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Assistant Professor

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I. RESEARCH FOCUS & INTERESTS

My program of research has two major focus areas: (1) voice and voice quality perception and acoustics in healthy and disordered voices across the lifespan, and (2) assessment of speech characteristics in people with Parkinson's disease (PD). I have a speech language pathology background with expertise in speech and voice science, assessment and management of voice disorders, and voice quality perception and modeling. My research interests include evaluation of (1) effects of task complexity on acoustic characteristics of speech in people with PD, (2) disease staging in people with PD, and (3) speech naturalness in people with PD.

II. EDUCATION

- 2008 – 2013 (Dec) **Ph.D.**, Speech, Language, and Hearing Sciences
 University of Florida, Gainesville, FL
Topic: Effects of task complexity on acoustic characteristics of Parkinsonian speech
Mentor: Rahul Shrivastav Ph.D. CCC-SLP
- 2005 - 2007 **M.Sc.**, Speech-Language Pathology
 All India Institute of Speech and Hearing, Mysore, India
Topic: Vocal exercises and health in Carnatic and Hindustani singers – A Survey
Mentor: S.R. Savithri Ph.D.
- 2001 - 2005 **B.Sc.**, Speech and Hearing
 All India Institute of Speech and Hearing, Mysore, India

III. POSITIONS AND EMPLOYMENT

- 2016 - Present **Assistant Professor**, Department of Communication Sciences and Disorders
 University of South Florida, Tampa, FL
 Director, Speech Motor Systems Laboratory
- *Spring 2021 *Maternity leave*
 *Fall 2021 *Leave of absence to care for my child*
- 2014 - 2016 **Assistant Professor**, Department of Communication Sciences and Disorders
 West Chester University, West Chester, PA
- 2014 - 2014 **Postdoctoral Fellow**, Department of Speech, Language and Hearing Sciences
 Boston University, Boston, MA
Mentor: Cara Stepp Ph.D.
- 2008 - 2013 **Graduate Research Assistant**, Dept. of Speech, Language and Hearing Sciences
 University of Florida, Gainesville, FL
- 2010 **Graduate Teaching Assistant**, Dept. of Speech, Language and Hearing Sciences
 University of Florida, Gainesville, FL
- 2007 - 2008 **Research Officer (Assistant)**, Department of Speech-Language Sciences
 All India Institute of Speech and Hearing, Mysore, India

IV. AWARDS AND HONORS

2022	2021 Journal of Voice Best Paper Award (VII, #11) 51 st Annual Symposium of the Voice Foundation: Care of the Professional Voice
2020	Nominated for USF College of Behavioral and Community Sciences (CBCS) Outstanding Research Award
2020	2019 Journal of Voice Best Paper Award (VII, #10) 49 th Annual Symposium of the Voice Foundation: Care of the Professional Voice
2020	2019 Journal of Voice Best Paper Nomination (VII, #9) 49 th Annual Symposium of the Voice Foundation: Care of the Professional Voice
2019	USF Faculty International Travel Grant 23 rd International Congress on Acoustics, Aachen, Germany
2017	Early Career Travel Grant 174 th Meeting of the Acoustical Society of America (ASA), New Orleans, LA
2015	Outstanding Faculty Award, Honors College West Chester University, West Chester, PA
2014	Outstanding Faculty Award, Honors College West Chester University, West Chester, PA
2012	Research Mentoring Pair Travel Award Annual convention of the American Speech, Language, and Hearing Association (ASHA), Atlanta, GA
2008 - 2012	Graduate Alumni Fellowship Department of Speech, Language, and Hearing Sciences University of Florida, Gainesville, FL
2007	Muktesh Award for Best Paper in Language 39 th Annual Conference of Indian Speech and Hearing Association Calicut, India

V. PROFESSIONAL AFFILIATIONS/MEMBERSHIPS

- Indian Speech and Hearing Association (ISHA)
- American Speech-Language and Hearing Association (ASHA)
- ASHA Special Interest Group 3: Voice and Voice Disorders
- Acoustical Society of America (ASA)
- Voice Foundation
- Movement Disorders Society

VI. GRANTS/FUNDING

Extramural Research Support - Funded/Current

07/01/2020 – 06/30/2025 **NIH-NIDCD (R01)**

Pediatric Dysphonia: Multidisciplinary Advances to Improve Voice Quality Outcomes

The goal of this study is to examine basic properties of pediatric dysphonia and develop methods and clinical protocols to improve quantification of dysphonic voice quality.

Role: Co-investigator

PIs: Eddins, Shrivastav, de Alarcon

Total Costs = \$2,839,375.00 (Direct costs = 2,062,332.00; Indirect costs = 777,043.00; **Co-I = \$313,184**)

04/01/2021 – NIH-NIDCD (R01)
03/31/2026

A Comprehensive Psychoacoustic Approach to Voice Quality Perception

The goal of this study is to establish novel psychometric scales and automated estimates of dysphonic voice quality for both vowel and connected speech stimuli based on quantitative models of auditory perception.

Role: Co-investigator

PIs: Eddins, Shrivastav, Bonilha

Total Costs = \$3,728,715.00 (Direct costs = 2,863,583.00; Indirect costs = 865,132.00; **Co-I = \$217,287**)

Extramural Research Support - Funding from Fall 2022

09/01/2021 – NIH-NIDCD (R01)
08/31/2026

Towards Precision Assessment of Dysphonic Speech: From Vocal Fold Physiology to Perception

The goal of this study is to discover and quantify physiological mechanisms underlying normal and abnormal VF behavior and establish their relationships to voice quality perception in connected speech.

Role: Sub-Award/Site Principal Investigator

PIs: Deliyski, Zacharias, Shrivastav

Total Costs = \$886,626.00 (Direct costs =593,069.00; Indirect costs = 293,567.00; **Co-I = \$253,918**)

Extramural Research Support - Completed

08/07/2016 – NIH-NIDCD (R01)
06/30/2020

A Psychoacoustic Approach to Dysphonic Voice Quality Perception in Vowels

The goal of this study is to a) refine methods for perceptual evaluation of dysphonic voice quality, b) develop bio-inspired (based on auditory processing) computational models, and c) evaluate treatment outcomes through novel psychophysical scales.

Role: Co-investigator

PIs: Shrivastav, Eddins

Co-I = \$151,039

Extramural Research Support - Not Funded

09/01/2020 – NIH-NIDCD (R21)
08/31/2022

Neural and Behavioral Correlates of Bidirectional Interference in Speech, Motor, and Cognitive Tasks

The goal of this study is to leverage divided attention models and physiological measures of neuronal activity to characterize and quantify cognitive/motor interferences on speech production in people with Parkinson's disease.

Role: Principal Investigator

MPI: Parthasarathy

Score: 45; Percentile: 38

09/01/2020 – NIH-NIDCD (R21)
08/31/2023

Psychophysical Bases for Pleasantness in Substitution Voices

The goal of this study is to leverage theoretical frameworks, principles, and models grounded in auditory perception to systematically investigate pleasantness in severely disordered aperiodic substitution voices and validate a user-friendly, automated tool for

quantitative analysis of aperiodic voices in the clinic.

Role: Principal Investigator

Planned Extramural Applications

09/01/2023 – 08/31/2028
NIH-NIDCD (Katz ESI R01)

Neural and Behavioral Correlates of Bidirectional Interference in Speech, Motor, and Cognitive Tasks

Role: Principal Investigator

09/01/2023 – 08/31/2028
NIH-NIDCD (R01)

Psychophysical Bases for Pleasantness in Substitution Voices

Role: Principal Investigator

Completed Intramural Research Support (University of South Florida, FL)

2017 - 2019 **USF New Investigator Research Award/Grant**

Syllable Repetition vs. Finger Tapping: Potential Biomarkers in Parkinson's disease

The goal of this study is to explore the interactions and dissociations across the motor and speech systems in people with Parkinson's disease using maximum performance tasks.

Completed Intramural Research Support (West Chester University, PA)

2015 - 2016 **Student Faculty Research Award (SFRA)**

Assessment of Articulatory Deficits in Individuals with Dysarthria

The goal of this study was to characterize and quantify articulatory errors in people with Parkinson's disease (PD) through phonemic and acoustic analyses.

2015 - 2016 **University Research Funding (URF) Grant**
Effects of Aging on Oral Diadochokinesis

The goal of this study was to measure speech deterioration due to aging through novel acoustic measures of articulation. Specifically, the speech deterioration was evaluated through a dual-task paradigm where the primary task was "speech" and the secondary tasks were "cognitive" or "linguistic" in nature.

VII. PEER-REVIEWED PUBLICATIONS: [Google Scholar citations \(as of 03/08/22\): 361, h-index: 12, i10 - index: 13](#)

*Student authors are underlined.

In Preparation

22. **Anand, S.**, Seldine, M., Ozmeral, E. J., Shrivastav, R., & Eddins, D. A. (In Preparation). Behavioral and computational estimates of the pitch height and pitch strength of synthetic and natural sounds.
21. **Anand, S.** (In Preparation). Perceptual and computational estimates of breathiness across sustained vowel phonations and running speech.
20. **Anand, S.**, Bonilha, H. S., Shrivastav, R., & Eddins, D. A. (In Preparation). Clinical scales of vocal breathiness and roughness: A pilot field study.
19. **Anand, S.** (In Preparation). Perceptual correlates of naturalness for speakers with Parkinson's disease.
18. **Anand, S.** (In Preparation). Effects of divided attention on vocal and speech motor performance in healthy young and old adults.
17. **Anand, S.**, Parthasarathy, A. B., Buffone, D., & Athanasios, T. (In Preparation). Timed limb-motor and speech-motor evaluation in people with and without Parkinson's disease.

Under Revision

Updated on 03/25/2022

16. Park, Y., **Anand, S.**, Kopf, L. M., Shrivastav, R., & Eddins, D. A. (Under Revision). Interactions between breathy and rough voice qualities and their contributions to overall dysphonia severity. *Journal of Speech, Language and Hearing Research*.
15. Park, Y., **Anand, S.**, Ozmeral, E. J., Shrivastav, R., & Eddins, D. A. (Under Revision). Predicting perceived vocal roughness using a bio-inspired computational model of auditory temporal envelope processing. *Journal of Speech, Language and Hearing Research*.

Published

14. **Anand, S.**, Gutierrez, D., & Bottalico, P. (In Press). Acoustic-perceptual correlates of voice among steam train engineers: Effects of noise and hearing protection. *Journal of Voice*. Available Online, 23 February 2021. <https://doi.org/10.1016/j.jvoice.2021.01.006>
13. Eddins, D. A., **Anand, S.**, Lang, A., & Shrivastav, R. (2021). Developing clinically relevant scales of breathy and rough voice quality. *Journal of Voice*, 35(4), 663-e9. <https://doi.org/10.1016/j.jvoice.2019.12.021> ***Winner of Journal of Voice 2021 Best Paper Award – Speech-Language Pathology/Vocal Pedagogy***
12. **Anand, S.**, Bottalico, P., & Gray, C. (2021). Vocal fatigue in prospective vocal professionals. *Journal of Voice*, 35(2), 247-258. <https://doi.org/10.1016/j.jvoice.2019.08.015>
11. **Anand, S.**, Kopf, L.M., Shrivastav, R., & Eddins, D.A. (2021). Using pitch height and pitch strength to characterize Type 1, 2, and 3 voice signals. *Journal of Voice*, 35(2), 181-193. <https://doi.org/10.1016/j.jvoice.2019.08.006> ***Winner of Journal of Voice 2021 Best Paper Award – Basic Science***
10. **Anand, S.**, Kopf, L. M., Shrivastav, R., & Eddins, D. A. (2019). Objective indices of perceived vocal strain. *Journal of Voice*, 33(6), 838-845. <https://doi.org/10.1016/j.jvoice.2018.06.005> ***Winner of Journal of Voice 2019 Best Paper Award – Speech-Language Pathology/Vocal Pedagogy***
9. **Anand, S.**, Skowronski, M.D., Shrivastav, R., & Eddins, D. A. (2019). Perceptual and quantitative assessment of dysphonia across vowel categories. *Journal of Voice*, 33(4), 473-481. <https://doi.org/10.1016/j.jvoice.2017.12.018> ***Nominated for Journal of Voice 2019 Best Paper Award – Basic Science***
8. Kopf, L., Skowronski, M. D., **Anand, S.**, Eddins, D. A., & Shrivastav, R. (2019). Perception of breathiness in the voices of pediatric speakers. *Journal of Voice*, 33(2), 204-213. <https://doi.org/10.1016/j.jvoice.2017.09.024>
7. Grillo, E. U., Brosious, J. N., Sorrell, S. L., & **Anand, S.** (2016). Influence of smartphones and software on acoustic voice measures. *International Journal of Telerehabilitation*, 8(2), 9-14. doi: [10.5195/ijt.2016.6202](https://doi.org/10.5195/ijt.2016.6202)
6. Eddins, D. A., **Anand, S.**, Camacho, A., & Shrivastav, R. (2016). Modeling of breathy voice quality using pitch strength estimates. *Journal of Voice*, 30(6), 774.e1-774.e7. <https://doi.org/10.1016/j.jvoice.2015.11.016>
5. **Anand, S.**, & Stepp, C. E. (2015). Listener perceptions of monopitch, speech intelligibility and naturalness of individuals with Parkinson's disease. *Journal of Speech, Language and Hearing Research*, 58(4), 1134-1144. https://doi.org/10.1044/2015_JSLHR-S-14-0243
4. Shrivastav, R., Eddins, D. A., & **Anand, S.** (2012). Pitch strength of normal and dysphonic voices. *The Journal of Acoustical Society of America*, 131(3), 2261-2269. <https://doi.org/10.1121/1.3681937>
3. **Anand, S.**, Wingate, J., Smith, B., & Shrivastav, R. (2012). Acoustic parameters critical for appropriate vibrato. *Journal of Voice*, 26(6), 820.e19-25. <https://doi.org/10.1016/j.jvoice.2012.06.004>
2. **Anand, S.**, Wingate, J., Chheda, N. N., & Shrivastav, R. (2012). An acoustic-perceptual study of vocal tremor. *Journal of Voice*, 26(6), 811.e1-7. <https://doi.org/10.1016/j.jvoice.2012.02.007>

1. **Anand, S.**, El-Bashiti, N., & Sapienza, C. (2012). Effect of training frequency on maximum expiratory pressure. *American Journal of Speech-Language Pathology*, 21(4), 380-386.
[https://doi.org/10.1044/1058-0360\(2012/11-0048\)](https://doi.org/10.1044/1058-0360(2012/11-0048))

VIII. PATENTS

“Screening for Neurological Disease Using Speech Articulation Characteristics” Patent No. 9,579,056 issued on February 28, 2017. Assigned to the University of Florida. Inventors: John Rosenbek, Mark Skowronski, Rahul Shrivastav, **Supraja Anand**.

“Systems and Methods of Screening for Medical States using Speech and Other Vocal Behaviors” Patent No. 8,784,311 issued on July 22, 2014. Assigned to the University of Florida. Inventors: Rahul Shrivastav, John Rosenbek, James Harnsberger, **Supraja Anand**.

IX. PEER-REVIEWED CONFERENCE PROCEEDINGS AND PUBLISHED ABSTRACTS

*Student authors are underlined.

31. **Anand, S.**, Park, Y., Gifford, S.M., Shrivastav, R., & Eddins, D.A. (2022). Sharpening our ability to quantify vocal strain: Success with a computational model of spectral sharpness and a novel matching stimulus. 51st Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA.
30. Park, Y., Brehm, S.B., Kelchner, L., Weinrich, B., McElfresh, K., **Anand, S.**, Shrivastav, R., de Alarcon, A., Eddins, D.A. (2022). Pediatric dysphonia: Effects of vibratory source on auditory-perceptual and bio-inspired computational measures of voice quality. 51st Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA.
29. Park, Y., Ozmeral, E.J., **Anand, S.**, Shrivastav, R., Eddins, D.A. (2021). Prediction of vocal roughness using measures of temporal envelope fluctuation obtained from an auditory model. *The Journal of the Acoustical Society of America*, 150(4), A191-A191.
28. **Anand, S.**, Shrivastav, R., & Eddins, D. A. (2021). Effects of covarying breathiness and roughness on dysphonia severity in natural voices. 50th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA.
27. Gutierrez, D., Bottalico, P., & **Anand, S.** (2020). Impact of Hearing Protection and Background Noise on the Voice of Steam Train Engineers. 49th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA.
26. Eddins, D.A., **Anand, S.**, Dyjak, M., & Shrivastav, R. (2020). Acoustic and Psychoacoustic Correlates of Perceived Vocal Strain. 49th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA.
25. **Anand, S.** (2019). Effects of aging and dual task demands on vocal function. 48th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA.
24. Eddins, D. A., **Anand, S.**, & Shrivastav, R. (2019). Validation of novel clinical scales for voice quality perception. 48th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA.
23. Eddins, D. A., **Anand, S.**, & Shrivastav, R. (2019). Interactions among perceived breathiness, roughness, and overall severity of dysphonia. *The Journal of the Acoustical Society of America*, 145(3), 1797-1797.
22. **Anand, S.**, Patel, S., & Parveen, S. (2018). Speech prosody and naturalness: potential treatment outcome measures for speakers with Parkinson's disease. *Archives of Physical Medicine and Rehabilitation*, 99(12), e214.
21. **Anand, S.**, Eddins, D. A., & Shrivastav, R. (2018). Perceptual and quantitative assessment of vocal roughness across sustained phonations and connected speech. 47th Annual Symposium of the Voice

Foundation: Care of the Professional Voice, Philadelphia, PA.

20. **Anand, S.**, Eddins, D. A., & Shrivastav, R. (2017). Comparing roughness in sustained phonations and connected speech using a matching task. *The Journal of Acoustical Society of America*, 142(4), 2520.
19. Eddins, D. A., Skowronski, M. D., **Anand, S.**, & Shrivastav, R. (2017). Acoustic predictors and bio-inspired modeling of the perceived vocal breathiness of sustained phonations and continuous speech. 46th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA.
18. Eddins, D. A., Skowronski, M. D., **Anand, S.**, & Shrivastav, R. (2016). Psychometric measurement of vocal strain using a matching task with sustained vowel stimuli. *The Journal of Acoustical Society of America*, 140(4), 3398.
17. Shrivastav, R., Skowronski, M. D., **Anand, S.**, & Eddins, D. A., (2016). Measurement of vocal breathiness perception with a matching task for sustained phonation and running speech. *The Journal of Acoustical Society of America*, 140(4), 3398.
16. Patel, S., Parveen, S., & **Anand, S.** (2016). Prosodic changes in Parkinson's disease. *The Journal of Acoustical Society of America*, 140(4), 3442.
15. **Anand, S.**, Skowronski, M. D., & Shrivastav, R. (2016). Effect of speech tasks on cepstral measures of articulation. *The Journal of Acoustical Society of America*, 140(4), 3443.
14. Avenoso, A. & **Anand, S.** (2016). Listener perceptions of attractiveness and dominance of female voices. 45th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA.
13. **Anand, S.**, Skowronski, M.D., & Parveen, S. (2016). Quantification of articulatory deficits in individuals with Parkinson's disease using cepstral coefficients. Eighteenth Biennial Conference on Motor Speech Disorders and Speech Motor Control, Newport Beach, CA.
12. Parveen, S., **Anand, S.**, & Washburn, I. J. (2016). Naïve and familiar listeners' perceptions of monologues produced by individuals with Parkinson disease and age-and-gender matched healthy speakers. Eighteenth Biennial Conference on Motor Speech Disorders and Speech Motor Control, Newport Beach, CA.
11. **Anand, S.**, Shrivastav, R., & Wingate, J. (2015). Pitch diadochokinesis in individuals with Parkinson's disease: A novel maximum performance task. 44th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA.
10. **Anand, S.**, Shrivastav, R., & Eddins, D. A. (2013). Predicting breathiness using estimates of pitch strength. 42nd Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA.
9. Skowronski, M. D., Shrivastav, R., Harnsberger, J., **Anand, S.**, & Rosenbek, J. (2012). Acoustic discrimination of Parkinson's speech using cepstral measures of articulation. *The Journal of Acoustical Society of America*, 132, 2089.
8. Eddins, D. A., Shrivastav, R., Cordova, T., & **Anand, S.** (2011). Psychometric properties of a matching task for quantifying perception of roughness. 40th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA.
7. **Anand, S.**, Shrivastav, R., & Eddins, D. A. (2010). Pitch strength of normal and dysphonic voices. 39th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA.
6. **Anand, S.**, Shrivastav, R., Wingate, J., & Smith, B. (2010). Acoustic parameters critical for appropriate vibrato. 39th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA.
5. **Anand, S.**, Ghosh, K., & Savithri, S.R. (2008). Acoustic similarities and differences within and between speakers. *Proceedings of Frontiers of Research on Speech and Music (FRSM)*, Kolkata,

4. Johnsi Rani, R., **Anand, S.**, & Savithri, S.R. (2008). Long term Average Spectral (LTAS) measures in children and adults. *Proceedings of Frontiers of Research on Speech and Music (FRSM)*, Kolkata, India.
3. Kumar, R., **Anand, S.**, & Savithri, S.R. (2008). Comparative study of rate of reading in native speakers of Manipuri and Kannada language. *Proceedings of Frontiers of Research on Speech and Music (FRSM)*, Kolkata, India.
2. **Anand, S.**, Goswami, S., & Savithri, S.R. (2007). Acoustic similarities and differences within and between speakers. *Proceedings of National Symposium on Acoustics*, Tiruchengode, India.
1. **Anand, S.**, & Savithri, S. R. (2007). Relationship between habitual frequency of voice and 'a:dha:ra sruti' in Carnatic vocal music. *Proceedings of Frontiers of Research on Speech and Music (FRSM)*, Mysore, India.

X. INVITED TALKS

7. **Anand, S.**, Gutierrez, D., & Bottalico, P. (2019). Effects of background noise on acoustic-perceptual correlates of voice. 23rd International Congress on Acoustics, Aachen, Germany, September, 2019. **Oral Presentation. Funded by USF International Travel Grant awarded to Supraja Anand.**
6. **Anand, S.** (2019). Voice assessment: Recent developments and implications for clinical practice. 51st Annual Conference of the Indian Speech and Hearing Association, Bangalore, India, February 2019. **Oral Presentation.**
5. **Anand, S.** (2017). An update on assessment of speech deficits. Parkinson's disease Patient and Caregiver Informational Forum, April 2017. **Oral Presentation.**
4. **Anand, S.** (2017). Understanding perceptual and motor deficits using speech acoustics. iCONS Research Group Seminar, February, 2017. **Oral Presentation.**
3. **Anand, S.**, & Benigas, J. (2015). Effects of aging and disease processes on communication. Integrative Spring Health Conference, April, 2015. **Oral Presentation.**
2. **Anand, S.** (2015). Parkinson's disease: An update on assessment of speech deficits. Christiana HealthCare System, February, 2015. **Oral Presentation.**
1. **Anand, S.** (2011). Pitch strength of dysphonic voices. Annual University of Florida, College of PPHP Advisory Board Meeting. September, 2011. **Oral Presentation.**

XI. CONTRIBUTED PRESENTATIONS (INTERNATIONAL, NATIONAL, STATE, AND LOCAL)

*Student authors are underlined.

42. Park, Y., Ozmeral, E.J., **Anand, S.**, Shrivastav, R., Eddins, D.A. (2021). Prediction of vocal roughness using measures of temporal envelope fluctuation obtained from an auditory model. Acoustical Society of America, Seattle WA, December 2021. Poster Presentation.
41. **Anand, S.**, Park, Y., Shrivastav, R. & Eddins, D.A. (2021). Psychoacoustic Correlates of Perceived Vocal Strain: A Novel Comparison between Clean and Covary Strain Samples. Annual convention of the American Speech, Language and Hearing Association (ASHA), Washington DC, November, 2021. **Oral Presentation.**
40. **Anand, S.**, Shrivastav, R., & Eddins, D. A. (2021). Effects of covarying breathiness and roughness on dysphonia severity in natural voices. 50th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA, June 2021. **Oral Presentation.**
39. Gutierrez, D., Bottalico, P., & **Anand, S.** (2020). Impact of Hearing Protection and Background Noise on the Voice of Steam Train Engineers. 49th Annual Symposium of the Voice Foundation: Care of the

Professional Voice, Philadelphia, PA, May, 2020. **Oral Presentation.**

38. Eddins, D.A., **Anand, S.**, Dyjak, M., & Shrivastav, R. (2020). Acoustic and Psychoacoustic Correlates of Perceived Vocal Strain. 49th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA, May, 2020. **Oral Presentation.**
37. **Anand, S.**, Eddins, D.A., Shrivastav, R., de Alarcon, A., Brehm, S. B., Kelchner, L., & Weinrich, B. (2019). Pitch-based measures are better descriptors for pediatric voices with supraglottic vibratory sources. Annual convention of the American Speech, Language and Hearing Association (ASHA), Orlando, FL, November, 2019. **Oral Presentation.**
36. **Anand, S.**, Parthasarathy, A.B., Buffone, D., & Tsalatsanis, A. (2019). Timed limb-motor and speech-motor evaluation in Parkinson's disease. Annual convention of the American Speech, Language and Hearing Association (ASHA), Orlando, FL, November, 2019. Poster Presentation.
35. Gutierrez, D., & **Anand, S.** (2019). Acoustic-perceptual correlates of speech naturalness in Parkinson's disease: A pilot study. Annual convention of the American Speech, Language and Hearing Association (ASHA), Orlando, FL, November, 2019. Poster Presentation.
34. Masso-Maldonado, P., & **Anand, S.** (2019). Speech naturalness profile on different tasks for people with Parkinson's disease. Annual convention of the American Speech, Language and Hearing Association (ASHA), Orlando, FL, November, 2019. Poster Presentation.
33. **Anand, S.**, (2019). Effects of aging and dual task demands on vocal function. 48th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA, June, 2019. Poster Presentation.
32. Eddins, D. A., **Anand, S.**, & Shrivastav, R. (2019). Validation of novel clinical scales for voice quality perception. 48th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA, June, 2019. Oral Presentation.
31. Eddins, D. A., **Anand, S.**, & Shrivastav, R. (2019). Interactions among perceived breathiness, roughness, and overall severity of dysphonia. 177th Meeting of the Acoustical Society of America, Louisville, KY, May, 2019. Poster Presentation.
30. Abraham, S., & **Anand, S.** (2019). Cepstral measures of articulation in young adults. USF Undergraduate Research Conference, University of South Florida, Tampa, FL, April 2019. Poster Presentation.
29. Gutierrez, D., **Anand, S.**, & Patel, S., (2019). Examining the relationship between naturalness of prosodic dimensions and overall speech naturalness. USF Undergraduate Research Conference, University of South Florida, Tampa, FL, April 2019. Poster Presentation.
28. Masso-Maldonado, P., & **Anand, S.** (2019). Effect of speech task on speech naturalness and its perceptual correlates. USF Undergraduate Research Conference, University of South Florida, Tampa, FL, April 2019. Poster Presentation. **Winner of USF Student Research Award!**
27. Yap, M., & **Anand, S.** (2019). Syllable repetition vs. finger tapping in people with Parkinson's disease. USF Undergraduate Research Conference, University of South Florida, Tampa, FL, April 2019. Poster Presentation.
26. Parveen, S., **Anand, S.**, & Patel, S. (2018). Changes in prosody in Parkinson's disease: Speech task matters! Annual convention of the American Speech, Language and Hearing Association (ASHA), Boston, MA, November, 2018. Poster Presentation.
25. Gutierrez, L., Masso-Maldonado, P., & **Anand, S.** (2018). Perceptual correlates of speech naturalness for speakers with Parkinson's disease. Annual convention of the American Speech, Language and Hearing Association (ASHA), Boston, MA, November, 2018. Poster Presentation.
24. Eddins, D.A., **Anand, S.**, & Shrivastav, R. (2018). A Psychoacoustic approach to understanding dysphonic voice: Quantifying perception of breathiness and roughness in vowels and sentences. 34th

- World Congress of Audiology (WCA), Cape Town, South Africa, October, 2018. **Oral Presentation.**
23. **Anand, S.,** Patel, S., & Parveen, S. (2018). Speech prosody and naturalness: Potential treatment outcome measures for speakers with Parkinson's disease. American Congress of Rehabilitation Medicine - 95th Annual Conference, Dallas, Texas, October, 2018. Poster Presentation.
 22. **Anand, S.,** Eddins, D. A., & Shrivastav, R. (2018). Perceptual and quantitative assessment of vocal roughness across sustained phonations and connected speech. 47th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA, June, 2018. **Oral Presentation.**
 21. Gutierrez, L., Masso-Maldonado, P., & Anand, S. (2018). Speech naturalness and its perceptual correlates. USF Undergraduate Research Symposium, University of South Florida, Tampa, FL, April 2018. Poster Presentation.
 20. Eddins, D.A., **Anand, S.,** Skowronski, M. D., & Shrivastav, R. (2018). Psychoacoustics and dysphonia. 12th Annual Meeting of the Auditory Cognitive Neuroscience Society (ACNS), Tampa, FL, January, 2018. **Oral Presentation.**
 19. **Anand, S.,** Eddins, D. A., & Shrivastav, R. (2017). Comparing roughness in sustained phonations and connected speech using a matching task. 174th Meeting of the Acoustical Society of America, New Orleans, LA, December, 2017. Poster Presentation.
 18. Eddins, D. A., Skowronski, M. D., **Anand, S.,** & Shrivastav, R. (2017). Acoustic predictors and bio-inspired modeling of the perceived vocal breathiness of sustained phonations and continuous speech. 46th Annual Symposium of the Voice Foundation: Care of the Professional Voice, Philadelphia, PA, June, 2017. **Oral Presentation.**
 17. **Anand, S.,** & Skowronski, M.D. (2017). Effects of divided attention on speech motor performance in healthy young and old adults. Florida Chapter of the Acoustical Society of America, University of South Florida, Tampa, FL, May, 2017. **Oral Presentation.**
 16. Riekers, L., & Anand, S. (2016). Effects of aging on speech motor control during dual task performance. Annual convention of the American Speech, Language and Hearing Association (ASHA), Philadelphia, PA, November, 2016. Poster Presentation.
 15. Brandt, A., & Anand, S. (2016). Quality of life in individuals with Parkinson's disease: Current outlook and future directions. WCU Research Day, April, 2016. Poster Presentation.
 14. Brosious, J., Grillo, E., & Anand, S. (2015). Assessment of aerodynamic functions in individuals with Parkinson's disease. Annual convention of the American Speech, Language and Hearing Association (ASHA), Denver, CO, November, 2015. Poster Presentation.
 13. Grillo, E., Brosious, J., Sorrell, S., & Anand, S. (2015). Smartphones maintain recording integrity for acoustic measures. Annual convention of the American Speech, Language and Hearing Association (ASHA), Denver, CO, November, 2015. Poster Presentation.
 12. McGonigle, N., & Anand, S. (2015). Articulatory deficits in individuals with Parkinson's disease. WCU Research Day, March, 2015. Poster Presentation.
 11. **Anand, S.,** Murray, E. H., & Stepp, C. E. (2014). Autophonic scaling of loudness in individuals with Parkinson's disease. Annual convention of the American Speech, Language and Hearing Association (ASHA), Orlando, FL, November, 2014. **Oral Presentation.**
 10. **Anand, S.,** Wingate, J., & Shrivastav, R. (2012). An acoustic-perceptual study of voice tremor. 25th Annual Public Health and Health Professions Research Day, April, 2012. Poster Presentation.
 9. **Anand, S.,** El-Bashiti, N., & Sapienza, C. (2011). Expiratory muscle strength training: Effects of frequency of training. Annual convention of the American Speech, Language and Hearing Association (ASHA), San Diego, CA, November, 2011. Poster Presentation.
 8. **Anand, S.,** El-Bashiti, N., Sapienza, C. (2011). Expiratory muscle strength training: Effects of frequency of training. Speech, Language and Hearing Colloquium, University of Florida, October,

2011. **Oral Presentation.**

7. **Anand, S.**, Shrivastav, R., Eddins, D. A., & Camacho, A. (2011). Pitch strength of breathy voices. Pan European Voice Conference (PEVOC9), Marseille, France, August-September, 2011. Poster Presentation.
6. **Anand, S.**, Shrivastav, R., & Eddins, D. A. (2011). Pitch strength of normal and dysphonic voices. 24th Annual Public Health and Health Professions Research Day, April, 2011. Poster Presentation.
5. **Anand, S.**, El-Bashiti, N., & Sapienza, C. (2011). Expiratory muscle strength training: Effects of frequency of training. Symposia on Neurorehabilitation and Plasticity, University of Florida, March, 2011. **Oral Presentation.**
4. **Anand, S.**, Shrivastav, R., & Eddins, D. A. (2010). Pitch strength of normal and dysphonic voices. Florida Chapter of the Acoustical Society of America, University of South Florida, Tampa, FL, October, 2010. Poster Presentation.
3. **Anand, S.**, Wingate, J., & Shrivastav, R. (2009). An acoustic perceptual study of voice tremor. Florida Chapter of the Acoustical Society of America, University of South Florida, Tampa, FL, December, 2009. Poster Presentation.
2. **Anand, S.**, & Shyamala, K.C. (2007). Episodic and semantic memory in monolingual and bilingual children. 39th Annual Conference of the Indian Speech and Hearing Association, Calicut, India, April, 2007. **Oral Presentation** (Best Paper Award).
1. Svetha, V., **Anand, S.**, & Savithri, S. R. (2004). Perception of rhythm in children with stuttering. 36th Annual Conference of the Indian Speech and Hearing Association, Mysore, India, January, 2004. Poster Presentation.

XII. STUDENT MENTORING/SUPERVISION

Doctoral Students

Year	Student (s)	Role	Department	Institution
2019 - 2020	Diana Julbe-Delgado	PhD dissertation committee member	CSD	USF
2018 - 2020	Sai Bharadwaj Appakaya	PhD dissertation committee member	Engineering	
2018 - 2020	Madison Dyjak	Chair, Audiology Doctoral Project	CSD	

Masters Students

Year	Student (s)	Role	Department	Institution
2020 - 2021	Amanda Kelly	Master's thesis member	CSD	USF
2019 - 2020	Rachel Chalom	Master's thesis primary mentor	CSD	
2016 - 2018	Camille Gray	Master's thesis primary mentor	CSD	

Undergraduate Students

Year	Student (s)	Role	Department	Institution
2018 - 2019	Patricia Masso-Maldonado	Honor's thesis primary mentor	CSD	USF

Graduate Students/Projects Supervision

Year	Student (s)	Role	Department	Institution
2018 - 2019	Dillon Buffone	Mentor	Engineering	USF
2017	Sai Bharadwaj Appakaya	Mentor	Engineering	
2015 - 2016	Lindsey Riekers	Mentor	CSD	WCU
2015 - 2016	Deanna Cybulski	Mentor	CSD	
2015 - 2016	Natalie McGonigle	Mentor	CSD	

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2015 - 2016 Ashley Avenoso Mentor

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CSD**Undergraduate Students/Projects Supervision**

Year	Student (s)	Role	Department	Institution
2019 - 2020	Lyndsay Morris	Mentor	CSD	USF
2018 - 2019	Patricia Masso-Maldonado	Mentor	CSD	
2017 - 2019	Lucia/Desi Gutierrez	Mentor	CSD	
2017 - 2019	Sheena Abraham	Mentor	CSD	
2017 - 2018	Shawntel Fuerte	Mentor	CSD	
2017 - 2018	Monica Yap	Mentor	CSD	
2017 - 2018	Courtney Schlinz	Mentor	CSD	
2017 - 2018	Allison Silver	Mentor	CSD	
2016	Andrea Brandt	Mentor	CSD	WCU

XIII. TEACHING** denotes new course development***Undergraduate (3 credits)**

Year	Semester	Course Number	Course Name	Students	Institution
2022	Spring	SPA 4901	Research Methods in CSD	52	USF
2020	Spring	SPA 4901	Research Methods in CSD	66	
2019	Spring	SPA 4910	Directed Research	01	
		IDS 4914	Advanced UG. Research Experience	01	
		IDH 4970	Honor's Thesis	01	
2018	Fall	SPA 4910	Directed Research	02	
		IDH 4950	Honor's Project	01	
2016	Spring	SPP 101	Introduction to Comm. Sciences & Disorders	35	WCU
		SPP 203	Introduction to Speech and Hearing Science	37	
		SPP 207	Introduction to Phonetics	38	
		SPP 401*	Introduction to Comm. Science Research	10	
2015	Fall	SPP 101	Introduction to Comm. Sciences & Disorders	98	
		SPP 207	Introduction to Phonetics	72	
	Summer	SPP 207	Introduction to Phonetics	26	
	Spring	SPP 101	Introduction to Comm. Sciences & Disorders	49	
		SPP 203	Introduction to Speech and Hearing Science	42	
		SPP 207	Introduction to Phonetics	42	
2014	Fall	SPP 101	Introduction to Comm. Sciences & Disorders	73	
		SPP 207	Introduction to Phonetics	67	
	Summer	SPP 410	Independent Study	02	
2010	Fall	SPP 3011	Speech Acoustics	68	UF
	Spring	SPP 3011	Speech Acoustics	47	

Graduate (3 credits)

Year	Semester	Course Number	Course Name	Students	Institution
2020	Fall	SPA 6211	Advanced Vocal Disorders	23	USF
		SPA 6910	Directed Research	1	
	Summer	SPA 6910	Directed Research	1	

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		SPA 6971	Master's Thesis	1
	Spring	SPA 6211	Advanced Vocal Disorders	25
		SPA 6971	Master's Thesis	1
2019	Fall	SPA 6211	Advanced Vocal Disorders	25
		SPA 6971	Master's Thesis	1
	Summer	SPA 6971	Master's Thesis	1
	Spring	SPA 6910	Directed Research	1
2018	Fall	SPA 6211	Advanced Vocal Disorders	25
		SPA 6910	Directed Research	1
	Summer	SPA 6971	Master's Thesis	1
	Spring	SPA 6211	Advanced Vocal Disorders	30
		SPA 6971	Master's Thesis	1
2017	Fall	SPA 6211	Advanced Vocal Disorders	28
		SPA 6971	Master's Thesis	1
	Spring	SPA 6211	Advanced Vocal Disorders	36

Courses Taught and Student Feedback

S. No	Course Number	Course Name	Mean Scores
7.	SPA 4901	Research Methods in CSD	4.5/5
6.	SPA 6211	Advanced Vocal Disorders	4.5/5
5.	SPP 401	Introduction to Comm. Science Research	6/6
4.	SPP 207	Introduction to Phonetics	5/6
3.	SPP 203	Introduction to Speech and Hearing Science	5/6
2.	SPP 101	Introduction to Comm. Sciences & Disorders	5/6
1.	SPA 3011	Speech Acoustics	NA

XIV. ACADEMIC ADVISING**Undergraduate Students**

Year	Semester	Students	Institution
2016	Spring	49	WCU
2015	Fall	33	

Graduate Students

Year	Semester	Students	Institution
2020	Fall	04	USF
2020	Spring	08	
2019	Fall	04	
2018	Fall	08	
2017	Fall	10	
2016	Spring	02	WCU

XV. SERVICE**Professional-Level Service****General**

Year	Role
2022	NIH Motor Function and Speech Rehabilitation (MFSR) Study Section Meeting, Feb 7-8, 2022 as Early Career Reviewer (ECR).
2022	Journal of Speech, Language, and Hearing Research Editorial Board Member (2022)
2020 - 2023	Journal of Voice Editorial Board Member (2020 - 2023)

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- 2015 **Invited book chapter review.** “Applications of MATLAB® in clinical and research settings”. The title of the book was “MATLAB Primer for Speech Language Pathology and Audiology”. **Plural Publishing.**
- 2013 **ASHA 2013 Convention Program Committee** (Normal and abnormal changes with aging, Motor learning and Voice, Head Neck, Oropharyngeal Cancer, Telepractice and social media impacts: The voice practice).

Conferences, Scholarships, & Grants

- | Year | Role |
|-------------|---|
| 2020 | Reviewer - Graduate Student Scholarships for the American Speech and Hearing Association |
| 2019 | Reviewer - USF New Investigator Research Grant Applications |
| 2019 | Reviewer/Judge - 11 th Annual USF Graduate Student Research Symposium |
| 2017 | Reviewer/Judge - Speech Communication Student Poster Competition 174 th Meeting of the Acoustical Society of America |
| 2017 | Reviewer/Judge - Research Symposium Student Association for Research and Teaching (START) in CSD |

Ad-hoc Reviewer for Journals (Total number of reviews completed = 47; 37 at USF & 10 at WCU)

- | Year | Role |
|-------------|---|
| 2021 - | International Journal of Speech-Language Pathology |
| 2021 - | PLOS One |
| 2020 - | Journal of Communication Disorders |
| 2019 - | Journal of Acoustical Society of America |
| 2019; 2015 | International Journal of Language and Communication Disorders |
| 2016 - | Movement Disorders Clinical Practice |
| 2015 - | Journal of Voice |
| 2015 - | Journal of Speech, Language and Hearing Research |
| 2015 | Journal of All India Institute of Speech and Hearing |
| 2014 - | American Journal of Speech Language Pathology |
| 2014 | Journal of Indian Speech and Hearing Association |

University-Level Service

- | Year | Institution | Role |
|-------------|--------------------|---|
| 2015 | WCU | Member, Who’s Who Award Selection Committee |
| 2014 - 2015 | | Member, WCU Research Consortium |

College-Level Service

- | Year | Institution | Role |
|-------------|--------------------|--|
| 2017 - 2019 | USF | CSD Representative, Faculty Council Committee |
| 2015 - 2016 | WCU | CSD Representative, Integrative Spring Health Conference |

Departmental-Level Service

- | Year | Institution | Role |
|----------------|--------------------|--|
| 2018 - 2019 | USF | Member, SLP Instructor Search Committee |
| 2018 | | CSD, Faculty Council Representative, New Faculty Orientation |
| 2017 - Current | | Member, CSD Research Symposium Series Committee |
| 2017 - 2018 | | Member, Research Assistant Professor Search Committee |
| 2017 - 2018 | | Member, Chair Search Committee |
| 2016 - Current | | Member, SLP Committee |
| 2016 - Current | | Member, PhD/Doctoral Committee |
| 2015 - 2016 | WCU | Member, BA Committee |
| 2015 - 2016 | | CSD Faculty Representative, New Student Orientation Day |

2015 - 2016

CSD Faculty Representative, Accepted Students Day

2014 - 2016

Member, Student Research Committee

2014 - 2015

CSD Faculty Representative, Fall Preview Day

Community-Level Service

Year	Institution	Role
2019	USF	Wrote a blog on voice assessment and tips on vocal hygiene for an online telepractice company
2018, 2019		Resource personnel for World Voice Day lectures
2018		Research advising for a local voice clinic (recording & analysis set-up)
2017		Invited speaker at Parkinson's Disease Educational Forum
2017		Resource personnel at the Tampa Bay Spasmodic Dysphonia Group meeting

XVI. PROFESSIONAL DEVELOPMENT/CONTINUING EDUCATION**2021**

- Completed one webinar from University of Wisconsin (Teaching)
 - *COVID-19 and Clinical Practice of Voice and Upper Airway Disorders*

2020

- Completed two webinars from University of Wisconsin (Teaching & Research)
 - *Revisiting Interpretation of Laryngeal Stroboscopy*
 - *Parkinson disease: New insights for approaching management of voice & swallowing*

2019

- Participated in 2019 Summer Teaching Symposium by the USF Academy of Teaching and Learning Excellence (ATLE). (Teaching)
- Participated in 2019 career awards workshop. (Research)

2018

- Obtained certification towards administration of Unified Parkinson's Disease Rating Scale (UPDRS) from the Movement Disorders Society, July 30, 2018. (Research)
- Participated in Alan Alda Center for Communicating Science Workshop, November 3 - 4, 2018. (Research)

2017

- Attended a talk on Cognitive aging and Neurophysiology at the Parkinson's disease Patient and Caregiver Informational Forum, February 22, 2017. *Speaker: Jerri Edwards Ph.D.* (Research)
- Attended and provided information at a vending table at the Parkinson's disease Educational Forum, October 22, 2017. (Research & Service)

2016

- Participated in NSF CAREER grant workshop presented by the USF Research and Innovation, November 9, 2016. (Research)

XVII. CLINICAL EXPERIENCE (SPEECH - LANGUAGE ASSESSMENT AND THERAPY)**2002 - 2007****Populations**

- Children with specific language impairment, hearing impairment, mental retardation, down's syndrome, autism, cleft palate, cerebral palsy, stuttering, ADHD and learning disability.
- Adults with stuttering, voice disorders, aphasia, and dysarthria.

Locations

Updated on 03/25/2022

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- All India Institute of Speech and Hearing, Mysore, India
- Centers in Hyderabad, Mumbai, Chennai and Bangalore, India
- Community service in rural areas

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