

LISA DIANE SANDERS

Psychological and Brain Sciences • University of Massachusetts • Amherst, MA 01003
lsanders@umass.edu • phone (413)545-5962 • fax (413)545-0996

EDUCATION

- Ph.D. in Psychology with Certificate in Neuroscience, University of Oregon, June 2001.
Dissertation: “Speech segmentation by native and non-native speakers: Behavioral and event-related potential evidence”
- M.S. in Psychology, University of Oregon, 1997.
Master’s Thesis: “Lexical, syntactic, and stress-pattern cues for speech segmentation”
- B.A. in Psychology, Rice University, 1995.
Senior Honor’s Thesis: “Visual and auditory memory for nonlinguistic material”

PROFESSIONAL POSITIONS

- Professor in the Department of Psychological and Brain Sciences. Director of the NeuroCognition and Perception Laboratory, University of Massachusetts Amherst. September, 2020 – present.
- Associate Professor in the Department of Psychological and Brain Sciences. Director of the NeuroCognition and Perception Laboratory, University of Massachusetts Amherst. September, 2010 – August, 2020.
*parental leave Fall of 2013 and Spring of 2015
- Assistant Professor in the Department of Psychology. Director of the NeuroCognition and Perception Laboratory, University of Massachusetts Amherst. September, 2005 – August, 2010.
- Postdoctoral Fellow, Brain Development Laboratory, University of Oregon. Dr. Helen Neville, advisor. January 2004 – August 2005.
- Postdoctoral Fellow, Cognitive Neuroscience of Language Laboratory, University of Maryland. Dr. David Poeppel, advisor. January 2002 – December 2003
- Graduate Research Assistant, Psychology Department, University of Oregon. Dr. Helen Neville, advisor. September 1997 – November 2001
- Graduate Research Assistant, Psychology Department, University of Oregon. Dr. Doug Hintzman, advisor. September 1996 – May 1997.
- Undergraduate Research Assistant, Health Science Center, University of Texas. Dr. Jocelyn Bachevalier, supervisor. January 1994 – July 1994.
- Undergraduate Research Assistant, Psychology Department, Rice University. Dr. Randi Martin, advisor. March 1993 – May 1995.

RESEARCH SUPPORT

- National Institutes of Health R03 – Co-Investigator (Alexandra Jesse, PI). “Electrophysiological indices of audiovisual benefits to speech processing in aging adults”. April 2018 – March 2021. Currently in no-cost extension.
- National Science Foundation – Co-Investigator (Joe Pater, PI of collaborative proposal). “Inside phonological learning”. August 2017 – January 2021. Currently in no-cost extension.
- National Science Foundation – Co-Investigator (Adrian Staub, PI). “Effects of lexical predictability on parafoveal and foveal processing in reading”. July 2017 – June 2021.
- University of Massachusetts Faculty Research Grant (Healey Endowment Grant) – Principal Investigator. “Neural measures of real world speech-in-noise processing”. June 2016 – May 2017.
- National Science Foundation – Principal Investigator of UMass subcontract (Laura Dilley, PI). “Making words disappear or appear: A neurocognitive and behavioral investigation of effects of speech rate on spoken word perception”. August 2014 – August 2017.
- National Institutes of Health R01 – Co-Investigator (Richard Freyman, PI). “Spatial hearing in complex sound fields”. July 2011 – May 2016.
- National Institutes of Health pre-doctoral NRSA – Co-Sponsor for Lori Astheimer’s training in “Attentional cues during speech perception”. July 2009 – June 2011.
- University of Massachusetts MRI-MRS Pilot Research Grant – Principal Investigator. “Plasticity profiles for subsystems of music and language processing”. July 2008 – March 2011.
- John Merck Fellowship in the Biology of Developmental Disabilities in Children – Principal Investigator. “Selective attention deficits contribute to language processing disorders”. June 2008 – December 2012.
- National Institutes of Health R03 – Principal Investigator. “Auditory temporally selective attention”. July 2007 – June 2010.
- National Institutes of Health R01 – Consultant (Helen Neville, PI). “Neurobehavioral development in typically developing, at-risk, and deaf children”. May 2007 – April 2012.
- National Institutes of Health (NIH) R01 – Consultant (Helen Neville, PI). “Development of cerebral specializations”. April 2007 – March 2012.
- University of Massachusetts College of Social and Behavioral Sciences proposal preparation grant – Principal Investigator. “A comparison of attentional gradients using spatial and temporal selection”. March 2007 – December 2008.
- National Institutes of Health R01 – Co-Investigator (Keith Rayner, PI). “The nature and time course of phonological representation in reading”. July 2006 – June 2009.
- University of Massachusetts Faculty Research Grant (Healey Endowment Grant) – Principal Investigator. “Noninvasive electroencephalogram (EEG) and event-related brain potential (ERP) research in children and infants”. February 2006 – August 2006.

National Institute of Health Ruth L. Kirschstein National Research Service Award – Postdoctoral Fellow: “Auditory processing of biological and linguistic stimuli.” Dr. Helen Neville, supervisor. January 2004 – December 2004

National Institute of Health Ruth L. Kirschstein National Research Service Award – Postdoctoral Fellow: “Auditory processing of biological and linguistic stimuli”. Dr. David Poeppel, supervisor. January 2002 – December 2003.

PUBLICATIONS

Burnsky, J., Kretzchmar, F., Mayer, E., Sanders, L. D., & Staub, A. (submitted). The influence of predictability, visual contrast, and preview validity on eye fixation durations and N400 amplitude.

Zobel, B., Freyman, R., & Sanders, L. D. (invited resubmission). Virtual spatial separation determines the early cortical representation of speech sounds. *Auditory Perception & Cognition*.

Moore-Cantwell, C., Pater, J., Staubs, R., Zobel, B., & Sanders, L. D. (invited resubmission). Event-related potential evidence of abstract phonological learning in the laboratory. *Language and Speech*.

Rivera-Rodriguez, A., Sherwood, M., Fitzroy, A., Sanders, L. D., & Dasgupta, N. (in press). Anger, race, and the neurocognition of threat: Attention, inhibition, and error processing during a weapon identification task. *Cognitive Research: Principles and Implications*.

Fitzroy, A., & Sanders, L. D. (2021). Subjective metric organization directs the allocation of attention across time. *Auditory Perception & Cognition*.

Moreton, E., Prickett, B., Pertsova, K., Fennell, J., Pater, J., & Sanders, L. (2021). Learning repetition, but not syllable reversal. In Ryan Bennett, Richard Bibbs, Mykel Loren Brinkerhoff, Max J. Kaplan, Stephanie Rich, Nicholas Van Handel & Maya Wax Cavallaro (eds.), *Supplemental Proceedings of the 2020 Annual Meeting on Phonology*. Washington, DC: Linguistic Society of America.

Zobel, B., Wagner, A., Sanders, L. D., & Başkent, D. (2019). Spatial release from informational masking declines with age: Evidence from a detection task in a virtual separation paradigm. *Journal of the Acoustical Society of America*, 146(1), 548-566.

Fitzroy, A., Ugolini, M., Munoz, M., Zobel, B., Sherwood, M., & Sanders, L. D. (2018). Attention modulates early auditory processing at a real cocktail party. *Language, Cognition and Neuroscience*, DOI: 10.1080/23273798.2018.1492002.

Andersson, A., Sanders, L. D., Coch, D., Karns, C., & Neville, H. (2018). Anterior and posterior ERP rhyming effects in 3- to 5-year-old children. *Developmental Cognitive Neuroscience*, 30, 178-190.

Moore-Cantwell, C., & Sanders, L. D. (2018). Effects of probabilistic phonology on perception of words and nonwords. *Language, Cognition and Neuroscience*, 33, 148-164.

Fitzroy, A., & Sanders, L. D. (2015). Musical meter modulates the allocation of attention across time. *Journal of Cognitive Neuroscience*, 27, 2339-2351.

- Zobel, B., Freyman, R., & Sanders, L. D. (2015). Attention is critical for spatial auditory object formation. *Attention, Perception, & Psychophysics*, *77*, 1998-2010.
- Morrill, T., McAuley, J. D., Dilley, L., Zdziarska, P., Jones, K., & Sanders, L. D. (2015). Distal prosody affects learning of novel words in an artificial language. *Psychonomic Bulletin & Review*, *22*, 815-823.
- Breen, M., Dilley, L., McAuley, J. D., & Sanders, L. D. (2014). Auditory evoked potentials reveal early perceptual effects of distal prosody on speech segmentation. *Language, Cognition and Neuroscience*, *29*, 1132-1146.
- Fitzroy, A., & Sanders, L. D. (2013). Musical expertise modulates early processing of syntactic violations in language. *Frontiers in Psychology*, *3*:603, 1-15. doi: 10.3389/fpsyg.2012.00603.
- Breen, M., Kingston, J., & Sanders, L. D. (2013). Perceptual representations of phonotactically illegal syllables. *Attention, Perception & Psychophysics*, *75*, 101-120.
- Shen, E., Staub, A., Sanders, L. D. (2013). Event-related brain potential evidence that local nouns affect subject-verb agreement processing. *Language and Cognitive Processes*, *28*, 498-524.
- Sanders, L. D., & Zobel, B. (2012). Nonverbal spatially selective attention in 4- and 5-year-old children. *Developmental Cognitive Neuroscience*, *2*, 317-328.
- Astheimer, L., & Sanders, L. D. (2012). Temporally selective attention supports speech processing in 3- to 5-year-old children. *Developmental Cognitive Neuroscience*, *2*, 120-128.
- Astheimer, L., & Sanders, L. D. (2011). Predictability affects early perceptual processing of word onsets in continuous speech. *Neuropsychologia*, *49*, 3512-3516.
- Sanders, L. D., Zobel, B., Keen, R., & Freyman, R. (2011). Manipulations of listeners' echo perception are reflected in event-related potentials. *Journal of the Acoustical Society of America*, *129*, 301-309.
- Sanders, L. D., Ameal, V., & Sayles, K. (2009). Event-related potentials index segmentation of nonsense sounds. *Neuropsychologia*, *47*, 1183-1186.
- Ashby, J. Sanders, L. D., & Kingston, J. (2009). Processing phonological features during visual word recognition: evidence from event-related potentials. *Biological Psychology*, *80*, 84-94.
- Astheimer, L., & Sanders, L. D. (2009). Listeners modulate temporally selective attention during natural speech processing. *Biological Psychology*, *80*, 23-34.
- Sanders, L. D., & Astheimer, L. (2008). Temporally selective attention modulates early perceptual processing: Event-related potential evidence. *Perception & Psychophysics*, *70*, 732-742.
- Sanders, L. D., Joh, A., Freyman, R., & Keen, R. (2008). One sound or two? Object-related negativity indexes echo perception. *Perception & Psychophysics*, *70*, 1558-1570.
- Sanders, L. D., Weber-Fox, C., & Neville, H. (2008). Varying degrees of plasticity in different subsystems within language. In James R. Pomerantz (Ed) *Topics in Integrative Neuroscience: From Cells to Cognition* (pp. 125-153). New York, NY: Cambridge University Press.
- Stevens, C., Fanning, J., Coch, D., Sanders, L. D., & Neville, H. (2008). Neural mechanisms of selective auditory attention are enhanced by computerized training: Electrophysiological

- evidence from language-impaired and typically developing children. *Brain Research*, 1205, 55-69.
- Sanders, L. D., & Poeppel, D. (2007). Local and global auditory processing: Behavioral and ERP evidence. *Neuropsychologia*, 45, 1172-1186.
- Stevens, C., Sanders, L. D., & Neville, H. J. (2006). Neurophysiological evidence for selective auditory attention deficits in children with Specific Language Impairment. *Brain Research*, 1111, 143-152.
- Sanders, L. D., Stevens, C., Coch, D., & Neville, H. (2006). Selective auditory attention in 3- to 5-year-old children: An event-related potential study. *Neuropsychologia*, 44, 2126-2138.
- Coch, D. J., Sanders, L. D., & Neville, H. J. (2005). An event-related potential study of selective auditory attention in children and adults. *Journal of Cognitive Neuroscience*, 17, 605-622.
- Sanders, L. D., & Neville, H. J. (2003). An ERP study of continuous speech processing: I. Segmentation, semantics, and syntax in native speakers. *Brain Research: Cognitive Brain Research*, 15, 228-240.
- Sanders, L. D., & Neville, H. J. (2003). An ERP study of continuous speech processing: II. Segmentation, semantics, and syntax in non-native speakers. *Brain Research: Cognitive Brain Research*, 15, 214-227.
- Sanders, L. D., Newport, E. L., & Neville, H. J. (2002). Segmenting nonsense: An event-related potential index of perceived onsets in continuous speech. *Nature Neuroscience*, 5, 700-703.
- Sanders, L. D., Neville, H. J., & Woldorff, M. (2002). Speech segmentation by native and non-native speakers: The use of lexical, syntactic, and stress-pattern cues. *Journal of Speech, Language, and Hearing Research*, 45, 519-530.
- Sanders, L. D., & Neville, H. J. (2000). Lexical, syntactic, and stress-pattern cues for speech segmentation. *Journal of Speech, Language, and Hearing Research*, 43, 1301-1321.

INVITED PRESENTATIONS

- Sanders, L. D. (2017). How does what we know about speech sounds affect what we do with speech sounds. Invited talk for the *University Seminar on Language and Cognition* at *Columbia University*, New York, NY.
- Sanders, L. D. (2013). Predicting when to attend in speech perception. Invited talk for *Mayfest (Linguistics Department)* at *University of Maryland*, College Park, MD.
- Sanders, L. D. (2012). Auditory selective attention in young children. Invited talk for the *Developmental Psychology Series* at *University of Connecticut*, Storrs, CT.
- Sanders, L. D. (2011). How selective is temporally selective attention. Invited talk for the *Cognition and Perception Series* at *New York University*, New York City, NY.
- Sanders, L. D. (2011). Temporally selective attention and speech perception. Invited talk for the *Linguistics Department* at *SUNY-Stony Brook*, Stony Brook, NY.
- Sanders, L. D. (2011). Predictability and attention in speech perception. Invited talk for the *Cognitive Psychology Series* at *Michigan State University*, Lansing, MI.

- Sanders, L. D. (2011). Attending to the unpredictable during speech processing. Invited talk for the *Cognitive Neuroscience Group* at *Emory University*, Atlanta, GA.
- Sanders, L. D., (2011). Temporal attention cues in speech. Invited talk for the *Cognitive Neuroscience Group* at *University College London*, London, UK.
- Sanders, L. D. (2010). Selective attention and language processing in young children. Invited talk as part of the *Mind, Brain, and Education Colloquia* at *Smith College*, Northampton, MA.
- Sanders, L. D. (2009). Temporally selective attention and speech perception. Invited talk for the *Cognition, Brain, and Behavior group* at *Harvard University*, Cambridge, MA.

TEACHING EXPERIENCE

- Moved Sensation and Perception to entirely online format, Psychological and Brain Sciences, University of Massachusetts, Fall 2020.
- Instructor for graduate seminar on Electroencephalogram and Event-Related Potential Techniques, Psychological and Brain Sciences, University of Massachusetts, Spring 2018, Fall 2021.
- Instructor for Methods in Cognitive Psychology, Psychological and Brain Sciences, University of Massachusetts, Spring 2017.
- Instructor for Sensation and Perception, Psychological and Brain Sciences, University of Massachusetts, Spring 2006, 2007, 2009, 2010, 2011, 2012, 2013, 2022 and Fall 2014, 2015, 2016, 2017, 2018, 2019.
- Co-Instructor for graduate seminar on Phonological Learning with Joe Pater (Linguistics), Psychological and Brain Sciences, University of Massachusetts, Fall 2013.
- Co-Instructor for graduate seminar on Cognitive Neuroscience Methods with Matthew Davidson, Psychology Department, University of Massachusetts, Spring 2008 and 2010, and Fall 2012.
- Instructor for Statistical Methods in Psychology, Psychology Department, University of Massachusetts, Fall 2005, 2006, and 2008.
- Organizer of a journal club on the Development of Selective Attention, Psychology Department and Neuroscience and Behavior Program, University of Massachusetts, Fall 2008.
- Instructor for graduate seminar on Cortical Plasticity, Psychology Department, University of Massachusetts, Fall 2006 and 2009.
- Adjunct Professor for Human Perception and Sensation (graduate and undergraduate course), Psychology Department, University of Oregon, Fall 2003.
- Lilly Teaching Fellow, University of Massachusetts, Fall 2007 and Spring 2008.

MAJOR SERVICE CONTRIBUTIONS

- Associate Editor, *Attention, Perception, & Psychophysics*, 2015-present.

Associate Chair for Research, Department of Psychological and Brain Sciences, University of Massachusetts, 2017-present. Includes chairing PBS Research Committee, representing department on all research space issues, participation in department hiring actions, and serving on PBS Executive Committee.

Standing Member, F01 Study Section, National Institutes for Health, 2012-2016.

Founder and Co-Director of Institute, Institute for the Computational and Experimental Study of Language (which is being developed as the Initiative for Cognitive Science) University of Massachusetts, 2011-present.

Undergraduate Program Director, Psychology Department, University of Massachusetts, 2012-2016. Included membership on College of Natural Sciences Curriculum Committee, Introductory Life Science Curriculum Taskforce, Undergraduate Neuroscience Major Curriculum Committee, and Undergraduate Psychology Major Curriculum Committee.

Departmental Honors Director, Psychology Department, University of Massachusetts, 2010-2012.

Graduate Program Director, Neuroscience and Behavior Program, University of Massachusetts, 2008-2011.