

## CURRICULUM VITAE

**Susan Nittrouer, Ph.D.**

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### Education

- 1985 **Ph.D.**, Speech & Hearing Sciences, City University of New York (CUNY) Graduate School, New York, NY
- 1980-1982 **Doctoral Student**, Experimental Psychology (transferred to CUNY), Utah State University, Logan, UT
- 1975 **M.E.D.**, Education of the Deaf, Smith College, Northampton, MA
- 1974 **B.S.**, Education, with Speech Pathology specialization, West Chester State University, West Chester, PA

### PROFESSIONAL EXPERIENCE

- 2019- **Director**, Hearing Research Center, University of Florida, Gainesville, FL. Oversee interdisciplinary research, provide leadership, guidance, and direction.
- 2015- **Professor**, Speech, Language, and Hearing Sciences, University of Florida, Gainesville, FL. Research, teaching, and service.
- 2015-2020 **Chair**, Speech, Language, and Hearing Sciences, University of Florida, Gainesville, FL. Oversee departmental faculty, staff, and resources.
- 2007-2015 **Director of Research**, Otolaryngology – Head & Neck Surgery, Ohio State University, Columbus, OH. Oversee research program, provide leadership, guidance, and direction..
- 2007-2015 **Professor**, Otolaryngology – Head & Neck Surgery, Ohio State University, Columbus, OH. Research, teaching, and service.
- 2005-2015 **Professor**, Speech and Hearing Science, Ohio State University, Columbus, OH. Research, teaching, and service.
- 2002-2005 **Director**, Division of Exemplary Services, Center for Persons with Disabilities, Utah State University, Logan, UT. Oversee clinical services for northern Utah as part of the University Center for Excellence in Developmental Disabilities, providing leadership, guidance, and direction.
- 2002-2005 **Professor**, Dept. of Communicative Disorders, Utah State University, Logan, UT. Research, teaching, and service.
- 1999-2002 **Professor**, Dept. of Otolaryngology and Human Communication, Creighton University School of Medicine, Omaha, NE. Research.
- 1993-99 **Associate Professor**, same as above. Research.
- 1993-2002 **Staff Scientist**, Boys Town National Research Hospital, Omaha, NE. Research.

- 1993-2002 **Adjunct Faculty**, Dept. of Special Education and Communication Disorders, University of Nebraska at Omaha, Omaha, NE. Teaching.
- 1991-2002 **Fellow** of the Graduate School of the University of Nebraska (systemwide appointment). Teaching.
- 1990-93 **Associate Professor**, Dept. of Special Education and Communication Disorders, University of Nebraska at Omaha, Omaha, NE. Research and teaching.
- 1990 **Research Associate**, Haskins Laboratories, New Haven, CT. Research.
- 1987-90 **Staff Scientist**, Boys Town National Research Hospital, Omaha, NE. Research.
- 1987-90 **Assistant Professor**, Dept. of Otolaryngology and Human Communication, Creighton Univ. School of Medicine, Omaha, NE. Research and teaching.
- 1985-87 **NIH Postdoctoral Fellow**, Haskins Laboratories, New Haven, CT. Research.
- 1983-85 **Research Assistant**, CUNY Graduate School, New York, NY. & Haskins Laboratories, New Haven, CT. Research.
- 1982-83 **Project Coordinator**, CUNY Graduate School, New York, NY. Coordinate project providing training to teachers of the deaf and speech-language pathologists serving the deaf.
- 1980-82 **Teaching Assistant**, Utah State Univ., Logan, UT. Graduate courses in Statistics, Speech of the Hearing Impaired, Evaluation in Educational Audiology, and Programming for the Young Hearing-Impaired Child.
- 1979-80 **Speech Coordinator**, Learning Center for Deaf Children, Framingham, MA. Supervise speech therapy for preschool and upper school children.
- 1978-79 **Speech Coordinator**, Beverly School for the Deaf, Beverly, MA. Supervise speech therapy for the entire school.
- 1976-78 **Preschool Teacher**, Montreal Oral School for the Deaf, Montreal, Quebec.  
**Preschool speech and language specialist** (one year). Individual speech and language services for the children.  
**Kindergarten teacher** (one year). Classroom teacher.  
**Clinical instructor** for McGill Univ. (both years). Supervise student clinicians.
- 1975-76 **Middle School Teacher**, Clarke School for the Deaf, Northampton, MA. Classroom language teacher. Teacher-in-charge of middle school dormitory. Teacher in an experimental class designed to improve listening skills of adolescent deaf students.

## UNIVERSITY TEACHING EXPERIENCE

- 1976-78 McGill University, Department of Human Communication, Montreal, Quebec. Taught as a clinical instructor, teaching graduate students in speech-pathology, audiology, and aural habilitation.
- 1980-82 Utah State University, Department of Communicative Disorders, Logan, UT. Taught graduate courses on evaluation and intervention with hearing-impaired children. Also assisted with graduate courses in statistics.

- 1982-83 City University of New York, Ph.D. Program in Speech and Hearing Sciences, New York, NY. Coordinated a program funded by the Department of Education. The position involved visiting schools for the deaf throughout the northeast United States to provide inservice workshops on teaching speech to hearing-impaired children.
- 1989-90 Boys Town National Research Hospital, Omaha, NE. Sponsored a postdoctoral fellow in the area of language development: Liz Pemberton.
- 1991 University of Nebraska at Omaha, Department of Special Education and Communication Disorders, Omaha, NE. Taught a graduate course titled Current Issues in Speech Development.
- 1992 Utah State University, Department of Communicative Disorders, Logan, UT. Taught as a visiting faculty member in the Fifteenth Annual Summer Institute for the Management of Communicative Disorders.
- 1993-2002 Boys Town National Research Hospital, Omaha, NE. Sponsored interns and taught in the Summer Program for Under-represented Minority and Deaf College Students.
- 1995-96 Boys Town National Research Hospital, Omaha, NE. Sponsored a postdoctoral fellow in the area of speech perception: Court Crowther.
- 1998-99 Boys Town National Research Hospital, Omaha, NE. Sponsored a graduate research fellow in the Program for Graduate Minority Training: Jennifer Tolbert.
- 2002-2005 Utah State University Psychology program, Logan, UT. Faculty in the Research and Evaluation Methods program.
- 2003-2005 Utah State University, Logan, UT. Sponsored a postdoctoral fellow in the area of speech development: Joanna Lowenstein.
- 2005-2008 Ohio State University. Courses in speech and language. Sponsored a postdoctoral fellow; supervised graduate students.
- 2009-2015 Ohio State University. Supervised training of residents and PhD students. Mentored a neurotology fellow on a grant from the National Institute on Deafness and Other Communication Disorders (PI: Debara Tucci).
- 2015-present University of Florida. Courses in pediatric audiology, auditory bases of language and literacy, fundamentals of hearing, sensory biology, research methods, and laboratory experiences.

## GRANTS

### Active:

- Principal Investigator, NIDCD Individual Grant (R01): R01DC020918 "Poverty-related factors for auditory and language deficits in children." 09/18/2023-08/31/2028.
- Consultant, NIDCD Individual Grant (R01): R01 DC017683 "Image Guided Cochlear Implant Programming: Pediatric Speech, Language, and Literacy." (PIs: René Gifford and Stephen Camarata, Vanderbilt University). 04/01/2019-03/31/2024
- Consultant, NIDCD Individual Grant (R01): R01 DC018171 "Brain Mechanisms Underlying Skilled Reading in Deaf and Hard of Hearing (DHH) Children with Different Communication Modes." (PI: James R. Booth, Vanderbilt University). 09/01/2019-09/31/2024

**Previously Funded:**

Co-Investigator (Hearing Health Foundation Grant): "Effects of Congenital Hearing Loss on Speech Motor Control: Acoustic and Articulatory Evidence from 4- to 6-year-olds and Adults." (PI: Matthew Masapollo) 10/1/2021-08/31/2023

Co-Investigator (University of Florida Office of Research): "Exploring the scaffolding of speech motor control and phonological sensitivity in 4-to-6-year-olds." (PI: Matthew Masapollo)

Principal Investigator, NIDCD Individual Grant (R01): R01 DC015922 "Spoken Language in Adolescents with Hearing Loss." 03/01/2017-02/28/2022.

Principal Investigator, Florida Moonshot Initiative: "Florida Center of Excellence for Neurodevelopmental Disorders." 2019.

Principal Investigator, NIDCD Individual Grant (R01): R01 DC000633 "The Ontogeny of Segmental Speech Organization." 07/01/1994-6/30/2017.

Principal Investigator, NIDCD First Award (R29): R29 DC000633 "The Ontogeny of Segmental Speech Organization." 12/01/1988-6/30/1994.

Principal Investigator, NIDCD Individual Grant (R01): R01 DC006237 "Early Development of Children with Hearing Loss." 09/01/2003-2/28/2016.

Principal Investigator, NIDCD Research and Training Center Grant (P60): P60 DC000982 "Center for Hearing Loss in Children, Project VII: Linguistic Experience and Speech Perception in Children." 09/01/1995-8/31/2000.

Co-Investigator, NIDCD Research and Training Center Grant (P60): P60 DC000982 "Center for Hearing Loss in Children, Project II: Objective fitting strategies for nonlinear hearing aids." Patricia G. Stelmachowicz, Ph.D., Principal Investigator. 09/01/1995-8/31/2000.

Co-Investigator, NIDCD Research and Training Center Grant (P60): P60 DC000982 "Center for Hearing Loss in Children, Project IV: Articulation and phonation of children with hearing loss." Maureen B. Higgins, Ph.D., Principal Investigator. 09/01/1995-8/31/2000.

**Scored, but Not Funded:**

Principal Investigator, NIDCD Exploratory Grant (R21): R21 DC019593 "Initial Exploration of Speech Motor Control by Talkers with Cochlear Implants." 04/01/2022

**Pending Review from IARPA:**

Co-Investigator, "Vocal Obfuscation Expert Language Encoding Technology." (PI: Patrick Traynor, College of Engineering.)

**AWARDS AND HONORS**

Distinguished Alumna of the Year award from the City University of New York Program in Speech and Hearing Science, May 2023

Honors of the Association, American Speech-Language-Hearing Association, November 2022

Editors' Award (Language), Journal of Speech, Language, and Hearing Research, November 2021

Editors' Award (Hearing), Journal of Speech, Language, and Hearing Research, November 2018

Editors' Award (Hearing), *Journal of Speech, Language, and Hearing Research*, November 2014

Fellow of the Acoustical Society of America, May 2009

Editors' Award (Hearing), *Journal of Speech and Hearing Research*, November 1997

Designated as Fellow of the University of Nebraska Graduate Faculty, 1991

Editors' Award (Speech), *Journal of Speech and Hearing Research*, November 1990

NIH Postdoctoral Fellowship, Haskins Laboratories, 1985-87

Mary E. Numbers Fellowship, Clarke School for the Deaf, 1974-75

Graduated magna cum laude, West Chester State University, 1974

## PROFESSIONAL SERVICE – NATIONAL

Study section permanent member: Language and Communication Study Section, NIH, 2022-2026

Editor: *Journal of Speech, Language, and Hearing Research: Language*, 2019-2022. *PLOS One*, 2018-2022. *The International Journal of Audiology*, 2011-2020; *Journal of Speech, Language and Hearing Research: Speech*, 1997-1998; guest editor for all areas in JSLHR, 2010-present; *Volta Review*, 2002-2005.

Editorial consultant for *Journal of Speech, Language, and Hearing Research (all sections)*, *Perception and Psychophysics*, *Journal of the Acoustical Society of America*, *Journal of Phonetics*, *Journal of Memory and Language*, *Journal of Experimental Child Psychology*, *Language, Speech and Hearing Services in Schools*, *Applied Psycholinguistics*, *Journal of Experimental Psychology (General, Human Perception and Performance, Learning, Memory, and Cognition)*, *Developmental Medicine and Child Neurology*, *Journal of the Association for Research in Otolaryngology*, *Phonetica*, *The International Journal of Audiology*, *Developmental Science*, *Pediatrics*, *Laryngoscope*, *Child Development*, *International Journal of Pediatric Otorhinolaryngology*, *Ear & Hearing*, *Otology & Neurotology*

Member of the Acoustical Society Technical Committee on Speech Communication (1992-2000)

Study section reviewer: NIDCD committee on small grant proposals (June 1991, February 1992, June 1992, November 1993; chair, March 2007; October, 2007; June, 2008)

Study section reviewer: NIH Sensory Disorders and Language study section (1994-1997)

Study section reviewer: NIH special emphasis study sections on a regular basis (1996-2022)

Chair of organizing committee, Special session in audiology, *Evidence for a neurological basis of central auditory processing disorders*, American Speech-Language-Hearing Convention (November, 2003)

Member of organizing committee, Hearing Loss in Children: Rehabilitation and Education Issues, American Speech-Language-Hearing Convention (November, 2005)

Member of speech science organizing committee, American Speech-Language-Hearing Convention (November, 2007)

Chair of organizing committee, Rehabilitation of Infants and Children with Hearing Loss for American Speech-Language-Hearing Convention (November, 2010).

Member of the Academic Affairs Board, American Speech-Language-Hearing Association (2013-2016), writing position papers for academic programs

Member of American Speech-Language-Hearing Association review panel on Grant Review and Reviewer Training (July, 2014), providing training to future study section reviewers.

Member of Pathways Mentoring Program at American Speech-Language-Hearing Association (June, 2015; June, 2022), providing mentoring to new investigators.

Member of Sigma Xi Research Honor Society (2012-present)

## **PROFESSIONAL SERVICE – LOCAL**

Member, Boys Town National Research Hospital Institutional Review Board (1993-1996).

Chair, Boys Town National Research Hospital Institutional Review Board (1995-1996).

Member of Advisory Committee for Children's House Early Childhood Center, Utah State University (2002-2004).

Member of Promotions and Tenure committee (Communicative Disorders and Deaf Education) Utah State University (2002-2004).

Member of Promotions and Tenure committee (Language, Philosophy and Speech Communication) Utah State University (2004).

Organized workshop on Early Intervention for Children with Hearing Loss (November, 2004)

Member of graduate studies committee, Ohio State University (2005-2007)

Member of Curriculum Review Committee, College of Social and Behavioral Sciences, Ohio State University (2005-2007).

Member of board of directors, Auditory Oral Children's Center, Dublin, Ohio (2005-2007).

Member of task force charged with developing programs to increase the number of women in leadership positions within the College of Medicine at the Ohio State University (2010-2015).

Member of the Hearing Research Center at the University of Florida (2015-present); director (2019-present)

Member of task force in University of Florida Law School on early childhood education and poverty; charged with making policy recommendations on poverty and early childhood (April, 2018).

Member of state task force charge by the state Office of Early Learning to review screening protocols for young children and make policy recommendations on standardizations (Fall, 2020)

## **PROFESSIONAL AFFILIATIONS**

Acoustical Society of America; American Speech-Language-Hearing Association, American Auditory Society, Association for Research in Otolaryngology

## **PUBLISHED PAPERS**

**Nittrouer, S. & Cheney, C. (1984).** Operant techniques used in stuttering therapy: A review. *J. Fluency Disord.* **9**, 169-190.

- Nittrouer, S.** & Hochberg, I. (1985). Speech instruction for deaf children: A communication-based approach. *Am. Ann. Deaf* **130**, 491-495.
- Nittrouer, S.** (1986). A reply to Adams' comment. *J. Fluency Disorders* **11**, 91-92.
- Nittrouer, S.** & Studdert-Kennedy, M. (1986). The stop-glide distinction: Acoustic analysis and perceptual effect of variation in syllable amplitude envelope for initial /b/ and /w/. *J. Acoust. Soc. Am.* **80**, 1026-1029.
- Nittrouer, S.** (1987). Review of *Precursors of Early Speech: Proceedings of an Int'l Symposium held at the Wenner-Gren Center, Stockholm, Sweden, Sept. 19-22, 1984*. *Lang. Speech* **30**, 83-92.
- Nittrouer, S.** & Studdert-Kennedy, M. (1987). The role of coarticulatory effects on the perception of fricatives by children and adults. *J. Speech Hear. Res.* **30**, 319-329.
- Boothroyd, A. & **Nittrouer, S.** (1988). Mathematical treatment of context effects in speech perception. *J. Acoust. Soc. Am.* **84**, 101-114.
- McGowan, R.S. & **Nittrouer, S.** (1988). Differences in fricative production between children and adults: Evidence from an acoustic analysis of /j/ and /s/. *J. Acoust. Soc. Am.* **83**, 229-232.
- Nittrouer, S.**, Munhall, K., Kelso, J.A.S., Tuller, B. & Harris, K.S. (1988). Patterns of interarticulator phasing and their relation to linguistic structure. *J. Acoust. Soc. Am.* **84**, 1653-1661.
- Nittrouer, S.**, Studdert-Kennedy, M. & McGowan, R.S. (1989). The emergence of phonetic segments: Evidence from the spectral structure of fricative-vowel syllables spoken by children and adults. *J. Speech Hear. Res.* **32**, 120-132. [Best Paper Award for Speech, *Journal of Speech, Language, and Hearing Research*]
- Nittrouer, S.** & Whalen, D.H. (1989). The perceptual effects of child-adult differences in fricative-vowel coarticulation. *J. Acoust. Soc. Am.* **86**, 1266-1276.
- Nittrouer, S.** & Boothroyd, A. (1990). Context effects in phoneme and word recognition by young children and older adults. *J. Acoust. Soc. Am.* **87**, 2705-2715.
- Nittrouer, S.**, McGowan, R.S., Milenkovic, P.H. & Beehler, D. (1990). Acoustic measurements of men's and women's voices: A study of context effects and covariation. *J. Speech Hear. Res.* **33**, 761-775.
- Nittrouer, S.** (1991). Phase relations of jaw and tongue tip gestures in the production of VCV utterances. *J. Acoust. Soc. Am.* **90**, 1806-1815.
- Nittrouer, S.** (1992). Age-related differences in perceptual effects of formant transitions within syllables and across syllable boundaries. *J. Phonet.* **20**, 351-382.
- Nittrouer, S.** (1992). Reply to Garrett and Healey. *J. Speech Hear. Res.* **35**, 96-98.
- Nittrouer, S.** (1993). The emergence of mature gestural patterns is not uniform: Evidence from an acoustic study. *J. Speech Hear. Res.* **36**, 959-972.
- Nelson, P.B., **Nittrouer, S.** & Norton, S.J. (1995). "Say-stay" identification and psychoacoustics performance of hearing-impaired listeners. *J. Acoust. Soc. Am.* **97**, 1830-1838.
- Nittrouer, S.** (1995). Children learn separate aspects of speech production at different rates: Evidence from spectral moments. *J. Acoust. Soc. Am.* **97**, 520-530.

- Stelmachowicz, P.G., Kopun, J., Mace, A., Lewis, D.E. & **Nittrouer, S.** (1995). The perception of amplified speech by listeners with hearing loss: Acoustic correlates. *J. Acoust. Soc. Am.* **98**, 1388-1399.
- Nittrouer, S.** (1996). Discriminability and perceptual weighting of some acoustic cues to speech perception by three-year-olds. *J. Speech Hear. Res.* **39**, 278-297. [Best Paper Award for Hearing, Journal of Speech, Language, and Hearing Research]
- Nittrouer, S.** (1996). The relation between speech perception and phonemic awareness: Evidence from low-SES children and children with chronic OM. *J. Speech Hear. Res.* **39**, 1059-1070.
- Nittrouer, S.**, Studdert-Kennedy, M., Neely, S.T. (1996). How children learn to organize their speech gestures: Further evidence from fricative-vowel syllables. *J. Speech Hear. Res.* **39**, 379-389.
- Nittrouer, S.** & Miller, M.E. (1997). Developmental weighting shifts for noise components of fricative-vowel syllables. *J. Acoust. Soc. Am.* **102**, 572-580.
- Nittrouer, S.** & Miller, M.E. (1997). Predicting developmental shifts in perceptual weighting schemes. *J. Acoust. Soc. Am.* **101**, 2253-2266.
- Nittrouer, S.** & Crowther, C.S. (1998). Examining the role of auditory sensitivity in the developmental weighting shift. *J. Speech Lang. Hear. Res.* **41**, 809-818.
- Nittrouer, S.**, Crowther, C.S. & Miller, M.E. (1998). The relative weighting of acoustic properties in the perception of [s]+stop clusters by children and adults. *Percept. Psychophys.* **60**, 51-64.
- Nittrouer, S.** (1999). Chronic OME hinders normal language development. *Special Interest Divisions (#1 and #9)*, American Speech-Language-Hearing Association.
- Nittrouer, S.** (1999). Do temporal processing deficits cause phonological processing problems? *J. Speech Lang. Hear. Res.* **42**, 925-942.
- Nittrouer, S.** & Miller, M.E. (1999). The development of phonemic coding strategies for serial recall. *Appl. Psycholing.* **20**, 563-588.
- Nittrouer, S.**, Miller, M.E., Crowther, C.S. & Manhart, M.J. (2000). The effect of segmental order on fricative labeling by children and adults. *Percept. Psychophys.* **62**, 266-284.
- Nittrouer, S.** (2001) Challenging the notion of innate phonetic boundaries. *J. Acoust. Soc. Am.* **110**, 1581-1597.
- Nittrouer, S.** & Burton, L. (2001) The role of early language experience in the development of speech perception and language processing abilities in children with hearing loss. *Volta Review* **103**, 5-37.
- Nittrouer, S.**, & Crowther, C.S. (2001). Coherence in children's speech perception. *J. Acoust. Soc. Am.* **110**, 2129-2140.
- Nittrouer, S.** (2002) A reply to "Innate phonetic boundaries revisited," by Aslin, Werker, and Morgan. *J. Acoust. Soc. Am.* **112**, 1261-1264.
- Nittrouer, S.** (2002). From ear to cortex: A perspective on what clinicians need to understand about speech perception and language processing. *Lang., Speech, and Hear. Services in Schools* **33**, 237-251.
- Nittrouer, S.** (2002). Learning to perceive speech: How fricative perception changes, and how it stays the same. *J. Acoust. Soc. Am.* **112**, 711-719.



- McGowan, R.S., **Nittrouer, S.**, & Manning, C. (2004). Development of [ɹ] in young, Midwestern, American children. *J. Acoust. Soc. Am.* **115**, 871-884.
- Nittrouer, S.** (2004). The role of temporal and dynamic signal components in the perception of syllable-final stop voicing by children and adults. *J. Acoust. Soc. Am.* **115**, 1777-1790.
- Nittrouer, S.** (2005). Age-related differences in weighting and masking of two cues to word-final stop voicing in noise. *J. Acoust. Soc. Am.* **118**, 1072-1088.
- Nittrouer, S.** & Burton, L. (2005). The role of early language experience in the development of speech perception and phonological processing abilities: Evidence from 5-year-olds with histories of otitis media with effusion and low socioeconomic status. *J. Comm. Dis.* **38**, 29-63.
- Nittrouer, S.**, Estee, S., Lowenstein, J.H., & Smith, J. (2005). The emergence of mature gestural patterns in the production of voiceless and voiced word-final stops. *J. Acoust. Soc. Am.* **117**, 351-364.
- Nittrouer, S.** (2006) Children hear the forest. *J. Acoust. Soc. Am.* **120**, 1799-1802.
- Nittrouer, S.**, & Lowenstein, J.H. (2007). Children's weighting strategies for word-final stop voicing are not explained by auditory capacities. *J. Speech Lang. Hear. Res.* **50**, 58-73.
- Nittrouer, S.** (2007). Dynamic spectral structure specifies vowels for children and adults. *J. Acoust. Soc. Am.* **122**, 2328-2339.
- Lowenstein, J.H., & **Nittrouer, S.** (2008). Patterns of acquisition of native voice onset time in English-learning children. *J. Acoust. Soc. Am.* **124**, 1180-1191.
- McGowan, R. S., **Nittrouer, S.**, & Chenausky, K. (2008). Speech production of twelve-month-old children with and without hearing loss. *J. Speech Lang. Hear. Res.* **51**, 879-888.
- Nittrouer, S.** (2008). Outcomes for children with HL: Effects of age of ID, sign support, and auditory prosthesis. *Perspectives on Hearing and Hearing Disorders in Childhood* **18**, 74-82
- Nittrouer, S.**, & Lowenstein, J.H. (2008). Spectral structure across the syllable specifies final-stop voicing for adults and children alike. *J. Acoust. Soc. Am.* **123**, 377-385.
- Nittrouer, S.**, & Lowenstein, J.H. (2009). Does harmonicity explain children's cue weighting of fricative-vowel syllables? *J. Acoust. Soc. Am.* **125**, 1679-1692.
- Nittrouer, S.**, Lowenstein, J.H., & Packer, R. (2009). Children discover the spectral skeletons in their native language before the amplitude envelopes. *J. Exp. Psych.: Human Percep. and Perf.* **35**, 1245-1253.
- Nittrouer, S.** & Chapman, C. (2009). The effects of bilateral electric and bimodal electric-acoustic stimulation on language development. *Trends in Amplification* **13**, 190-205.
- Nittrouer, S.** & Lowenstein, J. H. (2010). Learning to perceptually organize speech signals in native fashion. *J. Acoust. Soc. Am.* **127**, 1624-1635.
- Nittrouer, S.** & Pennington, B.F. (2010). New approaches to the study of childhood language disorders. *Current Directions in Psychological Science* **19**, 308-313.
- Nittrouer, S.**, Shune, S., & Lowenstein, J.H. (2011). What is the deficit in phonological processing deficits: Auditory sensitivity, masking, or object formation? *J. of Exp. Child Psychol.* **108**, 762-785.

- Johnson, E.P., Pennington, B.F., Lowenstein, J.H., & **Nittrouer, S.** (2011). Sensitivity to structure in the speech signal by children with speech sound disorder and reading disability. *J. Communication Disorders*, **44**, 294-314.
- Nittrouer, S.** & Tarr, E. (2011). Coherence masking protection for speech signals in children and adults. *Atten. Percept. Psychophys.* **73**, 2606-2623.
- Tarr, E. & **Nittrouer, S.** (2011). Coherence masking protection for mid-frequency formants by adults and children. *J. Acoust. Soc. Am.* **130**, EL290-EL296.
- Nittrouer, S.** (2012). A new perspective on developmental language problems: Perceptual organization deficits. *Perspective on Language Learning & Education*, **19**, 87-97.
- Nittrouer, S.**, Caldwell, A., & Holloman, C. (2012). Measuring what matters: Effectively predicting language and literacy in children with cochlear implants. *Int. J. of Pediatric Otorhinolaryng.* **76**, 1148-1158.
- Nittrouer, S.**, Caldwell, A. Lowenstein, J. H., Tarr, E., & Holloman, C. (2012). Emergent literacy skills in kindergartners with cochlear implants. *Ear & Hearing* **33**, 683-697.
- Lowenstein, J.H., **Nittrouer, S.**, & Tarr, E. (2012). Children weight dynamic spectral structure more than adults: Evidence from equivalent signals. *J. Acoust. Soc. Am.* **132**, EL443-EL449. DOI: 10.1121/1.4763554
- Caldwell, A. & **Nittrouer, S.** (2013). Speech perception in noise by children with cochlear implants. *J. Speech Lang. Hear. Res.* **56**, 13-30. [Best Paper Award for Hearing, Journal of Speech, Language, and Hearing Research]
- Jung, T.T.K., Alper, C.M., Hellstrom, S.O., Hunter, L.L., Casselbrant, M.L., Groth, A. Kemaloglu, Y.K., Kim, S.G., Lim, D., **Nittrouer, S.**, Park, K.H., Sabo, D., & Spratley, J. (2013). Panel 8: Recent Advances in Complications and Sequelae of Otitis Media. *Otolaryngol Head Neck Surg.* **148**, E122-E143. DOI: 10.1177/0194599812467425.
- Nittrouer, S.** & Lowenstein, J.H. (2013). Perceptual organization of speech signals by children with and without dyslexia. *Res. Dev. Disabil.* **34**, 2304-2325. DOI: 10.1016/j.ridd.2013.04.018
- Nittrouer, S.** Lowenstein, J.H., & Tarr, E. (2013). Amplitude rise time does not cue the /ba/-/wa/ contrast for adults or children. *J. Speech Lang. Hear. Res.* **56**, 427-440. DOI:10.1044/1092-4388(2012/12-0075)
- Tarr., E. & **Nittrouer, S.** (2013). Explaining coherence in coherence masking protection. *J. Acoust. Soc. Am.* **133**, 4218-4231. DOI: 10.1121/1.4802638
- Nittrouer, S.**, Caldwell-Tarr, A., Tarr, E., Lowenstein, J.H., & Moberly, A.C. (2013). Improving speech-in-noise recognition for children with hearing loss: Potential effects of language abilities, binaural summation, and head shadow. *Int. J. of Audiology*, **52**, 513-525. DOI: 10.3109/14992027.2013
- Nittrouer, S.**, Caldwell-Tarr, A., & Lowenstein, J.H. (2013). Working memory in children with cochlear implants: Problems are with storage, not processing. *Int. J. of Pediatric Otorhinolaryng.* **77**, 1886-1898. DOI: 10.1016/j.ijporl.2013.09.001
- Moberly, A. C., Welling, D. B., & **Nittrouer, S.** (2013). Detecting soft failures in pediatric cochlear implants: relating behavior to language outcomes. *Otology & Neurotology* **34**, 1648-1655. DOI: 10.1097/MAO.0b013e3182a0036c

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## OTHER PRESENTATIONS AND POSTERS

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- Nittrouer, S.** (2000). How language problems arise from early otitis media with effusion. Presented at the New York State Speech-Language-Hearing Association Meeting, Saratoga Springs, NY. April. (INVITED)
- Nittrouer, S.** (2000). The scientific basis of Fast ForWord: Granite or shifting sands. Presented at the New York State Speech-Language-Hearing Association Meeting, Saratoga Springs, NY. April. (INVITED)
- Nittrouer, S.** & Burton, L. T. (2001). Success in the mainstream does not require speech perception using traditional cues, but does require access to phonological structure. Presented at the Central Institute of the Deaf Conference, New Frontiers in the Amelioration of Hearing Loss, St. Louis, MO. March.
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- Nittrouer, S.** (2004). Early development of children with hearing loss. Presented at the national meeting of Early Hearing Detection and Intervention, Washington, D.C. February.

- Nittrouer, S.** (2004). Crossing the research/clinical divide. Presented at the AGBell Summit on Deafness. Washington, D.C. February. (INVITED)
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- Lowenstein, J.H. & **Nittrouer, S.** (2005). VOT development in English-learning infants. Linguistics Society of America annual meeting, San Francisco, CA. January.
- Nittrouer, S.** (2005). The perceptual organization of speech signals: Implications for speech perception by children with hearing loss. Special Session: Pediatric Hearing Issues - Speech Perception and Rehabilitation, American Auditory Society, Scottsdale, AZ. March. (INVITED)
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- Nittrouer, S.** (2005). Supporting development of spoken language in children with hearing loss. American Speech, Language, and Hearing Association, San Diego, CA. November. (INVITED)
- Nittrouer, S.** (2006). Early development of children with hearing loss: Outcomes at 18 months. A.G. Bell Association for the Deaf, Pittsburgh, PA. June.
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- Nittrouer, S.** (2007). The science of intervention across the ages. Rhode Island Hearing Assessment Program 13<sup>th</sup> Annual Seminar, Providence, RI. March (INVITED)
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- Nittrouer, S.** (2008). The whats and whens of cochlear implantation. American Auditory Society Meeting. Scottsdale, AZ. March.
- Nittrouer, S.** (2008). Outcomes for children with Hearing Loss. National Options Schools meeting. Indianapolis, IN. May.
- Nittrouer, S.** (2008). Auditory prosthetics and language development: What works best. Nationwide Children's Hospital, Columbus, OH. May. (INVITED)
- Nittrouer, S.** (2008). Pediatric implantation: What babies need. Ohio State University Medical Center, Columbus, OH. June. (INVITED)
- Sefton, S. & **Nittrouer, S.** (2008). Speech perception by children with SLI: Auditory sensitivities and masking. American Speech, Language, and Hearing Association, Chicago, IL. November.
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- Nittrouer, S.** (2011). Language and early literacy skills of preschoolers with cochlear implants. Nemours Conference on Cochlear Implants in Children, Wilmington, DE, October. (INVITED)
- Nittrouer, S.** (2012). Developmental changes in perceptual attention and organization for speech: Implications for cochlear implant design. New Ideas in Hearing: Hot Topics in Audiology. Paris, FR, April. (INVITED)
- Moberly, A.C., **Nittrouer, S.**, Shahin, A., & Welling, D.B. (2012). Do cochlear implant users rely on different acoustic cues for phoneme perception than normal-hearing adults? A mismatch negativity study. 12th International Conference on Cochlear Implants and Other Implantable Auditory Technologies, Baltimore, MD, May.
- Nittrouer, S.**, Caldwell, A., & Welling, D. B. (2012). Combining hearing aids with cochlear implants in children: Results and implications for treatment. International Hearing Aid Research Conference, Lake Tahoe, CA, August.
- Nittrouer, S.** (2013). The Challenge with Processing Language. TED talk Columbus. <https://www.youtube.com/watch?v=IF7IKv6sYxg>
- Nittrouer, S.**, Lowenstein, J., & Caldwell, A. (2013). Children with cochlear implants demonstrate working memory deficits in storage, not processing. Association for Research in Otolaryngology, Baltimore, MD, February.
- Moberly, A.C., Caldwell-Tarr, A., Welling, D.B., & **Nittrouer, S.** (2013). Detecting soft failures in pediatric cochlear implants: Relating behavior to language outcomes. American Neurotology Society Spring meeting, Orlando, FL, April.
- Nittrouer, S.**, Caldwell-Tarr, A., Rice, C., & Lowenstein, J.H. (2013). Speech perception of second-grade children with cochlear implants: Comparison to typical children. Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July.
- Nittrouer, S.**, Tarr, E., Lowenstein, J., & Bolster, V. (2013). Perceptual benefit of a low-frequency acoustic signal with electric stimulation for children and adults. Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July.
- Tarr, E., Krishnamurthy, A., & **Nittrouer, S.** (2013). A pitch-synchronous framework for representing, recovering and modifying temporal structure in speech. Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July.
- Moberly, A.C., Lowenstein, J., Tarr, E., Caldwell-Tarr, A., Welling, D.B., Shahin, A.J., & **Nittrouer, S.** (2013). Do cochlear implant users rely on different acoustic cues than normal-hearing adults? A study of cue weighting and salience. Conference on Implantable Auditory Prostheses, Lake Tahoe, CA, July.

- Nittrouer, S.** (2014). Unveiling the Source of Language Delay for Children with Hearing Aids. International Hearing Aid Research Conference, Lake Tahoe, CA, August.
- Lilley, J., **Nittrouer, S.**, & Bunnell, H. T. (2014). Automating an objective measure of pediatric speech intelligibility. InterSpeech, Singapore, September.
- Nittrouer, S.** & Holloman, C. (2014). Beyond Early Intervention: Supporting Deaf Children through Elementary School. American Speech, Language, and Hearing Association, Orlando, FL, November.
- Moberly, A.C. & **Nittrouer, S.** (2014). Bimodal Stimulation in Infants: Is there a Benefit to Language Development? American Cochlear Implant Alliance meeting, Nashville, TN, December.
- Nittrouer, S.** (2014). Beyond Early Intervention: Supporting Deaf Children through Elementary School. American Cochlear Implant Alliance meeting, Nashville, TN, December.
- Nittrouer, S.** (2015) Beyond Early Intervention: Supporting Deaf Children through Elementary School. Massachusetts Department of Health, Boston, MA, January. (INVITED)
- Nittrouer, S.** (2015). Supporting Language Acquisition Across Childhood. Conference on Controversial Issues in Pediatric Otolaryngology, New York, NY, February. (INVITED)
- Nittrouer, S.** (2015). Beyond Early Intervention: Supporting Deaf Children through Elementary School. Early Hearing Detection and Intervention, Louisville, KY, March. (INVITED)
- Nittrouer, S.** (2015). Language Intervention for Children with Hearing Loss in the Schools: The Whys and Whats. Ohio Speech Language and Hearing Association, Columbus, OH, March. (INVITED)
- Moberly, A.C. & **Nittrouer, S.** (2015). Bimodal Stimulation Provides an Advantage in Language Development for Children with Hearing Loss. Combined Otolaryngology Spring Meetings, American Neurotology Society, Boston, MA, April.
- Moberly, A.C. & **Nittrouer, S.** (2015). Variability in Word Recognition by Adults with Cochlear Implants: The Role of Phonemic Awareness. Combined Otolaryngology Spring Meetings, Triological Society, Boston, MA, April.
- Moberly, A.C., Capretta, N.R., & **Nittrouer, S.** (2015). Speech Recognition and Quality of Life for Adult Cochlear Implant Users. Combined Otolaryngology Spring Meetings, Triological Society, Boston, MA, April.
- Moberly, A.C. & **Nittrouer, S.** (2015). Variability in Word Recognition by Adults with Cochlear Implants: The roles of Perceptual Attention versus Auditory Sensitivity. Acoustical Society of American meeting, Pittsburgh, PA, May.
- Nittrouer, S.** (2015). Impact of Mild-Moderate Conductive Hearing Loss on Speech and Language. International Symposium on Recent Advances in Otitis Media. Washington, DC. June. (INVITED)
- Nittrouer, S.** (2015). Working Memory Problems of the Elderly Arise in the Central Processor, not the Phonological Loop. 6th Aging and Speech Communication Research Conference. Bloomington, IN. October.

- Nittrouer, S.** (2015). Beyond early intervention: How to prepare children for what lies ahead. Ohio School Speech Pathology Educational Audiology Coalition. Columbus, OH. October. (Invited)
- Nittrouer, S.** (2016). Beyond early intervention: How to prepare children for what lies ahead. Florida Speech-Language-Hearing Association. Orlando, FL. May.
- Nittrouer, S.** (2016). Using the Past to Predict the Future: What Lies Ahead for Educators of the Hearing Impaired. Florida Educators of the Deaf and Hard of Hearing. Daytona Beach, FL. November. (Invited)
- Nittrouer S.** (2017). University of Florida Doctoral Commencement Address.  
<https://www.youtube.com/watch?v=hj1ZoewOqn8>
- Nittrouer, S.** (2017). Beyond Early Intervention for Children with Cochlear Implants: Considerations in a New Age. Rochester, MN. April. (Invited)
- Nittrouer, S.** (2017). Finding the Magic in Parental Language Input. American Cochlear Implant Alliance Pediatric Meeting. San Francisco, CA. July. (Invited)
- Nittrouer, S.** (2017). Six Principles of Intervention for Children with Hearing Loss. American Speech, Language, and Hearing Association. Los Angeles, CA. November.
- Nittrouer, S., Lowenstein, J. H., & Sinex, D. G.** (2018). Spectral Modulation Depth Detection Predicts Spoken Language Abilities of Adolescents with Normal Hearing and Cochlear Implants. Association for Research in Otolaryngology. San Diego, CA. February.
- Nittrouer, S.** Promoting Language and Literacy in Deaf Children. (2018). CEASD-Option Meeting. Saint Augustine, FL. April. (INVITED)
- Nittrouer, S., Lowenstein, J. H., & Sinex, D. G.** (2019). Spectral Processing and Language Development in NH and CI Children. American Auditory Society Meeting. Scottsdale, AZ. February.
- Nittrouer, S.** (2019). Language Performance of Adolescents with Cochlear Implants: Strengths, Weaknesses, and Contributing Factors. American Cochlear Implant Alliance. Orlando, FL. July.
- Nittrouer, S.** (2019). Six Principles of Intervention for Children with Hearing Loss. American Speech-Language-Hearing Association Online Lecture series. September. (INVITED)
- Nittrouer, S.** (2019). Optimizing Interactions in Early Childhood for Best Language Outcomes in Later Childhood. Anita Zucker Center for Excellence in Early Childhood Studies - Interdisciplinary Seminar Series. Gainesville, FL. October. (INVITED)
- Nittrouer, S.** (2019). Sensorimotor development underlies acquisition of spoken language and cognitive functions in children with CIs. Teaching Deaf Learners International Conference. Haarlem, The Netherlands. November. (INVITED)
- Nittrouer, S., Horn, D., Sanes, D., Sussman, E., & Whitelaw, G.** (2019). New Findings Regarding the Development of Suprathreshold Auditory Functions and Implications for Clinical Practice. American Speech-Language-Hearing Association Conference. Orlando, FL. November. (INVITED)

- Nittrouer, S.** (2019). Learning to Read Depends on the Ability to Analyze the Auditory Scene. American Speech-Language-Hearing Association Conference. Orlando, FL. November. (INVITED)
- Nittrouer, S.** (2021). Duality of Patterning and Children with Cochlear Implants. Beyond Speech Workshop. Macquarie University, Sydney, Australia. October. (INVITED)
- Nittrouer, S.** (2021). Children with Hearing Loss and Academic Language: What You Don't Know Can Hurt Them. American Speech-Language-Hearing Association Conference. Washington, D.C. November.
- Breland, L., Lowenstein, J. H., & **Nittrouer, S.** (2021). Writing Development in Adolescents with Cochlear Implants: Morphosyntactic Complexity in Narratives. American Speech-Language-Hearing Association Conference. Washington, D.C. November.
- Boland, J. & **Nittrouer, S.** (2022). Spectral Processing Predicts Phonological Sensitivity, Not Vocabulary, in Preschool Children with and without Hearing Loss. American Speech-Language-Hearing Association Convention. New Orleans, LA. November.
- Masapollo, M., & **Nittrouer, S.** (2022). Spatiotemporal orchestration among the jaw and tongue tip during VCV utterances: an electromagnetic articulography study. American Speech-Language-Hearing Association Convention. New Orleans, LA. November.
- Nittrouer, S.** (2023). The development of temporal processing and language abilities face increased risks from early, chronic otitis media. Association for Research in Otolaryngology. Orlando, FL. February.
- Nittrouer, S.** (2023). Spectral and temporal processing in children: Potential diagnostic and mapping tools for the future. Educational Audiology Association. Sarasota, FL. June.
- Nittrouer, S.** (2023). Auditory bases of dyslexia: Expanding the search for candidate deficits. Florida Speech-Language-Hearing Association. Orlando, FL. July.
- Nittrouer, S.** (2023). Beyond literacy: Phonological skills and children with hearing loss. Florida Speech-Language-Hearing Association. Orlando, FL. July.
- Nittrouer, S.** & Gauger, L. (2023). Helping the struggling reader: Beyond phonics. American Speech-Language-Hearing Association. Boston, MA. November.
- Starr, H. & Nittrouer, S. (2023). Early otitis media with effusion as a risk factor for spectral processing and phonological deficits. American Speech-Language-Hearing Association. Boston, MA. November.

### Technical reports

- Nittrouer, S.**, Devan, M.A. & Boothroyd, A. (1976) It's never too late: An auditory approach with hearing-impaired pre-teenagers. *Sensory Aids Research Project, Report #24*. Clarke School for the Deaf, Northampton, MA.
- Crowther, C.S., **Nittrouer, S.** & Batchelder, W.H. (1996). Independence of feature decisions in speech perception. *Institute for Mathematical Behavioral Sciences Technical Report Series MBS 92-26*. University of California at Irvine.

## DOCTORAL THESIS

**Nittrouer, S.** (1985). The role of coarticulation in the perception and production of speech by young children (3 to 7 years). Dissertation, CUNY.

## DISSERTATION COMMITTEES

Nelson, Peggy B. (1991). Relationship between psychoacoustics and speech identification in hearing-impaired listeners. University of Kansas.

Shapley, Kathy Lynn (2003). The interaction of acoustic and linguistic information in the perception of degraded speech and speech in noise. University of Nebraska.

McGuire, Grant (2007). Phonetic category learning. Ohio State University.

Li, Fangfang (2008). The phonetics and phonology of the acquisition of voiceless sibilant fricatives across five languages. Ohio State University.

Phinney, Erin. (2008). Speech perception in speech sound disorder and reading disability. University of Denver.

Wong, Pusan. (2008). Development of lexical tone production in disyllabic words by 2- to 6-year-old Mandarin-speaking children. City University of New York.

Tarr, Eric. (2013). Processing perceptually important temporal and spectral characteristics of speech. The Ohio State University.

Fang, Ziqi. (2020). Numerical customization of head-related transfer functions using heterogeneous computing. University of Florida.

Xu, Jingchen. (currently inactive). Tracking eye-movement in comprehension of passives within relative clauses. University of Florida.

Pastrenak, Magdalena. (current). Recognizing speech fakes in deep-fake productions.

Cho, Kwansun. (current).

## THESIS COMMITTEES

Bresley, M. Ruth (1993). The effect of self-generated learning vs. other-generated learning on the writing productivity of students at risk. University of Nebraska at Omaha. (Chair).

Manning, Carol J. (1993). The perceptual weighting of speech-related acoustic cues for 3 & 1/2-year-olds differs from that of adults: Results using natural and synthetic stimuli. University of Nebraska at Omaha (Chair).

Sefton, Samantha (2007). Speech perception by children with specific language impairments: Auditory sensitivities and masking effects. Ohio State University (Chair).

Uher, Jennifer (2008). Parental language styles and language outcomes in children with hearing loss. Ohio State University (Chair).

Tarr, Eric (2010). Formant narrowing using linear predictive coding to improve phonetic perception in children. Ohio State University (Chair).

Peterson, Lauren (2018). Factors underlying comprehension of ambiguous sentences in children with normal hearing and cochlear implants. University of Florida (Chair).

Smythe, Heather. (2018). Development of vocabulary and phonological skills in children with normal hearing and cochlear implants. University of Florida (Chair).

Burkhart, Chandler. (2019). Neurodevelopmental disorders in deaf children. University of Florida (Chair).

Perez, Katherine. (2020). Early, temporary auditory deprivation has long-term consequences on hearing and language. University of Florida (Chair). (Best thesis in department award)

Kraemer, K. L. (2021). Non-word repetition and working memory in children with cochlear implants (Chair). (Best thesis in college award)