

# Mark Hasegawa-Johnson

Professor, Department of Electrical and Computer Engineering  
Beckman Institute 2011, University of Illinois, Urbana, IL 61801  
Phone: 217-333-0925, Fax: 217-244-8371, jhasegaw@illinois.edu

March 1, 2019

## Education

- **Post-Doctoral Fellow**, 1996-9, University of California at Los Angeles. Adviser: Abeer Alwan, Electrical Engineering. NRSA Title: Factor Analysis of MRI-Derived Articulator Shapes
- **Ph.D. Electrical Engineering and Computer Science**, August 1996, Massachusetts Institute of Technology. Adviser: Kenneth N. Stevens. Thesis: Formant and Burst Spectral Measurements with Quantitative Error Models for Speech Sound Classification
- **M.S. Electrical Engineering and Computer Science**, June 1989, Massachusetts Institute of Technology. Adviser: Jae S. Lim. Thesis: Echo Cancellation in the GSM Cellular Network

## Appointments

- 2011-present: **Professor**, Electrical and Computer Engineering, **University of Illinois**, Urbana, IL, USA. **Full-Time Faculty**, Beckman Institute for Advanced Science and Technology. **Part-Time Faculty**, Coordinated Science Lab. **Affiliated Professor**, Graduate Program in Informatics. **Affiliated Professor**, Department of Speech and Hearing Science. **Affiliated Professor**, Department of Computer Science. **Affiliated Professor**, Department of Linguistics
- 2016-2018: **Professor**, Informatics, **Kyoto College of Graduate Studies**, Kyoto, Japan
- 2014-2018: **Research Faculty**, **Advanced Digital Sciences Center**, Singapore
- 2005-2011: **Associate Professor**, Electrical and Computer Engineering, University of Illinois
- 1999-2005: **Assistant Professor**, Electrical and Computer Engineering, University of Illinois
- 1996-1999: **Post-Doctoral Fellow**, **University of California at Los Angeles**, USA
- 1991-1996: **Graduate Research Assistant**, **Massachusetts Institute of Technology**, Cambridge, MA, USA
- 1989-1990: **Engineer**, **Fujitsu Laboratories Limited**, Kawasaki, Japan
- 1988-1989: **Engineering Intern**, **Motorola Corporate Research**, Schaumburg, IL, USA

## Editorships and Offices Held in Professional Societies

1. **Senior Area Editor**, IEEE Trans. Audio, Speech and Language (2017-present)
2. **Treasurer**, ISCA (International Speech Communication Association, 2013-present)
3. **Liaison**, Special Interest Group on Machine Learning (SIGML) of the International Speech Communication Association (ISCA) (2010-present)
4. **Secretary**, Speech Prosody Special Interest Group (SProSIG) of the International Speech Communication Association (ISCA) (2010-2018)
5. **Member**, **Speech and Language Technical Committee (SLTC)**, IEEE Signal Processing Society (2011-2017)

6. **Associate Editor**, J. Acoust. Soc. Am. (2009-2017), Laboratory Phonology (2009-2015), IEEE Trans. Audio, Speech, and Language (2006-2009), IEEE Signal Processing Letters (2002-2004).
7. **Executive Secretary**, Phi Beta Kappa (Liberal Arts and Sciences Honor Society), Gamma of Illinois Chapter, University of Illinois, 2006-2017
8. **Articulograph International Steering Committee**, member, 2007-2011 (wiki.ag500.net)
9. **Chapter Adviser**, Eta Kappa Nu (Electrical and Computer Engineering Honor Society), Alpha Chapter, University of Illinois at Urbana-Champaign, 2004-2007
10. **Scholarship Chair**, Phi Beta Kappa (Liberal Arts and Sciences Honor Society), Gamma of Illinois Chapter, University of Illinois, 2004-2006

## Awards and Special Recognition

1. **Plenary Speaker**, ISCSLP (International Symposium on Chinese Spoken Language Processing), Taipei, Taiwan, November 26-29, 2018
2. **Plenary Speaker**, WiSSAP 2016 (Winter School in Speech and Audio Processing), Chennai, India, January 8-11, 2016
3. Co-Adviser, **Best Student Paper**, for the Paper “Adapting ASR for Under-Resourced Languages Using Mismatched Transcriptions,” ICASSP 2016
4. **Dean’s Award for Excellence in Research**, University of Illinois College of Engineering, 2012
5. **Fellow**, Acoustical Society of America, 2011
6. **Senior Member**, Association for Computing Machinery, 2009
7. **Co-Adviser, Best Student Paper** for the paper “A Novel Gaussianized Vector Representation for Natural Scene Categorization,” by Xi Zhou, Xiaodan Zhuang, Hao Tang, Mark Hasegawa-Johnson, and Thomas Huang, *International Conference on Pattern Recognition (ICPR)*, 2008
8. **Third Place**, Star Challenge Multimedia Information Retrieval Competition, A\*STAR 2008
9. **Outstanding Advisers List**, University of Illinois College of Engineering, April 2006
10. **Best Reviewer**, Neural Information Processing Systems (NIPS), 2005
11. **Senior Member**, IEEE, 2004
12. **Honorary Initiate**, Alpha Chapter of Eta Kappa Nu (Electrical and Computer Engineering Honor Society), 2003
13. Daily Illini Incomplete **List of Teachers Rated “Excellent”** by their Students, Daily Illini, 2001, 2003, 2004, 2006
14. **Frederick V. Hunt Post-Doctoral Research Fellow**, Acoustical Society of America, 1996
15. **Paul L. Fortescue Graduate Fellow**, IEEE, 1989
16. Eta Kappa Nu, Tau Beta Pi, Sigma Xi, Phi Beta Kappa

## Conference, Workshop, and Panel Organization Activities

1. **Team Member**, Jelinek Speech and Language Technology (JSALT) Workshop WS17, “The Speaking Rosetta Stone - Discovering Grounded Linguistic Units for Languages without Orthography,” Pittsburgh, PA, June–August, 2017
2. **Team Leader**, Jelinek Speech and Language Technology (JSALT) Workshop WS15, “Probabilistic Transcription Using EEG and Crowdsourcing for Languages with No Native Language Transcribers,” Seattle, WA, June–August, 2015
3. **Panel Organizer**, VAC Consortium Working Group on Multimedia Analytics (Adelphi, MD; May 2011)
4. **Workshop Co-Chair**, SPREI Speech Production Workshop (Urbana, IL; May 2011)
5. **Workshop Co-Chair**, Illinois Speech Day (Chicago, IL; May 2009, May 2010, May 2011)
6. **Conference General Chair**, Fifth International Conference on Speech Prosody (2010)

7. **Beckman Institute Program Advisory Committee**, 2008-present
8. **Workshops Co-Chair**, HLT/NAACL 2009
9. **Team Member**, DARPA/NSF CLSP Summer Research Workshop, Articulatory-Feature Based Speech Recognition, Baltimore, MD, June–August, 2006
10. **Team Leader**, DARPA/NSF CLSP Summer Research Workshop, Landmark-Based Speech Recognition, Baltimore, MD, June–August, 2004
11. **Technical Committee or Conference Reviewer**: AISTATS; Allerton Conf. Communicat. Control Computing (Allerton); Asia-Pacific Sign. Informat. Process. Assoc. (APSIPA); IEEE Worksh. Automatic Speech Recognition & Understanding (ASRU); Content-Based Multimedia Indexing (CBMI); Empiric. Meth. Natural Lang. Process. (EMNLP); Human Lang. Techn./North Amer. Meeting Assoc. Computat. Linguistics (HLT/NAACL); Internat. Conf. Acoust. Speech Sign. Process. (ICASSP); Internat. Conf. Communications (ICC); Internat. Conf. Machine Learning (ICML); Internat. Conf. Pattern Recogn. (ICPR); Internat. Conf. Public Participat. Informat. Techn. (ICPPIT); International Conference on Pattern Recognition Applications and Methods (ICPRAM); Interspeech; L2 Workshop; Laboratory Phonology (LabPhon); Midwest Colloq. Computat. Linguistics (MCLC); Neural Information Processing Systems (NIPS; Voted ‘Best Reviewer. NIPS 2005); Speech and Language Processing for Assistive Technology (SLPAT); Speech and Language Technology for Education (SLaTE); Speech Production in Automatic Speech Recognition (SPASR); Speech Production Research and Education Initiative (SPREI); Speech Prosody; IEEE Worksh. Spoken Lang. Techn. (SLT)
12. **Journal Reviewer**: ACM Trans. Asian Language Processing; Acoustics Research Letters Online (ARLO); Acustica/Acta Acustica; Clinical Linguistics and Phonetics; Computer Speech and Language; EURASIP Journal on Audio; IEEE Proceedings on Vision, Image, and Signal Processing; IEEE Signal Processing Letters; IEEE Transactions on Acoustics, Speech, and Signal Processing; IEEE Transactions on Aerospace and Electronic Systems; IEEE Transactions on Audio, Speech, and Language; IEEE Transactions on Signal Processing; IEEE Transactions on Speech and Audio Processing; Journal of the Acoustical Society of America; Journal of Phonetics; Journal of Speech, Language, and Hearing Research; Journal of Speech Sciences; Journal of Zhejiang University of Science and Technology; Machine Learning Journal; Pattern Recognition; Pattern Recognition Letters; Proceedings of the IEEE; Sadha; Speech Communication
13. **Proposal Reviewer**: National Science Foundation (NSF). 13 research funding panels, one graduate fellowship panel, 6 technical mail reviews; Netherlands Organization for Scientific Research (NWO), 4 technical mail reviews; National Science and Engineering Research Council of Canada (NSERC), two mail reviews; Qatar National Research Fund (QNRF), 4 mail reviews, Springer Academic Publishing, two textbook proposal reviews
14. **Course Director**, Multimedia Signal Processing (ECE 417), 2013-present; Audio Engineering (ECE 403), 2001-2012

## Students and Collaborators

- **PhD Students (Graduated)**: Mohamed Kamal Omar (12/2003; IBM), Ken Chen (5/2004; University of Texas MD Anderson, Bioinformatics and Computational Biology), Yanli Zheng (12/2004; FICO), Bowon Lee (12/2006; Inha University), Bryce Lobdell (5/2009; openbi.com), Lae-Hoon Kim (8/2010; Qualcomm), Arthur Kantor (10/2010; IBM), Boon Pang Lim (12/2010; Novumind), Xiaodan Zhuang (5/2011; Apple), Andreas Ehmann (12/2011; Pandora), Jui-Ting Huang (1/2012; Facebook); Harsh Vardhan Sharma (2/2012; Credit Karma); Sujeeth Bharadwaj (5/2015; Google Brain); Po-Sen Huang (5/2015; Microsoft); Roger Serwy (5/2017; Enthought); Yang Zhang (5/2017; IBM); Mary Pietrowicz (12/2017; IBM); Amit Das (8/2018; Microsoft Research); Xuesong Yang (8/2018; Kwai AI)
- **Post-Doctoral Fellows**: Jeung-Yoon Choi (2002-4; Yonsei University); Heejin Kim (2006-10; University of Illinois); Kyung-Tae Kim (2008-10; Samsung); Arthur Kantor (2010-11; IBM); Suma Bhat (2011-4; UIUC); Preethi Jyothi (2013-6; IIT Bombay)

- **Visiting Professors and Visiting Scholars:** Sung-Suk Kim (Yong-In University; 2002-2003), Sung-Tae Jung (Wong-Kwang University; 2004-2005), Yanxiang Chen (University of Science and Technology of China; 2005-6), Zhijian Ou (Tsinghua University; 2014-5), Yanlu Xie (Beijing Language and Culture University; 2015-6)
- **Post-Graduate and Post-Doctoral Advisors:** Jae S. Lim (MIT), Kenneth N. Stevens (MIT), Abeer Alwan (UCLA)
- **Collaborators on Publications, Preceding 48 Months:** Jeff Bilmes (U. Washington, 2016), Najim Dehak (Johns Hopkins, 2018), Mohamed Elmahdy (German University of Cairo, 2018), Eric Fosler-Lussier (Ohio State U, 2016), Sanjeev Khudanpur (Johns Hopkins U., 2017), Edmund Lalor (Trinity College, Dublin, 2017), Adrian KC Lee (U. Washington, 2017), Karen Livescu (TTI, 2017), Eiman Mustafawi (Qatar University, 2017), Odette Scharenborg (Radboud University, 2018), Alan Black (Carnegie-Mellon, 2018), Lucas Ondel (Brno University of Technology, 2018), Francesco Cianella (Cisco Systems, 2018), Van Hai Do (Advanced Digital Sciences Center, 2018), Nancy F.Y. Chen (A\*STAR, 2018), Haizhou Li (National University of Singapore, 2018), Boon Pang Lim (Novumind, 2018), Preethi Jyothi (IIT Bombay, 2017), Majid Mirbagheri (University of Washington, 2017), Dan McCloy (University of Washington, 2017), Frank Rucicz (University of Toronto, 2016), Jennifer Cole (Northwestern University, 2015), Patrick Ebel (Radboud University, 2018), Sebastian Tiesmeyer (Radboud University, 2018) Kartik Audhkhasi (IBM, 2018), Andrew Rosenberg (IBM, 2018), Samuel Thomas (IBM, 2018), Bhuvana Ramabhadran (Google, 2018), Laurent Besacier (Grenoble, 2018), Florian Metze (Carnegie-Mellon, 2018), Graham Neubig (Carnegie Mellon, 2018), Sebastian Stueker (Karlsruhe Institute of Technology), Pierre Godard (Grenoble, 2018), Markus Mueller (Karlsruhe Institute of Technology, 2018), Emmanuel Dupoux (Ecole des Hautes Etudes en Sciences Sociales, Paris, 2018), Dinei Florencio (Microsoft, 2018), Pavlos Papadopoulos (USC ISI, 2017), Ruchir Travadi (USC ISI, 2017), Colin Vaz (USC ISI, 2017), Nikolaos Malandrakis (USC, 2017), Ulf Hermjakob (ISI, 2017), Nima Pourdamghani (ISI, 2017), Michael Pust (ISI, 2017), Boliang Zhang (ISI, 2017), Xiaoman Pan (USC, 2017), Di Lu (USC, 2017), Ying Lin (USC, 2017), Ondrej Glembek (Brno University of Technology, 2017), Murali Karthick B (Brno University of Technology, 2017), Martin Karafiat (Brno University of Technology, 2017), Lukas Burget (Brno University of Technology, 2017), Heng Ji (Rochester Polytechnic Institute, 2017), Jonathan May (ISI, 2017), Kevin Knight (ISI, 2017), Shrikanth Narayanan (USC, 2017), Zhijian Ou (Tsinghua University, 2017), Gautham Mysore (Adobe, 2016), Florian Berthouzoz (Adobe, 2016), Yanlu Xie (Beijing Language and Culture University, 2016)
- **Non-UIUC Collaborators on Grants, Preceding 48 Months:** Hanady Mansour Ahmed (Qatar University, 2017), Najim Dehak (Johns Hopkins, 2018), Katrin Kirchhoff (Amazon, 2018), Gina Levow (U. Washington, 2018) Eiman Mustafawi (Qatar University, 2017), Allan M. Ramsay (University of Manchester, 2017), Odette Scharenborg (Radboud University, 2018), Michael Picheny (IBM, 2018)

## Grants Received

1. Factor Analysis of MRI-Derived Articulator Shapes. NIH Individual National Research Service Award, 1999.
2. PI: Factor Analysis of the Tongue Shapes of Speech. University of Illinois Research Board, 1999-2000.
3. PI: Immersive Headphone-free Virtual Reality Audio. University of Illinois Research Board, 2001-2002.
4. PI: Prosody-Dependent Speech Recognition. University of Illinois Critical Research Initiative, 2002-2004.
5. PI: CAREER: Landmark-Based Speech Recognition in Music and Speech Backgrounds. NSF IIS 01-32900, 2002-2007.
6. PI: Acoustic Features for Phoneme Recognition. Phonetact Incorporated, 2002.
7. PI: Audiovisual Speech Recognition: Data Collection and Feature Extraction in Automotive Environment. Motorola Communications Center RPS 19, 2002-2005.
8. Co-PI: Development and Validation of An E-diary System for Assessing Physical Activity and Travel Behaviors. Robert Wood Johnson Foundation, 2003-2004.
9. PI: Prosodic, Intonational, and Voice Quality Correlates of Disfluency. NSF IIS 04-14117, 2004-2007.

10. Co-PI: Automated Methods for Second-Language Fluency Assessment. University of Illinois Critical Research Initiative, 2005-2007.
11. PI: Audiovisual Distinctive-Feature-Based Recognition of Dysarthric Speech. NSF IIS 05-34106, 2006-2010.
12. PI: Description and Recognition of Audible and Visible Dysarthric Phonology, NIH, PHS 1 R21 DC008090A, 2006-2009.
13. PI: Rhythmic Organization of Durations for Automatic Speech Recognition. UIUC Research Board, 2005-6.
14. Co-PI: Cell Phone Annoyance Factors. QUALCOMM, Inc., 2005-7.
15. Co-PI: Audiovisual Emotional Speech AVATAR. Motorola Communications Center RPS 31, 2005-7.
16. Co-PI: DHB: Fluency and the Dynamics of Second Language Acquisition. NSF IIS 06-23805, 2006-10.
17. Co-PI: RI-Collaborative Research: Landmark-based robust speech recognition using prosody-guided models of speech variability. NSF IIS 07-03624, 2007-12.
18. PI: RI Medium: Audio Diarization - Towards Comprehensive Description of Audio Events. NSF IIS 08-03219, 2008-10.
19. PI: FODAVA-Partner: Visualizing Audio for Anomaly Detection. NSF CCF 08-07329, 2008-13.
20. Co-PI: Opportunistic Sensing for Object and Activity Recognition from Multi-Modal, Multi-Platform Data. ARO W911NF-09-1-0383, 2009-14.
21. PI: Multi-dialect phrase-based speech recognition and machine translation for Qatari broadcast TV. Qatar National Research Fund NPRP 09-410-1-069, 2010-3.
22. Co-PI: CDI-Type II: Collaborative Research: Groupscope: Instrumenting Research on Interaction Networks in Complex Social Contexts, NSF 0941268, 2010-4.
23. Co-PI: Speech Production Research Initiative, University of Illinois Graduate College Focal Point Program, 2010-11
24. Faculty Mentor: FY 2011 Summer Undergraduate Research Fellowship SURF NIST Gaithersburg, NIST COM 70NANB11H087, 2011
25. PI: Pseudo-intelligent mediators (“Robo-Buddies”) to improve communication between students with and students without physical disabilities, Illinois Innovation Initiative (In3), 2012-4
26. Co-PI: Conversation Strategies for Students With and Students Without Physical Disabilities, University of Illinois Graduate College Focal Point Program, 2012-3
27. Co-PI: AHRQ R21-Hs022948, Collaborative Patient Portals: Computer-based Agents and Patients ’ Understanding of Numeric Health Information, 2014-6
28. LPI: QNRF NPRP 7-766-1-140, The Family as the Unit of Intervention for Speech-Generating Augmentative/Assistive Communication, 2014-8
29. PI: Illinois Learning Sciences Design Initiative (ILSDI), University of Illinois. “Capturing. Transcribing. Searching. Analyzing. Adaptive: Learning in a curated classroom.” 2015-6
30. Co-PI: Institute for Infocomm Research (I<sup>2</sup>R), Agency for Science, Technology, Advancement and Research (ASTAR), Singapore. “Mismatched Crowdsourcing for 80-Language Speech Recognition.” 2015-7
31. PI: Advanced Digital Sciences Center (ADSC), Singapore. “Noisy Channel Models for Massively Multilingual Automatic Speech Recognition.” 2015-7
32. PI: NSF. “EAGER: Matching Non-Native Transcribers to the Distinctive Features of the Language Transcribed.” 2015-8
33. Co-PI: DARPA LORELEI. “LanguageNet: Transfer Learning Across a Language Similarity Networks.” 2015-9

## Journal Articles

1. Mark Hasegawa-Johnson and T. Taniguchi, "On-line and off-line computational reduction techniques using backward filtering in CELP speech coders," *IEEE Transactions Acoustics, Speech, and Signal Processing*, vol. 40, pp. 2090-2093, 1992
2. Mark Hasegawa-Johnson, "Electromagnetic Exposure Safety of the Carstens Articulograph AG100," *Journal of the Acoustical Society of America*, vol. 104, pp. 2529-2532, 1998.
3. Mark Hasegawa-Johnson, "Line Spectral Frequencies are the Poles and Zeros of a Discrete Matched-Impedance Vocal Tract Model," *Journal of the Acoustical Society of America*, vol. 108, no. 1, pp. 457-460, 2000.
4. Mark Hasegawa-Johnson, "Finding the Best Acoustic Measurements for Landmark-Based Speech Recognition" [in Japanese], *Accume Magazine* 11:45-7, Kyoto Computer Gakuin, Kyoto, Japan, 2002 (NSF 0132900)
5. Yanli Zheng, Mark Hasegawa-Johnson, and Shamala Pizza, "PARAFAC Analysis of the Three dimensional tongue Shape," *Journal of the Acoustical Society of America*, vol. 113, no. 1, pp. 478-486, January 2003 (NSF 0132900).
6. Mark Hasegawa-Johnson, Shamala Pizza, Abeer Alwan, Jul Cha, and Katherine Haker, "Vowel Category Dependence of the Relationship Between Palate Height, Tongue Height, and Oral Area," *Journal of Speech, Language, and Hearing Research*, vol. 46, no. 3, pp. 738-753, 2003 (NSF 0132900).
7. M. Kamal Omar and Mark Hasegawa-Johnson, "Approximately Independent Factors of Speech Using Nonlinear Symplectic Transformation," *IEEE Transactions on Speech and Audio Processing*, vol. 11, no. 6, pp. 660-671, 2003 (NSF 0132900).
8. Sung-Suk Kim, Mark Hasegawa-Johnson, and Ken Chen, "Automatic Recognition of Pitch Movements Using Multilayer Perceptron and Time-Delay Recursive Neural Network," *IEEE Signal Processing Letters* 11(7):645-648, 2004 (NSF 0414117).
9. M. Kamal Omar and Mark Hasegawa-Johnson, "Model Enforcement: A Unified Feature Transformation Framework for Classification and Recognition," *IEEE Transactions on Signal Processing*, vol. 52, no. 10, pp. 2701-2710, 2004 (NSF 0132900).
10. Mark Hasegawa-Johnson, Ken Chen, Jennifer Cole, Sarah Borys, Sung-Suk Kim, Aaron Cohen, Tong Zhang, Jeung-Yoon Choi, Heejin Kim, Taejin Yoon, and Sandra Chavarria, "Simultaneous Recognition of Words and Prosody in the Boston University Radio Speech Corpus," *Speech Communication* 46(3-4):418-439, 2005 (NSF 0414117).
11. Jeung-Yoon Choi, Mark Hasegawa-Johnson, and Jennifer Cole, "Finding Intonational Boundaries Using Acoustic Cues Related to the Voice Source," *Journal of the Acoustical Society of America* 118(4):2579-88, 2005 (NSF 0414117).
12. Ken Chen, Mark Hasegawa-Johnson, Aaron Cohen, Sarah Borys, Sung-Suk Kim, Jennifer Cole and Jeung-Yoon Choi, "Prosody Dependent Speech Recognition on Radio News Corpus of American English," *IEEE Transactions on Speech and Audio Processing*, 14(1):232-245, 2006 (NSF 0414117).
13. Tong Zhang, Mark Hasegawa-Johnson and Stephen E. Levinson, "Cognitive State Classification in a spoken tutorial dialogue system," *Speech Communication* 48(6):616-632, 2006.
14. Tong Zhang, Mark Hasegawa-Johnson and Stephen E. Levinson, "Extraction of Pragmatic and Semantic Saliency from Spontaneous Spoken English," *Speech Communication* 48(3-4):437-462, 2006.
15. Xi Zhou, Xiaodan Zhuang, Ming Liu, Hao Tang, Mark Hasegawa-Johnson and Thomas Huang, "HMM-Based Acoustic Event Detection with AdaBoost Feature Selection," *Lecture Notes in Computer Science*, Volume 4625:345-353, 2008 (NSF 0807329)
16. Jennifer Cole, Heejin Kim, Hansook Choi, and Mark Hasegawa-Johnson, "Prosodic effects on acoustic cues to stop voicing and place of articulation: Evidence from Radio News speech." *Journal of Phonetics* 35:180-209, 2007 (NSF 0414117).
17. Soo Eun Chang, Noline Ambrose, Christy Ludlow, and Mark Hasegawa-Johnson, "Brain Anatomy Differences in Childhood Stuttering," *Neuroimage* 39(3):1333-1344 (ISSN:1053-8119), 2008

18. Lae-Hoon Kim, Mark Hasegawa-Johnson, Jun-Seok Lim, and Keong Sung, "Acoustic Model for Robustness Analysis of optimal multi-point room equalization," *J. Acoust. Soc. Am.* 123(4):2043-2053, 2008 (NSF 0534106).
19. Hao Tang, Yun Fu, Jilin Tu, Mark Hasegawa-Johnson, and Thomas S. Huang, "Humanoid Audio-Visual Avatar with Emotive Text-to-Speech Synthesis," *IEEE Trans. Multimedia* 10(6):969-981, 2008.
20. Su-Youn Yoon, Lisa Pierce, Amanda Huensch, Eric Juul, Samantha Perkins, Richard Sproat, and Mark Hasegawa-Johnson, "Construction of a rated speech corpus of L2 learners' speech," *CALICO Journal* 26(3):662-673, May 2009
21. Thomas S. Huang, Mark A. Hasegawa-Johnson, Stephen M. Chu, Zhihong Zeng, and Hao Tang, "Sensitive Talking Heads," *IEEE Signal Processing Magazine* 2(4):67-72, July 2009 (NSF 0807329)
22. Hao Tang, Mark Hasegawa-Johnson, and Thomas S. Huang, "A novel vector representation of stochastic signals based on adapted ergodic HMMs," *IEEE Signal Processing Letters*, 17(8):715-718, 2010 (NSF 0534106)
23. Xiaodan Zhuang, Xi Zhou, Mark A. Hasegawa-Johnson, and Thomas S. Huang, "Real-world Acoustic Event Detection," *Pattern Recognition Letters*, 31(2):1543-1551, 2010 (NSF 0807329)
24. Xi Zhou, Xiaodan Zhuang, Hao Tang, Mark A. Hasegawa-Johnson, and Thomas S. Huang, "Novel Gaussianized Vector Representation for Improved Natural Scene Categorization," *Pattern Recognition Letters*, 31(8):702-708, 2010 (NSF 0807329)
25. Jennifer Cole, Yoonsook Mo, and Mark Hasegawa-Johnson, "Signal-based and expectation-based factors in the perception of prosodic prominence," *Laboratory Phonology* 1(2):425-452, 2010 (NSF 0703624)
26. Heejin Kim, Katie Martin, Mark Hasegawa-Johnson, and Adrienne Perlman, "Frequency of consonant articulation errors in dysarthric speech," *Clinical Linguistics & Phonetics*, 24(10):759-770, 2010 (NSF 0534106)
27. Bryce E Lobdell, Jont B Allen, and Mark A Hasegawa-Johnson, "Intelligibility predictors and neural representation of speech," *Speech Communication*, 53:185-194, 2011 (NSF 0807329)
28. İ. Yücel Özbek, Mark Hasegawa-Johnson and Mübeccel Demirekler, "Estimation of Articulatory Trajectories Based on Gaussian Mixture Model (GMM) with Audio-Visual Information Fusion and Dynamic Kalman Smoothing," *IEEE Transactions on Audio, Speech and Language*, 19(5):1180-1195, 2011
29. Heejin Kim, Mark Hasegawa-Johnson, and Adrienne Perlman, "Vowel Contrast and Speech Intelligibility in Dysarthria," *Folia Phoniatrica et Logopaedica*, 63(4):187-194, 2011 (NIH R21 DC008090A)
30. İ. Yücel Özbek, Mark Hasegawa-Johnson and Mübeccel Demirekler, "On Improving Dynamic State Space Approaches to Articulatory Inversion with MAP based Parameter Estimation," *IEEE Transactions on Audio, Speech, and Language*, 20(1):67-81, 2012
31. Hao Tang, Stephen Chu, Mark Hasegawa-Johnson, and Thomas Huang, "Partially Supervised Speaker Clustering," *IEEE Transactions on Pattern Analysis and Machine Intelligence* 34(5):959-971, May 2012 (NSF 0807329)
32. Shobhit Mathur, Marshall Scott Poole, Feniosky Peña-Mora, Mark Hasegawa-Johnson and Noshir Contractor, "Detecting interaction links in a collaborating group using manually annotated data," *Social Networks*, doi:10.1016/j.socnet.2012.04.002, 2012 (NSF 0941268)
33. Panying Rong, Torrey Loucks, Heejin Kim, and Mark Hasegawa-Johnson, "Relationship between kinematics, F2 slope and speech intelligibility in dysarthria due to cerebral palsy," in *Clinical Linguistics and Phonetics*, September 2012, Vol. 26, No. 9, Pages 806-822 (doi:10.3109/02699206.2012.706686)
34. Harsh Vardhan Sharma and Mark Hasegawa-Johnson, "Acoustic Model Adaptation using In-domain Background Models for Dysarthric Speech Recognition," *Computer Speech and Language*, Volume 27, Issue 6, September 2013, Pages 1147-1162, <http://dx.doi.org/10.1016/j.csl.2012.10.002> (NSF 0534106)
35. Hosung Nam, Vikramjit Mitra, Mark Tiede, Mark Hasegawa-Johnson, Carol Espy-Wilson, Elliot Saltzman, and Louis Goldstein, "A procedure for estimating gestural scores from speech acoustics," *J. Acoust. Soc. Am.* 132(6):3980-3989, 2012 (NSF 0703624)

36. Mohamed Elmahdy, Mark Hasegawa-Johnson and Eiman Mustafawi, "Hybrid Phonemic and Graphemic Modeling for Arabic Speech Recognition," *International Journal of Computational Linguistics* 3(1), pp. 88-96, 2012 (ISSN 2180-1266; QNRF NPRP 09-410-1-069)
37. Robert Mertens, Po-Sen Huang, Luke Gottlieb, Gerald Friedland, Ajay Divakaran, Mark Hasegawa-Johnson, "On the Application of Speaker Diarization to Audio Indexing of Non-Speech and Mixed Non-Speech/Speech Video Soundtracks," *International Journal of Multimedia Data Engineering and Management (IJDEM)*, July 2012, Volume 3, Issue 3, pp. 1–19, DOI: 10.4018/jmdem.2012070101
38. Kyungtae Kim, Kai-Hsiang Lin, Dirk B Walther, Mark A Hasegawa-Johnson, and Thomas S Huang, "Automatic Detection of Auditory Saliency with Optimized Linear Filters Derived from Human Annotation," *Pattern Recognition Letters* 38(1):78-85, 2013, doi:10.1016/j.patrec/2013.11.010 (NSF 0803219)
39. Kai-Hsiang Lin, Xiaodan Zhuang, Camille Goudeseune, Sarah King, Mark A Hasegawa-Johnson and Thomas S Huang, "Saliency-maximized Audio Visualization and Efficient Audio-visual Browsing for Faster-than-real-time Human Acoustic Event Detection," *ACM Transactions on Applied Perception* 10(4):26:1-12, 2013 (ISSN 1544-3558; NSF 0803219)
40. Austin Chen and Mark Hasegawa-Johnson, "Mixed Stereo Audio Classification Using a Stereo-Input Mixed-to-Panned Level Feature," *IEEE Trans. Audio Speech and Language* 22(12):2025-2033, 2014 (doi 10.1109/TASLP.2014.2359628; QNRF NPRP 09-410-1-069)
41. Mark Hasegawa-Johnson, Jennifer Cole, Preethi Jyothi and Lav R. Varshney, "Models of Dataset Size, Question Design, and Cross-Language Speech Perception for Speech Crowdsourcing Applications," *Laboratory Phonology* 6(3-4):381-432, 2015, issn: 1868-6354
42. Po-Sen Huang, Minje Kim, Mark Hasegawa-Johnson and Paris Smaragdis, "Joint Optimization of Masks and Deep Recurrent Neural Networks for Monaural Source Separation," *IEEE/ACM Trans. Audio, Speech and Language Processing* 23(12):2136-2147, doi: 10.1109/TASLP.2015.2468583
43. Karen Livescu, Frank Rudzicz, Eric Fosler-Lussier, Mark Hasegawa-Johnson and Jeff Bilmes, "Speech Production in Speech Technologies: Introduction to the CSL Special Issue," *Computer Speech and Language* 36:165-172, 2016, issn: 0885-2308
44. Xiang Kong, Preethi Jyothi, and Mark Hasegawa-Johnson, "Performance Improvement of Probabilistic Transcriptions with Language-specific Constraints." *Procedia Computer Science* 81:30–36, 2016 (doi:10.1016/j.procs.2016.04.026; DARPA LORELEI)
45. Wenda Chen, Mark Hasegawa-Johnson, and Nancy F. Chen, "Mismatched Crowdsourcing based Language Perception for Under-resourced Languages." *Procedia Computer Science* 81:23–29, 2016 (doi:10.1016/j.procs.2016.04.025; ASTAR ADSC)
46. Mark Hasegawa-Johnson, Preethi Jyothi, Daniel McCloy, Majid Mirbagheri, Giovanni di Liberto, Amit Das, Bradley Ekin, Chunxi Liu, Vimal Manohar, Hao Tang, Edmund C. Lalor, Nancy Chen, Paul Hager, Tyler Kekona, Rose Sloan, and Adrian KC Lee., "ASR for Under-Resourced Languages from Probabilistic Transcription," *IEEE/ACM Trans. Audio, Speech and Language* 25(1):46-59, 2017 (Print ISSN: 2329-9290, Online ISSN: 2329-9304, Digital Object Identifier: 10.1109/TASLP.2016.2621659)
47. Daniel Morrow, Mark Hasegawa-Johnson, Thomas Huang, William Schuh, Renato Azevedo, Kuangxiao Gu, Yang Zhang, Bidisha Roy, Rocio Garcia-Retamero, "A Multidisciplinary Approach to Designing and Evaluating Electronic Medical Record Portal Messages that Support Patient Self-Care," *Journal of Biomedical Informatics* 69:63-74, doi:10.1016/j.jbi.2017.03.015, 2017
48. Van Hai Do, Nancy F. Chen, Boon Pang Lim, and Mark Hasegawa-Johnson, "Multi-Task Learning for Phone Recognition of Under-resourced Languages using Mismatched Transcription," *IEEE/ACM Transactions on Audio, Speech, and Language* 26(3):501-514, 2017, doi 10.1109/TASLP.2017.2782360 (A\*STAR)
49. Van Hai Do, Nancy F. Chen, Boon Pang Lim and Mark Hasegawa-Johnson, "Acoustic modeling for Under-resourced Language using Mismatched Transcriptions," *International Journal on Asian Language Processing*, volume 27, December 2017 (A\*STAR)
50. Mark Hasegawa-Johnson, Alan Black, Lucas Ondel, Odette Scharenborg and Francesco Ciannella, "Image2speech: Automatically generating audio descriptions of images," *Journal of International Science and General Applications* 1(1):19-27, March 2018 (ISSN 2351-8715)



51. Renato Azevedo, Daniel G. Morrow, Rocio Garcia-Retamero, Mark Hasegawa-Johnson, Thomas Huang, William K. Schuh, Kuangxiao Gu, and Yang Zhang, "Contextualizing Numeric Clinical Test Results for Gist Comprehension: Implications for EHR Patient Portals," *Journal of Experimental Psychology: Applied*. Accepted for publication, 2018.

## Patents

1. T. Taniguchi and M. Johnson (Assignee: Fujitsu, Ltd.), "Speech coding system," United States Patent 5245662, September 14, 1993.
2. T. Taniguchi, M. Johnson, H. Kurihara, Y. Tanaka, and Y. Ohta (Assignee: Fujitsu, Ltd.), "Speech coding and decoding system," United States Patent 5199076, March 30, 1993
3. T. Taniguchi, M. Johnson, Y. Ohta, H. Kurihara, Y. Tanaka, and Y. Sakai (Assignee: Fujitsu, Ltd.), "Speech coding system having codebook storing differential vectors between each two adjoining code vectors," United States Patent 5323486, June 21, 1994
4. T. Taniguchi and M. Johnson (Assignee: Fujitsu, Ltd.), "Speech coding and decoding system," United States Patent 5799131, August 25, 1998.
5. Mark Hasegawa-Johnson, "Probabilistic Segmental Model For Doppler Ultrasound Heart Rate Monitoring," United States Patent Number 8,727,991 B2 for Salutron Corporation, May 20, 2014

## Book Chapters

1. Mark Hasegawa-Johnson and Abeer Alwan, "Speech Coding: Fundamentals and Applications," *Wiley Encyclopedia of Telecommunications*, J. Proakis, Ed., Wiley and Sons, NY, January, 2003, DOI:10.1002/0471219282.eot1 (NSF 0132900)
2. Ken Chen, Mark Hasegawa-Johnson and Jennifer Cole, "A Factored Language Model for Prosody-Dependent Speech Recognition," in *Speech Synthesis and Recognition*, Robust Speech Recognition and Understanding, Michael Grimm and Kristian Kroschel (Ed.), pp. 319-332, 2007 (NSF 0414117).
3. Taejin Yoon, Xiaodan Zhuang, Jennifer Cole and Mark Hasegawa-Johnson, "Voice Quality Dependent Speech Recognition, in *Linguistic Patterns in Spontaneous Speech*, Shu-Chuan Tseng, Ed., Language and Linguistics Monograph Series A25, Academica Sinica, 2008, pp. 77-100 (NSF 0414117)
4. Mark Hasegawa-Johnson, Jennifer Cole, Ken Chen, Partha Lal, Amit Juneja, Tae-Jin Yoon, Sarah Borys, and Xiaodan Zhuang, "Prosodic Hierarchy as an Organizing Framework for the Sources of Context in Phone-Based and Articulatory-Feature Based Speech Recognition," in *Linguistic Patterns in Spontaneous Speech*, Shu-Chuan Tseng, Ed., Language and Linguistics Monograph Series A25, Academica Sinica, 2008, pp. 101-128 (NSF 0703624)
5. Xiaodan Zhuang, Xi Zhou, Mark A. Hasegawa-Johnson, and Thomas S. Huang, "Efficient Object Localization with Variation-Normalized Gaussian Vectors," In *Intelligent Video Event Analysis and Understanding*; Zhang, J., Shao, L., Zhang, L., Jones, G. A., Eds. 2011; Vol. 332, 93-109 (NSF 0807329)
6. Jennifer Cole, Mark Hasegawa-Johnson, Dan Loehr, Linda Van Guilder, Henning Reetz, Stefan A. Frisch, "Corpora, Databases, and Internet Resources," in *Oxford Handbook on Laboratory Phonology*, DOI: 10.1093/oxfordhb/9780199575039.013.0017
7. Mark Hasegawa-Johnson, Mohamed Elmahdy and Eiman Mustafawi, "Arabic Speech and Language Technology." *Routledge Handbook of Arabic Linguistics*, chapter III.5. Elabbas Benmamoun and Reem Bassiouney, editors, Taylor and Francis Group Ltd., Oxford, UK, 2017
8. Heejin Kim and Mark Hasegawa-Johnson, "Communication Improves When Human or Computer Listeners Adapt to Dysarthria," in *Acoustic Analysis of Pathologies from Infancy to Young Adulthood*, de Gruyter 2019

## Conference Papers

All papers in this section are 4-10 page peer-reviewed papers. Common acronyms: ASRU=IEEE Workshop on Automatic Speech Recognition and Understanding. ICASSP=IEEE International Conference on Acoustics, Speech, and Signal Processing. ICPR=International Conference on Pattern Recognition, Interspeech=ICSLP=ISCA International Conference on Spoken Language Processing (name was changed in 2000), SpeechProsody=ISCA International Conference on Speech Prosody.

1. M. A. Johnson and T. Taniguchi, "Computational reduction in sparse-codebook CELP using backward-weighting of the input," Institute of Electr., Information, and Comm. Eng. Symposium, DSP 90-15, Hakata, 61-66, 1990.
2. T. Taniguchi, M. A. Johnson, and Y. Ohta, "Multi-vector pitch-orthogonal LPC: quality speech with low complexity at rates between 4 and 8 kbps," ICSLP, Kobe, pp. 113-116, 1990.
3. M. A. Johnson and T. Taniguchi, "Pitch-orthogonal code-excited LPC," IEEE Global Telecommunications Conference, San Diego, CA, pp. 542-546, 1990.
4. M. A. Johnson and T. Taniguchi, "Low-complexity multi-mode VXC using multi-stage optimization and mode selection," ICASSP, Toronto, Canada, pp. 221-224, 1991.
5. T. Taniguchi, M. A. Johnson, and Y. Ohta, "Pitch sharpening for perceptually improved CELP, and the sparse-delta codebook for reduced computation," ICASSP, Toronto, Canada, pp. 241-244, 1991.
6. T. Taniguchi, F. Amano, and M. A. Johnson, "Improving the performance of CELP-based speech coding at low bit rates," International Symposium on Circuits and Systems, Singapore, pp. 1024-7, 1991.
7. M. Johnson, "Automatic context-sensitive measurement of the acoustic correlates of distinctive features," ICSLP, Yokohama, pp. 1639-1643, 1994
8. M. Hasegawa-Johnson, "Combining magnetic resonance image planes in the Fourier domain for improved spatial resolution." International Conference On Signal Processing Applications and Technology, Orlando, FL, pp. 81.1-5, 1999
9. M. Hasegawa-Johnson, J. Cha, S. Pizza and K. Haker, "CTMRedit: A case study in human-computer interface design," International Conference On Public Participation and Information Tech., Lisbon, pp. 575-584, 1999
10. M. Hasegawa-Johnson, "Multivariate-State Hidden Markov Models for Simultaneous Transcription of Phones and Formants," ICASSP, Istanbul, pp. 1323-26, 2000
11. M. Hasegawa-Johnson, "Time-Frequency Distribution of Partial Phonetic Information Measured Using Mutual Information," Interspeech IV:133-136, Beijing, 2000.
12. W. Gunawan and M. Hasegawa-Johnson, "PLP Coefficients can be Quantized at 400 bps," ICASSP, Salt Lake City, UT, pp. 2.2.1-4, 2001 (NSF 0132900).
13. M. K. Omar, M. Hasegawa-Johnson and S. E. Levinson, "Gaussian Mixture Models of Phonetic Boundaries for Speech Recognition," ASRU 2001, pp. 33-6 (NSF 0132900)
14. M. K. Omar and M. Hasegawa-Johnson, "Maximum Mutual Information Based Acoustic Features Representation of Phonological Features for Speech Recognition," ICASSP, May 2002, I:81-84 (NSF 0132900)
15. M. Omar, K. Chen, M. Hasegawa-Johnson and V. Brandman, "An Evaluation of using Mutual Information for Selection of Acoustic-Features Representation of Phonemes for Speech Recognition," Interspeech, Denver, CO, September 2002, pp. 2129-2132 (NSF 0132900)
16. Yanli Zheng and Mark Hasegawa-Johnson, "Acoustic segmentation using switching state Kalman Filter," ICASSP 2003 (45% acceptance), April 2003, I:752-755 (NSF 0132900)
17. Tong Zhang, Mark Hasegawa-Johnson, and Stephen E. Levinson, "Mental State Detection of Dialogue System Users via Spoken Language," ISCA/IEEE Workshop on Spontaneous Speech Processing and Recognition (SSPR), April 2003, MAP17.1-4.
18. J. Cole, H. Choi, H. Kim, and M. Hasegawa-Johnson, "The Effect of Accent on the Acoustic Cues to Stop Voicing in Radio News Speech," Proceedings of the International Congress of Phonetic Sciences, pp. 2665-8, Barcelona, Spain, August, 2003.

19. K. Chen, M. Hasegawa-Johnson, A. Cohen, S. Borys, and J. Cole, "Prosody Dependent Speech Recognition with Explicit Duration Modelling at Intonational Phrase Boundaries." Interspeech, September, 2003, 393-396 (NSF 0132900)
20. M. K. Omar and M. Hasegawa-Johnson, "Maximum Conditional Mutual Information Projection For Speech Recognition," Interspeech, September, 2003, 505-508 (NSF 0132900)
21. M. K. Omar and M. Hasegawa-Johnson, "Non-Linear Maximum Likelihood Feature Transformation For Speech Recognition," Interspeech, September, 2003, 2497-2500 (NSF 0132900)
22. Y. Zheng and M. Hasegawa-Johnson, "Particle Filtering Approach to Bayesian Formant Tracking," IEEE Workshop on Statistical Signal Processing, September, 2003, 581-584 (NSF 0132900)
23. M. Omar and M. Hasegawa-Johnson, "Strong-Sense Class-Dependent Features for Statistical Recognition," IEEE Workshop on Statistical Signal Processing, St. Louis, MO, 2003, 473-476 (NSF 0132900)
24. Mark Hasegawa-Johnson, "Bayesian Learning for Models of Human Speech Perception," IEEE Workshop on Statistical Signal Processing, St. Louis, MO, 2003, 393-396. (NSF 0132900; invited paper)
25. M. Omar and M. Hasegawa-Johnson, "Non-Linear Independent Component Analysis for Speech Recognition," International Conference on Computer, Communication and Control Technologies (CCCT '03), pp. 128-31, 2003 (NSF 0132900)
26. Tong Zhang, Mark Hasegawa-Johnson, and Stephen E. Levinson, "An empathic-tutoring system using spoken language," Australian conference on computer-human interaction (OZCHI 2003), pp. 498-501.
27. Ken Chen and Mark Hasegawa-Johnson, "Improving the robustness of prosody dependent language modeling based on prosody syntax cross-correlation." ASRU, 2003, pp. 435-440 (NSF 0414117)
28. Yuexi Ren, Mark Hasegawa-Johnson and Stephen E. Levinson. Semantic analysis for a speech user interface in an intelligent-tutoring system., Intl. Conf. on Intelligent User Interfaces. Madeira, Portugal, 2004, pp. 313-315.
29. Yuexi Ren, Sung-Suk Kim, Mark Hasegawa-Johnson, and Jennifer Cole, "Speaker-Independent Automatic Detection of Pitch Accent," SpeechProsody 2004, Nara, Japan, March 2004, 521-524.
30. Heejin Kim, Jennifer Cole, Hansook Choi, and Mark Hasegawa-Johnson, "The Effect of Accent on Acoustic Cues to Stop Voicing and Place of Articulation in Radio News Speech," SpeechProsody 2004, Nara, Japan, March 2004, 29-32 (NSF 0414117)
31. Ken Chen and Mark Hasegawa-Johnson, "How Prosody Improves Word Recognition," SpeechProsody 2004, Nara, Japan, March 2004, 583-586 (NSF 0414117)
32. Sandra Chavarria, Taejin Yoon, Jennifer Cole, and Mark Hasegawa-Johnson, "Acoustic differentiation of ip and IP boundary levels: Comparison of L- and L-L% in the Switchboard corpus," Speech Prosody 2004, Nara, Japan, March 2004, 333-336 (NSF 0414117)
33. Ken Chen, Mark Hasegawa-Johnson, Aaron Cohen, and Jennifer Cole, "A Maximum Likelihood Prosody Recognizer," SpeechProsody 2004, Nara, Japan, March 2004, 509-512 (NSF 0414117)
34. Ken Chen and Mark Hasegawa-Johnson, "An Automatic Prosody Labeling System Using ANN-Based Syntactic-Prosodic Model and GMM-Based Acoustic-Prosodic Model," ICASSP I:509-512, 2004 (NSF 0414117)
35. Ameya Deoras and Mark Hasegawa-Johnson, "A Factorial HMM Approach to Simultaneous Recognition of Isolated Digits Spoken by Multiple Talkers on One Audio Channel," ICASSP I:861-4, 2004 (NSF 0132900)
36. Yanli Zheng and Mark Hasegawa-Johnson, "Formant Tracking by Mixture State Particle Filter," ICASSP I:565-8, 2004 (NSF 0132900)
37. Mark Hasegawa-Johnson, Jennifer Cole, Chilin Shih, Ken Chen, Aaron Cohen, Sandra Chavarria, Heejin Kim, Taejin Yoon, Sarah Borys, and Jeung-Yoon Choi, "Speech Recognition Models of the Interdependence Among Syntax, Prosody, and Segmental Acoustics," Human Language Technologies: Meeting of the North American Chapter of the Association for Computational Linguistics (HLT/NAACL), Workshop on Higher-Level Knowledge in Automatic Speech Recognition and Understanding, pp. 56-63, May, 2004 (NSF 0414117)
38. Ameya Deoras and Mark Hasegawa-Johnson, "A Factorial HMM Approach to Robust Isolated Digit Recognition in Background Music," Interspeech, pp. 1139-42, 2004 (NSF 0132900)

39. Taejin Yoon, Sandra Chavarria, Jennifer Cole, and Mark Hasegawa-Johnson, "Intertranscriber Reliability of Prosodic Labeling on Telephone Conversation Using ToBI." *Interspeech*, pp. 771-4, October, 2004 (NSF 0414117)
40. Tong Zhang, Mark Hasegawa-Johnson, and Stephen E. Levinson, "Children's Emotion Recognition in an Intelligent Tutoring Scenario," *Interspeech*, pp. 735-8, 2004
41. Tong Zhang, Mark Hasegawa-Johnson and Stephen E. Levinson, "Automatic detection of contrast for speech understanding," *Interspeech*, pp. 716-9, 2004
42. Yanli Zheng, Mark Hasegawa-Johnson, and Sarah Borys, "Stop Consonant Classification by Dynamic Formant Trajectory," *Interspeech*, pp. 396-9, 2004 (NSF 0132900)
43. Sarah Borys, Mark Hasegawa-Johnson, Ken Chen, and Aaron Cohen, "Modeling and Recognition of Phonetic and Prosodic Factors for Improvements to Acoustic Speech Recognition Models," *Interspeech* pp. 389-92, 2004 (NSF 0414117)
44. Mital Gandhi and Mark Hasegawa-Johnson, "Source Separation using Particle Filters," *Interspeech*, pp. 382-5, 2004 (NSF 0132900)
45. Ken Chen and Mark Hasegawa-Johnson, "Modeling pronunciation variation using artificial neural networks for English spontaneous speech," *Interspeech*, pp. 400-3, 2004 (NSF 0414117)
46. Bowon Lee, Mark Hasegawa-Johnson, Camille Goudeseune, Suketu Kamdar, Sarah Borys, Ming Liu, and Thomas Huang, "AVICAR: Audio-Visual Speech Corpus in a Car Environment," *Interspeech*, pp. 380-3, 2004 (Motorola RPS 19)
47. Mark Hasegawa-Johnson, James Baker, Sarah Borys, Ken Chen, Emily Coogan, Steven Greenberg, Amit Juneja, Katrin Kirchhoff, Karen Livescu, Srividya Mohan, Jennifer Muller, Kemal Sönmez, and Tianyu Wang, "Landmark-Based Speech Recognition: Report of the 2004 Johns Hopkins Summer Workshop," *ICASSP*, March 2005, pp. 1213-1216.
48. Yeojin Kim and Mark Hasegawa-Johnson, "Phonetic Segment Rescoring Using SVMs." *Midwest Computational Linguistics Colloquium 10.1.1.76.9591:1-4*, Columbus, OH, 2005 (NSF 0414117)
49. Jennifer Cole, Mark Hasegawa-Johnson, Chilin Shih, Eun-Kyung Lee, Heejin Kim, H. Lu, Yoonsook Mo, Tae-Jin Yoon. (2005). "Prosodic Parallelism as a Cue to Repetition and Hesitation Disfluency," *Proceedings of DISS'05 (An ISCA Tutorial and Research Workshop)*, Aix-en-Provence, France, pp. 53-58 (NSF 0414117)
50. Tong Zhang, Mark Hasegawa-Johnson, and Stephen E. Levinson, "A Hybrid Model for Spontaneous Speech Understanding," *AAAI 2005*, 10.1.1.80.879:1-8
51. Sarah Borys and Mark Hasegawa-Johnson, "Distinctive Feature Based SVM Discriminant Features for Improvements to Phone Recognition on Telephone Band Speech." *ISCA Interspeech*, pp. 697-700, October 2005 (NSF 0414117)
52. Lae-Hoon Kim, Mark Hasegawa-Johnson and Keung-Mo Sung, "Generalized Optimal Multi-Microphone Speech Enhancement Using Sequential Minimum Variance Distortionless Response (MVDR) Beamforming and Postfiltering," *ICASSP III*:65-8, May 2006 (NSF 0534106)
53. Mark Hasegawa-Johnson, Jonathan Gunderson, Adrienne Perlman, and Thomas Huang, "HMM-Based and SVM-Based Recognition of the Speech of Talkers with Spastic Dysarthria," *ICASSP III*:1060-3, May 2006, doi:10.1109/ICASSP.2006.1660840 (NSF 0534106)
54. Heejin Kim, Taejin Yoon, Jennifer Cole, and Mark Hasegawa-Johnson, "Acoustic differentiation of L and L-L% in Switchboard and Radio News speech." *Proceedings of Speech Prosody 2006*, pp. 214-7, Dresden (NSF 0414117)
55. Rahul Chitturi and Mark Hasegawa-Johnson, "Novel Time-Domain Multi-class SVMs for Landmark Detection." *Interspeech*, pp. 2354-7, September 2006 (NSF 0414117)
56. Rahul Chitturi and Mark Hasegawa-Johnson, "Novel Entropy-Based Moving Average Refiners for HMM Landmarks." *Interspeech* pp. 1682-5, September 2006 (NSF 0414117)
57. Karen Livescu, Ozgur Çetin, Mark Hasegawa-Johnson, Simon King, Chris Bartels, Nash Borges, Arthur Kantor, Partha Lal, Lisa Yung, Ari Bezman, Stephen Dawson-Haggerty, Bronwyn Woods, Joe Frankel, Matthew Magimai-Doss, and Kate Saenko, "Articulatory Feature-Based Methods for Acoustic and Audio-Visual Speech Recognition: Summary from the 2006 JHU Summer Workshop." *ICASSP IV*:621-4, May 2007.

58. Ming Liu, Zhengyou Zhang, Mark Hasegawa-Johnson, and Thomas Huang, "Exploring Discriminative Learning for Text-Independent Speaker Recognition," ICME 2007, pp. 56-9.
59. Xi Zhou, Yun Fu, Ming Liu, Mark Hasegawa-Johnson, and Thomas Huang, "Robust Analysis and Weighting on MFCC Components for Speech Recognition and Speaker Identification," International Conference on Multimedia and Expo 2007, 188-191
60. Yun Fu, Xi Zhou, Ming Liu, Mark Hasegawa-Johnson, and Thomas S. Huang, "Lipreading by Locality Discriminant Graph," IEEE International Conference on Image Processing (ICIP) III:325-8, 2007.
61. Bowon Lee and Mark Hasegawa-Johnson, "Minimum Mean Squared Error A Posteriori Estimation of High Variance Vehicular Noise," in 2007 Biennial on DSP for In-Vehicle and Mobile Systems, pp. 215:1-5, Istanbul, June, 2007 (NSF 0534106)
62. Mark Hasegawa-Johnson, Karen Livescu, Partha Lal and Kate Saenko, "Audiovisual Speech Recognition with Articulator Positions as Hidden Variables," in Proc. International Congress on Phonetic Sciences (ICPhS) 1719:297-302, Saarbrcken, August, 2007 (NSF 0534106)
63. Taejin Yoon, Jennifer Cole and Mark Hasegawa-Johnson, "On the edge: Acoustic cues to layered prosodic domains," in Proc. International Congress on Phonetic Sciences (ICPhS) 1264:1017-1020, Saarbrcken, August, 2007 (NSF 0414117)
64. Ming Liu, Xi Zhou, Mark Hasegawa-Johnson, Thomas S. Huang, and Zhengyou Zhang, "Frequency Domain Correspondence for Speaker Normalization," in Proc. Interspeech pp. 274-7, Antwerp, August, 2007.
65. Mark Hasegawa-Johnson, "A Multi-Stream Approach to Audiovisual Automatic Speech Recognition," in Proc. IEEE Workshop on Multimedia and Multimodal Signal Processing (MMSP) pp. 328-31, Crete, October, 2007 (NSF 0534106)
66. Hao Tang, Yun Fu, Jilin Tu, Thomas Huang, and Mark Hasegawa-Johnson, "EAVA: A 3D Emotive Audio-Visual Avatar," in Proc. Workshop on Applications of Computer Vision (WACV) pp. 1-6, 2008.
67. Xiaodan Zhuang, Xi Zhou, Thomas S. Huang and Mark Hasegawa-Johnson, "Feature Analysis and Selection for Acoustic Event Detection," ICASSP pp. 17-20, 2008 (NSF 0807329)
68. Arthur Kantor and Mark Hasegawa-Johnson, "Stream Weight Tuning in Dynamic Bayesian Networks," ICASSP pp. 4525-8, 2008 (NSF 0534106)
69. Lae-Hoon Kim and Mark Hasegawa-Johnson, "Optimal Speech Estimator Considering Room Response as well as Additive Noise: Different Approaches in Low and High Frequency Range," ICASSP pp. 4573-6, 2008 (NSF 0534106)
70. Hao Tang, Yuxiao Hu, Yun Fu, Mark Hasegawa-Johnson and Thomas S. Huang, "Real-time conversion from a single 2D face image to a 3D text-driven emotive audio-visual avatar," IEEE International Conference on Multimedia and Expo (ICME) 2008, pp. 1205-8
71. Jui-Ting Huang and Mark Hasegawa-Johnson, "Unsupervised Prosodic Break Detection in Mandarin Speech," Speech Prosody 2008 pp. 165-8, Campinas, May 2008 (NSF 0703624)
72. Xiaodan Zhuang and Mark Hasegawa-Johnson, "Towards Interpretation of Creakiness in Switchboard," Speech Prosody 2008 pp. 37-40, Campinas, May 2008 (NSF 0703624)
73. Taejin Yoon, Jennifer Cole, and Mark Hasegawa-Johnson, "Detecting Non-Modal Phonation in Telephone Speech," Speech Prosody 2008 pp. 33-6, Campinas, May 2008 (NSF 0703624)
74. Jui-Ting Huang and Mark Hasegawa-Johnson, "Maximum Mutual Information Estimation with Unlabeled Data for Phonetic Classification." Interspeech 2008, pp. 952-5, Brisbane, September 2008 (NSF 0703624)
75. Xiaodan Zhuang, Hosung Nam, Mark Hasegawa-Johnson, Louis Goldstein, and Elliot Saltzman, "The Entropy of Articulatory Phonological Code: Recognizing Gestures from Tract Variables," Interspeech 2008, pp. 1489-92, Brisbane, September 2008 (NSF 0703624)
76. Hao Tang, Xi Zhou, Matthias Odisio, Mark Hasegawa-Johnson, and Thomas Huang, "Two-Stage Prosody Prediction for Emotional Text-to-Speech Synthesis," Interspeech 2008, pp. 2138-41, Brisbane, September 2008
77. Bryce Lobdell, Mark Hasegawa-Johnson and Jont B. Allen, "Human Speech Perception and Feature Extraction," Interspeech 2008, pp. 1797-1800, Brisbane, September 2008 (NSF 0807329)

78. Heejin Kim, Mark Hasegawa-Johnson, Adrienne Perlman, Jon Gunderson, Thomas Huang, Kenneth Watkin, and Simone Frame, "Dysarthric Speech Database for Universal Access Research," Interspeech 2008, pp. 1741-4, Brisbane, September 2008 (NSF 0534106, NIH R21 DC008090A)
79. Xi Zhou, Xiaodan Zhuang, Hao Tang, Mark Hasegawa-Johnson, and Thomas Huang, "A Novel Gaussianized Vector Representation for Natural Scene Categorization," ICPR 2008 (BEST STUDENT PAPER AWARD; NSF 0807329)
80. Shuicheng Yan, Xi Zhou, Ming Liu, Mark Hasegawa-Johnson, and Thomas S. Huang, "Regression from Patch Kernel," IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2008, pp. 1-8
81. Xi Zhou, Xiaodan Zhuang, Shuicheng Yan, Shih-Fu Chang, Mark Hasegawa-Johnson, and Thomas S. Huang, "SIFT-Bag kernel for video event analysis," ACM Multimedia 2008 (10.1145/1459359.1459391; NSF 0807329)
82. Xiaodan Zhuang, Xi Zhou, Mark Hasegawa-Johnson, and Thomas Huang, "Face Age Estimation Using Patch-based Hidden Markov Model Supervectors," ICPR 2008, 10.1.1.139.846:1-4 (NSF 0807329)
83. Xiaodan Zhuang, Jing Huang, Gerasimos Potamianos, and Mark Hasegawa-Johnson, "Acoustic Fall Detection Using Gaussian Mixture Models and GMM Supervectors," ICASSP 2009 pp. 69-72, Taipei, April 2009 (NSF 0807329)
84. Hao Tang, Stephen Chu, Mark Hasegawa-Johnson and Thomas Huang, "Emotion Recognition from Speech via Boosted Gaussian Mixture Models," IEEE ICME 2009, New York, July 2009, pp. 294-7 (NIH R21 DC008090A)
85. Jui-Ting Huang and Mark Hasegawa-Johnson, "On semi-supervised learning of Gaussian mixture models for phonetic classification," NAACL HLT Workshop on Semi-Supervised Learning, Boulder, June 2009, pp. 75-83 (NSF 0534106 and NSF 0703624)
86. Xiaodan Zhuang, Jui-Ting Huang, and Mark Hasegawa-Johnson, "Speech Retrieval in Unknown Languages: a Pilot Study," NAACL HLT Cross-Lingual Information Access Workshop (CLIAWS) pp. 3-11, Boulder, June 2009 (NSF 0534106 and NSF 0703624)
87. Bowon Lee and Mark Hasegawa-Johnson, "A Phonemic Restoration Approach for Automatic Speech Recognition with Highly Nonstationary Background Noise," DSP in Cars workshop (DSP09) 10.1.1.17.8190:1-4, Dallas, July 2009 (NSF 0803219)
88. Lae-Hoon Kim and Mark Hasegawa-Johnson, "Optimal Multi-Microphone Speech Enhancement in Cars," DSP in Cars workshop (DSP09) 10.1.1.150.8462:1-4, Dallas, July 2009 (NSF 0803219 and 0807329)
89. Xiaodan Zhuang, Hosung Nam, Mark Hasegawa-Johnson, Louis Goldstein, and Elliot Saltzman, "Articulatory Phonological Code for Word Recognition," Interspeech 2009 (57.7% acceptance), 34549:1-4, Brighton, September 2009 (NSF 0703624)
90. Í. Yücel Özbek, Mark Hasegawa-Johnson, and Mübeccel Demirekler, "Formant Trajectories for Acoustic-to-Articulatory Inversion," Interspeech 2009 (57.7% acceptance), 95957:1-4, Brighton, September 2009
91. Su-Youn Yoon, Richard Sproat, and Mark Hasegawa-Johnson, "Automated Pronunciation Scoring using Confidence Scoring and Landmark-based SVM," Interspeech 2009 (57.7% acceptance), 80100:1-4, Brighton, September 2009
92. Harsh Vardhan Sharma, Mark Hasegawa-Johnson, Jon Gunderson, and Adrienne Perlman, "Universal Access: Speech Recognition for Talkers with Spastic Dysarthria," Interspeech 2009 (57.7% acceptance), 42862:1-4, Brighton, September 2009 (NSF 0534106, 0803219)
93. Yoonsook Mo, Jennifer Cole and Mark Hasegawa-Johnson, "Prosodic effects on vowel production: evidence from formant structure," Interspeech 2009 (57.7% acceptance), 19096:1-4, Brighton, September 2009 (NSF 0703624)
94. Xiaodan Zhuang, Xi Zhou, Mark Hasegawa-Johnson, and Thomas Huang, "Efficient Object Localization with Gaussianized Vector Representation," Interactive Multimedia for Consumer Electronics (IMCE) pp. 89-96, 2009 (NSF 0807329)
95. Jui-Ting Huang, Xi Zhou, Mark Hasegawa-Johnson and Thomas Huang, Kernel Metric Learning for Phonetic Classification, IEEE Workshop on Automatic Speech Recognition and Understanding (ASRU) pp. 141-5, 2009 (NSF 0703624)

96. Suma Bhat, Richard Sproat, Mark Hasegawa-Johnson and Fred Davidson, "Automatic fluency assessment using thin slices of spontaneous speech," LTRC 2010 (NSF 0623805)
97. Hao Tang, Mark Hasegawa-Johnson and Thomas Huang, "Toward Robust Learning of the Gaussian Mixture State Emission Densities for Hidden Markov Models," ICASSP 2010, pp. 5242-5 (NSF 0807329)
98. Lae-Hoon Kim, Mark Hasegawa-Johnson, Gerasimos Potamianos, and Vit Libal, "Joint Estimation of DOA and Speech Based on EM Beamforming," ICASSP 2010, pp. 121-4 (NSF 0803219)
99. Heejin Kim, Mark Hasegawa-Johnson, Adrienne Perlman, Acoustic Cues to Lexical Stress in Spastic Dysarthria, Speech Prosody 2010 100891:1-4 (NSF 0703624).
100. Jui-Ting Huang, Po-Sen Huang, Yoonsook Mo, Mark Hasegawa-Johnson, Jennifer Cole, Prosody-Dependent Acoustic Modeling Using Variable-Parameter Hidden Markov Models, Speech Prosody 2010 100623:1-4 (NSF 0703624).
101. David Harwath and Mark Hasegawa-Johnson, "Phonetic Landmark Detection for Automatic Language Identification," Speech Prosody 2010 100231:1-4 (NSF 0703624).
102. Yoonsook Mo, Jennifer Cole, and Mark Hasegawa-Johnson, "Prosodic effects on temporal structure of monosyllabic CVC words in American English," Speech Prosody 2010 100208:1-4 (NSF 0703624).
103. Harsh Vardhan Sharma and Mark Hasegawa-Johnson, State Transition Interpolation and MAP Adaptation for HMM-based Dysarthric Speech Recognition, HLT/NAACL Workshop on Speech and Language Technology for Assistive Technology (SLPAT) pp. 72-79, 2010 (NSF 0534106).
104. Hao Tang, Thomas S. Huang, and Mark Hasegawa-Johnson, "Non-Frontal View Facial Expression Recognition," IEEE ICME 2010, pp. 1202-7 (NSF 0807329)
105. Suma Bhat and Mark Hasegawa-Johnson, "Automatic Fluency Assessment by Signal-Level Measurement of Spontaneous Speech," SLATE (ISCA Workshop on Spoken Language Technology for Education) pp. 1-4, Sep. 2010 (NSF 0623805)
106. Xiaodan Zhuang, Lijuan Wang, Frank Soong, and Mark Hasegawa-Johnson, "A Minimum Converted Trajectory Error (MCTE) Approach to High Quality Speech-to-Lips Conversion," Proc. Interspeech pp. 1736-1739, 2010 (NSF 0807329)
107. Heejin Kim, Panying Rong, Torrey Loucks, and Mark Hasegawa-Johnson, "Kinematic Analysis of Tongue Movement Control in Spastic Dysarthria," Proc. Interspeech pp. 2578-2581, 2010 (NSF 0534106)
108. Jui-Ting Huang and Mark Hasegawa-Johnson, "Semi-Supervised Training of Gaussian Mixture Models by Conditional Entropy Minimization," Proc. Interspeech pp. 1353-1356, 2010 (NSF 0703624)
109. Su-Youn Yoon, Mark Hasegawa-Johnson and Richard Sproat, "Landmark-based Automated Pronunciation Error Detection," Proc. Interspeech pp. 614-617, 2010
110. Chi Hu, Xiaodan Zhuang and Mark Hasegawa-Johnson, "FSM-Based Pronunciation Modeling using Articulatory Phonological Code," Proc. Interspeech pp. 2274-2277, 2010 (NSF 0703624)
111. Lae-Hoon Kim, Kyung-Tae Kim and Mark Hasegawa-Johnson, "Robust Automatic Speech Recognition with Decoder Oriented Ideal Binary Mask Estimation," Proc. Interspeech pp. 2066-2069, 2010 (NSF 0803219)
112. Hosung Nam, Vikramjit Mitra, Mark Tiede, Elliot Saltzman, Louis Goldstein, Carol Espy-Wilson and Mark Hasegawa-Johnson, "A procedure for estimating gestural scores from natural speech," Proc. Interspeech pp. 30-33, 2010 (NSF 0703624)
113. Lae-Hoon Kim and Mark Hasegawa-Johnson, "Toward Overcoming Fundamental Limitation in Frequency-Domain Blind Source Separation for Reverberant Speech Mixtures," Asilomar Conference Proceedings, 2010 (NSF 0807329)
114. Jui-Ting Huang, Mark Hasegawa-Johnson, and Jennifer Cole, "How Unlabeled Data Change the Acoustic Models For Phonetic Classification," New Tools and Methods for Very Large Scale Phonetics Research, University of Pennsylvania, Jan. 2011 (NSF 0703624)
115. Tim Mahrt, Jui-Ting Huang, Yoonsook Mo, Jennifer Cole, Mark Hasegawa-Johnson and Margaret Fleck, "Feature Sets for the Automatic Detection of Prosodic Prominence," New Tools and Methods for Very Large Scale Phonetics Research, University of Pennsylvania, Jan. 2011 (NSF 0703624)

116. Arthur Kantor and Mark Hasegawa-Johnson, "HMM-based Pronunciation Dictionary Generation," New Tools and Methods for Very Large Scale Phonetics Research, University of Pennsylvania, Jan. 2011 (NSF 0941268)
117. Hosung Nam, Vikramjit Mitra, Mark Tiede, Mark Hasegawa-Johnson, Carol Espy-Wilson, Elliot Saltzman and Louis Goldstein, "Automatic gestural annotation of the U. Wisconsin X-ray Microbeam corpus," Workshop on New Tools and Methods for Very Large Scale Phonetics Research, University of Pennsylvania, Jan. 2011 (NSF 0703624)
118. Po-Sen Huang, Xiaodan Zhuang, and Mark Hasegawa-Johnson, "Improving Acoustic Event Detection using Generalizable Visual Features and Multi-modality Modeling," ICASSP 2011, pp. 349-352 (ARO W911NF-09-1-0383)
119. Po-Sen Huang, Mark Hasegawa-Johnson, and Thyagaraju Damarla, "Exemplar Selection Methods to Distinguish Human from Animal Footsteps," Second Annual Human & Light Vehicle Detection Workshop, Maryland, pp. 14:1-10, 2011 (ARO W911NF-09-1-0383)
120. Po-Sen Huang, Thyagaraju Damarla and Mark Hasegawa-Johnson, "Multi-sensory features for Personnel Detection at Border Crossings," Fusion 2011 (ARO W911NF-09-1-0383)
121. Tim Mahrt, Jui-Ting Huang, Yoonsook Mo, Mark Hasegawa-Johnson, and Jennifer Cole, "Optimal models of prosodic prominence using the Bayesian information criterion," Proc. Interspeech pp. 2037-2040, 2011 (NSF 0703624)
122. Mark Hasegawa-Johnson, Camille Goudeseune, Jennifer Cole, Hank Kaczmarek, Heejin Kim, Sarah King, Timothy Mahrt, Jui-Ting Huang, Xiaodan Zhuang, Kai-Hsiang Lin, Harsh Vardhan Sharma, Zhen Li, and Thomas S. Huang, "Multimodal Speech and Audio User Interfaces for K-12 Outreach," Proc. Asia-Pacific Signal and Information Processing Association (APSIPA) 2011 256:1-8 (NIH DC02717, NSF 0534106, NSF 0703624, NSF 0807329).
123. R. Mertens, P.-S. Huang, L. Gottlieb, G. Friedland, A. Divakaran, "On the Application of Speaker Diarization to Audio Concept Detection for Multimedia Retrieval," IEEE International Symposium on Multimedia, pp. 446-451, 2011 (ARO W911NF-09-1-0383)
124. Po-Sen Huang, Robert Mertens, Ajay Divakaran, Gerald Friedland, and Mark Hasegawa-Johnson, "How to Put it into Words—Using Random Forests to Extract Symbol Level Descriptions from Audio Content for Concept Detection," ICASSP 2012 (ARO W911NF-09-1-0383).
125. Po-Sen Huang, Scott Deeann Chen, Paris Smaragdis, and Mark Hasegawa-Johnson, "Singing-Voice Separation from Monaural Recordings using Robust Principal Component Analysis," ICASSP 2012 (ARO W911NF-09-1-0383).
126. Kai-Hsiang Lin, Xiaodan Zhuang, Camille Goudeseune, Sarah King, Mark Hasegawa-Johnson and Thomas Huang, "Improving Faster-than-Real-Time Human Acoustic Event Detection by Saliency-Maximized Audio Visualization," ICASSP 2012, pp. 2277-2280 (NSF 0807329)
127. Sujeeth Bharadwaj, Raman Arora, Karen Livescu and Mark Hasegawa-Johnson, Multi-View Acoustic Feature Learning Using Articulatory Measurements, IWSML (Internat. Worksh. on Statistical Machine Learning for Sign. Process.), 2012, 5 pages (NSF 0905633).
128. Po-Sen Huang and Mark Hasegawa-Johnson, "Cross-Dialectal Data Transferring for Gaussian Mixture Model Training in Arabic Speech Recognition," International Conference on Arabic Language Processing CITALA 2012 pp. 119-122, ISBN 978-9954-9135-0-5 (QNRF NPRP 410-1-069)
129. Ali Sakr and Mark Hasegawa-Johnson, "Topic Modeling of Phonetic Latin-Spelled Arabic for the Relative Analysis of Genre-Dependent and Dialect-Dependent Variation," CITALA 2012 pp. 153-158 ISBN 978-9954-9135-0-5 (QNRF NPRP 410-1-069)
130. Mark Hasegawa-Johnson, Elabbas Benmamoun, Eiman Mustafawi, Mohamed Elmahdy and Rehab Duwairi, "On The Definition of the Word 'Segmental' ", Speech Prosody 2012, pp. 159-162 (ISBN-978-7-5608-486-3, QNRF NPRP 410-1-069)
131. Tim Mahrt, Jennifer Cole, Margaret Fleck and Mark Hasegawa-Johnson, "Accounting for Speaker Variation in the Production of Prominence using the Bayesian Information Criterion," Speech Prosody 2012 (NSF 0703624)



132. Po-Sen Huang, Jianchao Yang, Mark Hasegawa-Johnson, Feng Liang, Thomas S. Huang, "Pooling Robust Shift-Invariant Sparse Representations of Acoustic Signals," Interspeech 2012 (ARO W911NF-09-1-0383)
133. Po-Sen Huang, Mark Hasegawa-Johnson, Wotao Yin and Tom Huang, "Opportunistic Sensing: Unattended Acoustic Sensor Selection Using Crowdsourcing Models," IEEE Workshop on Machine Learning in Signal Processing 2012 (ARO W911NF-09-1-0383)
134. Sarah King and Mark Hasegawa-Johnson, "Detection of Acoustic-Phonetic Landmarks in Mismatched Conditions Using a Biomimetic Model of Human Auditory Processing," CoLing 2012 589–598 (QNRF NPRP 09-410-1-069 and NSF CCF 0807329)
135. Mohamed Elmahdy, Mark Hasegawa-Johnson and Eiman Mustafawi, "A Baseline Speech Recognition System for Levantine Colloquial Arabic," Proceedings of ESOLEC 2012 (QNRF NPRP 410-1-069)
136. Sarah King and Mark Hasegawa-Johnson, "Accurate Speech Segmentation by Mimicking Human Auditory Processing," Proc. ICASSP 2013, pages 8096–8900 (NSF 0807329)
137. Po-Sen Huang, Li Deng, Mark Hasegawa-Johnson and Xiaodong He, "Random Features for Kernel Deep Convex Network," Proc. ICASSP 2013 (ARO W911NF-09-1-0383)
138. Sujeeth Bharadwaj, Mark Hasegawa-Johnson, Jitendra Ajmera, Om Deshmukh, and Ashish Verma, "Sparse Hidden Markov Models for Purer Clusters," Proc. ICASSP 2013, doi:10.1109/ICASSP.2013.6638228 (NSF 0941268)
139. Mohamed Elmahdy, Mark Hasegawa-Johnson and Eiman Mustafawi, "A Transfer Learning Approach for Under-Resourced Arabic Dialects Speech Recognition," Workshop on Less Resourced Languages, new technologies, new challenges and opportunities (LTC 2013), pp. 60-64 (QNRF 09-410-1-069)
140. Mohamed Elmahdy, Mark Hasegawa-Johnson and Eiman Mustafawi, "A Framework for Conversational Arabic Speech Long Audio Alignment," Workshop on Less Resourced Languages, new technologies, new challenges and opportunities (LTC 2013), pp. 290-293 (QNRF 09-410-1-069)
141. Po-Sen Huang, Minje Kim, Mark Hasegawa-Johnson, Paris Smaragdis, "Deep Learning for Monaural Speech Separation," ICASSP 2014 (ARO W911NF-09-1-0383).
142. Yang Zhang, Zhijian Ou and Mark Hasegawa-Johnson, "Improvement of PAT Model for Speech Decomposition," ICASSP 2014 (Illinois In3)
143. Mohamed Elmahdy, Mark Hasegawa-Johnson and Eiman Mustafawi, "Automatic Long Audio Alignment and Confidence Scoring for Conversational Arabic Speech," The 9th edition of the Language Resources and Evaluation Conference (LREC 2014), ISBN 9782951740884, Reykjavik, Iceland, (QNRF NPRP 09-410-1-069)
144. Mohamed Elmahdy, Mark Hasegawa-Johnson and Eiman Mustafawi, Development of a TV Broadcasts Speech Recognition System for Qatari Arabic, The 9th edition of the Language Resources and Evaluation Conference (LREC 2014), pp. 3057-3061, ISBN 9782951740884, Reykjavik, Iceland, (QNRF NPRP 09-410-1-069)
145. Zhaowen Wang, Zhangyang Wang, Mark Moll, Po-Sen Huang, Devin Grady, Nasser Nasrabadi, Thomas Huang, Lydia Kaviraki, and Mark Hasegawa-Johnson, "Active Planning, Sensing and Recognition Using a Resource-Constrained Discriminant POMDP," CVPR Multi-Sensor Fusion Workshop, 2014 (ARO W911NF-09-1-0383)
146. Preethi Jyothi, Jennifer Cole, Mark Hasegawa-Johnson and Vandana Puri, "An Investigation of Prosody in Hindi Narrative Speech," Proceedings of Speech Prosody 2014 (QNRF 09-410-1-069)
147. Kai-Hsiang Lin, Pooya Khorrami, Jiangping Wang, Mark Hasegawa-Johnson, and Thomas S. Huang, "Foreground Object Detection in Highly Dynamic Scenes Using Saliency," Proceedings of ICIP 2014
148. Sujeeth Bharadwaj and Mark Hasegawa-Johnson, A PAC-Bayesian Approach to Minimum Perplexity Language Modeling, Proceedings of CoLing 2014 (NSF 0941268)
149. Preethi Jyothi and Mark Hasegawa-Johnson, Acquiring Speech Transcriptions Using Mismatched Crowdsourcing, Proc. AAAI, 2015, pp. 1263–1269
150. Yang Zhang, Nasser Nasrabadi and Mark Hasegawa-Johnson, "Multichannel Transient Acoustic Signal Classification Using Task-Driven Dictionary with Joint Sparsity and Beamforming," Proc. ICASSP 2015, 2591:1–5

151. Renato F. L. Azevedo, Daniel Morrow, Mark Hasegawa-Johnson, Kuangxiao Gu, Dan Soberal, Thomas Huang, William Schuh, Rocio Garcia-Retamero, “Improving Patient Comprehension of Numeric Health Information,” Human Factors Conference, 2015 (AHRQ R21HS022948)
152. Preethi Jyothi and Mark Hasegawa-Johnson, “Transcribing Continuous Speech Using Mismatched Crowdsourcing,” Interspeech 2015, pp. 2774-2778
153. Preethi Jyothi and Mark Hasegawa-Johnson, “Improving Hindi Broadcast ASR by Adapting the Language Model and Pronunciation Model Using A Priori Syntactic and Morphophonemic Knowledge,” Interspeech 2015, pp. 3164-3168
154. Mary Pietrowicz, Mark Hasegawa-Johnson and Karrie Karahalios, “Acoustic Correlates for Perceived Effort Levels in Expressive Speech,” Interspeech 2015, pp. 3720-3724
155. Amit Das and Mark Hasegawa-Johnson, “Cross-lingual transfer learning during supervised training in low resource scenarios,” Interspeech 2015, pp. 3531-3535
156. Jia-Chen Ren, Lawrence Angrave and Mark Hasegawa-Johnson, “ClassTranscribe: A New Tool with New Educational Opportunities for Student Crowdsourced College Lecture Transcriptions,” Short Paper at SLATE 2015 (the Workshop on Speech and Language Technology in Education)
157. Yang Zhang, Zhijian Ou and Mark Hasegawa-Johnson, “Incorporating AM-FM effect in voiced speech for probabilistic acoustic tube model,” Proc. WASPAA 2015
158. Chunxi Liu, Preethi Jyothi, Hao Tang, Vimal Manohar, Rose Sloan, Tyler Kekona, Mark Hasegawa-Johnson, Sanjeev Khudanpur, “Adapting ASR for Under-Resourced Languages Using Mismatched Transcriptions,” Proc. ICASSP 2016
159. Raymond Yeh, Mark Hasegawa-Johnson, Minh Do, “Stable and Symmetric Filter Convolutional Neural Network,” Proc. ICASSP 2016
160. Yanlu Xie, Mark Hasegawa-Johnson, Leyuan Qu, Jinsong Zhang, “Landmark of Mandarin Nasal Codas and its Application in Pronunciation Error Detection,” Proc. ICASSP 2016, DOI: 10.1109/ICASSP.2016.7472703
161. Kaizhi Qian, Yang Zhang and Mark Hasegawa-Johnson, “Application of Local Binary Patterns for SVM based Stop Consonant Detection,” Proc. Speech Prosody 2016 (QNRF NPRP 7-766-1-140. doi: 10.21437/SpeechProsody.2016-229)
162. Xuesong Yang, Xiang Kong, Mark Hasegawa-Johnson, and Yanlu Xie, “Landmark-based Pronunciation Error Identification on L2 Mandarin Chinese,” Proc. Speech Prosody, pp. 79-83, 2016 (QNRF NPRP 7-766-1-140. doi: 10.21437/SpeechProsody.2016-17)
163. Yang Zhang, Gautham Mysore, Florian Berthouzoz and Mark Hasegawa-Johnson, “Analysis of Prosody Increment Induced by Pitch Accents for Automatic Emphasis Correction,” Proc. Speech Prosody 2016 (doi: 10.21437/SpeechProsody.2016-17)
164. Lav R. Varshney, Preethi Jyothi, and Mark Hasegawa-Johnson, “Language Coverage for Mismatched Crowdsourcing,” in Proceedings of the 2016 Information Theory and its Applications Workshop (ITA), San Diego, California, 31 January - 5 February 2016. (NSF 1550145; doi 10.1109/ITA.2016.7888198)
165. Ruobai Wang, Yang Zhang, Zhijian Ou and Mark Hasegawa-Johnson, “Use of Particle Filtering and MCMC for Inference in Probabilistic Acoustic Tube,” IEEE Workshop on Statistical Signal Processing 2016
166. Shiyu Chang, Yang Zhang, Jiliang Tang, Dawei Lin, Yi Chang, Mark Hasegawa-Johnson and Thomas Huang, “Positive-Unlabeled Learning in Streaming Networks,” KDD 2016
167. Amit Das and Mark Hasegawa-Johnson, “An investigation on training deep neural networks using probabilistic transcription.” Interspeech 2016
168. Amit Das, Preethi Jyothi and Mark Hasegawa-Johnson, “Automatic speech recognition using probabilistic transcriptions in Swahili, Amharic and Dinka.” Interspeech 2016, pp. 3524-3527, doi=”http://dx.doi.org/10.21437/657”
169. Van Hai Do, Nancy F. Chen, Boon Pang Lim and Mark Hasegawa-Johnson, “Analysis of Mismatched Transcriptions Generated by Humans and Machines for Under-Resourced Languages.” Interspeech 2016
170. Van Hai Do, Nancy F. Chen, Boon Pang Lim and Mark Hasegawa-Johnson, “Speech recognition of under-resourced languages using mismatched transcriptions,” International Conference on Asian Language Processing IALP 2016, Hainan, Taiwan, 11/21-23, 2016

171. Van Hai Do, Nancy F. Chen, Boon Pang Lim and Mark Hasegawa-Johnson, “A many-to-one phone mapping approach for cross-lingual speech recognition,” 12th IEEE-RIVF International Conference on Computing and Communication Technologies, Hanoi, Vietnam, 11/7-9, 2016
172. Wenda Chen, Mark Hasegawa-Johnson, Nancy Chen, Preethi Jyothi, and Lav Varshney, “Mismatched Crowdsourcing with Clustering-Based Phonetic Projection for Low-Resourced ASR,” WSSAP (Workshop on South and Southeast Asian Natural Language Processing, 2016
173. Xiang Kong, Preethi Jyothi, and Mark Hasegawa-Johnson, “Performance Improvements of Probabilistic Transcript-Adapted ASR with Recurrent Neural Network and Language-Specific Constraints,” Proc. ICASSP 2017, paper 3368
174. Mary Pietrowicz, Mark Hasegawa-Johnson, and Karrie Karahalios, “Discovering Dimensions of Perceived Vocal Expression in Semi-Structured, Unscripted Oral History Accounts,” Proc. ICASSP 2017, Paper ID: 2901
175. Preethi Jyothi and Mark Hasegawa-Johnson, “Low-Resource Grapheme-to-Phoneme Conversion using Recurrent Neural Networks,” Proc. ICASSP 2017, Paper ID: 2093
176. Shiyu Chang, Yang Zhang, Jiling Tang, Dawei Yin, Yi Chang, Mark Hasegawa-Johnson and Thomas Huang, “Streaming Recommender Systems,” WWW 2017
177. Raymond Yeh, Chen Chen, Teck Yian Lim, Alexander G. Schwing, Mark Hasegawa-Johnson, Minh N. Do, “Semantic Image Inpainting with Perceptual and Contextual Losses,” CVPR 2017
178. Van Hai Do, Nancy F. Chen, Boon Pang Lim, and Mark Hasegawa-Johnson, “Multi-task Learning using Mismatched Transcription for Under-resourced Speech Recognition,” Proc. Interspeech, 2017
179. Di He, Zuofu Cheng, Mark Hasegawa-Johnson and Deming Chen, “Using Approximated Auditory Roughness as a Pre-filtering Feature for Human Screaming and Affective Speech AED,” Proc. Interspeech 2017, paper 592
180. Yang Zhang, Xuesong Yang, Zhijian Ou, and Mark Hasegawa-Johnson, “Glottal Residual Assisted Beamforming,” Proc. Interspeech 2017
181. Kaizhi Qian, Yang Zhang, Shiyu Chang, Xuesong Yang, Dinei Florêncio, and Mark Hasegawa-Johnson, “Speech Enhancement Using Bayesian Wavenet,” Proc. Interspeech 2017, pp. 2013-2017 (QNRF NPRP 7-766-1-140, doi:10.21437/Interspeech.2017-1672)
182. Amit Das, Mark Hasegawa-Johnson and Karel Veselý, “Deep Autoencoder Based Multi-task Learning Using Probabilistic Transcription,” Proc. Interspeech 2017, 582:1-5, doi:10.21437/Interspeech.2017-582
183. Wenda Chen, Mark Hasegawa-Johnson, Nancy F. Chen, and Boon Pang Lim, “Mismatched Crowdsourcing from Multiple Annotator Languages For Recognizing Zero-resourced Languages: A Nullspace Clustering Approach,” Proc. Interspeech 2017, pp. 2789-2793, doi:10.21437/Interspeech.2017-1567
184. Pavlos Papadopoulos, Ruchir Travadi, Colin Vaz, Nikolaos Malandrakis, Ulf Hermjakob, Nima Pourdamghani, Michael Pust, Boliang Zhang, Xiaoman Pan, Di Lu, Ying Lin, Ondrej Glembek, Murali Karthick B, Martin Karafiat, Lukas Burget, Mark Hasegawa-Johnson, Heng Ji, Jonathan May, Kevin Knight, and Shrikanth Narayanan, “Team ELISA System for DARPA LORELEI Speech Evaluation 2016,” Proc. Interspeech 2017
185. Shiyu Chang, Yang Zhang, Wei Han, Mo Yu, Xiaoxiao Guo, Wei Tan, Xiaodong Cui, Michael Witbrock, Mark Hasegawa-Johnson, and Thomas Huang, “Dilated Recurrent Neural Networks,” NIPS 2017
186. Mark Hasegawa-Johnson, Alan Black, Lucas Ondel, Odette Scharenborg, and Francesco Ciannella, “Image2speech: Automatically generating audio descriptions of images,” in *Proc. Internat. Conference on Natural Language, Signal and Speech Processing (ICNLSSP) 2017*, Casablanca, Morocco (JSALT 2017), pp. 65-69, ISBN: 978-9954-99-758-1, ISSN : 2351-8715
187. Odette Scharenborg, Francesco Ciannella, Shruti Palaskar, Alan Black, Florian Metze, Lucas Ondel, and Mark Hasegawa-Johnson, “Building an ASR System for a Low-Resource Language Through the Adaptation of a High-Resource Language ASR System: Preliminary Results,” in *Proc. Internat. Conference on Natural Language, Signal and Speech Processing (ICNLSSP) 2017*, Casablanca, Morocco (JSALT 2017), pp. 26-30, ISBN: 978-9954-99-758-1, ISSN : 2351-8715
188. Mark Hasegawa-Johnson, Preethi Jyothi, Wenda Chen, and Van Hai Do, “Mismatched Crowdsourcing: Mining Latent Skills to Acquire Speech Transcriptions,” in *Proceedings of Asilomar, 2017 (DARPA LORELEI)*

189. Lucas Ondel, Pierre Godard, Laurent Besacier, Elin Larsen, Mark Hasegawa-Johnson, Odette Scharenborg, Emmanuel Dupoux, Lukas Burget, Francois Yvon, and Sanjeev Khudanpur, “Bayesian Models for Unit Discovery on a Very Low Resource Language,” Proc. ICASSP 2018
190. Teck Yian Lim, Raymond Yeh, Yijia Xu, Minh Do, Mark Hasegawa-Johnson, “Time-Frequency Networks for Audio Super-Resolution,” Proc. ICASSP 2018
191. Kaizhi Qian, Yang Zhang, Shiyu Chang, Xuesong Yang, Dinei Florencio, and Mark Hasegawa-Johnson, “Deep Learning Based Speech Beamforming,” Proc. ICASSP 2018
192. Wenda Chen, Mark Hasegawa-Johnson, and Nancy Chen, “Recognizing Zero-resourced Languages based on Mismatched Machine Transcriptions,” Proc. ICASSP 2018
193. Odette Scharenborg, Laurent Besacier, Alan Black, Mark Hasegawa-Johnson, Florian Metze, Graham Neubig, Sebastian Stüker, Pierre Godard, Markus Müller, Lucas Ondel, Shruti Palaskar, Philip Arthur, Francesco Ciannella, Mingxing Du, Elin Larsen, Danny Merkx, Rachid Riad, Liming Wang, and Emmanuel Dupoux, “Linguistic Unit Discovery from Multi-Modal Inputs in Unwritten Languages: Summary of the ”Speaking Rosetta” JSALT 2017 Workshop,” in Proc. ICASSP 2018, paper SP-L8.5, pp. 1-5
194. Xuesong Yang, Kartik Audhkhasi, Andrew Rosenberg, Samuel Thomas, Bhuvana Ramabhadran, and Mark Hasegawa-Johnson, “Joint Modeling of Accents and Acoustics for Multi-Accent Speech Recognition,” in Proc. ICASSP 2018
195. Odette Scharenborg, Patrick Ebel, Mark Hasegawa-Johnson, and Najim Dehak, “Building an ASR System for Mboshi Using A Cross-Language Definition of Acoustic Units Approach,” in The 6th Intl. Workshop on Spoken Language Technologies for Under-Resourced Languages, August 2018, DOI: 10.21437/SLTU.2018-35
196. Di He, Boon Pang Lim, Xuesong Yang, Mark Hasegawa-Johnson and Deming Chen, “Improved ASR for under-resourced languages through Multi-task Learning with Acoustic Landmarks,” in Proc. Interspeech 2018, pp. 1124:1-5, doi:10.21437/Interspeech.2018-1124
197. Wenda Chen, Mark Hasegawa-Jonson and Nancy F.Y. Chen, “Topic and Keyword Identification for Low-resourced Speech Using Cross-Language Transfer Learning,” in Proc. Interspeech 2018, pp. 1283:1-5, doi:10.21437/Interspeech.2018-1283
198. Amit Das and Mark Hasegawa-Johnson, “Improving DNNs Trained With Non-Native Transcriptions Using Knowledge Distillation and Target Interpolation,” in Proc. Interspeech 2018, pp. 1450:1-5, doi:10.21437/Interspeech.2018-1450
199. Leda Sari, Mark Hasegawa-Johnson, S. Kumaran, Georg Stemmer, and N. Nair Krishnakumar, “Speaker Adaptive Audio-Visual Fusion for the Open-Vocabulary Section of AVICAR,” in Proc. Interspeech 2018, pp. 2359:1-5, doi:10.21437/Interspeech.2018-2359
200. Yijia Xu, Mark Hasegawa-Johnson, and Nancy L. McElwain, “Infant emotional outbursts detection in infant-parent spoken interactions,” in Proc. Interspeech 2018, pp. 2429:1-5, doi:10.21437/Interspeech.2018-2429
201. Odette Scharenborg, Sebastian Tiesmeyer, Mark Hasegawa-Johnson and Najim Dehak, “Visualizing Phoneme Category Adaptation in Deep Neural Networks,” in Proc. Interspeech 2018, pp. 1707:1-5, doi:10.21437/Interspeech.2018-1707
202. Odette Scharenborg, Patrick Ebel, Francesco Ciannella, Mark Hasegawa-Johnson and Najim Dehak, “Building an ASR System for Mboshi Using a Cross-language Definition of Acoustic Units Approach,” in Proc. SLTU (Speech and Language Technology for Under-resourced languages), 2018
203. Leda Sari and Mark Hasegawa-Johnson, “Speaker Adaptation with an Auxiliary Network,” in Proc. Machine Learning in Speech and Language Processing MLSLP, paper 7, pages 1-3, 2018

## Printed Abstracts

1. M. A. Johnson, “Using beam elements to model the vocal fold length in breathy voicing,” *J. Acoust. Soc. Am.* 91:2420-2421, 1992.
2. M. A. Johnson, “A mapping between trainable generalized properties and the acoustic correlates of distinctive features,” *J. Acoust. Soc. Am.*, vol. 94, p. 1865, 1993.

3. M. A. Hasegawa-Johnson, "Burst spectral measures and formant frequencies can be used to accurately discriminate stop place of articulation," *J. Acoust. Soc. Am.*, 98:2890, 1995
4. S. Takayanagi, M. Hasegawa-Johnson, L. S. Eisner and A. Schaefer-Martinez, "Information theory and variance estimation techniques in the analysis of category rating data and paired comparisons." *J. Acoust. Soc. Am.*, 102:3091, 1997
5. M. Hasegawa-Johnson, J. Cha and K. Haker, "CTMRedit: A Matlab-based tool for segmenting and interpolating MRI and CT images in three orthogonal planes," 21st Annual International Conference of the IEEE/EMBS Society, pp. 1170. 1999.
6. M. Hasegawa-Johnson and Y. Zheng, "Three Dimensional Tongue shape Factor Analysis," American Speech-Language Hearing Association National Convention, Washington, DC, 2000 (invited paper). Published in the magazine ASHA Leader, 5(16):144.
7. J. Beauchamp, H. Taube, S. Tipei, S. Wyatt, L. Haken and M. Hasegawa-Johnson, "Acoustics, Audio, and Music Technology Education at the University of Illinois," *J. Acoust. Soc. Am.*, 110(5):2961, 2001.
8. Z. Jing and M. Hasegawa-Johnson, "Auditory-Modeling Inspired Methods of Feature Extraction for Robust Automatic Speech Recognition," ICASSP Student Session, May 2002, IV:4176.
9. Bowon Lee, Mark Hasegawa-Johnson, and Camille Goudeseune, "Open Loop Multichannel Inversion of Room Impulse Response," *J. Acoust. Soc. Am.* 113(4):2202-3, 2003.
10. Yanli Zheng, Mark Hasegawa-Johnson, and Shamala Pizza, "Analysis of the three-dimensional tongue shape using a three-index factor analysis model," *J. Acoust. Soc. Am.* 113 478, 2003 (NSF 0132900)
11. Mark Hasegawa-Johnson, Sarah Borys and Ken Chen, "Experiments in Landmark-Based Speech Recognition." Sound to Sense: Workshop in Honor of Kenneth N. Stevens, pp. C-279, June, 2004 (NSF 0414117)
12. Soo-Eun Chang, Noline Ambrose, and Mark Hasegawa-Johnson, "An MRI (DTI) study on children with persistent developmental stuttering." 2004 ASHA Convention, American Speech Language and Hearing Association, November, 2004.
13. Weimo Zhu, Mark Hasegawa-Johnson, and Mital Arun Gandhi, "Accuracy of Voice-Recognition Technology in Collecting Behavior Diary Data." Association of Test Publishers (ATP): Innovations in Testing, March 2005.
14. Lae-Hoon Kim and Mark Hasegawa-Johnson, "Generalized multi-microphone spectral amplitude estimation based on correlated noise model." 119th Convention of the Audio Engineering Society, New York, October 2005 (NSF 0534106)
15. Jeung-Yoon Choi, Mark Hasegawa-Johnson, and Jennifer Cole, "Finding intonational boundaries using acoustic cues related to the voice source," *J. Acoust. Soc. Am.* 118 2579, 2005 (NSF 0414117)
16. Tae-Jin Yoon, Jennifer Cole, Mark Hasegawa-Johnson, and Chilin Shih, "Acoustic correlates of non-modal phonation in telephone speech," *J. Acoust. Soc. Am.* 117 2621, 2005 (NSF 0414117)
17. Yoon, Tae-Jin, Cole, Jennifer, Mark Hasegawa-Johnson, and Chilin Shih.( 2005). "Acoustic correlates of non-modal phonation in telephone speech," *J. Acoust. Soc. Am.* 117(4), p. 2621 (NSF 0414117)
18. Taejin Yoon, Xiaodan Zhuang, Jennifer Cole, and Mark Hasegawa-Johnson, "Voice Quality Dependent Speech Recognition." Midwest Computational Linguistics Colloquium, Urbana, IL, 2006 (NSF 0414117)
19. Soo-Eun Chang, Kirk I. Erickson, Noline G. Ambrose, Mark Hasegawa-Johnson, and C.L. Ludlow, "Deficient white matter development in left hemisphere speech-language regions in children who stutter." Society for Neuroscience, Atlanta, GA, 2006.
20. Weimo Zhu, Mark Hasegawa-Johnson, Arthur Kantor, Dan Roth, Yong Gao, Youngsik Park, and Lin Yang, "E-coder for Automatic Scoring Physical Activity Diary Data: Development and Validation." American College of Sports Medicine (ACSM) Annual Meeting, 2007.
21. Taejin Yoon, Jennifer Cole, and Mark Hasegawa-Johnson, "On the Edge: Acoustic Cues to Layered Prosodic Domains." 81st Annual Meeting of the Linguistic Society of America, Anaheim, CA, January 5, 2007 (NSF 0703624)

22. Weimo Zhu, Mark Hasegawa-Johnson, Karen Chapman-Novakofski, and Arthur Kantor, "Cellphone-Based Nutrition E-Diary," National Nutrient Database Conference, 2007.
23. Yoonsook Mo, Jennifer Cole and Mark Hasegawa-Johnson, "Frequency and repetition effects outweigh phonetic detail in prominence perception," LabPhon 11 pp. 29-30, 2008 (NSF 0703624)
24. Heejin Kim, Mark Hasegawa-Johnson and Adrienne Perlman, "Vowel Space and Intelligibility in Dysarthric Speech," American Speech-Language Hearing Association National Convention, Chicago, 2008. Published in the magazine ASHA Leader, 5(16):144 (NIH R21 DC008090A)
25. Lae-Hoon Kim, Mark Hasegawa-Johnson, Jun-Seok Lim, and Koeng-Mo Sung, "Acoustic model for robustness analysis of optimal multipoint room equalization," *J. Acoust. Soc. Am.* 123 2043, 2008 (NSF 0807329)
26. Su-Youn Yoon, Lisa Pierce, Amanda Huensch, Eric Juul, Samantha Perkins, Richard Sproat, and Mark Hasegawa-Johnson, "Construction of a rated speech corpus of L2 learners' speech," CALICO workshop, 2008
27. Su-Youn Yoon, Mark Hasegawa-Johnson and Richard Sproat, "Automated Pronunciation Scoring for L2 English Learners," CALICO workshop, 2009
28. Mark Hasegawa-Johnson, Xiaodan Zhuang, and Xi Zhou, "Adaptation of tandem HMMs for non-speech audio event detection," *J. Acoust. Soc. Am.* 125 2730, 2009 (NSF 0807329)
29. Mark Hasegawa-Johnson, "Tutorial: Pattern Recognition in Signal Processing," *J. Acoust. Soc. Am.* 125 2698, 2009 (NSF 0807329)
30. Yoonsook Mo, Jennifer Cole and Mark Hasegawa-Johnson, "How do ordinary listeners perceive prosodic prominence? Syntagmatic vs. Paradigmatic comparison.," *J. Acoust. Soc. Am.* 125 2572, 2009 (NSF 0703624)
31. Yi-He Zu, Mark Hasegawa-Johnson, Adrienne Perlman, Zhang Yang, "A Mathematical Model of Swallowing," *Dysphagia* 2010, **25**(4):397-398
32. Lae-Hoon Kim, Kyungtae Kim and Mark Hasegawa-Johnson, "Speech enhancement beyond minimum mean squared error with perceptual noise shaping," *J. Acoust. Soc. Am.* 127 1817, 2010 (NSF 0803219)
33. Hosung Nam, Vikram Mitra, Mark Tiede, Elliot Saltzman, Louis Goldstein, Carol Espy-Wilson, and Mark Hasegawa-Johnson, "A procedure for estimating gestural scores from articulatory data," *J. Acoust. Soc. Am.* 127 1851, 2010 (NSF 0703624)
34. Sujeeth Bharadwaj and Mark Hasegawa-Johnson, "A novel algorithm for sparse classification," *J. Acoust. Soc. Am.* 127 2040, 2010 (NSF 0941268)
35. Hosung Nam, Vikramjit Mitra, Mark Tiede, Mark Hasegawa-Johnson, Carol Espy-Wilson, Elliot Saltzman and Louis Goldstein, "Automatic gestural annotation of the U. Wisconsin X-ray Microbeam corpus," New Tools and Methods for Very Large Scale Phonetics Research, University of Pennsylvania, Jan. 2011 (NSF 0703624)
36. Rania Al-Sabbagh, Roxana Girju, Mark Hasegawa-Johnson, Elabbas Ben-Mamoun, Rehab Duwairi, and Eiman Mustafawi, "Using Web-Mining Techniques to Build a Multi-Dialect Lexicon of Arabic," Linguistics in the Gulf Conference, March 2011 (QNRN NPRP 09-410-1-069)
37. Mark Hasegawa-Johnson, Jui-Ting Huang, Sarah King and Xi Zhou, "Normalized recognition of speech and audio events," *Journal of the Acoustical Society of America* 130:2524, Nov. 2011 (NSF 0703624)
38. Mark Hasegawa-Johnson, Jui-Ting Huang, and Xiaodan Zhuang, "Semi-supervised learning for speech and audio processing," *Journal of the Acoustical Society of America* 130:2408, Nov. 2011 (NSF 0703624)
39. Heejin Kim, Mark Hasegawa-Johnson and Adrienne Perlman, "Temporal and spectral characteristics of fricatives in dysarthria," *Journal of the Acoustical Society of America* 130:2446, Nov. 2011 (NSF 0534106)
40. Mohamed Elmahdy, Mark Hasegawa-Johnson, Eiman Mustafawi, Rehab Duwairi, and Wolfgang Minker, "Challenges and Techniques for Dialectal Arabic Speech Recognition and Machine Translation," Qatar Foundation Annual Research Forum, p. 244, Nov. 2011 (QNRN 09-410-1-069)

41. Mark Hasegawa-Johnson, Jui-Ting Huang, Roxana Girju, Rehab Mustafa Mohammad Duwairi, Eiman Mohd Tayyeb H B Mustafawi, and Elabbas Benmamoun, "Learning to Recognize Speech from a Small Number of Labeled Examples," Qatar Foundation Annual Research Forum, p. 269, Nov. 2011 (QNRF 09-410-1-069)
42. Heejin Kim and Mark Hasegawa-Johnson, "Second-formant locus patterns in dysarthric speech," Journal of the Acoustical Society of America, Nov. 2012 (NSF 0534106)
43. Elabbas Benmamoun and Mark Hasegawa-Johnson, "How Different are Arabic Dialects from Each Other and from Classical Arabic," in *6th Annual Arabic Linguistics Symposium*, Ifrane, Morocco, June, 2013, ISBN 9789027236180
44. Mohamed Elmahdy, Mark Hasegawa-Johnson and Eiman Mustafawi, "Automatic Long Audio Alignment for Conversational Arabic Speech," Qatar Foundation Annual Research Conference 2013 (QNRF 09-410-1-069), doi 10.5339/qfarf.2013.ICTP-03
45. Mohamed Elmahdy, Mark Hasegawa-Johnson and Eiman Mustafawi, "Development of a Spontaneous Large Vocabulary Speech Recognition System for Qatari Arabic," Qatar Foundation Annual Research Forum 2013 (QNRF 09-410-1-069), DOI: 10.5339/qfarf.2013.ICTP-053, 2013
46. G. Andrew, R. Arora, S. Bharadwaj, J. Bilmes, M. Hasegawa-Johnson, and K. Livescu, "Using articulatory measurements to learn better acoustic features." In Proc. Workshop on Speech Production in Automatic Speech Recognition, 2013
47. Amit Juneja and Mark Hasegawa-Johnson, "Experiments on context-awareness and phone error propagation in human and machine speech recognition," Proc. Workshop on Speech Production in Automatic Speech Recognition, Lyon, France, 2013
48. Xiayu Chen, Yang Zhang and Mark Hasegawa-Jonson, "An Iterative Approach to Decision-Tree Training," Interspeech 2014
49. Jia Chen Ren, Lawrence Angrave and Mark Hasegawa-Johnson, "ClassTranscribe," ACM ICER Conference 2015
50. Daniel Morrow, Mark Hasegawa-Johnson, Thomas Huang, William Schuh, Rocio Garcia-Retamero, Renato Azevedo, Kuangxiao Gu, Yang Zhang, and Bidisha Roy, "Multimedia formats can improve older adult comprehension of clinical test results: Implications for Designing Patient Portals," 28th APS Annual Convention (Association for Psychological Science), May, 2016
51. Xiang Kong, Xuesong Yang, Jeung-Yoon Choi, Mark Hasegawa-Johnson and Stefanie Shattuck-Hufnagel, "Landmark-based consonant voicing detection on multilingual corpora," Acoustics 17, Boston, June 25, 2017
52. Di He, Boon Pang Lim, Xuesong Yang, Mark Hasegawa-Johnson, and Deming Chen, "Selecting frames for automatic speech recognition based on acoustic landmarks," Acoustics 17, Boston, June 25, 2017
53. Azevedo, Renato; Morrow, Daniel G; Gu, Kuangxiao; Thomas Huang; Hasegawa-Johnson, Mark Allan; James Graulich; Victor Sadauskas; Sakakini, Tarek J; Bhat, Suma Pallathadka; Willemsen-Dunlap, Ann M.; Halpin, Donald J., "Computer Agents and Patient Memory for Medication Information." APA Annual Meeting, 2018.
54. Mark Hasegawa-Johnson, Najim Dehak and Odette Scharenborg, "Position Paper: Indirect Supervision for Dialog Systems in Unwritten Languages," International Workshop on Spoken Dialogue Systems (IWSDS), April, 2019

## Unpublished Technical Reports

Technical reports are generated internally by research groups, and are not peer-reviewed (except internally). Some may be distributed widely (e.g., on arXiv), despite the lack of peer review.

1. Mark A. Johnson, "Analysis of durational rhythms in two poems by Robert Frost," in *MIT Speech Communication Group Working Papers*, vol. 8, pp. 29-42, 1992.
2. Mark A. Johnson, "A mapping between trainable generalized properties and the acoustic correlates of distinctive features," in *MIT Speech Communication Group Working Papers*, vol. 9, pp. 94-105, 1994.

3. Sarah Borys, Mark Hasegawa-Johnson and Jennifer Cole, “Prosody as a Conditioning Variable in Speech Recognition,” in *Illinois Journal of Undergraduate Research*, 2003 (NSF 0132900)
4. Mark Hasegawa-Johnson, James Baker, Steven Greenberg, Katrin Kirchhoff, Jennifer Muller, Kemal Sonmez, Sarah Borys, Ken Chen, Amit Juneja, Katrin Kirchhoff, Karen Livescu, Srividya Mohan, Emily Coogan, and Tianyu Wang, *Landmark-Based Speech Recognition: Report of the 2004 Johns Hopkins Summer Workshop*. Johns Hopkins Center for Language and Speech Processing, Report ws04ldmk, [http://www.clsp.jhu.edu/ws2004/groups/ws04ldmk/ws04ldmk\\_final.pdf](http://www.clsp.jhu.edu/ws2004/groups/ws04ldmk/ws04ldmk_final.pdf), 2005.
5. Karen Livescu, Özgür Çetin, Mark Hasegawa-Johnson, Simon King, Chris Bartels, Nash Borges, Arthur Kantor, Partha Lal, Lisa Yung, Ari Bezman, Stephen Dawson-Hagerty, Bronwyn Woods, Joe Frankel, Mathew Magimai-Doss, and Kate Saenko, *Articulatory-Feature-Based Methods for Acoustic and Audio-Visual Speech Recognition: 2006 JHU Summer Workshop Final Report*. Johns Hopkins Center for Language and Speech Processing, 2007.
6. Mark Hasegawa-Johnson, editor, *Statistical Speech Technology Group Working Papers*, University of Illinois, vol. 1, May 2010.
7. Raymond Yeh, Chen Chen, Teck Yian Lim, Mark Hasegawa-Johnson and Minh N. Do, “Semantic Image Inpainting with Perceptual and Contextual Losses,” 26 Jul 2016, <https://arxiv.org/abs/1607.07539>. Covered in the blog post “Image Completion with Deep Learning in TensorFlow” by Brandon Amos, August 9, 2016, <http://bamos.github.io/2016/08/09/deep-completion/>
8. Tom Le Paine, Pooya Khorrami, Shiyu Chang, Yang Zhang, Prajit Ramachandran, Mark A. Hasegawa-Johnson, and Thomas S. Huang, “Fast Wavenet Generation Algorithm,” 29 Nov 2016, <https://arxiv.org/abs/1611.09482>

## Databases

1. Mark Hasegawa-Johnson, Abeer Alwan, Jul Setsu Cha, Shamala Pizza, and Katherine Haker, “Vowels MRI Database,” 1999. <http://www.isle.illinois.edu/sst/data/mri/>
2. Bowon Lee, Mark Hasegawa-Johnson, Camille Goudeseune, Suketu Kamdar, Sarah Borys, Ming Liu, and Thomas Huang, “AVICAR: Audio-Visual Speech Corpus in a Car Environment,” 2004. <http://www.isle.illinois.edu/sst/AVICAR/index.shtml>
3. Heejin Kim, Mark Hasegawa-Johnson, Adrienne Perlman, Jon Gunderson, Thomas Huang, Kenneth Watkin, and Simone Frame, UA-Speech: Multimodal Speech Database for Universal Access Research, 2006. <http://www.isle.illinois.edu/sst/data/UASpeech/>
4. Mohamed Elmahdy, Fatima Abdulrahman, Eiman Mustafawi, Mark Hasegawa-Johnson, Elabbas Benmamoun and Roxana Girju, “Qatari Arabic Corpus,” 2013. <http://isle.illinois.edu/dialect/data.shtml>
5. Shukhrat Yunusov, Camille Goudeseune, and Mark Hasegawa-Johnson, “LORELEI Uzbek Audio Transcriptions,” released to the Linguistic Data Consortium 3/21/2017