

Deborah Levy

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EDUCATION

- Doctor of Philosophy**, Vanderbilt University *August 2016–August 2021*
- Hearing and Speech Sciences; Advised by Dr. Stephen Wilson; GPA: 3.98/4.0
 - Dissertation: Multivariate lesion symptom mapping for predicting trajectories of recovery from aphasia
- Bachelor of Arts**, New York University *August 2010–May 2014*
- Double-major, Linguistics and Psychology (Honors); GPA: 3.94/4.0 (Summa Cum Laude)

RESEARCH POSITIONS HELD

- Graduate Research Assistant**, Vanderbilt University *August 2016–August 2021*
- Language Neuroscience Lab; Principal Investigator Dr. Stephen Wilson
 - Designed, implemented, analyzed, and published original experiments investigating neural representations of linguistic constructs using functional and structural MRI
 - Acted as technical point-person for lab-related tasks, including post-processing of fMRI data in MATLAB, lesion drawing in ITK-Snap, and exploration of image normalization techniques using ANTs and DARTEL
- Research Specialist**, University of Pennsylvania *July 2014–June 2016*
- Computational Memory Lab; Principal Investigator Dr. Michael Kahana
 - Collected ECoG recordings, performed brain stimulation protocols, and conducted memory testing with individuals undergoing intracranial monitoring for medically intractable epilepsy
 - Managed and pre-processed behavioral and ECoG data from eight participating hospital sites across the country using Linux, MATLAB and Python
- Research Assistant**, New York University *February 2014–May 2014*
- Sociolinguistics Lab; Principal Investigator Dr. John Singler
 - Coded and fact-checked 30 years of Supreme Court case audio data for linguistic markers of New York City English in Ruth Bader Ginsburg’s speech
 - Acknowledged in Shapp A, LaFave N, Singler JV. Ginsburg v. Ginsburg: A longitudinal study of regional features in a Supreme Court justice’s speech. *University of Pennsylvania Working Papers in Linguistics* 2014; 20.
- Research Assistant**, New York University *April 2013–July 2014*
- Visual Perception Lab; Principal Investigator Dr. Denis Pelli
 - Participated in establishment of “The Beauty Project”, took notes on lab meetings, helped compose and edit professor’s abstracts for publication
 - Acknowledged in Song S, Levi DM, Pelli DG. A double dissociation of the acuity and crowding limits to letter identification, and the promise of improved visual screening. *J Vis* 2014; 14:3.
- Research Assistant**, New York University *October 2012–May 2014*
- Causal Cognition Lab; Principal Investigator Dr. Robert Rehder
 - Independently ran eye-tracking and behavioral experiments for upwards of 200 participants

PUBLICATIONS

- Solomon EA, Sperling MR, Sharan AD, Wanda PA, **Levy DF**, Lyalenko A, Pedisich IM, Rizzuto DS, Kahana MJ. Theta-burst stimulation entrains frequency-specific oscillatory responses. *Brain Stimul* 2021; 14:1271-84.
- **Levy DF**, Wilson SM. Categorical encoding of vowels in primary auditory cortex. *Cereb Cortex* 2020; 30:618-27.
- Fisher JM, Dick FK, **Levy DF**, Wilson SM. Neural representation of vowel formants in tonotopic auditory cortex. *NeuroImage* 2018; 178:574–82.

- Ezzyat Y, Wanda PA, **Levy DF**, Kadel A, Aka A, Pedisich I, et al. Closed-loop stimulation of temporal cortex rescues functional networks and improves memory. *Nat Commun* 2018; 9:1–8.
- Ezzyat Y, Kragel JE, Burke JF, **Levy DF**, Lyalenko A, Wanda P, et al. Direct brain stimulation modulates encoding states and memory performance in humans. *Curr Biol* 2017; 27:1251–8.
- Ramayya AG, Pedisich I, **Levy DF**, Lyalenko A, Wanda P, Rizzuto D, et al. Proximity of substantia nigra microstimulation to putative GABAergic neurons predicts modulation of human reinforcement learning. *Front Hum Neurosci* 2017; 11:200.

TALKS AND PRESENTATIONS

Conference presentations

- Brito A, **Levy DF**, Schneck S, Entrup J, Onuscheck C, Casilio M, Davis T, Wilson SM. Leukoaraiosis is not associated with recovery from aphasia in the first year after stroke [Poster]. *Submitted*.
- Kasdan A, **Levy DF**, Herrington DH, Wilson SM, Gordon RL. A music and arts program for individuals with aphasia [Poster]. *Neuromusic Conference*; 2021 June 18-21; Virtual.
- **Levy DF**, Entrup JL, Schneck SM, Onuscheck C, Rahman M, Wilson SM. Predicting trajectories of recovery from aphasia [Poster]. *Annual Conference of the Society for the Neurobiology of Language*; 2020 October 21-23; Virtual.
- Entrup JL, Schneck SM, Onuscheck C, Rahman M, **Levy DF**, Davis LT, Kam W, Rahman M, Willey E, Burchfield A, de Riesthal M, Kirshner HS, Wilson SM. The practicalities of implementing a longitudinal study of recovery from aphasia [Poster]. *Annual Conference of the Society for the Neurobiology of Language*; 2020 October 21-23; Virtual.
- **Levy DF**, Wilson SM. A comparison of three vector space models of word meaning for mapping the semantic system [Poster]. *Annual Meeting of the Cognitive Neuroscience Society*; 2020 May 2-4; Virtual.
- **Levy DF**, Wilson SM. Neural representation of phonemic categories in tonotopic auditory cortex [Poster]. *Annual Conference of the Society for the Neurobiology of Language*; 2018 Aug 16-18; Quebec, QC.
 - Selected for and presented in SNL Poster Slam
 - Also presented at: *Vanderbilt Brain Institute Annual Retreat*; 2019 Sep 26; Nashville, TN. & *Vanderbilt Bill Wilkerson Center Combined Poster Session*; 2019 April 3; Nashville, TN.
- Lucanie JM, Schneck SM, Eriksson DK, Yen M, **Levy DF**, Quillen IA, Kam W, Davis LT, Kirshner HS, de Riesthal M, Wilson SM. Neurofunctional correlates of overall language function in aphasia [Poster]. *Annual Conference of the Society for the Neurobiology of Language*; 2018 Aug 16-18; Quebec, QC.
- **Levy DF**, Pelli D. Perception is sticky: How we see what “isn’t” there [Poster]. *New York University Undergraduate Research Conference*; 2014 April 25; New York, NY.

Educational talks

- Promoting scientific literacy through an interactive online module; 2020 May 20; Vanderbilt BOLD Fellows Celebration and Digital Symposium, Virtual.
- Research on aphasia groups; 2019 Oct 25; Aphasia Group of Middle Tennessee, Pi Beta Phi Rehabilitation Institute, Nashville, TN.
- Our research on aphasia (presented with Anna Kasdan); 2018 Sep 26; Aphasia Group of Middle Tennessee, Pi Beta Phi Rehabilitation Institute, Nashville, TN.
- Research on language and the brain; 2017 Sep 28; Aphasia Group of Middle Tennessee, Pi Beta Phi Rehabilitation Institute, Nashville, TN.

Local talks

- Music and arts program in Aphasia Group of Middle Tennessee: Implementation and research goals (presented with Anna Kasdan); 2019 Dec 19; Joint lab meeting of the Lense and Gordon Labs, The Curb Center at Vanderbilt University, Nashville, TN.
- Neural representation of phonemic categories in tonotopic auditory cortex - an update; 2018 Dec 7; Vanderbilt University Medical Center Department of Hearing and Speech Sciences Research Colloquium, Nashville, TN.
- Neural representation of phonemic categories in tonotopic auditory cortex; 2018 April 13; Vanderbilt University Medical Center Department of Hearing and Speech Sciences Research Colloquium, Nashville, TN.

TEACHING & CLINICAL EXPERIENCE

Teaching assistantships, various locations

- Cognitive Neuroscience of Language (HRSP 8379), Vanderbilt University Medical Center *Spring 2019*
- Introduction to Psychology (PSYCH-UA.1), New York University *Spring 2013–Spring 2014*

Guest lectures, Vanderbilt University Medical Center Department of Hearing and Speech Sciences

- Lesion-symptom mapping; 2021 February 23 (*Language and the Brain*, taught by Dr. Natalie Covington)
- Language production; 2020 October 8 (*Psychology of Language*, taught by Nicholas Tippenhauer)
- Categorical encoding of vowels in tonotopic auditory cortex; 2020 March 10 (*Cognitive Neuroscience of Language*, taught by Dr. Stephen Wilson)
- Categorical perception; 2019 November 18 (*Acoustics and Speech Perception*, taught by Dr. Antje Mefferd)
- Mapping semantic cortex; 2019 April 17 (*Cognitive Neuroscience of Language*, taught by Dr. Stephen Wilson)
- Language reorganization; 2019 April 3 (*as above*)
- Language lateralization II: Split-brain syndromes; 2019 Feb 28 (*as above*)
- Language lateralization I: The isolated hemispheres; 2019 Feb 25 (*as above*)
- Wernicke & Lichtheim (1874-1886), Part II; 2019 Jan 28 (*as above*)
- Wernicke & Lichtheim (1874-1886), Part I; 2019 Jan 23 (*as above*)

Clinical work, Pi Beta Phi Rehabilitation Institute

Spring 2017–present

- Act as communication partner and discussion facilitator for individuals with aphasia in Aphasia Group of Middle Tennessee (7-12 hours per week)
- Co-founder and co-leader of Arts and Music Group for Aphasia (with Anna Kasdan); lead visual arts-based activities and assist with choir for group members twice a month

GRANTS & FELLOWSHIPS

- Curb Center Public Scholars Program, \$4000 (2019-2021); Creating an arts and music community group to promote alternative self-expression in individuals with aphasia
- Vanderbilt University Center for Teaching Fellowship in Blended Online Learning Design, \$1000 (2019-2020); Promoting scientific literacy through an interactive online module
- Vanderbilt University Graduate School Honor Fellowship, \$5000 annually (2016-2021)

HONORS & AWARDS

- Coons-Leibowitz Award for Outstanding Undergraduate Teaching, \$2000 (2014)
- Alvin H. Zagor Memorial Scholarship for Students in the Humane Studies, \$1000 (2013)

PROFESSIONAL ACTIVITIES

Outreach

- Charter Member and Secretary of Graduate Women in Science, Nashville Chapter (2019-2020)
- Recruitment Committee, VUMC Department of Hearing and Speech Sciences (2019-2020)

Academic service

- Mock-qualifying exams committee (Anna Kasdan), Vanderbilt University Department of Neuroscience (June 2020)
- Mock-qualifying exams committee (Jane Burton), Vanderbilt University Department of Neuroscience (June 2019)

Membership in scientific societies

- Society for the Neurobiology of Language (2016-present)
- American Speech and Hearing Association (2017-present)
- National Student Speech Language Hearing Association (2017-present)
- Society for Neuroscience (2019-present)
- Cognitive Neuroscience Society (2019-present)

TECHNICAL SKILLS

- Proficient in MATLAB, Linux, R, support vector classification/regression, Freesurfer, AFNI, SPM, LaTeX
- Familiarity with Python, bash, signal processing, natural language processing

CERTIFICATIONS

- Certificate in College Teaching, 2020 (Vanderbilt University Center for Teaching)
- Machine Learning in Data Science, 2019 (Vanderbilt University Center for Quantitative Sciences, Summer Institute)
- TOEFL, 2015 (Oxford English Seminars)