DARYUSH D. MEHTA

scholar.harvard.edu/dmehta

CURRENT APPOINTMENTS

Massachusetts General Hospital Boston, MA
Research Staff (Assistant Investigator), Center for Laryngeal Surgery & Voice Rehabilitation — Oct 2011–Present
Director, Voice Science and Technology Laboratory — Apr 2017–Present

Harvard Medical School Boston, MA
Assistant Professor of Surgery, Department of Surgery — Jan 2017–Present
Affiliated Faculty, Program in Speech and Hearing Bioscience and Technology — Mar 2017–Present

MGH Institute of Health Professions Charlestown, MA — Sep 2013–Present
Adjunct Assistant Professor, Department of Communication Sciences and Disorders, School of Health and Rehabilitation Sciences

PAST APPOINTMENTS

Harvard Medical School Boston, MA — Oct 2011–Dec 2016
Instructor, Department of Surgery

Boston University Boston, MA — Jan 2013–May 2013
Lecturer, Department of Speech, Language and Hearing Sciences, College of Health & Rehabilitation Sciences: Sargent College

Harvard University Cambridge, MA — Sep 2011–Aug 2012
Research Associate in Electrical Engineering, School of Engineering and Applied Sciences

MIT Lincoln Laboratory Lexington, MA — Jun 2004–May 2010
Research Assistant, Human Language Technology Group

POSTDOCTORAL TRAINING

Massachusetts General Hospital Boston, MA — Mar 2010–Sep 2011
Center for Laryngeal Surgery & Voice Rehabilitation, Department of Voice and Voice Disorders
Advisor: Robert E. Hillman

Harvard University Cambridge, MA — Mar 2010–Aug 2011
Electrical Engineering, School of Engineering and Applied Sciences
Advisor: Patrick J. Wolfe

EDUCATION

Massachusetts Institute of Technology Cambridge, MA — Feb 2010
Doctor of Philosophy in Speech and Hearing Bioscience and Technology
Harvard–MIT Division of Health Sciences and Technology
Thesis: *Impact of human vocal fold vibratory asymmetries on acoustic characteristics of sustained vowel phonation*
Thesis Committee: Robert E. Hillman (co-advisor), Thomas F. Quatieri (co-advisor), Dimitar D. Deliyski, Joseph S. Perkell
Qualification Exam Committee: Kenneth N. Stevens, Alan V. Oppenheim, James R. Glass

Massachusetts Institute of Technology Cambridge, MA — Feb 2006
Master of Science in Electrical Engineering and Computer Science
MIT Lincoln Laboratory
Thesis: *Aspiration noise during phonation: Synthesis, analysis, and pitch-scale modification*
Advisor: Thomas F. Quatieri

University of Florida Gainesville, FL Aug 2003
Bachelor of Science in Electrical Engineering (summa cum laude)
Minor in Music Performance (clarinet)
Honors Thesis: *Real-time display of human voice pitch using a digital signal processor*
Thesis Committee: John G. Harris (advisor), Mitchell S. Estrin, Keith J. Rambo

FUNDED PROJECTS

NIH-NIDCD 1 P50 DC015446-01A1 Apr 2017–Mar 2022
Role: Principal Investigator (Scientific Core), Co-Investigator (Project 1)
Clinical research center for the improved prevention, diagnosis, and treatment of vocal hyperfunction
$3,343,174
The goal of the proposed project is to establish a Clinical Research Center that brings together a multidisciplinary team of experienced investigators to pursue a comprehensive program of research focused on hyperfunctional voice disorders. As PI of Scientific Core B, I oversee a critical component that will provide central services and resources in support of three research projects of the proposed Center.

NIH-NIDCD 1 R21 DC015877-01 Jan 2017–Dec 2019
Role: Principal Investigator
Non-invasive estimation of subglottal pressure during natural speech to improve clinical voice assessment
$300,000
This project seeks to develop a methodology for estimating subglottal pressure during natural speech using inexpensive accelerometer-based voice monitoring technology that unobtrusively tracks neck-surface vibrations. As PI, I collaborate with MGH clinical staff and oversee the work of a graduate student/postdoc and an international consultant.

NIH-NIDCD 1 R01 DC015570-01 Jul 2016–Jun 2021
Role: Site Principal Investigator
PI: Cara Stepp (Boston University)
An acoustic estimate of laryngeal tension for clinical assessment of voice disorders
$66,627 subcontract of $1,250,000 total award
The goal of this project is to systematically validate an acoustic measure of laryngeal tension called relative fundamental frequency in two voice disorder populations that span age and etiology (functional vs. neurological). As Site PI, I oversee the enrollment of patients at MGH, including the acquisition, processing, and sharing of deidentified data with Boston University from 50–100 patients diagnosed with vocal hyperfunction. The MGH team will also provide consultation on the collection, analysis and interpretation of acoustic data, and will participate in the dissemination of results.

NIH-NIDCD 2 R01 DC005642 Nov 2015–Aug 2020
Role: Site Principal Investigator
PI: Michael Krane (Pennsylvania State University)
Glottal jet aerodynamics
$28,728 subcontract of $1,250,000 total award
The goal of this project is to address the underlying physics of phonation, focusing on how the energy in the subglottal airstream is partitioned into work to vibrate the vocal folds and produce sound. As Site PI, I consult on the experimental setup at Penn State University and providing deidentified human subject data from MGH's clinical databases that are important for validating the physics-based models developed during the project.

NIH-NIDCD 1 R21 DC011588, 4 R33 DC011588 Apr 2011–Mar 2016
Role: Investigator
PI: Robert E. Hillman
Ambulatory monitoring of vocal function to improve voice disorder assessment

R21 phase ($275,000), R33 phase ($1,400,000)
The goal of the first (R21) phase of this project was to develop and test a voice monitoring platform for long-term data acquisition of neck skin acceleration. The R33 phase follows up with a large-sample study to discriminate patients with voice disorders and matched controls. As co-investigator, I oversaw the design and implementation of ambulatory monitoring systems provided to over 200 subjects over the five-year project period. I continue to supervise subject enrollment, mentor students, manage research assistants, and oversee data quality management for the sharing of deidentified information with collaborators.

NIH-NIDCD 1 R43 DC013743 Jan 2014–Dec 2014
Role: Site Principal Investigator
Integrating optical coherence tomography with laryngeal high-speed videoendoscopy
SBIR with Physical Sciences, Inc. ($42,000 subcontract of $225,000 total award)
The goal of this project was to develop a clinical endoscope for imaging vocal fold vibration using the two complementary modalities of optical coherence tomography (OCT) and high-speed videoendoscopy (HSV). As Site PI, I oversaw the integration of HSV technology I developed at MGH with the novel OCT endoscope developed by Physical Sciences, Inc. MGH provided an excised tissue testbed for validating the hybrid OCT-HSV system in preparation for future clinical voice assessment in human subjects.

American Speech-Language-Hearing Foundation Speech Science Research Grant Nov 2012–Dec 2013
Role: Principal Investigator
Acoustic Impact of vocal fold vibratory irregularities in an ex vivo *model*
$5,000
The specific aims of this project consisted of analyzing imaging, aerodynamic, and acoustic data to determine relationships between vocal fold vibratory irregularity and acoustic sound characteristics using an excised larynx model. The funding supported a weeklong international collaboration at University Hospital Erlangen in Germany and two student clinicians at MGH, yielding multiple conference proceedings, a peer-reviewed journal article, and a doctoral dissertation.

Research Councils United Kingdom (RCUK) Science Bridges Apr 2010–Mar 2012
Role: Principal Investigator
Objective voice quality analysis by spectrogram entropy
Manchester Integrating Medicine & Innovative Technology (MIMIT)–Center for Integration of Medicine & Innovative Technology (CIMIT) Collaborative Project
Subcontract from MIMIT (£10,000)
The goal of this project was to take advantage of a new mathematical technique to yield quantitative parameters that correlate highly with perceptions of voice quality. As PI, I oversaw the signal processing effort and also made available clinical voice databases that are critical for the validation of new algorithms.

UNFUNDED PROJECTS

Voice Health Institute Apr 2016–Present
Role: Co-Investigator
Co-PIs: Robert E. Hillman and Steven M. Zeitels
Identification of denervated laryngeal muscles using low-frequency transcutaneous stimulation
The purpose of this project is to better characterize the time course of denervation-related movement of the vocal folds in an in vivo large-animal model using low-amplitude, low-frequency transcutaneous electrical stimulation. As co-investigator, my role is to apply my expertise in high-speed video imaging of the larynx to compute objective measures of vocal fold tissue motion that correlate with transcutaneous stimulation.

MGH Center for Assessment Technology and Continuous Health (CATCH) Jun 2014–Present
Role: Co-Investigator
Co-PIs: Robert E. Hillman and Steven M. Zeitels
Impact of congestive heart failure (CHF) on voice and speech production: A pilot study

The purpose of this project is to determine whether acoustic and accelerometric voice-related measures can characterize patients with volume overload before and after successful diuresis of amounts of fluid. As co-investigator, I aided in study design and supervised data collection and analysis of speech and voice signals from ten patients with congestive heart failure.

HONORS AND PRIZES

Highest-Rated Student-Authored Paper in Its Convention Topic Area Philadelphia, PA Nov 2016
Annual Convention of the American Speech-Language-Hearing Association
Awarded to the highest-rated student-authored paper in its Convention topic area. Student receives a travel award and registration
Correlating ambulatory voice measures with vocal fatigue self-ratings in individuals with MTD & normal controls (senior author)

Hamdan International Presenter Award Philadelphia, PA Jun 2016
45th Annual Symposium of The Voice Foundation: Care of the Professional Voice
Awarded to one investigator traveling from outside the United States to present at the conference
Acoustic perturbation measures improve with increasing vocal intensity in healthy and pathological voices (senior collaborating author)

Meritorious Poster Submission Denver, CO Nov 2015
Annual Convention of the American Speech-Language-Hearing Association
Awarded annually to a small percentage of poster submissions to the annual convention of the American Speech-Language-Hearing Association that is judged to show extraordinary, exceptional, and innovative work
Estimating subglottal pressure during phonation with a neck-surface accelerometer sensor (senior author)

Award for Early Career Contributions in Research Denver, CO Jul 2015
American Speech-Language-Hearing Association
Awarded annually to early-stage investigators for exceptional contributions to clinical research

Director's Team Achievement Award Lexington, MA Jun 2015
MIT Lincoln Laboratory
Awarded annually to a small percentage of Laboratory teams recognized for their significant contributions and achievements.
Objective vocal and facial biomarkers (team member)

Best Entry for the Depression Recognition Sub-Challenge Orlando, FL Nov 2014
Fourth International Audio/Visual Emotion Challenge (AVEC 2014), 22nd ACM International Conference on Multimedia
Vocal and facial biomarkers of depression based on motor incoordination and timing (co-author)

David W. Brewer Award for Best Poster Philadelphia, PA May 2014
The Voice Foundation Symposium
Awarded annually at the annual symposium of the Voice Foundation for best conference poster
Relationships between the Cepstral-Spectral Index of Dysphonia and vocal fold vibratory function during phonation (senior author)

Best Entry for the Depression Recognition Sub-Challenge Barcelona, Spain — Oct 2013
Third International Audio/Visual Emotion Challenge (AVEC 2013), 21st ACM International Conference on Multimedia
Vocal biomarkers of depression based on motor incoordination (co-author)

Lessons for Success Research Workshop Selection Rockville, MD — Apr 2013
American Speech-Language-Hearing Association
Selected as one of 30 early-stage scientists in the field of speech, language, and hearing to attend an intensive workshop on career development

Honorary Senior Fellow Melbourne, Australia — Aug 2011
Department of Otolaryngology, The University of Melbourne

Broyles-Maloney Award Las Vegas, NV — Mar 2010
American Broncho-Esophagological Association
Awarded annually for outstanding accomplishments in advancing the art and science of broncoesophagology and closely related subjects
Assessment of canine vocal fold function after injection of a new biomaterial designed to treat phonatory mucosal scarring (co-author)

Best Student Paper in Speech Communication Portland, OR — May 2009
Acoustical Society of America
An impedance-based inverse filtering scheme with glottal coupling (co-author)

First Place Poster Award in Laryngology/Bronchoesophagology Boston, MA — Jan 2009
Eastern Section of the Triological Society
Integration of ultra high-speed color videoendoscopy with time-synchronized measures of vocal function (first author)

Four-Year Scholar Award Gainesville, FL — Aug 2003
University of Florida
One of only a few students chosen college-wide by a Faculty Selection Committee to be recognized at commencement.

TEACHING EXPERIENCE

Harvard University Boston, MA — Aug 2012–Present
Signals and Systems
Guest Lecturer
Signals and systems theory and application to speech and hearing sciences to 10 incoming doctoral students in the Speech and Hearing Bioscience and Technology Program. One 3-hour lecture per year.

Massachusetts Institute of Technology Cambridge, MA — Mar 2012–Present
Speech Communication
Guest Lecturer (Course instructor: Satrajit Ghosh)
Digital signal processing and automatic speech recognition for 10 graduate students in electrical engineering and speech and hearing science disciplines. One to three 1.5-hour lectures per year.

National Taipei University of Nursing and Health Sciences Taipei, Taiwan — Oct 2017
Voice and Voice Disorders
Guest Lecturer (Course instructor: Roger Chan)
Mobile voice health monitoring (Smartphone-based ambulatory monitoring of vocal function to improve voice disorder assessment) for 50 graduate students in speech-language pathology. One 1-hour lecture.

University of Northern Iowa Cedar Rapids, IA — Sep 2017

Disorders of Voice
Guest Lecturer (Course instructor: Lisa Kopf)
Endoscopic imaging (stroboscopy, high-speed videoendoscopy, and kymography) for 50 graduate students in speech-language pathology. One 1-hour lecture via videoconference.

Dhirubhai Ambani Institute of Information and Communication Technology Jul 2016
Gandhinagar, India
Summer School on Speech Signal Processing
Invited International Guest Lecturer
Speech source modeling and applications to students, researchers, and professionals in a weeklong summer school. Two 1.5-hour lectures.

Boston University Boston, MA Jan 2013–May 2013
Applied Speech Science
Course instructor
Led a two-credit, semester-long course on speech science to provide a clinical research foundation for 40 Master's-level students in speech-language pathology.

Lasell College Newton, MA Mar 2011, Feb 2012
Introduction to Human Communication
Guest Lecturer (Course instructor: Rebecca Evans)
Gave one-hour presentation on voice and speech science to 25 undergraduate students in various liberal arts disciplines.

Lasell College Newton, MA Mar 2011
Introduction to Mass Media
Guest Lecturer (Course instructor: Rebecca Evans)
Gave one-hour presentation on voice and speech science to 25 undergraduate students in various liberal arts disciplines.

MGH Institute of Health Professions Charlestown, MA Nov 2010, Nov 2011
Speech Analysis
Guest Lecturer (Course instructor: James T. Heaton)
Gave annual three-hour lecture to 60 graduate students in the department of speech-language pathology.

MGH Institute of Health Professions Charlestown, MA Aug 2007–Jul 2010
Acoustic Phonetics
Guest Lecturer (Course instructor: Gregory P. Lof)
Gave annual four-hour lecture to 20–60 graduate students in the department of speech-language pathology.

Massachusetts Institute Technology Cambridge, MA Sep 2009–Dec 2009
Acoustics of Speech and Hearing
Teaching Assistant (Course instructors: John J. Rosowski, Louis D. Braida)
Led sections and held office hours for 6 doctoral students in speech and hearing sciences and affiliated fields.

SUPERVISED TRAINEES

Katherine L. Marks Doctoral student, MGH IHP 2017–Present
Research advisor. First author on one conference proceeding.

Olivia M. Murton Doctoral student, Harvard DMS SHBT program 2016–Present
Research advisor. First author on one peer-reviewed paper and three conference proceedings.

Marc Maffei, MS Master's student, MGH IHP 2015–2016
Research thesis advisor. Co-author on one peer-reviewed paper and first author on one conference proceeding; Student research travel award recipient (highest-rated student-authored paper in its Convention topic area).

Salwa Masud Doctoral student, Harvard DMS SHBT program 2015
Research advisor. Research rotation.

Amanda S. Fryd, MS Master's student, MGH IHP 2014–2015
Research thesis advisor. First author on one peer-reviewed paper and co-author on one conference proceeding; Meritorious poster award at the Convention of the American Speech-Language-Hearing Association.

Hawazin Aljehani, MS Master's student, MGH IHP 2013–2014
Research thesis advisor. First author on one conference proceeding.

Jarrad H. Van Stan, PhD Doctoral student, MGH IHP 2012–2016
Research co-advisor. First and co-author on multiple papers and conference proceedings.

Melissa L. Cooke, MS Master's student, MGH IHP 2012–2014
Research thesis advisor. First author on one of two conference proceedings; Best poster award at Voice Foundation Symposium.

Shengran W. Feng Doctoral student, Harvard-MIT HST-SHBT program 2011–2013
Research advisor. Co-author on one peer-reviewed paper and two conference proceedings.

LEADERSHIP AND COMMITTEE EXPERIENCE

Voice Foundation Symposium Special Session Chair Jun 2016
Invited to moderate a special session at the 45th Annual Symposium of The Voice Foundation: Care of the Professional Voice.

ICVPB Scientific Committee Member and Special Session Chair Apr 2015–Mar 2016
Invited by General Chair to participate on a committee to review and organize research submissions for presentation at the 10th International Conference on Voice Physiology and Biomechanics conference.

AQL/OVS Scientific Committee Member Dec 2014–Apr 2015
Invited by General Chair to participate on a committee to review and organize research submissions for presentation at a joint meeting of the 11th International Conference on Advances in Quantitative Laryngology, Voice and Speech Research (AQL) and 4th International Occupational Voice Symposium (OVS).

ASHA Voice, Resonance, and Alaryngeal Committee Member Oct 2013–Nov 2014
Invited by ASHA to participate on a committee to review research submissions for presentation at the ASHA conference.

ASHA Special Interest Division 3 Committee Member Sep 2010–May 2013
Chosen by the ASHA Voice Assessment Committee to aid in performing a systematic literature review of clinical voice assessment that culminated in a manuscript that provided guidelines for evidence-based voice research.

SHBT Doctoral Recruiting Committee Student Member Sep 2007–Feb 2010
During my term, the committee undertook an ambitious campaign to recruit students for and advertise the speech and hearing bioscience and technology doctoral program. I was primarily involved with organizing photographic material for print and web publishing.

Voice Quality Study Group Co-Founder — Apr 2005–Nov 2009
Led a reading group that met biweekly at MIT to bring together students and faculty from engineering, speech science, and the clinic to discuss and host guest researchers in the broad area of voice quality analysis.

SHBT Doctoral Admissions Committee Student Member — Sep 2007–May 2009
Selected to represent the student body on this committee to help screen, interview, and extend invitations to prospective doctoral candidates for the speech and hearing bioscience and technology doctoral program.

MGH Voice Center Research Forum Chair — Dec 2007–Dec 2008
As one of several PhD students at the Voice Center, I spearheaded the creation of this biweekly seminar series and reading group that focused on research related to voice and speech disorders.

SHBT Distinguished Lecture Series Committee Chair — Apr 2007–Apr 2008
As committee lead, I organized this student-led initiative in the speech and hearing program to invite researchers who are making a significant impact in the field of auditory and speech science to give semiannual seminars. During my term, we honored Christy Ludlow and Ray Kent.

CONSULTING

MIT Lincoln Laboratory Lexington, MA — Jan 2013–Present
Bioengineering Systems and Technology Group
Contact: Thomas F. Quatieri
Develop and apply advanced signal processing tools to investigate speech and voice biomarkers for characterizing patients with neurological disorders.

Universidad Técnica Federico Santa María Valparaíso, Chile — Jan 2013–Mar 2014
Voice Production Laboratory
Contact: Matías Zañartu
Provide guidance on developing laboratory applications of high-speed video and voice and speech signal processing.

Max Planck Institute for Evolutionary Anthropology Leipzig, Germany — Sep 2010
Department of Linguistics
Contact: Heriberto Avelino
Demonstrate high-speed videoendoscopy equipment for potential laboratory use.

PROFESSIONAL AFFILIATIONS

American Speech-Language-Hearing Association Member Without Certification — Nov 2013–Present

Acoustical Society of America Associate Member — Jan 2005–Present

Institute of Electrical and Electronics Engineers Member — Jan 2001–Present

SPIE–International Society for Optics and Photonics Early Career Professional Member — Jan 2012–Dec 2012

EDITORIAL ACTIVITIES

ASHA Perspectives in Speech Science — Feb 2016–Present
Invited by Editor to participate on the inaugural editorial board for ASHA Perspectives in Speech Science, a publication by the recently formed ASHA Special Interest Group 19 in Speech Science.

Ad Hoc Reviewer: Adv Otolaryngol, Am J Speech Lang Pathol, Ann Otol Rhinol Laryngol, Biomed Res Int, Biomed Signal Process Control, Clin Linguist Phon, Folia Phoniatr Logop, IEEE J Biomed Health Inform, IEEE Signal Process Lett, IEEE Trans Biomed Eng, J Acoust Soc Am, J Speech Lang Hear Res, J Voice, Med Biol Eng Comput, Med Princ Pract, PLoS ONE, Proc ICASSP, Proc INTERSPEECH, Speech Commun

PEER-REVIEWED PUBLICATIONS

Research Investigations

1. **Mehta DD**, Deliyski DD, Zeitels SM, Quatieri TF, Hillman RE. Voice production mechanisms following phonosurgical treatment of early glottic cancer. Ann Otol Rhinol Laryngol 2010;119(1):1–9. PMCID: PMC2833294.

2. **Mehta DD**, Deliyski DD, Quatieri TF, Hillman RE. Automated measurement of vocal fold vibratory asymmetry from high-speed videoendoscopy recordings. J Speech Lang Hear Res 2011(1);44:47–54. PMCID: PMC3558992.

3. Zañartu M, **Mehta DD**, Ho JC, Wodicka GR, Hillman RE. Observation and analysis of in vivo vocal fold tissue instabilities produced by nonlinear source-filter coupling: A case study. J Acoust Soc Am 2011;129(1):326–339. PMCID: PMC3055289.

4. Karajanagi SS, Lopez-Guerra G, Park H, Kobler JB, Galindo M, Aanestad J, **Mehta DD**, Kumai Y, Giordano N, d'Almeida A, Heaton JT, Langer R, Herrera VLM, Faquin W, Hillman RE, Zeitels SM. Assessment of canine vocal fold function after injection of a new biomaterial designed to treat phonatory mucosal scarring. Ann Otol Rhinol Laryngol 2011;120(3):175–184. PMID: 21510143.

5. **Mehta DD**, Zañartu M, Quatieri TF, Deliyski DD, Hillman RE. Investigating acoustic correlates of human vocal fold vibratory phase asymmetry through modeling and laryngeal high-speed videoendoscopy. J Acoust Soc Am 2011;130(6):3999–4009. PMCID: PMC3253599.

6. **Mehta DD**, Zeitels SM, Burns JA, Friedman AD, Deliyski DD, Hillman RE. High-speed videoendoscopic analysis of relationships between cepstral-based acoustic measures and voice production mechanisms in patients undergoing phonomicrosurgery. Ann Otol Rhinol Laryngol 2012;121(5):341–347. PMCID: PMC3756805.

7. **Mehta DD**, Rudoy D, Wolfe PJ. Kalman-based autoregressive moving average modeling and inference for formant and antiformant tracking. J Acoust Soc Am 2012;132(3):1732–1746. PMID: 22978900.

8. **Mehta DD**, Zañartu M, Feng SW, Cheyne HA, Hillman RE. Mobile voice health monitoring using a wearable accelerometer sensor and a smartphone platform. IEEE Trans Biomed Eng 2012;59(11):3090–3096. PMCID: PMC3539821.

9. Zañartu M, Ho JC, **Mehta DD**, Hillman RE, Wodicka GR. Subglottal impedance-based inverse filtering of voiced sounds using neck surface acceleration. IEEE/ACM Trans Audio Speech Lang Processing 2013;21(9):1929–1939. PMCID: PMC4229092.

10. Ghassemi M, Van Stan JH, **Mehta DD**, Zañartu M, Cheyne II HA, Hillman RE, Guttag JV. Learning to detect vocal hyperfunction from ambulatory neck-surface acceleration features: Initial results for vocal fold nodules. IEEE Trans Biomed Eng 2014;61(6):1668–1675. PMCID: PMC4077201.

11. **Mehta DD**, Wolfe PJ. Statistical properties of linear prediction analysis underlying the challenge of formant bandwidth estimation. J Acoust Soc Am 2015;137(2):944–950. PMID: 25698026.

12. Van Stan JH, **Mehta DD**, Hillman RE. The effect of voice ambulatory biofeedback on the daily performance and retention of a modified vocal motor behavior in participants with normal voices. J Speech Lang Hear Res 2015;58(3):713–721. PMCID: PMC4492465.

13. Llico AF, Zañartu M, González AJ, Wodicka GR, **Mehta DD**, Van Stan JH, Hillman RE. Real-time estimation of aerodynamic features for ambulatory voice biofeedback. J Acoust Soc Am 2015;138(1):EL14–EL19. PMCID: PMC4499052.

14. Van Stan JH, **Mehta DD**, Zeitels SM, Burns JA, Barbu AM, Hillman RE. Average ambulatory measures of sound pressure level, fundamental frequency, and vocal dose do not differ between adult females with phonotraumatic lesions and matched control subjects. Ann Otol Rhinol Laryngol 2015;124(11):864–874. PMCID: PMC4605885.

15. Luegmair G, **Mehta DD**, Kobler JB, Döllinger M. Three-dimensional optical reconstruction of vocal fold kinematics using high-speed videomicroscopy with a laser projection system. IEEE Trans Med Imaging 2015;34(12):2572–2582. PMCID: PMC4666755.

16. Lien YAS, Calabrese C, Michener CM, Heller Murray E, Van Stan JH, **Mehta DD**, Hillman RE, Noordzij JP, Stepp CE. Voice relative fundamental frequency via neck-skin acceleration in individuals with voice disorders. J Speech Lang Hear Res 2015;58(5):1482–1487. PMCID: PMC4686308.

17. **Mehta DD**, Van Stan JH, Zañartu M, Ghassemi M, Guttag JV, Espinoza VM, Cortés JP, Cheyne HA, Hillman RE. Using ambulatory voice monitoring to investigate common voice disorders: Research update. Frontiers in Bioengineering and Biotechnology 2015;3(155):1–14. PMCID: PMC4607864.

18. **Mehta DD**, Van Stan JH, Hillman RE. Relationships between vocal function measures derived from an acoustic microphone and a subglottal neck-surface accelerometer. IEEE/ACM Trans Audio Speech Lang Processing 2016;24(4):659–668. PMCID: PMC4607864.

19. Powell ME, Deliyski DD, Zeitels SM, Burns JA, Hillman RE, **Mehta DD**. Comparison of videostroboscopy to stroboscopy derived from high-speed videoendoscopy for evaluating patients with vocal fold mass lesions. Am J Speech Lang Pathol 2016;25(4):576–589. PMCID: PMC5373695.

20. **Mehta DD**, Cheyne II HA, Wehner A, Heaton JT, Hillman RE. Accuracy of self-reported estimates of daily voice use in adults with normal and disordered voices. J Speech Lang Hear Res 2016;25(4):576–589. PMCID: PMC5373697.

21. Fryd AS, Van Stan JH, Hillman RE, **Mehta DD**. Estimating subglottal pressure from neck-surface acceleration during normal voice production. J Speech Lang Hear Res 2016;59(6):1335–1345. PMCID: PMC5399761.

22. Ghassemi M, Syed Z, **Mehta D**, Van Stan J, Hillman R, Guttag J. Uncovering voice misuse using symbolic mismatch. JMLR Workshop Conf Proc 2016;56:239–252. PubMed Central – In Process.

23. Van Stan JH, **Mehta DD**, Petit R, Sternad D, Muise J, Burns JA, Hillman RE. Integration of motor learning principles into real-time ambulatory voice biofeedback and example implementation via a clinical case study with vocal fold nodules. Am J Speech Lang Pathol 2017;26(1):1–10. PubMed Central – In Process.

24. Van Stan JH, **Mehta DD**, Sternad D, Petit R, Hillman RE. Ambulatory voice biofeedback: Relative frequency and summary feedback effects on performance and retention of reduced vocal intensity in the daily lives of participants with normal voices. J Speech Lang Hear Res 2017;60(4):853–864. PubMed Central – In Process.

25. Heller Murray ES, Lien Y-AS, Van Stan JH, **Mehta DD**, Hillman RE, Pieter Noordzij J, Stepp CE. Relative fundamental frequency distinguishes between phonotraumatic and non-phonotraumatic vocal hyperfunction. J Speech Lang Hear Res 2017;60(6):1507–1515. PubMed Central – In Process.

26. Espinoza VM, Zañartu M, Van Stan JH, **Mehta DD**, Hillman RE. Glottal aerodynamic measures in adult females with phonotraumatic and non-phonotraumatic vocal hyperfunction. J Speech Lang Hear Res 2017;60(8): 2159–2169. PubMed Central – In Process.

27. Brockmann-Bauser M, Bohlender JE, **Mehta DD**. Acoustic perturbation measures improve with increasing vocal intensity in individuals with and without voice disorders. J Voice 2017:in press. PubMed Central – In Process.

28. Chien Y-R, **Mehta DD**, Guðnason J, Zañartu M, Quatieri TF. Evaluation of glottal inverse filtering algorithms using a physiologically based articulatory speech synthesizer. IEEE/ACM Trans Audio Speech Lang Processing 2017;25(8):1718–1730. PubMed Central – In Process.

29. Van Stan JH, Maffei M, Masson MLV, **Mehta DD**, Burns JA, Hillman RE. Self-ratings of vocal status in daily life: Reliability and validity for patients with vocal hyperfunction and a normative group. American Journal of Speech-Language Pathology 2017;26(4):1167–1177. PubMed Central – In Process.

30. Lien Y-AS, Murray ESH, Calabrese CR, Michener CM, Van Stan JH, Mehta DD, Hillman RE, Noordzij JP, Stepp CE. Validation of an algorithm for semi-automated estimation of voice relative fundamental frequency. Annals of Otology, Rhinology, and Laryngology 2017;126(10):712–716. PubMed Central – In Process.

31. McKenna VS, Llico AF, Mehta DD, Perkell JS, Stepp CE. Magnitude of neck-surface vibration as an estimate of subglottal pressure during modulations of vocal effort and intensity in healthy speakers. Journal of Speech, Language, and Hearing Research 2017;60(12):3404–3416. PubMed Central – In Process.

32. Van Stan JH, Park S-W, Jarvis M, **Mehta DD**, Hillman RE, Sternad D. Measuring vocal motor skill with a virtual voice-controlled slingshot. The Journal of the Acoustical Society of America 2017;142(3):1199–1212. PubMed Central – In Process.

33. Borsky M, **Mehta DD**, Van Stan JH, Gudnason J. Modal and non-modal voice quality classification using acoustic and electroglottographic features. IEEE/ACM Transactions on Audio, Speech, and Language Processing 2017;25(12):2281–2291. PubMed Central – In Process.

34. Murton OM, Semigran M, Daher M, Cunningham T, Verkouw K, Tabtabai S, Steiner J, Hillman RE, Dec GW, Ausiello D, **Mehta DD**. Acoustic speech analysis of patients with decompensated heart failure: A pilot study. The Journal of the Acoustical Society of America 2017;142(4):EL401–EL407. PMCID: PMC5724620.

Other Peer-Reviewed Publications

1. **Mehta D**, Quatieri, TF. Synthesis, analysis, and pitch modification of the breathy vowel. Proceedings of the IEEE Workshop on Applications of Signal Processing to Audio and Acoustics 2005; New Paltz, NY:199–202.

2. **Mehta D**, Quatieri TF. Pitch-scaled modification using the modulated aspiration noise source. Proceedings of INTERSPEECH: International Conference on Spoken Language Processing 2006; Pittsburgh, PA:2490–2493.

3. Lulich SM, Zañartu M, **Mehta DD**, Hillman RE. Source-filter interaction in the opposite direction: Subglottal coupling and the influence of vocal fold mechanics on vowel spectra during the closed phase. Proceedings of Meetings on Acoustics 2009;6(060007):1–14.

4. **Mehta DD**, Deliyski DD, Hillman RE. Commentary on why laryngeal stroboscopy really works: Clarifying misconceptions surrounding Talbot's law and the persistence of vision. J Speech Lang Hear Res 2010;53(5):1263–1267. PMCID: PMC3553579.

5. Doellinger M, Kobler JB, Berry DA, **Mehta DD**, Luegmair G, Bohr C. Experiments on analysing voice production: Excised (human, animal) and in vivo (animal) approaches. Current Bioinformatics 2011;6(3):286–304.

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8. **Mehta DD**, Zañartu M, Van Stan, J, Feng SW, Cheyne HA, Hillman RE. Smartphone-based detection of voice disorders by long-term monitoring of neck acceleration features. Proceedings of the 10th Annual Body Sensor Networks Conference 2013; Cambridge, MA:6 pages.

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11. Guðnason J, **Mehta DD**, Quatieri TF. Closed phase estimation for inverse filtering the oral airflow waveform. Proceedings of the International Conference on Acoustics, Speech, and Signal Processing 2014; Florence, Italy:4 pages.

12. Williamson JR, Quatieri TF, Helfer BS, Ciccarelli G, **Mehta DD**. Vocal and facial biomarkers of depression based on motor incoordination and timing. Proceedings of the Fourth International Audio/Visual Emotion Challenge (AVEC 2014), 22nd ACM International Conference on Multimedia 2014; Orlando, FL:65–72. Best Entry for the Depression Recognition Sub-Challenge.

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14. Guðnason J, **Mehta DD**, Quatieri TF. Evaluation of speech inverse filtering techniques using a physiologically based synthesizer. Proceedings of the International Conference on Acoustics, Speech, and Signal Processing 2015; Brisbane, Australia:5 pages.

15. Williamson JR, Quatieri TF, Helfer BS, Perricone J, Ghosh SS, Ciccarelli G, **Mehta DD**. Segment-dependent dynamics in predicting Parkinson's disease. Proceedings of INTERSPEECH 2015; Dresden, Germany:5 pages.

16. Quatieri TF, Williamson JR, Smalt CJ, Patel T, Perricone J, **Mehta DD**, Helfer BS, Ciccarelli G, Ricke D, Malyska N, Palmer J, Heaton K, Eddy M, Moran J. Vocal biomarkers to discriminate cognitive load in a working memory task. Proceedings of INTERSPEECH 2015; Dresden, Germany:5 pages.

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19. Borsky M, Cocude M, **Mehta DD**, Zañartu M, Gudnason J. Classification of voice modes using neck-surface accelerometer data. Proceedings of the International Conference on Acoustics, Speech, and Signal Processing 2017; New Orleans, LA:5 pages.

20. **Mehta DD**, Chwalek PC, Quatieri TF, Brattain LJ. Wireless neck-surface accelerometer and microphone on flex circuit with application to noise-robust monitoring of Lombard speech. Proceedings of INTERSPEECH 2017:5 pages.

21. Chwalek PC, **Mehta DD**, Welsh B, Wooten C, Byrd K, Froelich E, Mauer D, Lacirignola J, Quatieri TF, Brattain LJ. Lightweight, on-body, wireless system for ambulatory voice and ambient noise monitoring. Proceedings of the 15th International Conference on Wearable and Implantable Body Sensor Networks 2018; Cambridge, MA:5 pages.

REVIEWS, CHAPTERS, MONOGRAPHS, AND EDITORIALS

1. **Mehta D**, Hillman, RE. Use of aerodynamic measures in clinical voice assessment. Perspectives on Voice and Voice Disorders 2007;17(3):14–18.

2. **Mehta DD**, Hillman RE. Voice assessment: Updates on perceptual, acoustic, aerodynamic, and endoscopic imaging methods. Current Opinion in Otolaryngology & Head and Neck Surgery 2008;16(3):211–215. PMCID: PMC3775647.

3. Hillman RE, **Mehta DD**. "The science of stroboscopic imaging." K. Kendall and R Leonard, eds. Laryngeal Evaluation: Indirect Laryngoscopy to High-Speed Digital Imaging. New York: Thieme Medical Publishers, Inc. 2010:101–109.

4. Hillman RE, **Mehta DD**. Ambulatory monitoring of daily voice use. Perspectives on Voice and Voice Disorders 2011;21(2):56–61.

5. **Mehta DD**, Hillman RE. The evolution of methods for imaging vocal fold phonatory function. Perspectives on Speech Science and Orofacial Disorders 2012;22(1):5–13.

6. **Mehta DD**, Hillman RE. Current role of stroboscopy in laryngeal imaging. Current Opinion in Otolaryngology & Head and Neck Surgery 2012;20(6):429–436. PMCID: PMC3747974.

7. **Mehta DD**, Deliyski DD, Zeitels SM, Zañartu M, Hillman, RE. "Integration of transnasal fiberoptic high-speed videoendoscopy with time-synchronized recordings of vocal function." K. Izdebski, Y. Yan, and R. Patel, eds. Normal & Abnormal Vocal Folds Kinematics: High Speed Digital Phonoscopy (HSDP), Optical Coherence Tomography (OCT) & Narrow Band Imaging (NBI®), Volume I: Technology. San Francisco: Pacific Voice & Speech Foundation 2015:105–114.

8. Van Stan JH, **Mehta DD**, Hillman RE. Recent innovations in voice assessment expected to impact the clinical management of voice disorders. Perspectives of the ASHA Special Interest Groups 2017;1(SIG 3):4–13.

9. Quatieri TF, Williamson JR, Smalt CJ, Perricone J, Patel T, Brattain L, Helfer B, **Mehta D**, Palmer J, Heaton K, Eddy M, and Moran J, "Multimodal biomarkers to discriminate cognitive state" Chapter in: R. L. Kane and T. D. Parsons (Eds.), The Role of Technology in Clinical Neuropsychology. New York, NY: Oxford University Press 2017:409–443.

CONFERENCE PROCEEDINGS (NON-PEER REVIEWED)

1. **Mehta DD**, Rudoy D, Wolfe PJ. Joint source-filter modeling using flexible basis functions. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing 2011; Prague, Czech Republic:5888–5891.

2. **Mehta DD**, Luegmair G, Kobler JB, Hillman RE, Young AA, Cooke ML, Döllinger M. High-speed videomicroscopy and acoustic analysis of ex vivo vocal fold vibratory asymmetry. Proceedings of the 10th International Conference on Advances in Quantitative Laryngology, Voice and Speech Research 2013; Cincinnati, OH:2 pages.

3. Hillman RE, Van Stan JH, **Mehta DD**, Zañartu M, Ghassemi M, Cheyne HA, Guttag JV. Future directions in the development of ambulatory monitoring for clinical voice assessment. Proceedings of the 10th International Conference on Advances in Quantitative Laryngology, Voice and Speech Research 2013; Cincinnati, OH:2 pages.

4. Llico AF, Zañartu M, **Mehta DD**, Van Stan JH, Cheyne II HA, González AJ, Ghassemi M, Wodicka GR, Guttag JV, Hillman RE. Incorporating real-time biofeedback capabilities into a voice health monitor. Proceedings of the 8th International Workshop on Models and Analysis of Vocal Emissions for Biomedical Applications 2013; Firenze, Italy:3 pages.

5. Zañartu M, Espinoza V, **Mehta DD**, Van Stan JH, Cheyne II HA, Ghassemi M, Guttag JV, Hillman RE. Toward an objective aerodynamic assessment of vocal hyperfunction using a voice health monitor. Proceedings of the 8th International Workshop on Models and Analysis of Vocal Emissions for Biomedical Applications 2013; Firenze, Italy:3 pages.

6. Maguluri G, Chang E, Iftimia N, **Mehta D**, Kobler J. Dynamic vocal fold imaging by integrating optical coherence tomography with laryngeal high-speed video endoscopy. Proceedings of CLEO: Laser Science to Photonic Applications 2015; San Diego, CA:2 pages.

ABSTRACTS, POSTERS, PRESENTATIONS

1. **Mehta D**, Quatieri TF. Aspiration noise during phonation: synthesis, analysis, and pitch-scale modification. Harvard-MIT Division of Health Sciences and Technology Forum 2006; Cambridge, MA.

2. **Mehta D**, Hillman RE, Quatieri TF. High-speed color videoendoscopy of human voice production. Harvard-MIT Division of Health Sciences and Technology Forum 2007; Cambridge, MA.

3. **Mehta D**, Deliyski D, Quatieri TF, Zeitels SM, Hillman RE. Ultra high-speed color videoendoscopy of human voice production. Proceedings of the American Speech-Language-Hearing Association Convention 2007; Boston, MA.

4. **Mehta DD**, Deliyski DD, Zeitels SM, Zañartu M, Hillman RE. Integration of ultra high-speed color videoendoscopy with time-synchronized measures of vocal function. Proceedings of The Eastern Section of the Triological Society 2009; Boston, MA. First Place Poster Award in Laryngology/Bronchoesophagology.

5. Zañartu M, Ho JC, **Mehta DD**, Hillman RE, Wodicka GR. An impedance-based inverse filtering scheme with glottal coupling. Proceedings of The Acoustical Society of America 2009; Portland, OR. Best Student Paper in Speech Communication.

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7. **Mehta DD**, Zañartu M, Deliyski DD, Hillman RE. Acoustic correlates of human vocal fold vibratory phase asymmetry through modeling and laryngeal high-speed videoendoscopy. Proceedings of the 9th International Conference on Advances in Quantitative Laryngology, Voice and Speech Research 2010; Erlangen, Germany.

8. Karajanagi SS, Lopez-Guerra G, Park H, Kobler JB, Galindo M, Aanestad J, **Mehta DD**, Kumai Y, Giordano N, d'Almeida A, Heaton JT, Langer R, Herrera VLM, Faquin W, Hillman RE, Zeitels SM. Assessment of a new biomaterial designed to restore pliability to scarred vocal folds. Proceedings of the American Chemical Society 2011; Anaheim, CA.

9. **Mehta DD**, Zeitels SM, Burns JA, Friedman AD, Deliyski DD, Hillman RE. High-speed videoendoscopic analysis of relationships between cepstral-based acoustic measures and voice production mechanisms in patients undergoing phonomicrosurgery. Proceedings of the American Laryngological Association 2011; Chicago, IL.

10. **Mehta DD**, Zañartu M, Quatieri TF, Deliyski DD, Hillman RE. Use of laryngeal high-speed videoendoscopy systems to study voice production mechanisms in human subjects. Proceedings of The Acoustical Society of America 2011; San Diego, CA.

11. **Mehta DD**. Role of the mucosal wave in voice production. Joint Meeting of the Pacific Voice Conference and SPIE, Volume 8207C 2012; San Francisco, CA.

12. **Mehta DD**, Deliyski DD, Zeitels SM, Zañartu M, Hillman RE. Integration of flexible fiberoptic high-speed videoendoscopy with time-synchronized measures of vocal function. Joint Meeting of the Pacific Voice Conference and SPIE, Volume 8207C 2012; San Francisco, CA.

13. Zañartu M, **Mehta DD**, Wodicka GR, Hillman RE. Subglottal impedance-based inverse filtering for the ambulatory monitoring of vocal function: Initial results. Proceedings of the International Conference on Voice Physiology and Biomechanics 2012; Erlangen, Germany.

14. Ghassemi M, Shih E, **Mehta DD**, Feng S, Van Stan J, Hillman R, Guttag J. Detecting voice modes for vocal hyperfunction prevention. Proceedings of the 7th Annual Workshop for Women in Machine Learning 2012; Lake Tahoe, NV.

15. Zañartu M, Ho JC, **Mehta DD**, Hillman RE, Wodicka GR. Acoustic coupling during incomplete glottal closure and its effects on the inverse filtering of oral airflow. Proceedings of The Acoustical Society of America 2013; Montreal, Quebec.

16. Luegmair G, **Mehta DD**, Kobler JB, Döllinger M. Three-dimensional surface reconstruction of ex vivo vocal fold vibration using laser-grid projection during high-speed imaging. Proceedings of the International Conference on Voice Physiology and Biomechanics 2014; Salt Lake City, UT.

17. Döllinger M, **Mehta DD**, Kobler JB, Luegmair G. Correlations between dynamic 3D parameters and acoustics in ex vivo human vocal fold vibration. Proceedings of the International Conference on Voice Physiology and Biomechanics 2014; Salt Lake City, UT.

18. **Mehta DD**, Van Stan JH, Hillman RE. Deriving acoustic voice quality measures from subglottal neck-surface acceleration. Proceedings of the International Conference on Voice Physiology and Biomechanics 2014; Salt Lake City, UT.

19. Golla Powell ME, Deliyski DD, **Mehta DD**, Hillman RE. Comparison of vocal-fold vibratory features visualized via videostroboscopy, high-speed videoendoscopy, and stroboscopic simulation derived from high-speed videoendoscopy. Proceedings of the International Conference on Voice Physiology and Biomechanics 2014; Salt Lake City, UT.

20. Cooke ML, **Mehta DD**, Hillman RE. Relationships between perceptually derived acoustic voice measures and vocal fold phonatory function. Proceedings of the Voice Foundation Symposium 2014; Philadelphia, PA. David W. Brewer Award for Best Poster.

21. Döllinger M, **Mehta DD**, Kobler JB, Luegmair G. Correlations between dynamic 3D parameters and acoustics in a human ex vivo model of asymmetric vocal fold vibration. Proceedings of the Voice Foundation Symposium 2014; Philadelphia, PA.

22. Döllinger M, **Mehta DD**, Kobler JB, Luegmair G. Reconstruction of three dimensional vocal fold dynamics and correlations with the acoustical outcome demonstrated in an ex vivo model. Proceedings of the XXVIIth Congress of Union of the European Phoniatricians (UEP) 2014; Moscow, Russia.

23. Hillman RE, **Mehta DD**, Van Stan JH, Zañartu M, Ghassemi M, Guttag JV. Subglottal ambulatory monitoring of vocal function to improve voice disorder assessment. Proceedings of The Acoustical Society of America 2014; Indianapolis, IN.

24. Van Stan JH, **Mehta DD**, Hillman RE. Effect of ambulatory biofeedback on vocal motor behavior in daily life: A pilot study. Proceedings of the Annual Convention of the American Speech-Language-Hearing Association 2014; Orlando, FL.

25. Lien Y-A, Michener C, Van Stan J, **Mehta D**, Hillman R, Stepp C. Relative fundamental frequency estimation via neck skin acceleration in healthy and disordered voices. Proceedings of the Annual Convention of the American Speech-Language-Hearing Association 2014; Orlando, FL.

26. Golla Powell M, Deliyski D, **Mehta D**, Hillman R. Validation of stroboscopy derived from high-speed videoendoscopy. Proceedings of the 11th International Conference on Advances in Quantitative Laryngology, Voice and Speech Research 2015; London, England.

27. Lien Y-A S, Calabrese C, Michener CM, Murray EH, Van Stan J, **Mehta DD**, Hillman RE, Noordzij JP, Stepp CE. Automated algorithms for estimation of relative fundamental frequency in individuals with and without voice disorders. Proceedings of the 11th International Conference on Advances in Quantitative Laryngology, Voice and Speech Research 2015; London, England.

28. Van Stan JH, Jarvis MT, Park S-W, Sternad D, **Mehta DD**, Hillman RE. Development of a two-dimensional virtual environment to study variability in vocal motor learning. Proceedings of the 11th International Conference on Advances in Quantitative Laryngology, Voice and Speech Research 2015; London, England.

29. Van Stan JH, **Mehta DD**, Hillman RE. The development of flexible ambulatory biofeedback schedules for vocal motor learning. Proceedings of the 4th International Occupational Voice Symposium 2015; London, England.

30. Van Stan JH, **Mehta DD**, Zeitels SM, Burns JA, Barbu AM, Hillman RE. (2015). Average ambulatory measures of sound pressure level, fundamental frequency, and vocal dose do not differ between adult females with phonotraumatic lesions and matched control subjects. Proceedings of the American Broncho-Esophagological Association 2015; Boston, MA.

31. Aljehani H, Van Stan JH, Haynes CW, **Mehta DD**. Ambulatory voice monitoring of a Muslim imam during Ramadan. Proceedings of the Voice Foundation Symposium 2015; Philadelphia, PA.

32. Golla Powell M, Deliyski D, **Mehta D**, Hillman R. Comparison of videostroboscopy to stroboscopy derived from high-speed videoendoscopy for evaluating patients with vocal fold mass lesions. Proceedings of the Voice Foundation Symposium 2015; Philadelphia, PA.

33. Quatieri TF, Williamson JR, Smalt CJ, Helfer BS, Patel T, Perricone J, Ciccarelli G, **Mehta DD**, Ricke D, Malyska N, Palmer J, Heaton K, Eddy M, Moran J. Comparison of vocal and EEG biomarkers to discriminate cognitive load in a working memory task. Proceedings of the 12th Annual Body Sensor Networks Conference 2015; Cambridge, MA.

34. Cooke ML, Hillman RE, **Mehta DD**. Relationships Between the Cepstral/Spectral Index of Dysphonia and Vocal Fold Vibratory Function During Phonation. Proceedings of the Annual Convention of the American Speech-Language-Hearing Association 2015; Denver, CO.

35. Fryd AS, Van Stan JH, Hillman RE, **Mehta DD**. Estimating subglottal pressure during phonation with a neck-surface accelerometer sensor. Proceedings of the Annual Convention of the American Speech-Language-Hearing Association 2015; Denver, CO. Award for Meritorious Poster Submission.

36. Lien YAS, Calabrese C, Michener CM, Heller Murray E, Van Stan, JH, **Mehta DD**, Hillman RE, Noordzij JP, Stepp CE. Automated algorithms for voice relative fundamental frequency: Use, validation, and applications. Proceedings of the Annual Convention of the American Speech-Language-Hearing Association 2015; Denver, CO.

37. Hillman RE, **Mehta D**, Stepp C, Van Stan J, Zañartu M. Objective assessment of vocal hyperfunction. Proceedings of The Acoustical Society of America 2016; Salt Lake City, UT.

38. Brockmann-Bauser M, Bohlender JE, **Mehta DD**. Acoustic perturbation measures improve with increasing vocal intensity in healthy and pathological voices. Proceedings of the Voice Foundation Symposium 2016; Philadelphia, PA. Hamdan International Presenter Award.

39. Brockmann-Bauser M, Bohlender JE, **Mehta DD**. Gibt es einen klinischen Nutzen von Jitter und Shimmer bei Stimmpatienten? [Is there a clinical benefit in using jitter and shimmer in voice patients?] Proceedings of the Scientific Meeting of the Deutsche Gesellschaft für Phoniatrie und Pädaudiologie (DGPP) [German Association for Phoniatrics and Pedaudiology] 2016; Regensburg, Germany.

40. Murton O, **Mehta D**, Daher M, Verkouw K, Tabtabai S, Steiner J, Cunningham T, Hillman R, Dec GW, Ausiello D, Semigran M. Impact of congestive heart failure on voice and speech production: A pilot study. Proceedings of the Annual Scientific Meeting of the Heart Failure Society of America 2016; Orlando, FL.

41. McKenna V, Llico A, Mehta D, Stepp C. Neck-surface acceleration as an estimate of subglottal pressure during modulated vocal effort in healthy speakers. Proceedings of the Annual Convention of the American Speech-Language-Hearing Association 2016; Philadelphia, PA.

42. Maffei M, Van Stan JH, Hillman RE, **Mehta DD**. Correlating ambulatory voice measures with vocal fatigue self-ratings in individuals with MTD and normal controls. Proceedings of the Annual Convention of the American Speech-Language-Hearing Association 2016; Philadelphia, PA. Highest-rated student-authored paper in its convention topic area.

43. Stepp CE, Zañartu M, **Mehta DD**, Hillman RE. Hyperfunctional voice disorders: Current results, clinical implications, and future directions of a multidisciplinary research program. Proceedings of the Annual Convention of the American Speech-Language-Hearing Association 2016; Philadelphia, PA.

44. McKenna VS, Llico A, **Mehta D**, Perkell J, Stepp CE. Neck-surface acceleration as an estimate of subglottal pressure during modulated vocal effort and intensity in healthy speakers. Proceedings of the Occupational Voice Symposium 2017.

45. Van Stan JH, Maffei M, Masson MLV, **Mehta DD**, Hillman RE. Self-ratings of vocal status in daily life: Reliability and validity for patients with vocal hyperfunction and a normative group. Proceedings of the Occupational Voice Symposium 2017.

46. Van Stan JH, **Mehta DD**, Sternad D, Petit R, Hillman RE. Ambulatory voice biofeedback: Effect of feedback delay and frequency on reducing vocal intensity of intensive care unit nurses. Proceedings of the Occupational Voice Symposium 2017.

47. Espinoza VM, **Mehta DD**, Van Stan JH, Hillman RE, Zañartu M. Uncertainty of glottal airflow measures during continuous speech using impedance-based inverse filtering of neck-surface acceleration. Proceedings of the Acoustical Society of America 2017.

48. **Mehta DD**, Van Stan JH, Masson MLV, Maffei M, Hillman RE. Relating ambulatory voice measures with self-ratings of vocal fatigue in individuals with phonotraumatic vocal hyperfunction. Proceedings of the Acoustical Society of America 2017.

49. **Mehta DD**, Iftimia N, Kobler JB, Park J, Maguluri G, Chang E. Integrating optical coherence tomography with laryngeal videostroboscopy. Proceedings of the Acoustical Society of America 2017.

50. Cortés JP, Zañartu M, **Mehta DD**, Van Stan JH, Hillman RE. Classification of patients with muscle tension dysphonia and matched-controls using ambulatory voice monitoring. Proceedings of the International Conference on Advances in Quantitative Laryngology, Voice and Speech Research 2017.

51. Maguluri G, Park J, Kobler JB, Iftimia N, **Mehta DD**. 4D laryngeal imaging by synchronously combining OCT with videostroboscopy. Proceedings of the International Conference on Advances in Quantitative Laryngology, Voice and Speech Research 2017.

PATENTS

1. Zañartu M, Ho JC, **Mehta DD**, Wodicka GR, Hillman RE. System and methods for evaluating vocal function using an impedance-based inverse filtering of neck surface acceleration. US Publication Number US20140066724 A1. Published March 6, 2014.

2. Quatieri TF, Williamson JR, Helfer B, Horwitz-Martin RL, Yu B, **Mehta DD**. Using correlation structure of speech dynamics to detect neurological changes. US Publication Number US20150112232 A1. Published April 23, 2015.

INVITED PRESENTATIONS

Regional

Smartphone-based ambulatory monitoring of vocal function to improve voice disorder assessment
Boston, MA — Sep 2017
Invited by John Kane
For the Signals Group at Cogito Corporation

Toward detection of voice disorders using a smartphone platform Cambridge, MA — Jun 2013
Invited by Lorin Wilde
For the New England Chapter of the Applied Voice Input/Output Society (AVIOS)

Seeing the human voice from the inside Cambridge, MA — Mar 2013
Invited by John V. Guttag
For the Medical Vision Group at the Computer Science and Artificial Intelligence lab, Massachusetts Institute of Technology

Impact of human vocal fold vibratory asymmetries on acoustic characteristics of vowel phonation Boston, MA — Dec 2010
Invited by Gerald Kidd
For Speech, Language, and Hearing Sciences Seminar Series, Sargent College, Boston University

Human vocal folds in action Natick, MA — Jul 2009
Invited by image processing group
Seminar to engineers and computer scientists at The MathWorks, Natick, MA

Do you see what I'm saying? Visualizing the voice Cambridge, MA — Mar 2008
Invited by Patrick J. Wolfe
For master's-level and doctoral students in the Statistics and Information Sciences Laboratory, Harvard University

Graduate student perspectives Cambridge, MA — Nov 2007
Invited by Mya Poe
Seminar for doctoral students in the Harvard-MIT Division of Health Sciences and Technology

National

Smartphone-based ambulatory monitoring of vocal function Evanston, IL — Apr 2017
Invited by Aaron Friedman
Short course on Current Concepts in Laryngeal Surgery and Voice Rehabilitation, University of Chicago and NorthShore University Health System

Enhancing clinical voice assessment with smartphone-based ambulatory voice monitoring Evanston, IL — Dec 2015
Invited by Sumitrajit Dhar
Roxelyn and Richard Pepper Department of Communication Sciences and Disorders, Northwestern University

Imaging the mucosal wave during voice production Cincinnati, OH — Jun 2013
Invited by Dimitar Deliyski
AQL Workshop course at 10th International Conference on Advances in Quantitative Laryngology

Laryngeal videostroboscopy: Full exposure Cincinnati, OH — Jun 2013
Invited by Dimitar Deliyski
AQL Workshop course at 10th International Conference on Advances in Quantitative Laryngology

Parametric speech production representations for formant tracking and joint source-filter modeling Portland, OR — Mar 2012
Invited by Jan van Santen
Center for Spoken Language Understanding, Oregon Health and Science University

Parametric speech production representations for formant tracking and joint source-filter modeling Los Angeles, CA — Jan 2012
Invited by Shrikanth Narayanan
Viterbi School of Engineering, University of Southern California

Parametric speech production representations for formant tracking and joint source-filter modeling Seattle, WA — Nov 2011
Invited by Les E. Atlas
Department of Electrical Engineering, University of Washington

Use of laryngeal high-speed videoendoscopy systems to study voice production mechanisms in human subjects Sacramento, CA — Nov 2011
Invited by Julie Barkmeier-Kraemer
Grand Rounds talk at the Center for Voice and Swallowing, University of California Davis Medical Center

Advances in clinical voice assessment Los Angeles, CA — Nov 2011
Invited by Abeer Alwan
Electrical Engineering Department, University of California Los Angeles

International

Use of laryngeal high-speed videoendoscopy systems to study voice production mechanisms in human subjects Taipei, Taiwan — Oct 2017
ENT Department, Taipei Veterans General Hospital

Real-world ambulatory monitoring of vocal behavior Stockholm, Sweden — Aug 2017
Accepted 3-hour conference tutorial
INTERSPEECH conference

Update on use of technology for occupational voice London, UK — Mar 2017
Invited by Ruth Epstein
5th Occupational Voice Symposium, University College London

Smartphone-based ambulatory monitoring of vocal function to improve voice disorder assessment Gandhinagar, India — Jul 2016
Invited by Hemant Patil
Dhirubhai Ambani Institute of Information and Communication Technology

Toward detection of voice disorders using a smartphone platform Valparaíso, Chile — Mar 2014
Invited by Matías Zañartu
Universidad Técnica Federico Santa María

Current research directions in high-speed videoendoscopy and ambulatory voice monitoring Erlangen, Germany — May 2013
Invited by Michael Döllinger
ENT Clinic, University Hospital Erlangen

Recent advances in laryngeal high-speed videoendoscopy Valparaíso, Chile — Jan 2013
Invited by Matías Zañartu
Universidad Técnica Federico Santa María

Vocal fold vibratory asymmetry and its acoustic effects Atsugi, Kanagawa, Japan — Jul 2011
Invited by Sadao Hiroya
Communication Sciences Laboratories, Nippon Telegraph and Telephone (NTT) Corporation

Vocal fold vibratory asymmetry and its acoustic effects Olomouc, Czech Republic — May 2011
Invited by Jan Švec
Palacký University

High-speed imaging of the human voice Leipzig, Germany — Oct 2010
Invited by Heriberto Avelino
Max Planck Institute for Evolutionary Anthropology

Acoustic correlates of human vocal fold vibratory characteristics Erlangen, Germany — Oct 2010
Invited by Dimitar Deliyski
COST 2103 Workshop course on Advances in Vocal Function Assessment

SERVICE TO COMMUNITY

Chaplains at MIT Cambridge, MA — Sep 2011–Present
Serve as Zoroastrian chaplain on campus to foster student life and interfaith engagement.

Harvard Chaplains Cambridge, MA — Oct 2010–Present
Serve as Zoroastrian chaplain on campus to foster student life and interfaith engagement.

Science by the Pint Seminar Series Somerville, MA — Sep 2017
Gave presentation to the public on voice health and methods for imaging. Seminar series organized by graduate students to invite scientists to interact with the community.

Longwood Symphony Orchestra Boston, MA — May 2009
Performed clarinet in a concert benefiting the Albert Schweitzer Fellowship that supports emerging professionals addressing health disparities in the US and Africa.

Performed clarinet in a chamber music group at an assisted living and long-term care facility for "LSO on Call: Health and Harmony in the City." — Oct 2009