



Research Grants

Advancing Social-Communication and Play (ASAP): An Intervention Program for Preschoolers with Autism. Institute of Education Sciences, Brian Boyd & Linda Watson, Co-PIs, Grace Baranek & Elizabeth Crais, Investigators, 2011-2015. This multisite study is examining the efficacy of a school-based intervention program developed by the UNC research team under an earlier award from the Institute of Education Sciences.

Moderators of Outcomes of Children with Mild-Severe Hearing Loss. NIH-NIDCD, UNC Site Investigators: Melody Harrison and Patricia Roush in collaboration with Bruce Tomblin at the University of Iowa and Mary Pat Moeller at Boys' Town National Research Hospital. This five-year study employs a longitudinal design to investigate child, family, and environmental factors that interact to predict the performance of children with hearing loss.

Efficacy of a Parent-Mediated Intervention for One-Year-Olds at-Risk for Autism. Institute of Education Sciences, Linda Watson & Elizabeth Crais, Co-PIs, Grace Baranek, Steve Reznick, & Lauren Turner-Brown, Investigators, 2010-2014. The study assesses the efficacy of an early intervention to improve developmental outcomes and ameliorate symptom severity among one-year-olds at-risk for autism spectrum disorders.

Susceptibility to and Release from Masking in Infancy and Childhood. NIH-NIDCD, Lori Leibold, PI, 2011-2016. The goal of this project is to identify and explain the factors responsible for the development of hearing in children with and without hearing loss.

Dynamic Learning Maps. U.S. Department of Education, Karen Erickson, PI on Sub-Award with University of Kansas, 2010-2014. The project involves creating the new extended content standards for the common core curriculum, the alternate assessment, and professional development to support instruction and assessment for students with significant intellectual disabilities in 13 states.

Stroke Telemedicine Access Recovery (STAR) Project. The Duke Endowment, Sharon Williams, PI, 2009–2012. To establish a telemedicine stroke consultative service to improve access to stroke specialty care among the underserved population of patients admitted to a rural hospital in NC.

Auditory Masking Effects on Speech Fluency in Aphasia and Apraxia of Speech. NIH-NIDCD, Adam Jacks, PI, 2012–2015. The purpose of this study is to determine the short-term effects of auditory masking on speech disfluencies in stroke survivors with aphasia and apraxia of speech. In addition, we aim to identify individual factors that predict a positive response, thus enabling future work developing auditory masking as a treatment adjuvant targeting long-term improvement in speech.

The Influence of Hearing Loss on the Development of Auditory Behavior: Children's Outcomes with Frequency Compression Hearing Aids. March of Dimes Foundation, Lori Leibold, PI, 2010-2012. The goal of this study is to determine short-term speech perception outcomes in the presence of competing background sounds for children with hearing impairment fitted with frequency-compression hearing aids.

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Research Grants continued

Project Converge II: A Phase II Steppingstones of Technology Innovations Award. U.S. Department of Education, Karen Erickson, PI, 2010 – 2011. A longitudinal, quasi-experimental investigation of the MEville to WEville Start-to-Finish® Literacy Starters Program with students with significant intellectual disabilities.

Predicting Useful Speech in Children with Autism. NIH-NIDCD, Linda Watson, Site PI via subcontract to Vanderbilt University, Paul Yoder, PI, Grace Baranek, Investigator, 2009-2013. Goals of this project are to determine child factors and parent-child interaction factors in young, preverbal children with autism that account for variability in the development of useful speech over time.

Effect of Signal-Temporal Uncertainty during Childhood. F31 NIH-NIDCD, Angela Bonino (Student Funded), Lori Leibold, Sponsor, 2009-2011. The goal of this training program is to acquire knowledge, laboratory experience, and data in support of a future independent research program in the area of auditory development.

Web-Delivered Assessment for Stroke Survivors through Multimedia Technology. National Institutes of Health, Dorothy Strickland (PI) and Katarina Haley (Co-PI), 2009-2011. This project is designed to establish feasibility for an internet-mediated approach to quantify speech characteristics associated with left hemisphere stroke.

Sensory Experiences in Children with Autism. NIH-NICHHD, Grace Baranek, PI, Linda Watson, Aysenil Belger, Brian Boyd, Virginia Dickie, and Franc Donkers, Investigators. The goals of this longitudinal study are to characterize sensory symptoms in children with autism and DD.

Life Interests and Values Cards: Supporting Self-Determination in People with Aphasia. North Carolina Translational and Clinical Sciences Institute, Katarina Haley, PI, 2009-2010. This research aims to determine candidacy, reliability and validity for a new pictorially based tool for supporting the active involvement of people with aphasia in their own rehabilitation program.

Big Words II: A Phase II Steppingstones of Technology Innovations Award, U.S. Department of Education, Karen Erickson, PI, 2011-2014. Complete development of software designed to teach students to decode words with multiple syllables related to science using a morphological approach, and conduct a large-scale randomized trial of its effectiveness.

The Lower Ischemic Future Event Risk (LIFER) Study. Pfizer Foundation, Sharon Williams, Co-Investigator, 2010-2012. To organize and conduct ongoing stroke support groups in four counties with the highest rate of strokes in North Carolina.

Parallel Forms Test Reliability for a New Speech Intelligibility Test. The University of North Carolina at Chapel Hill, Katarina Haley PI, 2008-2010. The purpose of this work is to determine parallel forms test reliability for a monosyllabic single word intelligibility test developed to estimate severity of segmental speech impairment in people with left hemisphere injury.

Speech of Young Males with Fragile X Syndrome. NIH-NICHHD, David J. Zajac, PI, Gary Martin, Investigator, 2008-2013. The goal of this project is to investigate the factors that contribute to speech intelligibility in young males with Fragile X as compared to males with Down Syndrome and typically-developing children.

Temporal Masking and Speech Recognition in the Aging Auditory System. NIH-NIDCD, John Grose, PI (Department of Otolaryngology). The specific aims of this research are 1) to examine the relationship between speech recognition in modulated noise and temporal masking performance as a function of age, controlling for audibility, and 2) to relate psychophysical and electrophysiological measures of forward masking as a function of age. This is a collaborative project with hearing science colleagues in Brazil.

Complex Sound Analysis in Normal and Impaired Ears. NIH-NIDCD, John Grose, PI (Department of Otolaryngology). The purpose of this research is to better understand the role of temporal processing in perceptual organization, and how aging and impaired auditory systems can compromise this ability.

Development and Plasticity in Normal and Impaired Ears. NIH-NIDCD, Joseph W. Hall, PI (Department of Otolaryngology). The aim of this research is to gain a better understanding of the auditory processes that enable hearing in background noise, and the effect of early hearing loss on those processes.

Spectro-Temporal Analysis in Normal and Impaired Ears. NIH-NIDCD, Joseph W. Hall, PI (Department of Otolaryngology). The goal of this research is to gain a better understanding of the mechanisms that are responsible for poor hearing in noise by listeners with sensorineural hearing loss.

Acoustic Cues in Auditory Pattern Analysis. NIH-NIDCD, Emily Buss, PI (Department of Otolaryngology), PI, 2011-2016. The goal of this project is to identify and characterize the auditory processes that limit detection and discrimination of spectral cues for stimuli that vary in level for both normal-hearing and hearing-impaired listeners.

A Family-Genetic Study of Autism and Fragile X Syndrome, NIH-NIMH, Gary Martin, Site PI, via subcontract with Northwestern University, Molly Losh, PI, 2012-2017. This project is an attempt to inform the role of *FMR1* in autism symptomatology through the study of children with autism and fragile X syndrome, and their first-degree relatives who are at increased genetic liability. This project builds on our prior studies of autism and the broad autism phenotype (BAP), to examine the role of *FMR1*-related variation in key developmental, clinical, language, and social cognitive phenotypes shown to cosegregate with autism.

An Investigation of the Overlap of Autism and Fragile X Syndrome: Insights from Language Prosody, NIH-NIDCD, Gary Martin, PI, 2010-2013. This study compares boys with fragile X syndrome with and without autism spectrum disorder (ASD), boys with ASD only, and typically developing boys to identify profiles of language prosody that overlap in autism and FXS or are specific to autism, and also examines concordance between rater judgments and objective quantitative indices of prosody.

A Family-Genetic Study of Language in Autism, NIH-NIDCD, Peter Gordon, Site PI, Gary Martin, Investigator, via subcontract with Northwestern University, Molly Losh, PI, 2010-2015. This project aims to identify specific linguistic markers of genetic liability to autism which may be used to illuminate the pathogenesis of autism and its component features.

Pragmatic Skills of Young Males and Females with Fragile X Syndrome, NIH-NIDCD, Gary Martin, PI, 2007-2013. This study compares the developmental trajectories of pragmatic skills, the use of language in social contexts, among girls and boys with fragile X syndrome (FXS), Down syndrome (DS), and typical development (TD) and boys with autism spectrum disorder only (ASD-O) to determine whether individual differences in conversational discourse and narrative skills relate to FXS specifically or to either mental retardation (MR) or autism in general.

Training and Leadership Grants

Preparing Occupational Therapists and Speech-Language Pathologists for Working with Young Children with Autism and Their Families. U.S. Department of Education, Elizabeth R. Crais, Project Director, Grace Baranek & Linda Watson, Co-Directors. Interdisciplinary master's preparation, 2009-2013.

Preparing Speech-Language Pathologists and Occupational Therapists for Working in Teams: Focus on High-Need Socioculturally Diverse Children. U.S. Department of Education, Elizabeth R. Crais, Project Director, Cara McComish & Ruth Humphry, Co-Directors. Interdisciplinary master's preparation, 2012-2015.

Preparation of Pediatric Audiologists and Speech-Language Pathologists to Serve Infants, Toddlers, and School-Age Children with Hearing Loss. U.S. Department of Education. Jackson Roush and Melody Harrison (Co-Directors). Interdisciplinary preparation for students in audiology (AuD) and speech-language pathology (MS), 2011-2014.

Preparing Speech-Language Pathologists, Occupational Therapists, Early Childhood Special Educators, and Developmental Psychologists for Leadership Roles in Teaching, Research, and Service Focused on Young Children with Autism and Their Families. U.S. Department of Education, Elizabeth R. Crais, Project Director, Linda Watson & Grace Baranek, Co-Directors. Interdisciplinary doctoral preparation, 2008-2013.

Leadership in Early Hearing Detection and Intervention. Health Resources and Services Administration, Maternal and Child Health Training Program for Pediatric Communication Disorders (T-83). Jackson Roush, Project Director, Faculty Collaborators: Melody Harrison, Angela Rosenberg, 2008-2013.

Preparing Professionals for Leadership Roles in Translational Research Focused on Children with Disabilities Including High Need Children. U.S. Department of Education. Elizabeth R. Crais (Director) & Harriet Able, Ph.D. (Co-Director). Interdisciplinary doctoral preparation, 2011-2014.

Leadership Education in Neurodevelopmental Disorders. LEND Subaward expansion grant for pediatric audiology. Jackson Roush, Project Director, Faculty Collaborators: Martha Mundy and Stephen Hooper, Carolina Institute for Developmental Disabilities, 2008-2012.

Minnesota State Personnel Development Grants (SPDG) Project. Minnesota Department of Education Subcontract, Karen Erickson PI, 2011. Develop a state-wide system of training supports addressing literacy instruction for beginning readers of all ages with a focus on students with the most significant disabilities.

Teaching Faculty and Research Mentors

Emily Buss, Ph.D. Associate Professor (Dept. of Otolaryngology). Research interests: psychoacoustics; effects of hearing loss on auditory perception. (919) 966-8926 ebuss@med.unc.edu

Lauren Calandruccio, Ph.D. Assistant Professor (Audiology). Research interests: native and non-native speech perception and audiology. (919) 962-4906 lauren_calandruccio@med.unc.edu

Elizabeth Crais, Ph.D. Professor (Speech-Language Pathology). Coordinator of Ph.D. Studies. Research interests: communication development in children with typical/atypical skills; early identification and intervention with children with autism; family-centered assessment. (919) 966-9458 bcrais@med.unc.edu

Lisa Domby, M.S. Assistant Professor (Speech-Language Pathology). Clinical Coordinator for Speech-Language Pathology. Clinical and professional interests: assessment and diagnosis of communication disorders; bilingual speech and language development; clinical supervision of graduate clinicians. (919) 966-0104 lisa_domby@med.unc.edu

Karen Erickson, Ph.D. Professor (Speech-Language Pathology). Director, Center for Literacy & Disability Studies. Research interests: Literacy assessment of and instruction; augmentative and alternative communication; assistive and instructional technologies; school-based intervention systems. (919) 966-8828 karen_erickson@med.unc.edu

Hannah Eskridge, M.S.P. LSLs Cert AVT. (Dept. of Otolaryngology) Clinical Director, C.A.S.T.L.E Preschool. Research interests: Listening and spoken language for deaf and hard of hearing children. (919) 419-1449 hannah_eskridge@med.unc.edu

Lynn Fox, M.S. Assistant Professor (School of Dentistry), Craniofacial Center. Research interests: craniofacial disorders and fluency disorders. (919) 966-1466

John Grose, Ph.D. Professor (Audiology & Otolaryngology). Psychoacoustics Laboratory, UNC School of Medicine. Research interests: audiology and psychoacoustics; auditory electrophysiology. (919) 966-9777 jhg@med.unc.edu

Katarina Haley, Ph.D. Associate Professor (Speech- Language Pathology). Research interests: speech perception and production; adult neurogenic communication disorders. (919) 966-9460 khaley@med.unc.edu

Joseph Hall, Ph.D. Professor (Audiology & Otolaryngology) Professor and Chief, Division of Auditory Research. Research interests: audiology and psychoacoustics; cochlear implantation. (919) 966-8926 jwh@med.unc.edu

Melody Harrison, Ph.D. Professor (Speech-Language Pathology & Audiology). Coordinator of Master's Studies. Research interests: assessment of speech, language, literacy and social development in infants, toddlers, and children with hearing loss. (919) 966-9459 melody_harrison@med.unc.edu

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Teaching Faculty and Research Mentors continued

Penelope Hatch, Ph.D. Assistant Professor (Speech-Language Pathology), Center for Literacy & Disability Studies. Research interests: literacy intervention and assessment for children and adolescents with significant communication and/or intellectual disabilities. (919) 843-2524 phatch@med.unc.edu

Andrea Hillock-Dunn, Au.D., Ph.D. Assistant Professor (Audiology). Research interests: pediatric audiology, audiovisual processing, speech perception. (919) 966-9468 ahdunn@med.unc.edu

Adam Jacks, Ph.D. Assistant Professor (Speech-Language Pathology). Research interests: neural substrates of speech; neuromotor speech disorders; speech acoustics; speech perception. (919) 966-9464 adam_jacks@med.unc.edu

Lori Leibold, Ph.D. Associate Professor (Audiology & Hearing Science). Research interests: auditory development, psychoacoustics; pediatric audiology. (919) 966-8546 leibold@med.unc.edu

Gary Martin, Ph.D. Assistant Professor (Speech-Language Pathology) and Investigator (Frank Porter Graham Child Development Institute). Research interests: speech and language in children with fragile X syndrome, autism, and Down syndrome; perseveration in children. (919) 843-3125 gary.martin@unc.edu

Cara McComish, Ph.D. Assistant Professor (Speech-Language Pathology). Research interests: communication and feeding skills development in infants and toddlers; early identification of children with autism. (919) 966-8153 mccomish@med.unc.edu

Nancy McKenna, Au.D., Ph.D. Assistant Professor (Audiology & Hearing Science). Research interests: audition in aging; hearing loss prevention; tinnitus; genetics of aging. (919) 493-7980 nancy_mckenna@med.unc.edu

Lee McLean, Ph.D. Professor and Associate Dean (Dept. of Allied Health Sciences). Research interests: communication development and intervention in individuals with severe-profound disabilities; early intervention and child language research. (919) 966-9041 lee_mclean@med.unc.edu

Brenda Mitchell, M.S. Assistant Professor (Speech-Language Pathology). Associate Chair for Student Services and AHEC. Research interests: aphasia; adults with closed head injuries and communication disorders; multi-cultural issues; community re-entry; mentoring in higher education. (919) 966-9038 brenda_mitchell@med.unc.edu

Martha Mundy, Au.D. Associate Professor (Audiology). Coordinator Au.D. Studies. Research interests: educational audiology; pediatric audiology; otitis media research. (919) 966-9457 mmundy@med.unc.edu

Amanda O'Donnell, Au.D. Assistant Professor (Audiology). Research interests: Diagnostics; audiologic rehabilitation; vestibular system; hearing instrument technologies. (919) 493-7980 amanda_odonnell@med.unc.edu

Debra Reinhartsen, Ph.D. Associate Professor (Speech-Language Pathology). Carolina Institute for Developmental Disabilities (CIDD). Research interests: autism; low incidence disabilities; augmentative communication; clinical supervision. (919) 966-4138 debbie.reinhartsen@cidd.unc.edu

Jackson Roush, Ph.D. Professor (Audiology), Director of the Division of Speech and Hearing Sciences. Research interests: pediatric audiology; infant hearing screening; public policy related to early hearing detection and intervention. (919) 966-9467 jroush@med.unc.edu

Patricia Roush, Au.D. Associate Professor and Director of Pediatric Audiology (Department of Otolaryngology). Research interests: clinical assessment and management of infants and young children; pediatric amplification; auditory neuropathy spectrum disorder. (919) 843-1396. proush@unch.unc.edu

Stephanie Sjoblad, Au.D. Associate Professor (Audiology). Clinical Coordinator. Clinical and Professional interests: aural rehabilitation; hearing instrument technologies; business and practice management. (919) 493-7980 ssjoblad@med.unc.edu

Holly Teagle, Au.D. (UNC Dept. of Otolaryngology). Clinical Director, Carolina Children's Communicative Disorders Program. Research interests: pediatric cochlear implantation. (919) 419-1449 holly_teagle@med.unc.edu

Barbara Winslow Warren, Au.D. Assistant Professor (Audiology). Research interests: adult diagnostics; audiologic rehabilitation; and hearing instrument technologies. (919) 843-4612 barbara_winslow@med.unc.edu

Linda Watson, Ed.D. Professor (Speech-Language Pathology). Research interests: early development and identification of infants and toddlers at risk for autism; predictors of language outcomes in children with autism; early intervention in autism; language disorders in preschool children. (919) 966-9466 linda_watson@med.unc.edu

Sharon Wallace Williams, Ph.D. Associate Professor (Audiology). Research interests: minority aging and serious illness or disability; family functioning and processes in caregiving families; end of life communication within families and with health care providers. (919) 966-9462 sharon_w_williams@med.unc.edu

Kathryn Wilson, M.A., LSLS, Cert AVT Director of *First Years* Project. Research interests: Auditory-verbal therapy for deaf and hard-of-hearing children. (919) 966-0103 kathryn_wilson@med.unc.edu

David E. Yoder, Ph.D. Professor Emeritus (Speech-Language Pathology); Senior Associate & Director Emeritus, Center for Literacy and Disability Studies; Executive Director Emeritus, Council for Allied Health in N.C. Research interests: literacy issues related to persons with complex communication needs. (919) 843-6176 dyoder@med.unc.edu

David J. Zajac, Ph.D. Associate Professor (School of Dentistry). Director, Speech-Language Pathology, Craniofacial Center. Research interests: speech aerodynamics; developmental aspects of speech production; cleft palate speech; fragile-X syndrome. (919) 966-1362 david_zajac@dentistry.unc.edu

Affiliated Programs and Centers on the UNC Campus

UNC Hospitals, ranked among the nation's top academic medical centers, provides outstanding clinical opportunities in audiology and speech-language pathology. In addition, faculty from the Departments Otolaryngology, Pediatrics, Genetics, and Neurology provide guest lectures and learning opportunities for graduate students in speech and hearing.

Carolina Institute for Developmental Disabilities, a "Center for Excellence in Developmental Disabilities" and home to UNC's LEND program, CIDD provides opportunities for students in audiology and speech-language pathology to participate in multidisciplinary team evaluations and research through its clinical and specialty programs.

Frank Porter Graham Child Development Institute, internationally acclaimed for its research in children and families, employs a staff of over 200 that includes researchers, biostatisticians, and investigators from 15 professional disciplines including audiology and speech-language pathology. Our students and faculty have a long history of collaboration in FPG research, symposia, and personnel preparation.

Center for Literacy and Disabilities Studies, Department of Allied Health Sciences, promotes literacy and communication for individuals of all ages with disabilities through research, service, and clinical education of graduate students in speech-language pathology, occupational therapy, and education.

Carolina Children's Communicative Disorders Program provides clinical services for UNC's pediatric cochlear implant program, one of the largest in the nation. Graduate students in audiology and speech-language pathology participate in clinical assessments, team evaluations, cochlear implant mapping, and technical assistance for local service providers.

Center for Acquisition of Spoken Language Through Listening Enrichment (CASTLE) promotes listening and spoken language for children who are deaf or hard of hearing in a family centered preschool that provides on-site clinical practicum for graduate students, and continuing education opportunities for practicing professionals.

Psychoacoustics Laboratories, Department of Otolaryngology. With continuous NIH funding for over 25 years, UNC's Psychoacoustic Laboratories have been at the forefront of research aimed at better understanding normal and disordered hearing. The labs provide outstanding mentoring opportunities for Ph.D. and post-doctoral students.

The UNC Craniofacial Center, located within the School of Dentistry, provides clinical and research opportunities for students in speech-language pathology interested in disorders of speech related to cleft palate and other craniofacial disorders.

Center for Aphasia and Related Disorders (CARD), is a collaboration among University researchers interested in the study of aphasia, including members from Speech and Hearing Sciences, Occupational Science and Occupational Therapy, Physical Therapy, and Neurology.



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