
BIOGRAPHICAL SKETCH

NAME: Aboud, Katherine S.

eRA COMMONS USER NAME (credential, e.g., agency login): swettke

POSITION TITLE: Research Assistant Professor

EDUCATION / TRAINING

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Virginia Polytechnic University, Blacksburg, VA	B.S.	2005-2009	Mathematics, English
George Mason University, Fairfax, VA	M.F.A.	2009-2012	Creative Writing: Poetry
Vanderbilt University, Nashville, TN	Ph.D.	2014-2019	Neuroscience
Vanderbilt University, Nashville, TN	Post-doc	2019-2021	Neuroscience

A. Personal Statement

I am a Research Assistant Professor in Special Education at Vanderbilt University, and recipient of the NIH Director's Early Independence Award (2021). The goal of my research program is to characterize and enhance adult learning through high-definition, multimodal brain imaging and neuromodulation, with a specific focus on reading and related disorders. To accomplish this, I rely on my expertise in multimodal neuroimaging (MRI and EEG), neurocognitive models of reading and related disorders, and non-invasive brain stimulation. As PI of funded NIH and Department of Defense grants, I focus on three primary research goals: 1.) Individualized, high-definition (fused MRI-EEG) brain characterization of reading processes, 2.) Individualized, high-definition brain characterization of reading disorders, and 3.) Individualized, high-definition non-invasive brain stimulation to enhance learning from texts in populations with and without reading disorders. Additional projects include the use of big data analytics to examine structural brain patterns across the lifespan.

B. Positions and Honors**Positions**

2021-present Research Assistant Professor, Vanderbilt University, Department of Special Education
2010-2011 Instructor, George Mason University, Department of Creative Writing

Honors

2021 NIH Director's Early Independence Award
2021 1st place, xTech BOLT prize competition, US Army Medical Research and Dev Command
2020 NIH Outstanding Scholar in Neuroscience Award
2018 Elaine Sanders-Bush Award for Outstanding Neuroscience Research, Vanderbilt Brain Institute
2018 Best Oral Presentation, Vanderbilt Brain Institute
2018 Best Oral Presentation, Vanderbilt University Institute of Imaging Science
2017-2021 Learning Disability Hub Scholar, NICHD
2016 Student of inaugural National Center of Adaptive Neurotechnology summer course
2011-2013 Intramural Research Training Award, National Institute on Deafness and Other Communication Disorders, National Institutes of Health
2012 Teaching Mentorship Award, George Mason University
2009 Outstanding Poet Award, Virginia Tech

C. Selected Publications

- Katherine S. Aboud, Tin Q. Nguyen, Stephanie N. Del Tufo, Catie Chang, David H. Zald, Alexandra P. Key, Bennett A. Landman, Gavin R. Price & Laurie E. Cutting (2022). "Cortical tracking of rapid meaning processes during language comprehension." Manuscript under review.
- Katherine S. Aboud, Stephen Bailey, Stephanie Del Tufo, Laura A. Barquero & Laurie E. Cutting (2019). "Fairy tales versus Facts: Genre matters in the developing brain." *Cerebral Cortex*. DOI: 10.1093/cercor/bhz025.
- Katherine S. Aboud, Yuankai Huo, Hakmook Kang, Ashley Ealey, Susan M. Resnick, Bennett A. Landman & Laurie E. Cutting (2018). "Structural covariance across the lifespan: Brain development and aging through the lens of inter-network relationships." *Human Brain Mapping*. DOI: 10.1002/hbm.24359
- Katherine S. Aboud*, Laura A. Barquero* (co-first) & Laurie E. Cutting (2018). "Prefrontal mediation of the reading network predicts intervention response in dyslexia." *Cortex*. DOI: 10.1016/j.cortex.2018.01.009
- Katherine S. Aboud, Stephen K. Bailey, Stephen A. Petrill, & Laurie E. Cutting (2016). Comprehending text versus recognizing words in young readers with varying reading ability: Distinct patterns of functional connectivity from common processing hubs. *Developmental Science*. DOI: 10.1111/desc.12422
- Katherine E. Swett [Aboud]*, Amanda Miller* (co-first), Scott S Burns, Nicole Davis, Fumiko Hoefft, Stephen Petrill and Laurie E Cutting (2013). "Comprehending expository texts: The dynamic neurobiological correlates of building a coherent text representation". *Frontiers in Human Neuroscience*. DOI:10.3389/fnhum.2013.00853.

D. Research Support

Ongoing Research Support

- 1.) DP5 OD031843
NIH Director's Early Independence Award
"Bridging the gap between brain network science and high-definition non-invasive brain stimulation to develop a scalable adult literacy intervention."
The purpose of this grant is to develop a non-invasive brain stimulation protocol to treat low reading comprehension in adults.
Role: PI
Period: 09/01/2021-08/31/2026
Amount: \$1,952,000
- 2.) US Army Medical Research & Dev Command
xTechBOLT Prize Competition – 1st place prize winner
Enhancement of Classroom Medical Learning in the Army.
The purpose of this grant is to develop a proof of concept for the enhancement of medical learning via a novel non-invasive brain stimulation protocol.
Role: PI
Period: 12/03/2020 - 12/03/2021
Amount: \$500,000
- 3.) Curb Public Scholars program
Vanderbilt Curb Center
Visual and Written Narrative Storytelling of the Lived and Shared Experiences of Poverty
The purpose of this grant is to represent the experiences of individuals facing homelessness, and to promote these individuals' artistic works with Poverty and the Arts (POVA) in Nashville, TN.
Role: Consultant
Period: 09/23/2020 – 09/23/2021
Amount: \$2,000

Completed Research Support

- 1.) US Army Medical Research & Dev Command
xTechBOLT Prize Competition – Finalist
Period: 12/03/2020 - 12/03/2021
Amount: \$35,000

Enhancement of Classroom Medical Learning in the Army.

The purpose of this grant is to develop a proof of concept for the enhancement of medical learning via a novel non-invasive brain stimulation protocol.

Role: PI

2.) VR52660

Vanderbilt VICTR

Period: 03/29/2019-02/29/2020

Amount: \$2,000

Individual differences in reading comprehension ability: an fMRI and EEG study

The purpose of this research grant is to support fMRI and EEG research examining sentence comprehension processes in adults with varying reading comprehension ability.

Role: PI

3.) VR18122

Vanderbilt VICTR

Period: 06/16/2016-10/14/2016

Amount: \$2,000

Listening and reading comprehension in adults and children

The purpose of this research grant is to support pilot fMRI data collection examining reading comprehension of different types of texts in a range of reader populations.

Role: PI