerdash, Edwin Yaz, and Michael T. Johnson, "A Novel Approach to Fault Modeling, Diagnostics, and Prediction in Motor Drive Systems", NSF Division of Controls, Networks, and Computational Intelligence, 2003. Total Budget: $340,000 over 3 years.

Additional Grants Funded

1. Peter Scheifele (PI), Leesa Scheifele (co-PI), and Michael T. Johnson (co-PI), Measuring Hearing Acuity and Vocalization Signals of the Asian Small-Clawed Otter (Amblonyx cinereus) in Response to Anthropogenic Noise, Indianapolis Zoo, March 2017, Funded $14,300.
2. Kevin McGowan (PI) and Michael T. Johnson (co-PI), Apparatus and Procedure for Ultrasound Investigation of Velopharyngeal port aperture, University of Kentucky Igniting Research Collaborations project, Funded $27,726 in 2018-2019.
3. Jeffrey Berry (PI) and Michael T. Johnson (co-PI), "Speech Rehabilitation Using a Virtual Vocal Tract", Marquette Regular Research Grant (RRG). Funded $6,000 in 2014-15.
4. Michael T. Johnson (PI) and Jeffrey Berry (co-PI), Research Experiences for Undergraduates (REU) supplement to "RI: Small: Speaker Independent Acoustic-Articulator Inversion for Pronunciation Assessment", NSF REU program, CISE directorate. Funded $6,000 in 2013-2014, $6000 in 2014-2015, $6000 in 2015-2016.
5. Michael T. Johnson (PI) and Jeffrey Berry (co-PI), OISE International supplement to "EAGER: Acoustic-Articulator Modeling for Pronunciation Analysis", co-funded by CISE and OISE directorates. Funded $19,840 in 2012-2013.

6. Michael T. Johnson (PI) and Jeffrey Berry (co-PI), Research Experiences for Undergraduates (REU) supplement to "EAGER: Acoustic-Articulator Modeling for Pronunciation Analysis", NSF REU program, CISE directorate. Funded $8,000 in 2011-2012.
7. Richard J. Povinelli (PI) and Michael T. Johnson (PI), "An examination of phoneme confusability in spoken English", Marquette Regular Research Grant (RRG). Funded $15,000 in 2011-2012.
8. Michael T. Johnson (PI) et. al., Research Experiences for Undergraduates (REU) supplement to "The Dr. Dolittle Project", NSF REU program, CISE directorate. Funded at $6,000 in 2003-04, $15,000 in 2004-2005, $12,000 in 2005-2006, $15,000 in 2006-2007 Total Budget: $48,000.
9. Michael T. Johnson (PI) and Richard J. Povinelli, REU supplement to "Integration of Stochastic and Dynamical Methods for Speech Technology", NSF REU program, CISE directorate. Funded at $15,000 in 2001-02, 2002-03, and 2003-04, Total Budget: $45,000.
10. Richard J. Povinelli (PI), Nabeel A. O. Demerdash, Edwin Yaz, and Michael T. Johnson, REU supplement to "A Novel Approach to Fault Modeling, Diagnostics, and Prediction in Motor Drive Systems", NSF REU Program, CNCI Division. Funded at $6,000 in 2003-04 and 2004-05. Total Budget to-date: $6,000.

PROFESSIONAL ACTIVITIES

Technical Committees and Publication editing

- Area Editor, Speech Enhancement, Speech Communication Journal, 2014-present
- Member, IEEE Signal Processing Society Speech and Language Technical Committee (SLTC), 2014-2017

Selected Publication Review Participation

- Speech Communication Journal
- International Conference on Acoustics, Speech and Signal Processing
- Interspeech IEEE Automatic Speech and Recognition Workshop
- Workshop on Spoken Language Technology
- IEEE Transactions on Speech and Audio Processing
- Journal of the Acoustical Society of America
- IEEE Sensors Journal
- IEEE Transactions on VLSI
- IEEE Transactions on Signal Processing
- IEEE Signal Processing Letters
- IEEE Transactions on Neural Systems
- Journal of Applications of Signal Processing
- Animal Behavior Journal
- EURASIP Journal on Audio, Speech and Music Processing
- International Journal on Adaptive Control and Signal Processing
- Biosystems Engineering Journal
- Acoustics Research Letters Online
- International Conference on Decision and Control
- Midwest Symposium on Circuits and Systems
- Iasted Circuits and Systems Conference
- Workshop on Signal Processing and Applications
- American Controls Conference
- Journal of Zhejiang University Science C (Computers & Electronics)
- Journal of Medical Engineering & Physics
- Open Signal Processing Journal
- IEEE Spoken Language Technology workshop
- International Conference on Signal Processing (ICSP)
- Journal of Computers
- International Journal of Electronics and Communications
- Franklin Institute journal

Selected Funding Review Participation

- National Science Foundation
  Have reviewed for CCLI, CAREER, CONICYT, and ITR programs, as well as various regular programs in the CISE and Biological Sciences directorate
- International: Austrian Science Fund, Icelandic Research Fund
- Medical College of Wisconsin Clinical and Translational Science Institute (CTSI)

Professional and honorary society memberships

- ECE Department Heads Association (ECEDHA), 2016-present
  ECEDHA Awards Committee, 2018-present
- Southeast ECEDHA (SECEDHA), 2016-present
  Secretary 2019-2020, Vice President 2020-2022, President 2022-2023
- Southeastern Center for EE Education (SCEEE) Board of Directors, 2020-2023
- Senior Member IEEE, membership 1994-present
- IEEE Signal Processing Society, 1998-present
- Acoustical Society of America (ASA), 2001-present
- Eta Kappa Nu, 1996-present
- Upsilon Pi Epsilon, 2001-present
- Senior Member Sigma Xi, 2001-2012
- Association of Computer Machinery (ACM), 1998-2010
- IEEE Computer Society, 1998-2010
- IEEE Circuits and Systems Society, 2001-2009
- Association of Computational Linguistics (ACL), 1998-2002
- International Speech Communication Association (ISCA), 2001-2006

Other professional activities and awards

- Selected for SEC Academic Leadership Development Program, 2019-2020
- Featured in "Groundbreaking Thinkers in Wisconsin" article series 2007
- Researcher of the Year, Marquette College of Engineering, 2006-2007
- Young Engineer of the Year, Engineers and Scientists of Milwaukee (ESM), 2006
- Registered Professional Engineer, State of Wisconsin

TEACHING AND EDUCATIONAL ACTIVITIES

Courses Taught

Undergraduate
- EECE Freshman Seminar
- Computer Hardware
- Digital Logic Design
- Linear Systems Analysis
- Embedded Systems Design
- Circuits 1
- Signals and Systems Lab
- Introduction to Engineering
- Understanding Leadership

Graduate and Joint Undergraduate/Graduate
- Digital Signal Processing
- Speech Processing
- Optimal/Adaptive Signal Processing
- Pattern Recognition
- Analysis of Algorithms
- Information Theory
- Professional Research Writing

Teaching awards

Marquette Eta Kappa Nu (HKN) honor society EECE Teacher of the Year, 2014, 2005

Selected Teaching, Education, and Pedagogy activities

UK Global Engagement Academy, Spring 2022
Center for Enhancement of Learning and Teaching (CELT) workshop, Spring 2021
UK Counseling Center, ECE faculty meeting guest on Student Mental Health, Fall 2021
UK Unconscious Bias Seminar, Fall 2019
UK Experienced Leadership Academy, Fall 2018
UK CoE Teaching Community of Practice, Fall 2017
UK Chairs Academy, Fall 2016
Chair, CoE Teaching Best Practices Committee, Spring 2017
Coordinator for Marquette EECE Freshman Seminar, 2011-2015
Participant in KEEN/Lafferty Teaching Development Workshop, Fall 2015, Spring 2016
Mentored numerous Research Experience for Undergraduates (REU) through NSF grants
International Teaching Experience, Tsinghua University, 2008-2009, 2011, 2013, 2014-2015
Signals and Systems Concept Inventory site coordinator for NSF study, 2003-2006
Developed and gave numerous DSP/Audio Workshops for middle and high school outreach
Participated with IEEE Signal Processing Education Technical Committee activities
Developed introductory DSP module for General Engineering freshman course
Participated in MU Assessment seminar by Barbara Wolvoord, May 2005
Participated in NSF Engineering Education Scholars (EES) program for new faculty
Participated in Prentice Hall Symposium on Education, Chicago, IL, 2001
Participated in NSF/ASEE Visiting Scholars Teaching Workshop, Fall 2000 and Spring 2001
Member, Advisory committee MU Center on Teaching and Learning (2005-2010)

Student Mentoring Activities (2000-present)

MS and PhD Committees
Undergraduate Research Projects
Senior Design Projects
Individual Student Mentoring

ACADEMIC SERVICE

Academic Service at the University of Kentucky

University:

- Steering Committee for Wildcat Foundations first-year experience program (2017-2019)
- Represented UK in SEC Academic Leadership Development Program (ALDP), 2019-2020

College:

- Chair, Engineering Technology Faculty Committee (2020 – present)
  ET Chair search, LST Faculty search (2020-2021), CPT Faculty search (2021-2022)
- CoE Funkhouser (2019, 2021, 2023) and Grehan (2018-19) Building Committees
- CoE Recruitment Advisory Committee (2019-present)
- CoE Search Committee for Senior Director of Philanthropy (2018)
- Director, CoE Scholars in Engineering Leadership Program (2017-present)
- CoE Search Committee for Director of Marketing and Communications (2017)
- Chair, CoE Teaching Best Practices committee (Spring 2017)
- CoE Chair's Committee (2016-present, Chair 2018-2019)

Departmental:

- ECE Department Chair (2016-present)

Academic Service at Marquette University

University:

- University Board of Graduate Studies (2009-2016; chair, 2012-2016)
- University Search Committee, Vice Provost for Enrollment Management (2015-2016)
- University Steering committee on academic integrity (2012-2014)
- University Subcommittee on academic integrity (2011)
- COF, Subcommittee on Nominations and Elections (chair, 2004-2007).
- Faculty mentor for Dissertation Boot Camps (2008, 2010)
- Advisory Committee for Center on Teaching and Learning (2005-2010)

College and Departmental:

- COE Research Activity Committee (2011)
- COE Dean of Engineering Search Committees (2003, 2009)
- COE Freshman Programs Committee (2006-2007)
- COE Discovery Towers Building Committee (2004-2005)
- BME Biocomputer Program Advisory Board (2001-2016)
- EECE Graduate Committee (2000-2003, 2005-2016)
- EECE Undergraduate Committee (2003-2008, 2012-2015)
- EECE Director of Graduate Studies (2009-2012)
- EECE Department Grad Program Assessment Coordinator (2009-2012)
- Numerous EECE faculty search and other subcommittees

Selected public service and outreach activities

- UK CoE E-day, every spring annually since 2016
- UK CoE and ECE prospective student tours, several times per month since 2016

- Guest speaker, Triangle UK Leadership Academy students, July 2023
- UK ECE Middle School STEM program, November 2018
- UK ECE STEM Outreach camp for girls, June 2016, June 2017
- Guest speaker, Marquette Girls Who Code outreach program, March 2016.
- Coordinator for Marquette EECE open house activities, Fall 2015.
- Faculty advisor for Marquette's HKN chapter and Sigma Phi Delta engineering fraternity
- Guest speaker, MOTIF English corner, Beijing, China. "Diversity", September 2014, "Humor", March 2015, "Languages of the World", June 2015.
- Senior Visiting Scholar, Tsinghua University, China
  2014-15, 2008-09, Summer 2011, Summer 2013
- COE iPalm2 outreach program to high school students, August 2011, 2012, 2013
- Represented Marquette COE on visits to Harbin Institute of Technology, China, 2011
- Panelist for Marquette University Advancement workshop, 2011
- Marquette ORSP Brown Bag panelist "One thing led to another" research series, 2010
- Spoke to students at Rosenwald Dunbar elementary school in Nicholasville, KY, about the Dolittle project and careers in engineering, 2008
- Spoke to students at Cardinal Valley elementary school in Lexington, KY, about the Dolittle project and careers in engineering, 2006
- Participated in Marquette University High School Junior Career Day, 2005
- Spoke to "Future Problem Solvers" gifted program at Templeton Middle School about Artificial Intelligence, 2005
- Participated in Innovation Mondays meetings with local industry, 2004-2005
- COE representative for "We are Marquette" World Café Conversation, 2004
- EECE representative and presenter for GEMS Advanced Education Fair, 2004
- Spoke at MSOE about graduate school opportunities in EECE, 2002-2003
- Presented at Lynde Bradley Science Club, Rockwell Automation, 2003
- Presented at UW Milwaukee Computer Science Department Colloquium, 2003
- Marquette ORSP Brown Bag panelist on Pre-proposal Contact with Sponsors, 2003
- Keynote on Global Research, Marquette COE National Advisory Council, 2002
- Keynote Speaker at Physics Club of Milwaukee annual banquet, 2002
- Spoke at UWM Elementary Education class on careers in science and technology, 2002
- Participated in Nathan Hale H.S. Career Day regarding careers in engineering, 2002
- Active participant in Marquette EECE and COE open houses, 2000-2015
- Blackjack dealer for Marquette engineering student council casino nights, 2000-15
- Regular participant in Marquette parent lunch program, 2000-2015
- Member, Eastbrook Church & worship choir, 2001-2016
- Numerous student and student group activities, both UK and Marquette, 2000-present
- Numerous research talks, colloquia, and seminars, 2000-present
- Numerous other volunteer and community activities, 2000-present

LITIGATION EXPERIENCE

US District Court

Snap-On Technologies, Inc. vs. Hunter Engr. Company, 98-C-369, 98-C-837, 00-C-929, 00-C-1511 (2002)
Jurisdiction: USDC Eastern District of Texas
Client: Hunger Engineering Company (Defendant)
Law Firm: Kirkland and Ellis LLP
Activities: Declaration, Deposition

EVS Codec Tech LLC and Saint Lawrence Comm. LLC vs. ZTE and ZTE USA Inc,. 3:19-cv-00385 (2019)
Jurisdiction: USDC Northern District of Texas
Client: ZTE Inc. (Defendant)
Law Firm: K&L Gates LLP
Activities: Source Code Review, Technical consulting services

Nuance Communications, Inc. vs. MModal LLC., 1:17-cv-01484-MN (2019)
Jurisdiction: USDC District of Delaware
Client: MModal LLC (Defendant)
Law Firm: Duane Morris, LLP and Latham & Watkins, LLP
Activities: Reports (3), Source Code Review, Deposition

VoiceAge EVS LLC vs. Apple Inc, 1:20-cv-01061-CFC (2020)
Jurisdiction: USDC District of Delaware
Client: Apple Inc. (Defendant)
Law Firm: WilmerHale LLP
Activities: Source Code Review, Technical consulting services

Freshub vs. Amazon Inc., 1:19-cv-00885-ADA (2020)
Jurisdiction: USDC Western District of Texas
Client: Amazon (Defendant)
Law Firm: Fenwick and West LLP
Activities: Reports (3), Source Code Review, Depositions (2), Trial Testimony

VB Assets, LLC vs. Amazon.com, Inc., 1:19-cv-01410-MN (2021)
Jurisdiction: USDC District of Delaware
Type of Litigation: Patent Infringement
Client: Amazon (Defendant)
Law Firm: Fenwick and West LLP
Activities: Reports (2), Depositions (2), Technical Consulting (currently active)

Vocalife LLC vs. Sonos, Inc., 2:21-cv-00129 (2021)
Jurisdiction: USDC Eastern District of Texas
Client: Sonos (Defendant)
Law Firm: Lee, Sullivan, Shea, and Smith LLP
Activities: Declaration

Jawbone Innovations, LLC vs. Meta Platforms, Inc., 6-23-cv-00158 (2023)
Jurisdiction: USDC Western District of Texas
Client: Meta Platforms (Petitioner)
Law Firm: Allen & Overy LLP
Activities: Technical Consulting (currently active)

Patent Trial and Appeal Board (PTAB) Inter Partes Review (IPR)

LG Electronics vs. Saint Lawrence Communication, IPR2015-01874, IPR2015-01875 (2015)
Client: LG Electronics (Petitioner)
Law Firm: Mayer Brown LLP
Activities: Declarations (2)

ZTE Corp. vs. Saint Lawrence Communications, IPR2016-00704, IPR2016-00705 (2016)
Client: ZTE Inc. (Petitioner)
Law Firm: Finnegan, Henderson, Farabow, Garrett & Dunner LLP
Activities: Declarations (2), Deposition

Google LLC vs. Koninklijke Philips, IPR2017-00437 (2017)
Client: Koninklikjke Philips (Patent Owner)
Law Firm: Fitzpatrick, Cella, Harper, & Scinto
Activities: Declaration, Deposition

Google LLP vs. Sonos, Inc., IPR2021-00475 (2022)
Client: Sonos (Patent Owner)
Law Firm: Ackerman LLP and Lee, Sullivan, Shea, and Smith LLP
Activities: Declaration

Sonos, Inc.vs. Google LLP, IPR2022-01592, 2022-01594, 2023-0118, 2023-0119 (2022)
Client: Sonos (Petitioner)
Law Firm: Lee, Sullivan, Shea, and Smith LLP
Activities: Declarations (4) (currently active, all 4 IPRs instituted)

Sonos, Inc.vs. Google LLP, IPR2023-(TBD), 2023-(TBD) (2023)
Client: Sonos (Petitioner)
Law Firm: Lee, Sullivan, Shea, and Smith LLP
Activities: Technical consulting (currently active)

International Trade Commission (ITC)

Google LLP vs. Sonos, Inc. 337-TA-1329, 337-TA-1330 (2022)
Client: Sonos (Respondent)
Law Firm: Lee, Sullivan, Shea, and Smith LLP
Activities: Technical Consulting, 4 reports, 2 depositions, hearing testimony (currently active)

Other Jurisdictions

Google LLP vs. Sonos, Inc. Docket T-952-20 (2021)
Jurisdiction: Canadian Federal Court
Type of Litigation: Patent Infringement
Client: Sonos (Defendant)
Law Firm: ROBIC, LLP and Lee, Sullivan, Shea, and Smith LLP
Activities: Reports (2), Source Code Review, Trial Testimony