

JONATHAN PRESTON, Ph.D. CCC-SLP

CURRENT POSITIONS

- 5/2017-present **Associate Professor with Tenure**
Department of Communication Sciences & Disorders, Syracuse University
621 Skytop, Suite 1200, Syracuse, NY 13244
(315) 443-3143 / jopresto@syr.edu [Faculty Webpage](#) [Lab Webpage](#) [ORCID](#)
- 8/2010-present **Senior Scientist**
Haskins Laboratories, 300 George St, Suite 900, New Haven, CT 06511
- 3/2018- **Honorary Research Fellow in Speech Pathology**
University of Sydney Faculty of Health Sciences, Sydney, AU

PRIOR EXPERIENCE

- 8/2010 - 5/2014 **Assistant Professor, Tenure Track**, Department of Communication Disorders
Southern Connecticut State University, New Haven, CT
- 9/2008-8/2010 **Postdoctoral Fellow**, Haskins Laboratories, New Haven, CT
NIH T32HD007548 Trained with Drs. Kenneth Pugh and Carol Fowler, focusing on neural and psycholinguistic bases of reading and reading disability, and the connections between speech and reading.

EDUCATION

- 8/2008 **Ph.D.**, Speech-Language Pathology, Syracuse University
5/2002 **M.S.**, Speech–Language Pathology, Syracuse University, Syracuse, NY
6/2000 **B.S.**, Speech & Hearing, *Summa Cum Laude*, Elmira College, Elmira, NY

LICENSURE & CERTIFICATION

- ASHA Certificate of Clinical Competence in Speech-Language Pathology (CCC-SLP)
New York State Licensure in Speech-Language Pathology
New York State Permanent Teaching Certification: Speech and Hearing Handicapped

PUBLICATIONS

Peer Reviewed Publications:

1. **Preston, J.L.**, Benway, N.R., Leece, M.C., & Caballero, N.F. (in press). Concurrent validity between two sound sequencing tasks used to identify childhood apraxia of speech in school-age children. *American Journal of Speech-Language Pathology*.
2. **Preston, J.L.**, Benway, N.R., Leece, M.C., Hitchcock, E.R., & McAllister, T. (in press). Tutorial: Motor based treatment strategies for /r/ distortions. *Language, Speech & Hearing Services in Schools*
3. Benway, N. R., & Preston, J. L. (2020). Differences between school-age children with apraxia of speech and other speech sound disorders on multisyllable repetition. *Perspectives of the ASHA Special Interest Groups*, 5(4), 794–808. https://doi.org/10.1044/2020_PERSP-19-00086 [PMCID in process, submitted by journal]
4. McAllister, T., **Preston, J.L.**, Hitchcock, E.R., & Hill, J. (2020). Protocol for Correcting Residual Errors with Spectral, Ultrasound, Traditional Speech therapy Randomized Controlled Trial (C-RESULTS RCT). *BMC Pediatrics*, 20(1), 66. [[link](#)]
5. Cialdella, L., Kabakoff, H., **Preston, J.L.**, Hamilton Dugan, S., Spencer, C., Boyce, S., Tiede, M., Whalen, D.H., & McAllister, T. (in press). Auditory-perceptual acuity in rhotic misarticulations: Baseline characteristics and treatment response. *Clinical Linguistics and Phonetics*
6. **Preston, J.L.**, Hitchcock, E.R., & Leece, M.C. (in press). Auditory perception and ultrasound biofeedback treatment outcomes for children with residual /r/ distortions: A randomized controlled trial. *Journal of Speech, Language & Hearing Research*
7. Barrett, C., McCabe, P. Masso, S. & **Preston, J.L.** (2020). Protocol for the connected speech transcription of children with speech disorders: An example from Childhood Apraxia of Speech. *Folia Phoniatica et Logopedia*, 72(2), 152-166. DOI: 10.1159/000500664 ([PMC6940559](#))
8. **Preston, J.L.**, McAllister, T., Phillips, E., Tiede, Boyce, S.E., Tiede, M., Kim, J.S., Whalen, D.H. (2019). Remediating residual rhotic errors with ultrasound-enhanced treatment: a single case experimental study. *American Journal of Speech-Language Pathology*, 28(3), 1167-1183. ([PMC6802922](#))
9. **Preston, J.L.**, Leece, M.C. & Storto, J. (2019). Tutorial: Speech motor chaining treatment for school-age children with speech sound disorders. *Language, Speech & Hearing Services in Schools*, 50(3), 343-355. ([PMC6802861](#))
10. **Preston, J.L.**, McCabe, P., Tiede, M.K. & Whalen, D.H. (2019). Tongue shapes for rhotics in school-age children with and without residual speech errors. *Clinical Linguistics & Phonetics*, 33(4), 334-348. ([PMC6409154](#))
11. Van den Bunt, M.R., Groen, M.A., Frost, S.J., Lau, A. **Preston, J.L.**, Gracco, V.L., Pugh, K.R., & Verhoeven, L. (2018). Sensorimotor control of speech and reading development. *Scientific Studies of Reading*, 22(6), 503-513.
12. Dugan, S. H., Silbert, N., McAllister, T., **Preston, J. L.**, Sotto, C., & Boyce, S. E. (2018). Modelling category goodness judgments in children with residual sound errors. *Clinical Linguistics and Phonetics*, 33(4), 295–315. <http://doi.org/10.1080/02699206.2018.1477834> ([PMC6733520](#))
13. **Preston, J.L.**, McAllister, T., Phillips, E., Tiede, Boyce, S.E., Tiede, M., Kim, J.S., Whalen, D.H. (2018). Treatment for residual rhotic errors with high and low frequency ultrasound visual feedback: A single case experimental design. *Journal of Speech, Language & Hearing Research*, 61(8), 1875-1892. ([PMC6198924](#))

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14. **Preston, J. L.**, Holliman-Lopez, G., & Leece, M. C. (2018). Do participants report any undesired effects in ultrasound speech therapy? *American Journal of Speech-Language Pathology*, 27(2), 1–6. doi: 10.1044/2017_AJSLP-17-0121 ([PMC6105118](#))
15. **Preston, J. L.**, & Leece, M. C. (2017). Intensive treatment for persisting rhotic distortions: A case series. *American Journal of Speech-Language Pathology*, 26(4), 1066-1079. doi:10.1044/2017_AJSLP-16-0232 ([PMC5945059](#))
16. **Preston, J. L.**, Leece, M. C., McNamara*, K., & Maas, E. (2017). Variable practice to enhance speech learning in ultrasound biofeedback treatment for childhood apraxia of speech: A single case experimental study. *American Journal of Speech-Language Pathology*, 26(3), 840-852. ([PMC5829796](#))
17. Harwood, V., **Preston, J.L.**, Grela, B., Roy, D., Harold, O., Turcios, J., Andrada, K., & Landi, N. (2017). Electrophysiology of perception and processing of phonological information as indices of toddlers' language performance. *Journal of Speech, Language & Hearing Research*, 60(4), 999-1011. (PMID 28384727).
18. **Preston, J.L.**, McAllister Byun, T., Boyce, S. E., Hamilton, S., Tiede, M., Phillips, E., Rivera-Campos, A., Whalen, D. H. (2017). Ultrasound images of the tongue: A tutorial for assessment and remediation of speech sound errors. *Journal of Visualized Experiments*, (119), e55123. doi:10.3791/55123 ([PMC5351819](#))
19. **Preston, J.L.**, Leece, M. C., & Maas, E. (2017). Motor-based treatment with and without ultrasound feedback for residual speech-sound errors. *International Journal of Language & Communication Disorders*, 52(1), 80-94. doi:10.1111/1460-6984.12259 ([PMC5156595](#))
20. Sjolie*, G., Leece, M.C., & **Preston, J.L.** (2016). Acquisition, retention, and generalization of rhotics with and without ultrasound visual feedback. *Journal of Communication Disorders*, 64, 62-77. ([PMC5392178](#))
21. **Preston, J.L.**, Leece, M.C. & Maas, E. (2016). Intensive treatment with ultrasound visual feedback for speech sound errors in childhood apraxia. *Frontiers in Human Neuroscience*, 10 (440). [[link](#)] ([PMC5003919](#))
22. Collisson, B. A., Graham, S. A., **Preston, J.L.**, Rose, M. S., McDonald, S., & Tough, S. (2016). Risk and protective factors for late talking: An epidemiologic investigation. *The Journal of Pediatrics*, 172, 168-174.e161. doi:http://dx.doi.org/10.1016/j.jpeds.2016.02.020
23. Heng, Q., McCabe, P., Clarke, J., & **Preston, J.L.** (2016). Using ultrasound visual feedback to remediate velar fronting in preschool children: A pilot study. *Clinical Linguistics and Phonetics*, 30(3-5), 382-397. doi:10.3109/02699206.2015.1120345. ([PMC4826297](#))
24. **Preston, J.L.**, Maas, E., Whittle, J., Leece, M. C., & McCabe, P. (2016). Limited acquisition and generalisation of rhotics with ultrasound visual feedback in childhood apraxia. *Clinical Linguistics & Phonetics*, 30(3-5), 363-381. doi:10.3109/02699206.2015.1052563 ([PMC4740254](#))
25. **Preston, J.L.**, Molfese, P.J., Frost, S.J., Mencl, W.E., Fulbright, R.K., Hoefl, F., Landi, N., Shankweiler, D., & Pugh, K.R. (2016). Print-speech convergence predicts future reading outcomes in early readers. *Psychological Science*, 27(1), 75-84. doi: 10.1177/0956797615611921 ([PMC4713346](#))
26. Overby, M. S., Masterson, J. J., & **Preston, J.L.** (2015). Preliteracy speech sound production skill and linguistic characteristics of grade 3 spellings: A study using the templin archive. *Journal of Speech, Language, and Hearing Research*, 58(6), 1654-1669. doi:10.1044/2015_JSLHR-S-14-0276 ([PMC4987032](#))
27. **Preston, J.L.**, Irwin, J.R. & Turcios, J. (2015) Perception of speech sounds in school-age children with speech sound disorders. *Seminars in Speech and Language*, 36 (4), 224-233. doi 10.1055/s-0035-1562906 ([PMC4665633](#))

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28. Irwin, J., **Preston, J.**, Brancazio, L., D'Angelo, M., & Turcios, J. (2015). Development of an audiovisual speech perception app for children with autism spectrum disorders. *Clinical Linguistics & Phonetics*, 29(1), 76-83. doi:10.3109/02699206.2014.966395 ([PMC4386063](#))
29. **Preston, J.L.**, McCabe, P., Rivera-Campos, A., Whittle, J.L., Landry, E., & Maas, E. (2014). Ultrasound visual feedback treatment and practice variability for residual speech sound errors. *Journal of Speech, Language, and Hearing Research*, 57(6), 2102-2115. doi: 10.1044/2014_JSLHR-S-14-0031 ([PMC4272648](#))
30. Diehl, J.J., Frost, S.J., Sherman, G., Mencl, W.E., Kurian, A., Molfese, P., Landi, N., **Preston, J.**, Soldan, A., Fulbright, R.K., Rueckl, J.G., Seidenberg, M.S., Hoeft, F. & Pugh, K. (2014). Neural correlates of language and non-language visuospatial processing in adolescents with reading disability. *NeuroImage*, 101, 653-666. doi: 10.1016/j.neuroimage.2014.07.029 ([PMC4167780](#))
31. **Preston, J.L.**, Molfese, P., Gumkowski, N., Sorcinelli, A., Harwood, V., Irwin, J. & Landi, N. (2014). Neurophysiology of speech differences in childhood apraxia of speech. *Developmental Neuropsychology*, 39(5), 385-403. doi: 10.1080/87565641.2014.939181 ([PMC4130155](#))
32. Pugh, K.R., Frost, S.J., Rothman, D.L., Hoeft, F., Del Tufo, S.N., Mason, G.F., Molfese, P.J., Mencl, W.E., Grigorenko, W.E., Landi, N., **Preston, J.L.**, Jacobsen, L., Seidenberg, M.S., & Fulbright, R.K. (2014). Glutamate and choline levels discriminate typically from atypically developing beginning readers. *Journal of Neuroscience* 34(11), 4082-4089. ([PMC3951703](#))
33. Shadle, C. H., Koenig, L. L., & **Preston, J.L.** (2014). Acoustic characterization of /s/ spectra of adolescents: Moving beyond moments. *Proceedings of Meetings on Acoustics*, 12(1), 060006. <http://dx.doi.org/10.1121/1.4862854>
34. **Preston, J.L.**, Molfese, P. J., Mencl, W. E., Frost, S. J., Hoeft, F., Fulbright, R. K., . . . Pugh, K. R. (2014). Structural brain differences in school-age children with residual speech sound errors. *Brain and Language*, 128(1), 25-33. doi: <http://dx.doi.org/10.1016/j.bandl.2013.11.001> ([PMC3926206](#))
35. **Preston, J.L.**, & Leaman, M. (2014). Ultrasound visual feedback for acquired apraxia of speech: A case report. *Aphasiology*, 28(3), 278-295. doi: 10.1080/02687038.2013.852901 (no PMCID)
36. **Preston, J.L.**, Brick, N., & Landi, N. (2013). Ultrasound biofeedback treatment for persisting childhood apraxia of speech. *American Journal of Speech-Language Pathology*, 22(4), 627-643. doi: 10.1044/1058-0360(2013/12-0139) (no PMCID)
37. Koenig, L., Shadle, C., **Preston, J.L.**, Mooshammer, T. (2013). Towards improved spectral measures of /s/: Results from adolescents. *Journal of Speech, Language, and Hearing Research*, 56(4), 1175-1189. doi: 10.1044/1092-4388(2012/12-0038) ([PMC4457315](#))
38. **Preston, J.L.**, Hull, M., & Edwards, M.L. (2013). Preschool speech error patterns predict articulation and phonological awareness outcomes in children with histories of speech sound disorders. *American Journal of Speech-Language Pathology*, 22(2), 173-184. doi: 10.1044/1058-0360(2012/12-0022) ([PMC3586759](#))
39. Prieve, B.A., Vander Werff, K., **Preston, J.L.** & Georgantas, L. (2013). Identification of conductive hearing loss in young infants using tympanometry and wideband reflectance. *Ear and Hearing*, 34(2), 168-178. doi: 10.1097/AUD.0b013e31826fe611
40. Landi, N., Frost, S.J., Mencl, E., **Preston, J.L.**, Jacobsen, L., Lee, M., Yrigollen, C., Pugh, K.R., & Grigorenko, E. (2013). The COMT Val/Met polymorphism is associated with reading related skills and consistent patterns of functional neural activation. *Developmental Science*, 16, 13-23. doi: 10.1111/j.1467-7687.2012.01180.x ([PMC3655431](#))
41. Pugh, K. R., Landi, N., **Preston, J.L.**, Mencl, W. E., Austin, A. C., Sibley, D., Fulbright, R.K., Seidenberg, M. S., Grigorenko, E. & Constable, R. T. (2013). The relationship between phonological and auditory processing and brain organization in beginning readers. *Brain and Language*, 125(2), 173-183. doi: 10.1016/j.bandl.2012.04.004 ([PMC3417084](#))
42. **Preston, J.L.**, Felsenfeld, S., Frost, S.J., Mencl, W.E., Fulbright, R.K., Grigorenko, E.L., Landi, N., Seki, A., Pugh, K.R. (2012). Functional brain activation differences in school-age children with

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- speech sound errors: Speech and print processing. *Journal of Speech, Language & Hearing Research*, 55(4), 1068-1082. doi: 10.1044/1092-4388(2011/11-0056) ([PMC3427927](#))
43. Shadle, C., Koenig, L., & **Preston, J.** (2012, Oct). Sensitivity of acoustic parameters of /s/ in adolescents. *Journal of the Acoustic Society of America*, 132(3), 2091.
 44. **Preston, J.L.** & Seki, A. (2011). Identifying residual speech sound disorders in bilingual children: A Japanese-English case study. *American Journal of Speech-Language Pathology*, 20 (2), 73-85. doi: 73-85. doi:10.1044/1058-0360(2011/10-0057) ([PMC3431209](#))
 45. **Preston, J.L.** & Koenig, L. (2011). Phonetic variability in residual speech sound disorders: Exploration of subtypes. *Topics in Language Disorders*, 31 (2), 168-184. ([PMC3476944](#))
- *Invited submission
46. **Preston, J.L.**, Ramsdell, H. L., Oller, D. K., Edwards, M. L., & Tobin, S. J. (2011). Developing a weighted measure of speech sound accuracy. *Journal of Speech, Language & Hearing Research*, 54, 1-18. doi:10.1044/1092-4388(2010/10-0030) ([PMC3003752](#))
 47. **Preston, J.L.**, Frost, S. J., Mencl, W. E., Fulbright, R. K., Landi, N., Grigorenko, E., Jacobsen, L. & Pugh, K.R. (2010). Early and late talkers: school-age language, literacy and neurolinguistic differences. *Brain*, 133(8), 2185-2195. doi: 10.1093/brain/awq163 ([PMC3139938](#))
 48. **Preston, J.L.** & Edwards, M.L (2010). Phonological awareness and types of sound errors in preschoolers with speech sound disorders. *Journal of Speech, Language & Hearing Research*, 53, 44-60. doi:10.1044/1092-4388(2009/09-0021) ([PMC2845283](#))
 49. **Preston, J.L.** & Edwards, M.L. (2009). Speed and accuracy of rapid speech output by adolescents with residual speech sound errors including rhotics. *Clinical Linguistics and Phonetics*, 23(4), 301-318. doi:10.1080/02699200802680833
 50. Prieve, B., Hancur-Bucci, K. & **Preston, J.L.** (2009). Changes in transient-evoked otoacoustic emissions in the first month of life. *Ear and Hearing* 30 (3), 330-339. doi: 10.1097/AUD.0b013e31819c4000
 51. **Preston, J.L.** & Edwards, M.L. (2007). Phonological processing skills of adolescents with residual speech sound errors. *Language, Speech, and Hearing Services in Schools*, 38, 297-308. doi:10.1044/0161-1461(2007/032)

Books

1. Shriberg, L.D., Kent, R.D., McAllister, T., & **Preston, J.L.** (2019). *Clinical Phonetics (5th edition)*. Pearson.

Book Chapters:

1. **Preston, J.L.** & Leece, M.C. (in press). Articulation interventions. In A.L. Williams, S. McLeod, & R. McCauley (Eds), *Interventions for Speech Sound Disorders (2nd edition)*. Brookes Publishers.
2. Cleland, J. & **Preston, J.L.** (in press). Biofeedback interventions. In A.L. Williams, S. McLeod, & R. McCauley (Eds), *Interventions for Speech Sound Disorders (2nd edition)*. Brookes Publishers.
3. Kurian, A., **Preston, J.**, Frost, S.J., Landi, N., Mencl, W.E., Molfese, P., Fulbright, R.K., Rueckl, J.G., & Pugh, K.R. (forthcoming). The neurocognitive basis of language in reading disability: More than just a phonological deficit. In G. Eden (Ed.), *The Wiley Handbook on the Cognitive Neuroscience of Developmental Dyslexia*. United Kingdom: John Wiley & Sons, Ltd.
4. Pugh, K. R., Frost, S.J., Landi, N., **Preston, J.L.**, Mencl, W.E. & Rueckl, J.G. (2013). Neuroimaging studies of reading disabilities: Toward brain-based learning models. In Miller, B., Cutting, L. & McCardle, P. (Eds). *Unraveling Reading Comprehension: Behavioral, Neurobiological, & Genetic Components* (pp. 164-175). Baltimore: Brookes Publishing.
5. **Preston, J.L.** (2010). Speech and literacy: The connection and the relevance to clinical populations. In A. E. Harrison (Ed.). *Speech Disorders: Causes, Treatments, and Social Effects* (pp. 43-73): New York: Nova Science Publishers, Inc.

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Doctoral Dissertation:

Preston, J.L. (2008). *Phonological processing and speech production in preschoolers with speech sound disorders*. Unpublished doctoral dissertation, Syracuse University, Syracuse, NY. *

*Awarded Syracuse University College of Arts & Sciences Doctoral Dissertation Prize

Dissertation advisor: Dr. Mary Louise Edwards

Publications Under Review/Revision:

1. Riley, E.A., Hart, E., **Preston, J.L.**, Ashaie, S, & Wu, Y. (submitted). Fatigue in post-stroke communication disorders: A systematic review.
2. Spencer, C., Vannest, J., Maas, E., **Preston, J.L.**, Redle-Sizemore, E., Maloney, T. & Boyce, S.E. (submitted). Neuroimaging of the Syllable Repetition Task in children with residual speech sound disorders. *Journal of Speech, Language & Hearing Research*.
3. Benway, N. R., Garcia, K., Hithcock, E.R., McAllsiter, T., Leece, M., Wang, Q., & **Preston, J.L.** (submitted). Associations between speech perception, vocabulary, and phonological awareness skill in school-aged children with speech sound disorders
4. Raaz, C.V., Leece, M.C., McAllister, T., & **Preston, J.L.** (submitted). Treatment generalization from trained /r/ to untrained /l/: A case study of persisting distortion errors.
5. Harwood, V., **Preston, J.L.**, Baron, A., Kleinman, D., & Landi, N. (submitted). Event-related potentials of speech perception relate to speech sound production and expressive language in young children.
6. Benway, N. R., Hitchcock, E.R., Mcallister, T., Feeny, G.T., Hill, J., **Preston, J.L.** (submitted). Comparing biofeedback types for children with residual /r/ errors in American English: A single case randomization design
7. Murray, E., Velleman, S., **Preston, J.L.** Heard, R. Shibu, A, & McCabe, P. (in prep). The reliability of expert diagnosis of childhood apraxia of speech.

ONGOING RESEARCH SUPPORT

Dynamic Speech Therapy for Children with Apraxia

Dates: 1 Jan 2020 – 31 Dec 2022

Grant: Australian National Health and Medical Research Council (NHMRC)

Role: Co-investigator/PI of subcontract

PI: Patricia McCabe

\$903,067.50 (ASD) total costs

Biofeedback-Enhanced Treatment for Speech Sound Disorder: Randomized Controlled Trial and Delineation of Sensorimotor Subtypes

Dates: 1 Jan 2019 – 31 Dec 2023

Grant: NIH R01DC017476

Role: Co-investigator/PI of subcontract

PI: T. McAllister

\$2,479,001 direct costs

This research involves the first randomized controlled trial comparing the efficacy and efficiency of speech intervention with and without real-time visual biofeedback for residual articulation errors. It will also test the hypothesis that the efficacy of intervention can be optimized when the biofeedback technology is selected to offset the learner's primary deficit (visual-acoustic biofeedback for a

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poorly specified auditory target and ultrasound biofeedback for a somatosensory deficit affecting awareness of articulator placement).

Treating Childhood Apraxia of Speech: Role of Biofeedback & Practice Distribution

Dates: 1 Aug 2017- 31 Jul 2020

Grant: NIH R15DC016426

Role: Principal Investigator

\$300,000 direct costs

The study will test two modifications to speech therapy for 40 school-age children with childhood apraxia of speech to determine how to improve treatment outcomes. The study will compare treatment that includes real-time visual feedback of the tongue during speech using ultrasound vs traditional therapy that does not include ultrasound visual feedback. Additionally, some children will be treated with a traditional schedule of 2 sessions per week, whereas others will be provided with treatment that begins with intensive training (10 hours of therapy in one week) and progresses to a more distributed treatment schedule.

Reliability of expert diagnosis of apraxia of speech in children aged 2-18 years

Dates: 1 Jun 2018 - 31 Oct 2020

Grant: Apraxia-Kids Foundation

Role: Co-Investigator/PI of subcontract

PI: L. Murray

\$40,000 direct costs

The project will explore inter-rater reliability of childhood apraxia of speech diagnosis by expert listeners, and it will aim to determine factors related to raters' agreement of judgment.

COMPLETED RESEARCH SUPPORT

Improving clinical speech remediation with ultrasound technology

Dates: 1 Jul 2014 - 30 Jun 2019

Grant: NIH R01DC013668

Role: Co-investigator/PI of subcontract

PI: D. Whalen

\$2,367,059 direct costs

The project focused on translating the research on ultrasound imaging of the tongue into clinical practice so that a wide range of clients can begin to benefit from these technological advances. A series of studies supported the efficacy of ultrasound visual feedback of the tongue as a treatment approach for children with speech sound disorders. Furthermore, measurement of tongue shapes with ultrasound may serve as a sensitive measure of differences in children with speech disorders.

Auditory responses in the brain and auditory training for children with speech disorders

Dates: 1 Jul 2018 - 30 Jun 2019

Grant: Syracuse University Gerber Auditory Science Fund

Role: Principal Investigator

\$6,500 direct costs

The project will explore auditory responses in children with speech sound disorders using event-related potentials associated with clear and distorted speech. The study will compare children with and

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without speech sound disorders and it will use the event-related potentials to predict treatment response in children who undergo speech therapy that includes auditory training paired with speech production training.

Ultrasound biofeedback for therapy-resistant speech sound disorders in children

Dates: 27 Sep 2013 - 31 Aug 2016

Grant: NIH R03DC013152

Role: Principal Investigator

\$300,000 direct costs

The study pursued the goal of improving outcomes for children with therapy-resistant speech sound disorders using ultrasound biofeedback. Through a series of single-subject experimental designs, we used ultrasound to train the most common sound class in error (rhotics, the /r/ class of sounds). We observed that children improved their speech sound production as a result of a treatment program that includes ultrasound visual feedback. We also explored whether effects can be improved by adding cues to vary prosody, allowing children to use the visual feedback to learn to coordinate tongue movement when varying other motor demands for speech. We observed that prosodic cueing resulted in only slight improvement for children with residual /r/ errors, although we observed a stronger effect of prosodic variation for children with Childhood Apraxia of Speech, a subtype of speech sound disorder that is often resistant to therapy. The outcomes of the study provide evidence of effective treatment options for children who do not respond well to traditional speech therapy.

A pilot randomized control trial comparing ultrasound biofeedback treatment with rapid syllable transition training (ReST) in children with childhood apraxia of speech (CAS)

Dates: 1 Jan 2015 - 31 Dec 2015

Grant: Childhood Apraxia of Speech Association of North America

Role: Co-investigator

PI: P. McCabe

\$35,000 USD

The goals of this project were (1) To evaluate increases in speech sound accuracy and prosodic accuracy in children with CAS treated with ReST or ultrasound biofeedback interventions, (2) To determine whether treatment-specific responses will be observed in segmental accuracy and prosodic accuracy, and (3) To evaluate whether generalization and retention is facilitated by either of these treatments. Results suggested that both treatments were effective for children with CAS but there was no difference in treatment outcomes between the two approaches.

Neurobiological signatures of perception and imitation of AV speech in children with Autism

Dates: 1 July 2014 - 30 June 2017

Grant: NIH R15DC013864

Role: Co-Investigator

PI: J. Irwin

\$300,000 direct costs

This project addressed a critical problem in the study of ASD; heterogeneity in language functioning. Neurobiological and behavioral techniques including electroencephalography (EEG), event related potentials (ERP) and eye tracking were paired with novel speech tasks to provide a window on the factors that underlie the perception, integration and production of audiovisual speech in children with ASD.

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Neurobiological predictors of spoken and written language learning

Dates: 1 Apr 2011 – 31 Mar 2016

Grant: NIH R01HD065794-01

Role: Co-Investigator

PI: K. Pugh

The study used multiple neuroimaging methods to test predictive models of individual differences in learning consolidation for: 1) novel spoken and written word learning tasks that vary in demands on component processes relevant to reading, and 2) language and nonlinguistic tasks that systematically examine contributions from those cortical and subcortical neural systems associated with procedural and declarative memory as a window on basic learning and consolidation deficits in reading disability (RD). The overarching goal was to develop causal models of the ways in which any one, or some combination of these functional and structural factors might act to impede language and reading-related skill acquisition in RD.

The Nature of the Speech Code and Reading

Dates: 1 July 2012 – 30 June 2017

Grant: NIH 5P01HD001994

Role: Co-Investigator

PI: J. Reuckl

Project Leader: K. Pugh

This project focuses on preschool predictors of later reading disability, as well as the associated neurobiological underpinnings. There is particular emphasis on the role of early speech production, speech perception, and sensorimotor integration in predicting reading outcomes from preschool to young school-age.

Neurobiological signatures of audiovisual speech perception in children with ASD

Dates: 1 July 2011 – 30 June 2013

Grant: NIH R21DC011342

Role: Co-Investigator

PI: J. Irwin

\$275,000 direct costs

The goals were (1) To identify the neurobiological signatures of individual differences in perception of speaking faces in children with autism spectrum disorders relative to two control groups, children with spoken language disorders and children with typical speech and language, and (2) To conduct a focused speech perception training experiment allowing us to demonstrate whether speech perception can be improved in children with autism spectrum disorders and spoken language disorders.

Training Audiovisual Integration of Spoken Language in Children with Autism Spectrum Disorders

Dates: 1 July 2012 – 30 June 2013

Grant: Connecticut State University/AAUP Research Grant

Role: Co-Principal Investigator

\$10,000 direct costs

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Children with Autism Spectrum Disorder (ASD) have deficits in perception and production of spoken language. One fundamental weakness is believed to be in the integration of auditory and visual information when processing language. This proposal tested a computer-based training program for improving audiovisual integration of spoken language in children with ASD. Using multiple baseline across behaviors single subject design, we demonstrated that the computer program can improve speech perception skills.

Language and Early Assessment Research Network (LEARN)

Dates: 31 Mar 2011 - 30 Sep 2013

Grant: Private Donation to Haskins Labs

Role: Director

\$300,000 direct costs

This center fostered a partnership between speech and language clinicians and research scientists to extend our understanding of the neurobiological, physiological, and cognitive processes that underpin speech, language and literacy development in infants, toddlers, and children. The goal of this knowledge is ultimately translational: to inform and improve educational practice and, to the degree possible, to help prevent speech, language, and literacy difficulties through improved early evidence-based assessment, diagnosis, prediction, intervention and prevention.

Risk Factors for early language delay

Dates: 1 Mar 2012 –1 Mar 2014

Grant: Alberta Center for Child, Family, and Community Research

Role: Collaborator

PIs: S. Tough & B. Collisson

\$39,840 Canadian

Toddlers who are behind schedule to begin talking (*late talkers*) are a group who are at high risk for primary language impairment and may hold clues to identifying language disorder earlier. However, our understanding of late talkers is limited by studies that are comprised of small sample sizes, few independent variables, and incongruent findings. By understanding which factors contribute to the talking delays of late talkers in a large sample, we may be able to better identify very young children who will go on to develop language impairment. Knowing which toddlers are most at risk for persistent language impairment will facilitate early and effective intervention to reduce secondary outcomes including school failure and poor social integration.

Biofeedback training for children with persisting CAS: Articulatory and neural changes

Dates: 31 Aug 2011-30 Aug 2012

Grant: Childhood Apraxia of Speech Assoc of North America

Role: Principal Investigator

\$25,000 direct costs

Goals: (1) To obtain evidence of the efficacy of a biofeedback approach to improving phonetic accuracy and consistency in school-age children with Childhood Apraxia of Speech. (2) To explore differences in the EEG signal associated with the motor planning phase of articulation in CAS

Understanding and Treating Articulation Disorders Using Biofeedback

Dates: 1 Aug 2011 - 30 June 2012

JONATHAN PRESTON, Ph.D. CCC-SLP

Grant: Connecticut State University/AAUP grant

Role: Principal Investigator

\$5,000 direct costs

Goals: (1) To obtain experimental evidence that ultrasound biofeedback (visual display of tongue configuration) can improve articulation accuracy in children/adolescents with residual speech sound disorders. (2) to explore how children with residual speech sound disorder respond to implicit adaptations in auditory feedback

Preliminary investigation of a weighted measure of speech sound accuracy

Dates: Nov 2007- Dec 2008

Grant: American Speech-Language-Hearing Foundation, Student Research Grant in Early Childhood Language Development

Role: Principal Investigator

\$2,000 direct costs

The purpose was to develop a system for numerically quantifying a speaker's phonetic accuracy through transcription-based measures. The new measure of phonetic accuracy was validated against existing measures, was used to discriminate typical and disordered speech production, and was evaluated to examine sensitivity to changes in phonetic accuracy over time. Initial psychometric data indicated that WSSA scores correlated with other measures of phonetic accuracy as well as listeners' judgments of severity of a child's speech disorder.

PEER-REVIEWED PRESENTATIONS

p Postdoctoral Fellow, d Doctoral student, m Masters student, u Undergraduate student

1. Harwood, V., **Preston, J.L.**, Baron, A., Kleinman, D., Landi, N. Event-related potentials to speech relate to speech sound production and language in young children. Proposal accepted for 12th Annual Society for the Neurobiology of Language Meeting, Philadelphia, PA, October 2020 (Conference moved to Virtual Format- COVID-19).
2. Kabakoffa, H., Gritsyk, O., Li, J.J., Ayala, S., Hitchcock, E.R., **Preston, J.L.**, Harel, D., Shiller, D.M., McAllister, T. (Dec, 2020). *Tracking development of somatosensory acuity: Age-based comparison of three measures*. Poster/talk to be presented at the 12th International Seminar on Speech Production (ISSP, 2020). Providence, RI.
3. Benway^d, N. R., McAllister, T., Hitchcock, E., & **Preston, J.** (Dec, 2020). Comparing Biofeedback Types for Children with Residual Speech Production Errors on /r/. Proposal accepted at the 12th International Seminar on Speech Production (ISSP 2020), Providence, RI.
4. Shadle, Ch.H, Chen, W., Koenig, L. & **Preston, J.L.** (Dec, 2020). *Acoustic variability of fricatives in normal adults*. Poster presented at the 12th International Seminar on Speech Production. Providence, RI.
5. **Preston, J.L.** Treating /r/: *Clinical Strategies Derived from Science*. (2020, Nov) Invited presentation accepted at the Annual Convention of the American Speech-Language-Hearing Association, San Diego, CA (Convention canceled).
6. McAllister, T., **Preston, J.L.**, Kabakoffa, H., Boyce, S.E., & Whalen, D.H. (2020, Nov). *Who responds to ultrasound biofeedback treatment for rhotic misarticulation?* Proposal accepted at the Annual Convention of the American Speech-Language-Hearing Association, San Diego, CA (Convention canceled).

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7. Leece, M., Benway^d, N. R., McAllister, T., & **Preston, J.L.** (2020, Nov). *Try it for six sessions: Using machine learning to predict outcomes of SSD treatment*. Poster accepted at the Annual Convention of the American Speech-Language-Hearing Association, San Diego, CA (Convention canceled).
8. Caballero, N., Leece, M., Benway, N. R., **Preston, J.L.** (2020, Nov). *Measuring features of CAS in school-age children: A reliability study*. Poster accepted at the Annual Convention of the American Speech-Language-Hearing Association, San Diego, CA (Convention canceled).
9. Benway, N. R., McAllister, T., Hitchcock, E.I., **Preston, J. L.** (2020, Nov). 10325: *Single Case Experimental Comparison of Biofeedback Types for Children with Residual Speech Sound Errors Impacting /ɹ/*. Technical research proposal accepted at the Annual Convention of the American Speech-Language-Hearing Association, San Diego, CA (Convention canceled).
10. **Preston, J.L.** & Leece, M.C. (May, 2020). *Speech Motor Chaining for treating speech sound disorders*. Oral Presentation at the New York State Speech, Language and Hearing Association Annual Convention, Tarrytown, NY. (Convention canceled)
11. **Preston, J.L.** (Feb 2020). *Agreement of childhood apraxia of speech diagnosis using two objective measures: Syllable Repetition and Maximum Performance Tasks*. Oral Presentation at the Madonna Motor Speech Conference, Santa Barbara, California, Feb 20-23, 2020
12. Murray, E., Velleman, S., **Preston, J.**, McCabe, P., & Heard, R. (Feb 2020) *Speaking the same language? Developing a rating form for diagnostic features of Childhood Apraxia of Speech*. Oral Presentation accepted at Motor Speech Conference, Santa Barbara, California, Feb 20-23, 2020.
13. Benway^d, N., Campeas^m, R. & **Preston, J.L.** (Nov 2019). *Predicting CAS diagnosis from multisyllabic word repetitions in school-aged children*. Poster presented at the American Speech-Language-Hearing Association Annual Convention, Orlando, FL.
14. **Preston, J.L.**, & Leece, M.C. (Nov 2019). *Treating /r/ Errors: Cueing & Practice Strategies Informed by Evidence*. One hour seminar presented at the American Speech-Language-Hearing Association Annual Convention, Orlando, FL.
15. Wnek, O., Dugan, S.H., Spencer, C. Boyce, C., McAllister, T., **Preston, J.** & Whalen, D. (Nov 2019). *The Impact of Part-vs-Whole Cue Paradigms in Treating Children With Residual Speech Sound Disorders*. Poster presented at the American Speech-Language-Hearing Association Annual Convention, Orlando, FL. *Received Meritorious Poster Award
16. Whalen, D.H., Kang, J., Iwasaki, R., Shejaeya, G., Kim, B, Roon, K., Tiede, M.K., **Preston, J.L.**, Phillips, E., McAllister, T., Boyce., S. E. (Aug 2019). *Accuracy assessments of hand and automatic measurements of ultrasound images of the tongue*. Paper presented at the International Congress of Phonetic Sciences (ICPhS) 2019, Melbourne, AU.
17. **Preston, J.L.**, Leece., M.C. & Vose^p, C.J. (Jul 2019). *Hands-on training: Ultrasound visual feedback for treating persisting speech errors in CAS*. Workshop presented at the Apraxia-Kids Annual Conference, Pittsburgh, PA.
18. **Preston, J.L.** & Leece, M.C. (Jul 2019). *How to use speech motor chaining to treat school-age children with CAS*. Workshop presented at the Apraxia-Kids Annual Conference, Pittsburgh, PA.
19. Feeny, G.T., Kabakoff, H., Phillips, E., Tiede, M., **Preston, J.L.** & McAllister, T. (June 21, 2019). *Longitudinal emergence of perception, production, and motor skills in preschoolers*. Poster presented at the 2019 Boston Speech Motor Control Symposium. Boston, MA.
20. Benway^d, N.R., Campeas^m, R. & **Preston, J.L.** (Jun 2019). *Differentiating subtypes of speech sound disorders using multisyllabic word repetitions*. Paper presented at the 2019 International Child Phonology Conference. Montréal, Canada.
21. Vose, C.J.^p, **Preston, J.L.**, & Hitchcock, E.R. (Jun 2019). *Investigating the role of auditory perception training on biofeedback treatment outcomes for residual /r/ errors*. Paper presented at the 2019 International Child Phonology Conference. Montréal, Canada.
22. Feeny, G. T., Kabakoff, H., Phillips, E., Tiede, M., **Preston, J. L.** & McAllister, T. (June 2019). *Motor and perceptual precursors of speech production: A longitudinal study*. Paper presented at the 2019 International

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- Child Phonology Conference. Montréal, Canada.
23. Murray, E., Velleman, S., **Preston, J.L.**, McCabe, P., Heard, R. (2019, Jun). *Diagnostic reliability of childhood apraxia of speech: How good is the gold standard?* Oral seminar presented at the Speech Pathology Australia conference, Brisbane, Australia.
 24. Kabakoff, H., Feeny, G.T., Tiede, M., **Preston, J.L.** & McAllister, T. (May 2019). Detecting changes in lingual differentiation over the course of speech sound intervention. *Poster presented at the 177th Meeting of the Acoustical Society of America*. Louisville, KY.
 25. **Preston, J.L.** & Leece, M.C. (May, 2019). Differential diagnosis of speech sound disorders and motor speech disorders in children. Presented at the New York State Speech-Language-Hearing Association Annual Convention, Albany, NY.
 26. Leece, M. C., Hitchcock, E., **Preston, J.L.** (Nov, 2018). *Does auditory perception training enhance biofeedback treatment outcomes for residual /r/ errors? An RCT*. Poster presented at the American Speech-Language-Hearing Association annual convention, Boston, MA.
 27. **Preston, J.L.**, McAllister, T., & Hitchcock, E. (Nov, 2018). *Visual biofeedback treatment approaches for persistent speech errors*. Invited seminar presented at the American Speech-Language-Hearing Association annual convention, Boston, MA.
 28. Schlaterm, M., Voleti, R., Milosky, L. & **Preston, J.L.** (Nov, 2018). *Evaluation of LSVT(R)-X on intelligibility in a 17-year-old with severe spastic dysarthria post-CVA*. Poster presented at the American Speech-Language-Hearing Association annual convention, Boston, MA.
 29. Campbell, H., McAllister, T., **Preston, J.L.**, Tiede, M., Whalen, D.H. (Nov, 2018). *Identifying Individualized Sensorimotor Predictors of Response to Ultrasound Treatment*. Poster presented at the American Speech-Language-Hearing Association annual convention, Boston, MA.
 30. **Preston, J.L.** & Leece, M.C. (Apr, 2018). *Evidence-based treatment options for school-age children with CAS*. Seminar presented at the New York State Speech-Language-Hearing Association Convention, Rochester, NY
 31. **Preston, J.L.** (Nov, 2017). *Treating persisting speech sound disorders in school-age children*. Invited seminar presented at the American Speech-Language-Hearing Association annual convention, Los Angeles, CA.
 32. Leece, M.L., & **Preston, J.L.** (2017, Nov). *Persisting /r/ distortions can improve! Data from an intensive, motor-based, visual-feedback treatment program*. Poster presented at the American Speech-Language-Hearing Association annual convention, Los Angeles, CA. **Received Meritorious Poster Award
 33. Rivera-Campos, A., Boyce S.E., **Preston, J.L.** & Whalen, D.H. (2017, Nov). *Development of an ultrasound biofeedback training for SLPs*. Poster presented at the American Speech-Language-Hearing Association annual convention, Los Angeles, CA.
 34. McCabe, P., **Preston, J.**, Morgan, A., Murray, E. & Bricker, G. (2017, Jul). *What happens when they grow up: A Survey of Adults who had Childhood Apraxia of Speech*. Poster presented at the 7th International Conference on Speech Motor Control, Groningen, the Netherlands
Conference: Proceedings: McCabe, P., **Preston, J.**, Murray, E., Bricker, G. & Morgan, A. (2017). What happens when they grow up: A survey of adults who had childhood apraxia of speech. *Stem-, Spraak- en Taalpathologie* 22 S130.
 35. **Preston, J.L.** & Leece, M.C. (2017, Jun). *Phonological predictors of response to a motor-based speech treatment*. Presented at the International Child Phonology Conference, Washington, DC.
 36. McCabe, P., **Preston, J.**, Morgan, A., Murray, E. & Bricker, G. (2017, May). *What happens when they grow up? Experiences of adults who were diagnosed with childhood apraxia of speech as children*. Paper presented at the Speech Pathology Australia Annual Conference, Sydney, May 2017.
 37. Docia, S., Cumberu, K., Vander Werff, K., & **Preston, J.L.** (2017, Apr). *Event-related potentials in response to clear and distorted speech*. Poster presented at the Syracuse University Third Annual Neuroscience Research Day, Syracuse, NY.
 38. **Preston, J.L.**, McAllister Byun, T., Hitchcock, E., Rusiewicz, H., Lee, S.A., Leece, M., Hamilton, S., Rivera, A., Schmidlin, S., Cleland, J., Wrench, A., & Boyce, S.E. (2016, Nov). *Ultrasound biofeedback for speech sound disorders: Hands-on clinical training*. Short course presented at the American Speech-Language-Hearing Association annual convention, Philadelphia, PA.
 39. Leece, M.C. & **Preston, J.L.** (2016, Nov). *Treating /r/ misarticulation with an adaptive motor learning approach*. Technical clinical session presented at the American Speech-Language-Hearing Association

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- annual convention, Philadelphia, PA.
40. McCabe, P., & **Preston, J.L.** (2016, July). *Comparing treatments. An RCT contrasting Ultrasound and ReST therapy for CAS.* Presented at the Childhood Apraxia of Speech Association of North America Annual Convention, Itasca, IL.
 41. McCabe, P., **Preston, J.L.** & Evans, P. (2016, May). *Ultrasound or ReST? Which treatment is better for older children with childhood apraxia of speech. A randomised control trial.* Poster presented at the Speech Pathology Australia National Conference, Perth, Australia.
 42. Harwood, V., **Preston, J.L.**, & Grela, B. (2015, Nov) *Electrophysiological correlates of speech perception in young children: Associations among ERP, nonword repetition and language.* Technical session presented at the American Speech-Language-Hearing Association Annual Convention
 43. Sjolie, G*, Leece, M.C., & **Preston, J.L.** (2015, Nov) *Effects of ultrasound visual feedback on generalization, retention, and acquisition in speech therapy for rhotics.* Poster presented at the American Speech-Language-Hearing Association Annual Convention, Denver, CO.
 44. **Preston, J.L.** McAllister Byun, T., Hitchcock, E., Rusewicz, H., Leece, M., Lee, S. & Boyce, S. (2015, Nov). *Ultrasound biofeedback for speech sound disorders: Hands-on clinical training.* Invited Short Course for the American Speech-Language-Hearing Association Annual Convention, Denver, CO.
 45. Collisson, B. A., Graham, S. **Preston, J.L.**, Rose, S., McDonald, S., Tough, S. (2015, Oct). *Risk and protective factors for late talking: An epidemiological study.* Paper presented at the Cognitive Development Society, Columbus, OH.
 46. **Preston, J.L.**, McCabe, P., Tiede, M. & Whalen, D. (2015, Jun) *Tongue shape complexity of correct and distorted rhotics in school-age children.* Poster presented at the International Child Phonology Conference, St. John's, Newfoundland, Canada.
 47. **Preston, J.L.** & Leece, M. (2015, Apr). *Assessing and treating CAS and other speech sound disorders with ultrasound technology.* Seminar presented at the 2015 New York State Speech-Language-Hearing Association Annual Convention, Rochester, NY.
 48. Hodson, B., Gibbon, F., Lee, A., **Preston, J.**, Baker, E. & McCauley, R (2014, Nov). *Key elements in three speech sound disorders interventions: Electropalatography, cycles, and ultrasound biofeedback.* Invited seminar for the American Speech Language Hearing Association Annual Convention, Orlando, FL.
 49. Irwin, J., Brancazio, L., Turcios, J., Gumkowski, N., & **P** (2014, Nov). *Seeing to hear? Gaze to speaking faces in children with autism spectrum disorders.* Paper presented at the Boston University on Language Development, Boston, MA.
 50. Harwood, V., **Preston, J.L.** Grela, B., & Landi, N. (2014, June). *Electrophysiological correlates of speech perception in young children: Associations among ERP, nonword repetition and language.* Poster presented at the Symposium in Research in Child Language Disorders, Madison, WI.
 51. McCabe, P., **Preston, J.**, Rivera, A., & Whittle, J. (2014, May). *Residual speech errors: Therapy using ultrasound biofeedback.* Paper presented at the Speech Pathology Australia Annual National Conference, Melbourne, AU.
 52. Gumkowski, N., Molfese, P., Sorcinelli, A., Harwood, V., Irwin, J., Landi, N., & **Preston, J.L.** (2014, Apr). *Neurophysiological differences in childhood apraxia of speech.* Poster presented at the University of Connecticut Language Festival, Storrs, CT.
 53. Koenig, L. & **Preston, J.L.** (2013, Dec). *Assessing whether loud speech affects vowel formant values in toddlers.* Poster presented at the 166th meeting of the Acoustical Society of America, San Francisco, CA.
 54. Arthur, D., **Preston, J.L.**, Grela, B., & Pugh, K.R., (2013, Nov). *Articulatory influences on phonological awareness: DDK revisited.* Poster presented at the American Speech-Language-Hearing Association annual conference, Chicago, IL.
 55. Sorcinelli, A., Irwin, J. Brancazio, L., Gumkowski, N. **Preston, J.** & Landi, N (2013, May). *Diminished audiovisual speech integration for children with autism spectrum disorders.* Poster presented at the 25th Association for Psychological Sciences Annual Convention, Washington, DC.
 56. Arthur, D., **Preston, J.** & Pugh, K. (2013, Apr). *Articulatory influences on phonological awareness: Evidence from diadochokinesis.* Poster presented at the 2013 University of Connecticut Language Festival, Storrs, CT.
 57. Harwood, V., **Preston, J.** Irwin, J. Grela, B. & Landi, N. (2013, Apr). *Electrophysiological correlates of speech perception in typically developing and late talking toddlers.* Poster presented at the Connecticut Speech and Hearing Association Spring Conference, Cromwell, CT.

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58. Carolan, L., Robison, J. **Preston, J.** & Irwin, J. (2013, Apr). *Seeing to hear? Patterns of gaze to speaking faces in children with autism spectrum disorders*. Poster presented at the Connecticut Speech and Hearing Association Spring Conference, Cromwell, CT.
59. Masterson, J. & **Preston, J.L.** (2012, Nov). *Spelling profiles in children with sound-system disorders*. Poster presented at the American Speech-Language-Hearing Association Annual Convention, Atlanta, GA.
60. **Preston, J.L.** & Brick, N. (2012, Nov). *Ultrasound biofeedback for residual speech sound disorders with CAS*. Poster presented at the American speech-Language-Hearing Association Annual Convention, Atlanta, GA.
61. Lewis, B.A., **Preston, J.**, Redle, E., Vannest, J. & Shriberg, L. (2012, Nov). *Neuroimaging in pediatric speech disorders*. Invited presentation for the Motor Speech Disorders committee for the American Speech-Language-Hearing Association Annual Convention, Atlanta, GA.
62. Shadle, C., Koenig, L., & **Preston, J.** (2012, Oct) *Sensitivity of acoustic parameters of /s/ in adolescents*. Presented at the Acoustic Society of America, Kansas City, MO.
63. **Preston, J.L.** (2012, Jul). *Ultrasound biofeedback for persisting CAS*. Paper presented at the 2012 National Conference on Childhood Apraxia of Speech, Danvers, MA.
64. **Preston, J.L.**, Brick, N. & Phillips, E. (2012, April). *Ultrasound biofeedback for residual speech sound disorders*. Poster presented at the Connecticut Speech-Language-Hearing Association spring conference, Cromwell, CT.
65. **Preston, J.L.**, Hull, M. & Edwards, M.L. (2011). *Correlates of speech and literacy outcomes in preschoolers with SSD*. Poster session presented at the American Speech-Language-Hearing Association Annual Convention, San Diego, CA.
66. Shadle, C.H., Koenig, L.K. and **Preston, J.L.** (2011) *Acoustic characterization of /s/ spectra of adolescents: Moving beyond moments*. J. Acoust. Soc. Am. 129:4:2, 2595. Seattle, WA.
67. Prieve, B. A. & **Preston, J.L.** (2010). *Human developmental changes in TEOAE, DPOAE, and WBR*. Technical session presented at the American Speech-Language-Hearing Association Annual Convention, Philadelphia, PA.
68. Arthur, D., **Preston, J.L.**, & Pugh, K.R. (2010). *Rapid articulatory sequencing predicts unique variance in word reading*. Poster session presented at the American Speech-Language-Hearing Association Annual Convention, Philadelphia, PA.
69. **Preston, J.L.**, Felsenfeld, S., Frost, S.J., Mencl, W.E., Fulbright, R.K., Pugh, K.R., & Goen, A. (2010). *An fMRI investigation of childhood speech sound disorders*. Technical session presented at the American Speech-Language-Hearing Association Annual Convention, Philadelphia, PA.
70. **Preston, J.L.**, Ramsdell, H.R., Oller, D.K., Edwards, M.L. & Tobin, S.J. (2010). *Developing and psychometrically investigating a weighted measure of speech sound accuracy*. Paper presented at the International Child Phonology Conference, Memphis, TN.
71. **Preston, J.L.**, & Edwards, M.L. (2009). *Phonological awareness & speech production accuracy in children with SSDs*. Poster presented at the American Speech-Language-Hearing Association Annual Convention, New Orleans, LA.
72. **Preston, J.L.**, & Edwards, M.L. (2009). *Speech sound disorders: Red flags for literacy problems*. Paper presented at the American Speech-Language-Hearing Association Annual Convention, New Orleans, LA.
73. Edwards, M.L., & **Preston, J.L.** (2009). *Assessing phonological awareness in children with speech sound disorders*. Paper presented at the American Speech-Language-Hearing Association Annual Convention, New Orleans, LA.
74. Koenig, L. L., & **Preston, J.L.** (2009). *Context-related variability in adolescents' misarticulated and typically produced /s/*. Poster presented at the Acoustical Society of America, Portland, OR.
75. **Preston, J.L.**, Ramsdell, H. & Oller, D.K. (2008). *Preliminary investigation of a weighted measure of speech sound accuracy*. Poster presented at the ASHA Convention, Chicago, IL.
76. **Preston, J.L.** & Edwards, M.L. (2007). *Phonological output of adolescents on three repetition tasks*. Technical session at the ASHA Convention, Boston, MA.
77. Edwards, M.L. & **Preston, J.L.** (2007). *Phonological disorders, phonological awareness, and literacy: An update for SLPs*. Presented at the New York State Speech-Language-Hearing Association Annual Convention, Buffalo, NY.
78. **Preston, J.L.** & Edwards, M.L. (2006). *A cross-section in the phonetic sciences: Diadochokinetic skills of adolescents with residual speech sound errors*. Poster presented at the ASHA Convention, Miami, FL.

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79. Preston, J.L. & Edwards, M.L. (2006). *Phonological processing skills of adolescents with residual speech sound errors*. Poster presented at the ASHA Convention, Miami, FL.
80. Preston, J.L. & Edwards, M.L. (2006). *Rapid naming abilities of adolescents with residual speech sound errors*. Poster presented at the ASHA Convention, Miami, FL.

INVITED PRESENTATIONS AND CLINICAL WORKSHOPS (Not Peer-Reviewed)

1. **Preston, J.L.** (Apr, 2020). *Ultrasound biofeedback treatment for speech sound disorders*. Staff talk at Haskins Laboratories, New Haven, CT.
2. **Preston, J.L.** (Apr, 2020). *Ultrasound biofeedback treatment for speech sound disorders*. Invited research presentation for the University of Connecticut Department of Speech, Language and Hearing Sciences Colloquium, Storrs, CT.
3. **Preston, J.L.** & Leece, M.C. (Mar, 2020). *Differential diagnosis of motor speech disorders in children*. Invited 3 hour workshop presented for the Onondaga-Cayuga-Madison Board of Cooperative Educational Services, Liverpool, NY.
4. **Preston, J.L.** (Mar, 2020). *Childhood apraxia of speech in preschool and school-age children. (Part I: Assessment, Treatment Planning, and Motor Learning, Part II: Evidence-based Approaches to Treatment)*. Invited 6 hour workshop presented to the Michigan Speech-Language-Hearing Association, Detroit, MI.
5. **Preston, J.L.** (Feb, 2020). *Current approaches to treating children with apraxia of speech*. Invited 4 hour workshop for the SUNY Cortland chapter of the National Student Speech, Language and Hearing Association, Cortland, NY.
6. **Preston, J.L.** (Feb, 2020). *Updates on ultrasound biofeedback treatment for speech sound disorders*. Keynote address for the University of Sydney Communication Sciences & Disorders 80th Anniversary Research Symposium, Sydney, AU.
7. **Preston, J.L.** (Oct, 2019). *Articulation treatment for school-aged children*. Six hour workshop presented to the Speech & Hearing Association of the Hudson Valley, New Paltz, NY.
8. **Preston, J.L.** & Leece, M.C. (May, 2019). *Evidence-based strategies for treatment of residual speech sound errors*. Workshop presented for the Onondaga-Cayuga-Madison Board of Cooperative Educational Services, Liverpool, NY.
9. **Preston, J.L.** (Apr, 2019). *Current approaches to treating school-age children with apraxia of speech and other speech sound disorders*. Workshop presented for the Genesee Valley Speech-Language-Hearing Association, Rochester, NY.
10. Leece, M.C. & **Preston, J.L.** (Mar, 2019). *Treatment planning and service delivery for speech sound disorders in school-aged children*. Workshop presented at Syracuse University, Syracuse, NY.
11. **Preston, J.L.** & Leece, M.C. (Mar, 2019). *Evidence-based strategies for treatment of residual speech sound errors*. Workshop presented for the Onondaga-Cayuga-Madison Board of Cooperative Educational Services, Liverpool, NY.
12. **Preston, J.L.** & Vosep, C.J (Dec, 2018). *Cueing strategies for persisting articulation errors*. Workshop presented for the Central New York Speech-Language Hearing Association, DeWitt, NY.
13. **Preston, J.L.** & Leece, M.C. (Oct, 2018). *Current perspectives on assessment and treatment of childhood apraxia of speech*. Workshop presented for the Cattaraugus-Allegany Teacher Center, Olean, NY.
14. **Preston, J.L.** (Jul, 2018). *Clinicians & researchers: What we have learned, what we can learn from each other*. Keynote address at the 2018 Apraxia-Kids National Conference, Charlotte, NC.
15. **Preston, J.L.** (Mar, 2018). *Assessing and treating childhood apraxia in preschool and school-age children*. Workshop presented for the Ohio Speech-Language-Hearing Association, Columbus, OH.
16. **Preston, J.L.** & Case, J. (Mar, 2018). *Current perspectives on assessment and treatment for childhood apraxia of speech*. Workshop presented for Haskins Laboratories Training Institute, New Haven, CT.
17. **Preston, J.L.** & Leece, M.C. (Feb, 2018). *Differential diagnosis of speech sound disorder and motor speech disorders in children*. Workshop presented for the Syracuse University Communication Sciences & Disorders Fall Continuing Education series, Syracuse, NY.

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18. **Preston, J.L.** & Finestack, L. (2017, Jun). *Developing a 5-Year Research Plan*. Invited presentation for the American Speech-Language-Hearing Association Pathways Leadership Program, Rockville, MD.
19. **Preston, J.L.** & Hogan, T. (2016, Jun). *Developing a 5-Year Research Plan*. Invited presentation for the American Speech-Language-Hearing Association Pathways Leadership Program, Rockville, MD.
20. **Preston, J.L.**, & Leece, M. (2016, May). *Speech and language bases of literacy*. Invited workshop for the Syracuse Reading League. Syracuse, NY
21. **Preston, J.L.** (2016, Jan). *Motor-based treatment with and without ultrasound biofeedback for speech sound errors*. Invited presentation for the University of Sydney School of Health Sciences, Sydney, Australia.
22. **Preston, J.L.** (2015, Dec). *Training SLPs to work with at-risk, disadvantaged children with atypical development*. Invited presentation for the Haskins Global Summit on Early Development, Health, and Learning Among At-Risk Children, New Haven, CT.
23. **Preston, J.L.** (2015, Oct). *Motor-based treatments with ultrasound visual feedback for children with residual speech sound errors*. Presented at the University of Buffalo Communication Sciences & Disorders colloquium, Buffalo, NY.
24. **Preston, J.L.** (2015, Apr). *Intervention for residual speech sound disorders*. Workshop presented for the Central New York Speech-Language-Hearing Association, Syracuse, NY.
25. **Preston, J.L.** (2015, Mar). *Current Perspectives on Assessment and Treatment of Childhood Apraxia and other Speech Sound Disorders*. Invited presentation for the Duquesne University symposium, Pittsburgh, PA. [[Publicity link](#)]
26. **Preston, J.L.** (2014, Oct). *Treatment options for childhood apraxia of speech*. Workshop presented for the Syracuse University Communication Sciences & Disorders Fall Continuing Education series, Syracuse, NY.
27. **Preston, J.L.** (2014, Oct). *Assessment & treatment considerations for speech sound disorders and suspected childhood apraxia of speech*. Workshop presented for the Connecticut Birth-to-Three practitioners, North Haven, CT.
28. **Preston, J.L.** (2014, Apr). *Diagnostic and therapeutic considerations for CAS and residual articulation disorders*. Invited presentation for the Connecticut Speech Language Hearing Association Spring Conference, Cromwell, CT.
29. **Preston, J.L.**, Hitchcock, E., McAllister Byun, T., & Whittle, J. (2014, Jan). *Ultrasound biofeedback for speech sound disorders: Clinical training for SLPs*. Clinical workshop presented at Haskins Laboratories, New Haven, CT.
30. **Preston, J.L.** (2014, Jan). *Introduction to ultrasound biofeedback for childhood apraxia of speech*. Webinar presented for the Childhood Apraxia of Speech Association of North America.
31. **Preston, J.L.** (2013, Oct). *Hands-on clinical training in ultrasound biofeedback*. Clinical workshop presented at McGill University, Montreal, Quebec.
32. **Preston, J.L.** (2013, Oct). *Evidence-based update on ultrasound biofeedback for treating speech sound errors*. Presented at the Clinical Outreach Seminar Series for the 50th Anniversary of the School of Communication Sciences and Disorders at McGill University, Montreal, Quebec.
33. **Preston, J.L.** (2013, Mar). *Ultrasound biofeedback for children with persisting childhood apraxia of speech*. Presented at the University of Connecticut Communication Disorders Colloquium, Storrs, CT.
34. **Preston, J.L.** (2013, Mar). *Therapy for school-age children with CAS*. Invited presentation for SpeechPathology.Com continuing education series, *Childhood Apraxia of Speech* (virtual conference).
35. **Preston, J.L.** (2013, Feb). *State of the art in CAS neuroimaging research*. Panelist at the 2013 CAS Research Symposium, Atlanta, GA
36. **Preston, J.L.** (2012, Oct). *Treatment options for childhood apraxia of speech*. Invited presentation for the Connecticut Speech-Language-Hearing Association fall conference, Cromwell, CT.
37. **Preston, J.L.** (2012, Aug). *Ultrasound biofeedback for persisting speech sound disorders*. Haskins Laboratories Next Generation speaker series, New Haven, CT.
38. **Preston, J.L.** (2012, May). *Speech perception differences in children with speech sound disorders: Behavioral and neurobiological observations*. Invited lecture for the 2012 Alvin and Isabelle Liberman Memorial Workshop on Applied and Theoretical Issues in Speech Perception and Production, University of Connecticut, Storrs, CT.
39. **Preston, J.L.** (2012, March). *Residual speech sound disorders: Linguistic and motoric considerations*. Invited presentation for *Speech-Sound Disorders in Childhood: Early Indicators and Interventions*, The Haskins Training Institutes, New Haven, CT.

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40. **Preston, J.L.** (2012, March). *Speech and literacy: The connection and the relevance to clinical practice*. Invited presentation for SpeechPathology.Com continuing education series, *Speech Sound Disorders in Children* (virtual conference).
41. **Preston, J.L.** (2011). *Speech therapy services for articulation disorders and childhood apraxia of speech*. Learning Disabilities Association of Connecticut. Newton, CT.
42. **Preston, J.L.** (2010). *Phonological processing and speech production in children with speech sound disorders*. Presented at the New York University Communicative Sciences & Disorders Colloquium, New York, NY.
43. Edwards, M.L. & **Preston, J.L.** (2007). *Phonological processing abilities of children with speech sound disorders*. Presented at the Linguistics Studies Colloquium, Syracuse, NY

TEACHING EXPERIENCE

Syracuse University

Fall 2014-2019	CSD 638 Speech Sound Disorders
Spring 2016	CSD 427/627 Speech & Language Disorders in Children
Spring 2008	CSD 345 Fundamentals of Speech Science
Fall 2007	CSD 212 Introduction to Communication Sciences and Disorders

Southern Connecticut State University

Spring 2011, 2013-14	Speech Science
Spring 2011	Introduction to Developmental Communication Disorders
Summer 2010-2013, Fall 2010-2013	Phonological Disorders
Fall 2010-13, Spring 2012-14	Anatomy & Physiology of the Speech Mechanism

RESEARCH SUPERVISION AND MENTORSHIP

Postdoctoral Fellows

- Mentored postdoctoral fellows in my lab 1 postdoctoral fellow (C. Vose)

NIH F31 Mentorship

- Consultant on funded NIH F31 projects 2 students (H. Kabakoff, C. Spencer)

Doctoral Exam & Dissertation Committees

- Primary mentor for PhD student 1 student (N. Benway)
- Qualifying exam committee member 4 students
- Dissertation examiner 3 students
- Dissertation committee member 2 students
- Pre-qualifying exam committee member 1 student
- Dissertation committee chairperson 1 student

Masters Theses

- Thesis advisor 2 students (N. Brick, G. Sjolie)
- Thesis defense chair 1 student

Undergraduate Honors Thesis

- Honors thesis advisor 1 student (K. Garcia)

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- Honors thesis committee member 4 students

RESEARCH CONSULTATION

- NIH 1R21DC017393-01, PI: J. Vannest, Cincinnati Children's hospital.
1 Apr 2019 - 30 Mar 2021
Role: Consultant on neuroimaging and speech error analysis in children with speech sound disorders.
- Research Growth Fund, PI: W. Postman, Saint Louis University
1 Jul 2019 - 30 Jun 2021
Role: Consultant on ultrasound use in adult neurogenic communication disorders
- NIH 1F31DC017654, PI: C. Spencer, University of Cincinnati
15 May 2019 - 14 May 2020
Role: Consultant on neuroimaging and treatment for residual speech sound disorders
- Tremaine Foundation PreK RTI in CT: Building Teacher Knowledge About Language and Literacy for Dual Language Learners, PI: M. Gillis
1 Sept 2010 - 31 Dec 2011
Role: Methodological Consultant

CLINICAL TRANSLATION

- Ultrasound biofeedback now listed in [ASHA's "Practice Portal,"](#) a guide for clinicians on evidence-based approaches to intervention
- A video of an ultrasound biofeedback therapy session is published at MasterClinician.org, a website that demonstrates assessment and treatment strategies in speech-language pathology.

CLINICAL SUPERVISION

- 9/11-4/14 Communication Disorders Clinic, Southern Connecticut State University, New Haven, CT
- 5/05-8/05 Gebbie Speech-Language-Hearing Clinics, Syracuse University, Syracuse, NY

SERVICE

Syracuse University

- 2014-2018, 2020 Member, CSD Graduate Admissions Committee
- 2015-2017 Chair, CSD NY Teacher Certification/CAEP Committee
- 2015-2017 Member, Syracuse University Unit for Preparing School Professionals: Assessment Council (for Council of Accreditation of Educator Preparation [CAEP])
- 2015- Member, CSD Curriculum Committee
- 2016 Member, CSD Chairperson Review Committee

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- 2017-2018 Member, Annual Neuroscience Research Day Conference Committee
- 2018-2019 Chair, Annual Neuroscience Conference Day
- 2018-2019 Coordinator, SLP Masters Comprehensive Exam
- 2018- CSD Department NY Teaching Certification Liaison
- 2017-2018 College of Arts & Sciences Committee on Scholarship & Research
- 2007, 2017 Faculty Three-Year Review Committee (for Dr. Vander Werff, 2007; for Dr. Tumanova, 2017)
- 2005-2006,
- 2018-2019 Member, CSD Faculty Search Committee
- 2019 Chair, CSD Faculty Search Committee
- 2018-19 Member, Search Committee, Arts & Sciences Assistant Director for Proposal Development
- 2018-present Advisor, Language Acquisition concentration in Linguistics Studies MA program
- 2019 Reviewer, Norma Slepecky Undergraduate Research Prize
- 2019 Member, CSD Promotion & Tenure Committee, Dr. Riley
- 2020 Chair, CSD Promotion & Tenure Committee, Dr. Tumanova
- 2020 Member, CSD Promotion & Tenure Committee, Dr. Vander Werff

Southern Connecticut State University

- 2010-2014 Health and Human Services Continuing Education Committee
- 2011-2012 University Grants Review Committee
- 2012-2014 Intellectual Property Committee
- 2011-2014 NSSLHA Advisor
- 2011-2014 Communication Disorders Scholarship Committee Chair
- 2011-2014 Faculty Search Committee
- 2012 Graduate Student Affairs Committee Representative
- 2012 Departmental Evaluation Committee
- 2013-2014 Research & Scholarship Advisory Committee

Haskins Laboratories

- 2010-2012 Committee for the Birth-to-Five Initiative
- 2014 Strategic Planning Committee

Professional Service

Grant Reviews

- 07/14 American Speech-Language Hearing Foundation Grant Review & Reviewer Training
- 2/16 National Science Foundation Ad Hoc Reviewer
- 2013, 2015 Childhood Apraxia of Speech Association of North America Research Selection Committee (Chair, 2013; Committee Member, 2015)

Advisory Boards

- 2018- Apraxia-Kids Professional Advisory Board

Conference Organization and Participation

- 2016 ASHA Topic Chair: Speech Sound Disorders in Children
- 2009, 2014, 2015, 2017, 2018, 2020 ASHA Committee Member: Speech Sound Disorders in Children
- 2020 Co-Chair, Apraxia-Kids Research Symposium
- 2020 Reviewer, 12th International Seminar on Speech Production

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ASHA Pathways Leadership Program

- 2016 Served as mentor for PhD student Julie Case
- 2017 Served as mentor for Dr. Breanna Krueger
- 2018 Reviewed mentee applications

Editing

- 2015 Co-editor, *Seminars in Speech & Language* special issue on residual speech sound errors
- 2018 Editorial Board Member, Speech section of *Journal of Speech, Language & Hearing Research*
- 2020 Associate Editor, *Journal of Communication Disorders*

Peer Reviews

- 1 *Children's Speech: An Evidence Based Practice Approach to Assessment and Intervention*
- 1 *ASHA Continuing Education Program*
- 8 *American Journal of Speech-Language Pathology*
- 1 *Assessment for Effective Intervention*
- 1 *Behavioral Research Methods*
- 4 *Clinical Linguistics & Phonetics*
- 1 *Developmental Neurorehabilitation*
- 1 *Ear and Hearing*
- 2 *Human Brain Mapping*
- 2 *International Journal of Speech-Language Pathology*
- 4 *Journal of Autism and Developmental Disorders*
- 6 *Journal of the Acoustical Society of America*
- 1 *Journal of Cognitive Neuroscience*
- 4 *Journal of Communication Disorders*
- 15 *Journal of Speech, Language & Hearing Research*
- 2 *Language, Speech & Hearing Services in Schools*
- 1 *Learning and Individual Differences*
- 1 *Logopedics, Phoniatrics Vocology*
- 2 *Neuripsychiatric Genetics*
- 2 *Neuroscience*
- 1 *Perspectives on Speech Science & Orofacial Disorders, ASHA SIG 5*
- 1 *PLOS One*
- 1 *Psychonomic Bulletin & Review*
- 1 *Research in Developmental Disabilities*

Other

- 2012-2014 Expert Panel Member, Read to Grow, Inc. (Connecticut Literacy Initiative)

HONORS/AWARDS

-
- 2019 ASHA Award for Continuing Education (ACE)
 - 2018 Central NY Speech-Language Hearing Association Distinguished Service Award
 - 2017 Syracuse University College of Arts and Sciences Excellence in Master's Level Teaching Award

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2017	ASHA Clinical Practice Research Institute (CPRI)
07/09-07/11	NIH Loan Repayment Program for Clinical Researchers, funded by NIDCD
05/09	Syracuse University Arts & Sciences Doctoral Dissertation Prize
3/08	American Speech-Language-Hearing Foundation Travel Award for “Lessons for Success” Conference (NIH/ASHA co-sponsored)
11/07	Student Research Travel Awards to attend ASHA Annual Convention, Boston, MA
11/05	American Speech-Language Hearing Foundation Graduate Student Scholarship
7/05	Vivian Louise Anderson Glenn Memorial Scholarship, by the Board of Regional Association Presidents representing the regional speech, language, hearing associations of NY
8/04-5/07	Syracuse University Fellowship
8/00-5/02	Syracuse University Graduate School Scholarship
8/96-6/00	Elmira College Valedictorian Scholarship

RESEARCH IN POPULAR PRESS

5/11/20	WAMC radio, The Academic Minute
3/18/16	Men’s Health
2/3/15	Yale Daily News
1/6/15	NBC Connecticut
10/20/14	Wall Street Journal
4/07/14	National Public Radio

PROFESSIONAL AFFILIATIONS

- New York State Speech-Language-Hearing Association
- Central New York Speech-Language Hearing Association
- American Speech-Language Hearing Association (ASHA) Certified Member
- ASHA Special Interest Division Member Division 1: Language Learning and Education

PREVIOUS WORK EXPERIENCE

- 6/07–8/08 **Research Associate:** *Syracuse University, Syracuse, NY*
- Coordinated research for Dr. Beth Prieve, Pediatric Audiologist
 - Assisted in recruitment of participants, data collection, analysis, and write-up for research funded by the March of Dimes Foundation designed to improve the identification of hearing loss in infants and young children
- 4/04 –8/04 **Speech-Language Pathologist:** *Rochester Hearing & Speech Center, Rochester, NY*
- Provided one-to-one intervention for preschool and school-age children with communication impairments
- 9/02 –6/04 **Speech-Language Pathologist:** *Rochester City School District, Rochester, NY*
- Evaluated and treated children grades K-6
 - Completed Clinical Fellowship Year