

Curriculum Vitae: Kenneth I. Vaden Jr., Ph.D.

Research Assistant Professor

Hearing Research Program
Department of Otolaryngology - Head and Neck Surgery
Medical University of South Carolina
135 Rutledge Ave. MSC 550
Charleston, SC 29425-5500

Email: vaden@musc.edu

Phone: (843) 792 - 2774

EDUCATION

Ph.D. Psychology. June 5, 2009. Department of Cognitive Sciences at the University of California, Irvine.
Advisor: Dr. Greg Hickok. Dissertation title: *Phonological processes in speech perception*.

M.A. Social Sciences. September 14, 2005. University of California, Irvine.

B.S. Psychology, Cognitive Science Minor. December 31, 2001. University of North Carolina at Chapel Hill.
Advisors: Dr. Peter C. Gordon (Psychology) and Dr. Jon W. Tolle (Statistics & Operations Research).

RESEARCH INTEREST

I study how speech recognition in noise and hearing acuity change across the lifespan. My primary research focus is age-related speech recognition difficulties, especially how brain activity relates to the cognitive demands of acoustic noise. My other research interests include auditory perception, reading disability, development of statistical techniques and computational models, and characterizing age-related hearing loss.

AWARDS AND HONORS

July 2014-2016 Age related changes in the central auditory system and speech recognition.
NIH Extramural Clinical Loan Repayment Program. [NIDCD L30 DC012682]

June 2014 Trainee Stipend: Intl Society for Magnetic Resonance in Medicine. Charleston, SC.

October 2013 Student Scholarship: Aging and Speech Conference. Bloomington, IN.

July 2012-2014 Age related changes in the central auditory system and speech recognition.
NIH Extramural Clinical Loan Repayment Program. [NIDCD L30 DC012682]

October 2012 Travel Award: Society for the Neurobiology of Language. San Sebastian, Spain.

October 2011 Student Scholarship: Aging and Speech Conference. Bloomington, IN.

Fall 2005 Regents' Pre-Dissertation Research Fellowship. School of Social Sciences, UCI.

Summer 2005 Summer Research Fellowship. Department of Cognitive Sciences, UCI.

Spring 2004 Jack I. Yellott Scholar Award. Department of Cognitive Sciences, UCI.

Fall 2003 School of Social Sciences Graduate Fellowship. Dept. of Cognitive Sciences, UCI.

Spring 2000 Undergraduate Cognitive Science Research Grant. Psychology Dept., UNC.

Summer 2000 Undergraduate Cognitive Science Research Grant. Psychology Dept., UNC.

Summer 2000 Cognitive Science Summer Research Workshop. Indiana University, Bloomington.

UNC Dean's List: Fall 1998, Fall 1999, Spring 2000, Spring 2001.

PUBLICATIONS

Yang, C, Langworthy, B, Curhan, S, Vaden, KI, Curhan, G, Dubno, JR, Wang, M (*In Press*). Soft classification and regression analysis of audiometric phenotypes of age-related hearing loss. *Biometrics*, *accepted 2/9/2024*.

Eckert, MA, Vaden, KI, Paracchini, S (2024). Auditory cortex asymmetry associations with individual differences in language and cognition. *Brain Sciences*, *14(1)*.

Vaden, KI, Neely, S, Harris, S, Dubno, JR (2023). Metabolic and sensory components of age-related hearing

loss: Associations with distortion- and reflection-based otoacoustic emissions. *Trends in Hearing*, 27.

Lewis, MA, Schulte, J, Matthews, LM, Vaden, KI, Steves, CJ, Williams, FMK, Schulte, BA, Dubno, JR, Steel, KP (2023). Accurate phenotypic classification and exome sequencing allow identification of novel genes and variants associated with adult-onset hearing loss. *PLOS Genetics*, 19(11): e1011058.

Teubner-Rhodes, S, Luu, A, Dunterman, R, Vaden, K (2023). Evidence for conflict monitoring during speech recognition in noise. *Psychonomic Bulletin & Review*.

Joshi, F, Wang, JZ, Vaden, KI, Eckert, MA (2023). Deep learning classification of reading disability with regional brain volume features. *NeuroImage*, 273.

Eberhard, JE, Matthews, LJ, Vaden, KI, Dubno, JR, Eckert, MA (2023). Probability distributions for associations between cognitive screening and pure-tone thresholds in older adults. *Ear and Hearing*, 44(3), 641-654.

Vaden, KI, Teubner-Rhodes, S, Ahlstrom, JB, Dubno, JR, Eckert, MA (2022). Evidence for cortical adjustments to perceptual decision criteria during word recognition in noise. *NeuroImage*. 253:119042.

Vaden, KI, Eckert, MA, Matthews, LJ, Schmiedt, RA, Dubno, JR (2022). Metabolic and sensory components of age-related hearing loss. *Journal of the Association for Research in Otolaryngology*, 23, 253-272.

Eckert, MA, Vaden, KI, Iuricich, F, Dyslexia Data Consortium (2022). Cortical asymmetries at different spatial hierarchies relate to phonological processing ability. *PLOS Biology*, 20(4): e3001591.

Eckert, MA, Teubner-Rhodes, S, Vaden, KI, Ahlstrom, JB, McClaskey, CM, Dubno, JR (2022). Unique patterns of hearing loss and cognition in older adults' neural responses to listening difficulty cues during speech recognition. *Brain Structure and Function*, 227(1): 203-218.

Eckert, MA, Harris, K, Lang, H, Lewis, M, Schmiedt, RA, Schulte, BA, Steel, K, Vaden, KI, Dubno, JR (2021). Translational and interdisciplinary insights into presbycusis: a multidimensional disease. *Hearing Research*, 402: 108109.

Vaden, KI, Gebregziabher, M, Eckert, MA (2020). Fully synthetic neuroimaging data for replication and exploration. *NeuroImage*, 223: 117284.

Eckert, MA, Iuricich, R, Vaden, KI, Glaze, B (2020). The topology of pediatric structural asymmetries in language-related cortex. *Symmetry*, 12(11):1809.

Vaden, KI, Eckert, MA, Dubno, JR, Harris, KC (2020). Cingulo-opercular adaptive control for younger and older adults during a challenging gap detection task. *Journal of Neuroscience Research*, 98(4), 680-691.

Fultz, S, Vaden, KI, Rasetshwane, DM, Kopun, JG, Neely, ST, Dubno, JR. (2020). Age effects on cochlear reflectance in adults. *Ear and Hearing*, 41(2), 451-460.

Wilmskoetter, J, Fridriksson, J, Gleichgerrcht, E, Stark, BC, Delgaizo, J, Hickok, G, Vaden, KI, Hillis, AE, Rorden, C, Bonilha, L (2019). Neuroanatomical structures supporting lexical diversity, sophistication, and phonological word features during discourse. *NeuroImage: Clinical*, 24, 101961.

Eckert, MA, Vaden, KI, Dubno, JR. (2019). Age-related hearing loss associations with changes in brain morphology. *Trends in Hearing*, 23:2331216519857267, 1-14.

Eckert, MA, Vaden, KI, Dyslexia Data Consortium. (2019). A deformation-based approach for characterizing brain asymmetries at different spatial scales of resolution. *Journal of Neuroscience Methods*, 322(1), 1-9.

Eckert, MA, Vaden, KI, Roberts, DR, Castles, A. (2019). A pericallosal lipoma case with evidence of surface dyslexia. *Cortex*, 117, 414-416.

Bologna, WJ, Vaden, KI, Ahlstrom, JA, Dubno, JR. (2019). Age effects on the contributions of envelope and periodicity cues to recognition of interrupted speech in quiet and with a competing talker. *Journal of the Acoustical Society of America Express Letters*, 145(3), EL173.

Vaden, KI, Matthews, LJ, Dubno, JR. (2018). Transient-evoked otoacoustic emissions reflect audiometric patterns of age-related hearing loss. *Trends in Hearing*, 22, 1-13.

Bologna, WJ, Vaden, KI, Ahlstrom, JA, Dubno, JR. (2018). Age effects on perceptual organization of speech:

- contributions of glimpsing, phonemic restoration, and speech segregation. *Journal of the Acoustical Society of America*, 144(1), 267-281.
- Eckert, MA, Vaden, KI, Gebregziabher M, Dyslexia Data Consortium. (2018). Reading profiles in multi-site data with missingness. *Frontiers in Psychology*, 9, 644.
- Chiarello, C, Vaden, KI, Eckert, MA. (2018). Orthographic influence on spoken word identification: Behavioral and fMRI evidence. *Neuropsychologia*, 111, 103-111.
- Harris, KC, Vaden, KI, McClaskey, C, Dias, J, Dubno, JR. (2018). Complementary metrics of human auditory nerve function derived from compound action potentials. *Journal of Neurophysiology*, 119(3), 1019-1028.
- Vaden, KI, Teubner-Rhodes, S, Ahlstrom, JB, Dubno, JR, Eckert, MA. (2017). Cingulo-opercular activity affects incidental memory encoding for speech in noise. *NeuroImage*, 157, 381-387.
- Vaden, KI, Matthews, LJ, Eckert, MA, Dubno, JR (2017). Longitudinal changes in audiometric phenotypes of age-related hearing loss. *Journal of the Association for Research in Otolaryngology*, 18(2), 371-385.
- Eckert, MA, Vaden, KI, Teubner-Rhodes, S, Bentzley, BS. (2017). A novel communication value task demonstrates evidence of response bias in cases with presbycusis. *Scientific Reports*, 16512.
- Eckert, MA, Vaden, KI, Maxwell, A, Cute, SL, Gebregziabher, M, Berninger, V, Dyslexia Data Consortium. (2017). Common brain structure findings across children with varied reading disability profiles. *Scientific Reports*, 6009.
- Teubner-Rhodes, S, Vaden, KI, Dubno, JR, Eckert, MA. (2017). Cognitive persistence: Development and validation of a novel measure from the Wisconsin Card Sorting Test. *Neuropsychologia*, 102, 95-108.
- Gebregziabher, M, Eckert, MA, Vaden, KI, Johnson, TD, Lawson, AB (2017) Methods for the analysis of missing data in fMRI studies. *Journal of Biometrics and Biostatistics*, 8, 335.
- Venezia, JH, Vaden, KI, Rong, F, Maddox, D, Saberi, K, Hickok, G. (2017). Auditory, visual and audiovisual speech processing streams in superior temporal sulcus. *Frontiers in Human Neuroscience*, 11, 174.
- Vaden, KI, Kuchinsky, SE, Ahlstrom, JB, Teubner-Rhodes, SE, Dubno, JR, Eckert, MA. (2016). Cingulo-opercular function during word recognition in noise for older adults with hearing loss. *Experimental Aging Research*, 42(1), 67-82.
- Eckert, MA, Teubner-Rhodes, S, Vaden, KI. (2016). Is listening in noise worth it? The Neurobiology of Speech Recognition in Challenging Listening Conditions. *Ear and Hearing*, 37: 101S-110S.*
- Teubner-Rhodes, S, Vaden, KI, Cute, SL, Yeatman, JD, Dougherty, RF, Eckert, MA (2016). Aging-resilient associations between the arcuate fasciculus and vocabulary knowledge: microstructure or morphology? *Journal of Neuroscience*, 36(27), 7210-7222.
- Eckert, MA, Berninger, VW, Vaden, KI, Gebregziabher, M, Tsu, L. (2016). Gray matter features of reading disability: a combined meta-analytic and direct analysis approach. *eNeuro*, 3(1).
- Eckert, MA, Berninger, VW, Hoefl, F, Vaden, KI, Dyslexia Data Consortium. (2016). A case of bilateral perisylvian syndrome with reading disability. *Cortex*, 76, 121-124.
- Kuchinsky, SE, Vaden, KI, Ahlstrom, JB, Cute, SL, Humes, LE, Dubno, JR, Eckert, MA. (2016). Task-related vigilance during word recognition in noise for older adults with hearing loss. *Experimental Aging Research*, 42, 50-66.
- Vaden, KI, Kuchinsky, SE, Ahlstrom, JB, Dubno, JR, Eckert, MA. (2015). Cortical activity predicts which older adults recognize speech in noise and when. *Journal of Neuroscience*, 35(9), 3929-3937.
- Harris, KC, Vaden, KI, Dubno, JR. (2014). Auditory-evoked cortical activity: contribution of brain noise, phase locking, and spectral power. *Journal of Basic and Clinical Physiology and Pharmacology*, 25(3), 277-284.
- Vaden, KI, Kuchinsky, SE, Cute, SL, Ahlstrom, JB, Dubno, JR, Eckert, MA. (2013). The cingulo-opercular

* This supplement issue received the *Editors' Special Recognition Award as an Outstanding Supplement Contribution* from the Editorial Board of *Ear and Hearing* at the American Auditory Society 2017 meeting.

network provides word recognition benefit. *Journal of Neuroscience*, 33(48), 18979-18986.

Eckert, MA, Kuchinsky, SE, Vaden, KI, Cute, SL, Spampinato, MV, Dubno, JR. (2013). White matter hyperintensities predict low frequency hearing in older adults. *Journal of the Association for Research in Otolaryngology*, 14(3), 425-433.

Kuchinsky, SE, Ahlstrom, JB, Vaden, KI, Cute, SL, Humes, LE, Dubno, JR, Eckert, MA. (2013). Pupil size varies with word listening and response selection difficulty in older adults with hearing loss. *Psychophysiology*, 50(1), 23-34.

Vaden, KI, Gebregziabher, M, Kuchinsky, SE, Eckert, MA. (2012). Multiple imputation of missing fMRI data in whole brain analysis. *NeuroImage*, 60(3), 1843-1855.

Eckert, MA, Cute, SL, Vaden, KI, Kuchinsky, SE, Dubno, JR. (2012). Auditory cortex signs of age-related hearing loss. *Journal of the Association for Research in Otolaryngology*, 13(5), 703-713.

Kuchinsky, SE, Vaden, KI, Keren, NI, Harris, KC, Ahlstrom, JB, Dubno, JR, Eckert, MA. (2012). Word intelligibility and age predict visual cortex activity during word listening. *Cerebral Cortex*, 22(6), 1360-1371.

Isenberg, A, Vaden, KI, Saberi, K, Muftuler, LT, Hickok, GS. (2012). Functionally distinct regions for spatial processing and sensory motor integration in the planum temporale. *Human Brain Mapping*, 33(10), 2453-2463.

Vaden, KI, Kuchinsky, SE, Keren, NI, Harris, KC, Ahlstrom, JB, Dubno, JR, Eckert, MA. (2011). Inferior frontal sensitivity to common speech sounds is amplified by increasing word intelligibility. *Neuropsychologia*, 49(13), 3563-3572.

Vaden, KI, Piquado, T, Hickok, G. (2011). Sublexical properties of spoken words modulate activity in Broca's area but not superior temporal cortex: implications for models of speech recognition. *Journal of Cognitive Neuroscience*, 23(10), 2665-2674.

Vaden, KI, Muftuler, LT, Hickok, G. (2010). Phonological repetition-suppression in bilateral superior temporal sulci. *NeuroImage*, 49(1), 1018-1023.

NIH My Bibliography: <https://www.ncbi.nlm.nih.gov/sites/myncbi/kenneth.vaden.1/bibliography/47273242/public>

CONFERENCE ABSTRACTS

Vaden, KI, Neely, ST, Harris, SE, Dubno, JR (2024). Associations of distortion- and reflection-based otoacoustic emissions with metabolic and sensory components of age-related hearing loss. Association for Research in Otolaryngology Midwinter Meeting. Anaheim, CA.

McClaskey, CM, Kuchinsky, SE, Vaden, KI, Cute, SL, Ahlstrom, JB, Humes, LE, Dubno, JR, Eckert, MA (2024). Speech-perception training for older adults with hearing loss increases the consistency of cortical activity during a speech-in-noise task. Association for Research in Otolaryngology Midwinter Meeting. Anaheim, CA.

Ahmed, S, Vaden, KI, Dubno, JR, Drögemöller, B (2024). Incorporating novel audiogram classification strategies to identify genes and pathways involved in subtype components of age-related hearing loss. Association for Research in Otolaryngology Midwinter Meeting. Anaheim, CA.

Bhandari, R, Phatangare, RV, Eckert, MA, Vaden, KI, Wang, JZ (2023). Dyslexia Data Consortium repository: A data sharing and delivery platform for research. Brain Informatics. Hoboken, NJ.

Ahmed, S, Vaden, KI, Dubno, JR, Drögemöller, B. (2023). The incorporation of novel audiogram classification strategies to identify genes and pathways involved in age-related hearing loss. International Congress of Human Genetics. Cape Town, South Africa.

McClaskey, C, Vaden, KI, Dubno, JR, Harris, K, Eckert, MA (2023). Auditory nerve function predicts voicing errors in noise by older adults. Association for Research in Otolaryngology Midwinter Meeting. Orlando, FL.

Eckert, MA, McClaskey, C, Vaden, KI, Dias, J, Dubno, J, Harris, K (2023). Differential presbycusis phenotype associations with cortical gray matter volume. Association for Research in Otolaryngology Midwinter Meeting. Orlando, FL.

Luu, A, Dunterman, R, Teubner-Rhodes, S, Vaden, KI (2022). Conflict triggers improvements in understanding speech in noise. The annual conference on Architectures and Mechanisms for Language Processing, York, England.

Ahmed, S, Vaden, KI, Dubno, JR, Drögemöller, B (2022). The incorporation of novel audiogram classification strategies to identify genes and pathways involved in age-related hearing loss. Bellucci Symposium on Hearing Research. Omaha, NE. *Virtual Format*.

Teubner-Rhodes, S, Luu, A, Vaden, KI (2021). Evidence for conflict monitoring during speech recognition in noise. Psychonomic Society. *Virtual Format*.

Vaden, KI (2021). Age-related auditory declines and perceptual decision-making for speech recognition in noise. Symposium: *Age-related plasticity changes in the central auditory system*. Association for Research in Otolaryngology Mid-Winter Meeting. Orlando, FL. *Virtual format*.

Teubner-Rhodes, S, Vaden, KI (2020). Audiovisual conflict triggers an inhibitory control system to facilitate speech recognition in noise. Society for the Neurobiology of Language, Philadelphia, PA. *Virtual format*.

Vaden, KI, Gebregziabher, M, Eckert, MA (2020). Fully synthetic neuroimaging data for replication and exploration. Organization for Human Brain Mapping, Montreal, Quebec, Canada. *Virtual format*.

Vaden, KI, Teubner-Rhodes, S, Ahlstrom, JB, Dubno, JR, Eckert, MA (2019). Perceptual decision-making during speech recognition in noise by middle-aged and older adults. Aging and Speech Communication Conference, Sand Key Beach, FL.

Vaden, KI, Teubner-Rhodes, S, Ahlstrom, JB, Dubno, JR, Eckert, MA (2018). Cortical activity and incidental memory for speech in noise. Association for Research in Otolaryngology Mid-Winter Meeting. San Diego, CA.

Vaden, KI, Eckert, MA, Dubno, JR, Harris, KC (2017). Adaptive control for gap detection across the lifespan. Aging and Speech Communication Conference, Tampa, FL.

Teubner-Rhodes, S, Vaden, KI, Matthews, L., Dubno, JR, Eckert, MA (2017). Persisting through the cocktail party: speech recognition in healthy aging. Association for Psychological Science, Boston, MA.

Bologna, WJ, Vaden, KI, Ahlstrom, JB, Dubno, JR (2017). Recognition of Interrupted Speech with Competing Talkers: Effects of Age, Envelope Cues, and Cognitive Abilities.

Chiarello, CC, Vaden, KI, Eckert, MA (2016). Orthographic influence on spoken word identification: Behavioral and fMRI evidence. Neurobiology of Language Conference, London, UK.

Vaden, KI, Eckert, MA, Matthews, LJ, Dubno, JR. (2016) Metabolic Presbycusis: Longitudinal Changes in Hearing for Middle-Aged and Older Adults. Association for Research in Otolaryngology Mid-Winter Meeting. San Diego, CA.

Vaden, KI, Teubner-Rhodes, SE, Ahlstrom, JB, Dubno, JR, Eckert, MA (2015). Cingulo-opercular interactions with auditory cortex activity during speech recognition in noise. Neurobiology of Language Conference, Chicago, IL.

Harris, KC, Vaden, KI, Dubno, JR (2015). Contributions of Brain Noise, Phase Locking, and Spectral Power to Auditory-Evoked Cortical Activity. Association for Research in Otolaryngology. Mid-Winter Meeting. Baltimore, MD.

Teubner-Rhodes, S, Vaden, KI, Ahlstrom, JB, Dubno, JR, Eckert, MA (2015). The role of cognitive abilities in understanding speech in noise by older adults. Association for Research in Otolaryngology Mid-Winter Meeting. Baltimore, MD.

Vaden, KI, Kuchinsky, SE, Cute, SL, Ahlstrom, JB, Dubno, JR, Eckert, MA (2014). The cingulo-opercular network supports word recognition in noise for older adults. *Nanosymposium: Attentional Networks in Humans*. Society for Neuroscience, Washington, DC.

Vaden, KI, Kuchinsky, SE, Ahlstrom, JB, Dubno, JR, Eckert, MA (2014). Cingulo-opercular network support for word recognition by older adults. International Society for Magnetic Resonance in Medicine. Charleston, SC.

Vaden, KI, Kuchinsky, SE, Cute, SL, Ahlstrom, JB, Dubno, JR, Eckert, MA (2013). Engagement of the cingulo-

opercular system enhances future word recognition. Neurobiology of Language Conference, San Diego, CA.

Vaden, KI, Kuchinsky, SE, Cute, SL, Ahlstrom, JB, Dubno, JR, Eckert, MA (2013). Cingulo-opercular activity predicts subsequent word recognition. Aging and Speech Communication Conference, Bloomington, IN.

Kuchinsky, SE, Vaden, KI, Cute, SL, Ahlstrom, JB, Dubno, JR, Eckert, MA (2013). Word recognition benefit from attention systems in older adults with hearing loss. Aging Research Day, Charleston, SC; Association for Research in Otolaryngology Mid-Winter Meeting, Baltimore, MD.

Vaden, KI, Kuchinsky, SE, Cute, SL, Ahlstrom, JB, Dubno, JR, Eckert, MA (2012). Anterior insula and frontal operculum support word recognition in younger and older adults. Society for Neuroscience, New Orleans, LA.

Vaden, KI, Gebregziabher, M, Kuchinsky, SE, Eckert, MA (2012). Multiple imputation toolkit for group level fMRI statistics. 13th Annual Frontiers in Neuroscience Research Day: Neurodegenerative Disorders, Seabrook, SC.

Vaden, KI, Kuchinsky, SE, Cute, SL, Ahlstrom, JB, Dubno, JR, Eckert, MA (2011). An fMRI study of age-related changes in sustained attention and word recognition. Aging and Speech Communication Conference, Bloomington, IN.

Keren, NI, Gregory, NC, Vaden, KI, Vazey, EM, Morgan, PS, Hinson, VA, Taheri, S, Granholm, AC, Aston-Jones, G, Eckert, MA (2011). The human locus coeruleus in healthy individuals and neurodegenerative disease: Post-mortem magnetic resonance imaging and histology. Society for Neuroscience, Washington, DC.

Vaden, KI, Keren, NI, Harris, KC, Ahlstrom, JB, Dubno, JR, Eckert, MA (2010). Sublexical processing in left inferior frontal gyrus depends on word intelligibility. Society for Neuroscience, San Diego, CA; Neurobiology of Language Conference, San Diego, CA.

Kuchinsky, SE, Vaden, KI, Keren, NI, Harris, KC, Ahlstrom, JB, Dubno, JR, Eckert, MA (2010). Word intelligibility and age predict visual cortex activity during word listening. Society for Neuroscience, San Diego, CA.

Eckert, M, Kuchinsky, S, Keren, N, Conner, C, Vaden, KI, Ahlstrom, JB, Dubno, JR (2010). Sustained inferior frontal activation predicts age-related changes in word recognition. Human Brain Mapping, Barcelona, Spain.

Vaden, KI, Hickok, G (2009). Sublexical and lexical processing in temporal and frontal lobes during word recognition. Society for Neuroscience, Chicago, IL.

Isenberg, A, Vaden, KI, Saberi, K, Hickok, G. (2009). Functional organization of the planum temporale for spatial versus sensory-motor processes. Society for Neuroscience, Chicago, IL.

Vaden, KI, Hickok, G (2009). Adaptation to phonologically similar words in bilateral Superior Temporal Sulci. Auditory Cognitive Neuroscience Society, Tucson, AZ; Cognitive Neuroscience Society, San Francisco, CA.

Fillmore, P, Vaden, KI, Isenberg, A, Gage, N, Hickok, G (2007). Hemispheric asymmetries in speech perception: stimulus-driven versus task-specific effects. Cognitive Neuroscience Society, New York, NY.

COLLOQUIA AND TALKS

Vaden, KI (2022, Sep 9). Age-related differences in the most interesting part of the brain. Virtual presentation: Symposium for Cognitive Auditory Neuroscience 2022: Aging from the lens of auditory cognitive neuroscience. Carnegie Mellon University, Pittsburgh, PA.

Vaden, KI (2021, Mar 1). Fully synthetic brain image datasets: a new tool for open science. Presentation: Department of Public Health Sciences, MUSC, Charleston, SC.

Vaden, KI (2016, Apr 8). Age-related differences in adaptive control for speech recognition in noise. Presentation: Hearing Research Center, Boston University, Boston, MA.

Vaden, KI (2016, Jan 1). Group fMRI parametric statistics: observed elevated type I error rates. Presentation: Nuts & Bolts, Center for Biomedical Imaging, MUSC, Charleston, SC.

Vaden, KI (2015, Mar 24). Example representational similarity analysis. Presentation: Nuts & Bolts, Center for Biomedical Imaging, MUSC, Charleston, SC.

Harris, KC, Vaden, KI, Teubner-Rhodes, S (2015, Jan 27). Automated fiber quantification analysis. Presentation: Nuts & Bolts, Center for Biomedical Imaging, MUSC, Charleston, SC.

Vaden, KI (2014, Feb 6). Frontal control and compensation during speech recognition. Presentation: Hearing Science Interest Group, MUSC, Charleston, SC.

Vaden, KI. (2014, Jan 31). The frontal adaptive control network benefits word recognition. Presentation: Department of Neurosciences Postdoctoral Seminar Series, MUSC, Charleston, SC.

Vaden, KI (2014, Jan 17). Connectivity at the trial level: extent of network engagement. Presentation: Brain Connectivity Study Group, MUSC, Charleston, SC.

Vaden, KI (2012, Oct 3). Speech recognition in challenging conditions: adaptive neural systems and aging. Presentation: Hearing Science Interest Group, MUSC, Charleston, SC.

Vaden, KI (2010, Nov 5). Inferior frontal activity during speech recognition is modulated by intelligibility. Presentation: Perry V. Halushka MUSC 2010 Student Research Day, MUSC, Charleston, SC.

Vaden, KI (2010, Nov 3). Speech recognition in older and younger adults: proposed studies and preliminary data. Presentation: Hearing Science Interest Group, MUSC, Charleston, SC.

Vaden, KI (2010, Mar 11). Sublexical phonological processing in word recognition. Presentation: Center for Cognitive Neuroscience, MUSC, Charleston, SC.

Vaden, KI (2009, May 13). Phonological speech activity in cortex: similarity, density, and phonotactic frequency. Presentation: Seventh Annual Graduate Student Conference: Social Choice and Behavioral Sciences. Institute for Mathematical Behavioral Sciences, UCI, Irvine, CA.

Vaden, KI (2009, Feb 11). Phonological processing in bilateral superior temporal lobes. Presentation: Psychobabble Psycholinguistics Seminar. Department of Linguistics, UCLA, Los Angeles, CA.

Vaden, KI (2008, Dec 5). Adaptation to phonologically similar words in bilateral superior temporal sulci. Presentation: Brain Research Imaging Center, Univ. of Chicago, Chicago, IL.

Vaden, KI (2008, May 21). A computational approach to cognitive neuroscience of speech. Presentation: Sixth Annual Graduate Student Conference: Social Choice and Behavioral Sciences. Institute for Mathematical Behavioral Sciences, UCI, Irvine, CA.

Vaden, KI (2005, May 26). Density and phonotactic effects in the serial recall of pseudowords. Second year talk. Department of Cognitive Sciences, UCI, Irvine, CA.

Vaden, KI (2005, May 23). Density and phonotactic effects in the serial recall of pseudowords. Presentation: Third Annual Graduate Student Conference: Social Choice and Behavioral Sciences. Institute for Mathematical Behavioral Sciences, UCI, Irvine, CA.

Bensmaïa, SJ, Vaden, KI, Halpin, HR (2002, Feb). How and what does SINBAD learn: improving on an unsupervised error backpropagating network. Poster: 2002 NC Cognition Conference, Chapel Hill, NC.

Halpin, HR, Vaden, KI (2000, April). Topic segmentation: computational algorithms and psycholinguistic theory. Presentation: Celebration of Undergraduate Research at UNC, Chapel Hill, NC.

Halpin, HR, Vaden, KI (2000, May). Topic segmentation research summary. Presentation: Smallwood Foundation, Office Undergraduate Research at UNC, Chapel Hill, NC.

BOOK CHAPTERS

Kuchinsky, SE, Vaden, KI (2020). Aging, hearing loss, and listening effort: imaging studies of the aging listener. Chapter 10. Book: *The Aging Auditory System*. Eds. Helfer, KS, Bartlett, EL, Popper, AN, Fay, RR. Springer. Series: Springer Handbook of Auditory Research. <https://doi.org/10.1007/978-3-030-49367-7>

NON-PEER REVIEWED ARTICLES

Vaden, KI, Dubno, JR (2011). Easy listening: Longer words can optimize speech recognition. *Audiology Today*, 5, 82-83.

RESEARCH EXPERIENCE AND ACADEMIC APPOINTMENTS

01/2015 – *present* Research Assistant Professor
Department of Otolaryngology, MUSC, Charleston, SC.

01/2010 – 12/2015 Postdoctoral Scholar, supervised by Dr. Mark A. Eckert.
Department of Otolaryngology, MUSC, Charleston, SC.

06/2009 – 12/2009 Assistant Specialist, Lab for Cognitive Brain Research, Dr. Greg S. Hickok.
Department of Cognitive Sciences, UC Irvine

06/2003 – 06/2009 Graduate student researcher, advised by Dr. Greg S. Hickok.
Department of Cognitive Sciences, UC Irvine

01/2002 – 03/2002 Programmed experiment for Dr. Jack R. Aiello, Dr. Brent J. Burke.
Psychology Department, Rutgers University

05/2001 – 07/2002 Independent Research with Dr. Sliman J. Bensmaïa.
Psychology Department, UNC Chapel Hill

05/2001 – 06/2001 Research assistant for Dr. Josephine M. Johns.
Psychiatry Department, UNC Chapel Hill

01/2001 – 05/2001 Independent Research with Dr. Jon W. Tolle.
Operations Research Department, UNC Chapel Hill

06/2000 – 05/2001 Independent Research with Dr. Peter C. Gordon.
Psychology Department, UNC Chapel Hill

GRANTS

7/2017 - 6/2021 Role: Subaward PI. [PI: Teubner-Rhodes, Auburn University]. NIH/NIDCD R21-DC016375:
Cognitive and neurobiological factors of age-related speech recognition declines.

7/2015 - 12/2017 Role: PI. Hearing Health Foundation, Emerging Research Grant: *Adaptive control of auditory representations in listeners with central auditory processing disorder.*

PROFESSIONAL AFFILIATIONS

Association for Research in Otolaryngology: 2015 - 2024
Society for Neuroscience Member: 2009 - 2024
Society for the Neurobiology of Language Member: 2009 - 2024
Cognitive Neuroscience Society Member: 2003, 2009
International Society for Magnetic Resonance in Medicine Member: 2014

PROFESSIONAL SERVICE

June 2023 Reviews: Society for the Neurobiology of Language, Marseille, France
May 2023 Grant reviews: Hearing Health Foundation
Nov 2022 Judge: MUSC Perry V Halushka Research Day. Charleston, SC
July 2022 Reviews: Society for the Neurobiology of Language, Philadelphia, PA
May 2022 – *Present*: Review Editor at Frontiers in Neuroscience
May 2022 Grant reviews: Hearing Health Foundation
Nov 2021 Judge: MUSC Perry V Halushka Research Day. Charleston, SC (Virtual Edition)
June 2021 Reviews: Society for the Neurobiology of Language. (Virtual Edition)
May 2021 Grant reviews: Hearing Health Foundation
July 2020 Reviews: Society for the Neurobiology of Language, Philadelphia, PA. (Virtual Edition)
May 2020 Grant reviews: Hearing Health Foundation
Nov 2019 Judge: MUSC Perry V Halushka Research Day. Charleston, SC

May 2019 Reviews: Society for the Neurobiology of Language, Helsinki, FI
Nov 2018 Judge: MUSC Perry V Halushka Research Day. Charleston, SC
Jul 2018 Invited peer review: Biotechnology and Biological Sciences Research Council (UK).
May 2018 Reviews: Society for the Neurobiology of Language, Québec City, CA
Mar 2018 Invited peer review: Medical Research Council (UK)
Mar 2018 Grant reviews: Hearing Health Foundation
Nov 2017 Judge: MUSC Perry V Halushka Research Day. Charleston, SC
Jun 2017 Reviews: Society for the Neurobiology of Language, Baltimore, MD
Mar 2017 Grant reviews: Hearing Health Foundation
2016 –17 Center for Biomedical Imaging Lecture Series Planning Committee, MUSC
Sep 2016 Reviews: Architectures and Mechanisms for Language Processing 2016, Bilbao, ES
Aug 2016 Reviews: Society for the Neurobiology of Language, London, UK
Mar 2016 Grant reviews: Hearing Health Foundation
Oct 2015 Judge: MUSC Perry V Halushka Research Day. Charleston, SC
Oct 2015 Reviews: Society for the Neurobiology of Language, Chicago, IL
Aug 2014 Reviews: Society for the Neurobiology of Language, Amsterdam, NL
Nov 2013 Reviews: Society for the Neurobiology of Language, San Diego, CA
Apr 2013 Invited session chair: Frontiers in Neuroscience Meeting, Charleston, SC
Aug 2012 Invited session chair: Joint Statistical Meetings, San Diego, CA

AD HOC REVIEWER

Aperture Neuro (2021-22), Auditory Perception & Cognition (2020), Brain & Language (2011-12, 2023), Brain Research (2012), Cerebral Cortex (2012, 2014, 2020-21), Cortex (2021); Ear & Hearing (2018, 2020-22), ENeuro (2017-18), Frontiers in Systems Neuroscience (2013), Frontiers in Psychology (2022-23), Hearing Research (2018, 2020-21), Human Brain Mapping (2011-12), Imaging Neuroscience (2023), International Journal of Audiology (2020-21), Journal of the Acoustical Society of America (2019), JASA-Express Letters (2015), Journal of Cognitive Neuroscience (2009, 2013-17), Journal of Neurolinguistics (2023), Journal of Neuroscience (2015, 2017), Journal of Psychophysiology (2014), Language and Cognitive Processes (2010), Language, Cognition and Neuroscience (2019), Memory & Cognition (2014-15), Neurobiology of Aging (2017-18), Neurobiology of Language (2020, 2022), NeuroImage (2013-20, 2023), Neuroscience Letters (2012, 2018), Neuropsychologia (2013, 2016-17), Otology & Neurotology (2014), Psychonomic Bulletin & Review (2010, 2015-16).

Web of Science / Publons reviewer profile: <https://www.webofscience.com/wos/author/rid/AAB-8387-2019>

TEACHING EXPERIENCE

Neuroscience guest lectures: NSCS 735 Module: Neural Plasticity in Sensory Systems. Department of Neuroscience, MUSC. 11/2015, 10/2017, 10/2018.

Biostatistics guest lectures: *BMTRY 702: Advanced ANOVA & Regression. Module: fMRI data, analysis, and multiple imputation.* Div. Biostatistics and Epidemiology, MUSC. 12/2011, 12/2012, 6/2014, 12/2015, 12/2018 12/2020, 12/2023.

Teaching Associate from 2008 Spring - 2009 Spring (4 quarters) at UC Irvine

Social Science 3A: Computer-Based Research in Social Sciences. Presented the weekly lectures and administered course (120-300 students, 4 teaching assistants).

Teaching Assistantships at UC Irvine

2008 Winter Linguistics 10: Introduction to Phonology Dr. Griffith

2007 Fall	Psychology 120P: Personality Theory	Dr. Byde
2007 Spring	Psychology 9B: Introduction to Psychology	Dr. Kean
2007 Winter	Linguistics 10: Introduction to Phonology	Dr. Tranel
2006 Fall	Psychology 9A: Psychology Fundamentals	Dr. Hoffman
2006 Spring	Linguistics 10: Introduction to Phonology	Dr. Kim
2005 Fall	Psychology 9A: Psychology Fundamentals	Dr. Hoffman
2005 Winter	Psychology 9B: Psychology Fundamentals	Dr. D’zMura
2004 Fall	Psychology 9A: Psychology Fundamentals	Dr. Hoffman
2004 Winter	Social Science 10B: Intro. Statistics	Dr. Noviello
2003 Fall	Psychology 160: Cognitive Neuroscience	Dr. Hickok

ART EXHIBITIONS

Black Path (R code). Charleston, SC. April 2023. Humanitas 2023 Annual Juried Art Exhibit and Literary Publication. www.musc.edu/humanitas

Time Reversal Paradox (R code). March – May 2023. Piccolo Spoleto Juried Art Exhibition. City Gallery, Charleston, SC. <http://www.piccolospoleto.com>

Inksapes: Algorithmic Dreams. Generative + Video Art collaboration with Swickie Fang. March 18, 2023. OtherBlock: Supercharged LA. Los Angeles, CA. <https://www.otherblock.io>

Twelve Works. Artist Residency. Dec 1, 2022 – June 15, 2023. Serendipity Labs, Mount Pleasant, SC

Places of Conflict, Iteration (R code). May 27 – June 12, 2022. Piccolo Spoleto Juried Art Exhibition. City Gallery, Charleston, SC. <http://www.piccolospoleto.com>

Magnetic Field Reconnection Event (R code). Charleston, SC. March 2022. Humanitas 2022 Annual Juried Art Exhibit and Literary Publication. www.musc.edu/humanitas

Momentary (R code). Charleston, SC. April 2021. Humanitas 2021 Annual Juried Art Exhibit and Literary Publication. www.musc.edu/humanitas

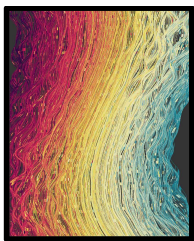
Moth. Common buckeye (*Junonia Coenia*). Charleston, SC. April 2020. Humanitas 2020 Annual Juried Art Exhibit and Literary Publication. www.musc.edu/humanitas

Sleepy Snake. A coiled snake laying on fallen tree branches in the Walterboro Wildlife Sanctuary. April 20, 2016. Humanitas 2016 Annual Juried Art Exhibit and Literary Publication. www.musc.edu/humanitas

Untitled. Dark fishing spider (*Dolomedes Tenebrosus*) hunting tadpoles at the Caw Caw Interpretive Center, Ravenel, SC. April 23, 2015. Humanitas 2015 Annual Juried Art Exhibit and Literary Publication. www.musc.edu/humanitas

Peaceful. Calm water in the Charleston harbor. May 27 to June 10, 2011. Piccolo Spoleto 27th Annual Juried Art Exhibition. Visitor Center, Charleston, SC. www.piccolospoleto.com

ART COLLECTIONS



Pathos (R code). Charleston, SC. November 2021. Juried Selection by *Arts in Healing* for the Medical University of South Carolina Community Gallery



Gorgeous Gorges. Waterfalls and fall colors at the Gorges State Park, NC. April 20, 2016. Selected by the Humanitas 2016 Jury for exhibit and inclusion in the permanent MUSC Art Collection. www.musc.edu/humanitas

ART ON THE BLOCK-CHAIN

- 12/6/2023 *Escapism*. FxHash
- 7/18/2023 *Headwinds*. FxHash
- 11/14/2022 *Snake Alley*. FxHash
- 9/30/2022 *Thalassophobia*. FxHash
- 5/4/2022 *Super User*. Quantum.art curated art collection
- 4/20/2022 *A360 Mindsets*. Commissioned work for the A360 Summit in Los Angeles.
- 12/15/2021 *Worlds*. Flamingo DAO Flutter curated collection <https://flutter.flamingodao.xyz/project/0>
- 8/20/2021 *A Human in Times of Chaos*. OpenSea collection
- 7/2021 *Views from the Apocalypse*. OpenSea collection

ART GALLERY REPRESENTATION

February 2021 – present Anew Gallery. Tiomkin 16, Tel Aviv, Israel <https://anew.gallery>

ART PUBLICATIONS

Places of Conflict, Iteration. Art featured in: Anarchist Review of Books, Issue #4 Summer/Fall 2022.

Whisper and Roar (R code). Art featured in fundraiser for Drawdown DAO. November 2022.