

Georgetown University

COGNITIVE RECOVERY LAB

Issue 1 • Fall 2017

WELCOME

We are excited to present the first issue of the Cognitive Recovery Lab newsletter. You will find recent news about lab members, published research papers that you contributed to, events we have participated in, and descriptions of our current research studies. Thank you for being a part of our exciting work. Happy holidays!

-- Dr. Turkeltaub

RECENT NEWS

In 2017, Dr. Peter Turkeltaub was awarded the Norman Geschwind Prize from the American Academy of Neurology. He was also granted tenure at Georgetown University and was promoted to Associate Professor in the Department of Neurology. At the fall convocation of Georgetown University Medical Center, Dr. Turkeltaub received a Research Recognition Award. Graduate student Mackenzie Fama was selected to receive the Dr. Zofia Zukowska Award for Excellence in Thesis Research. Congratulations!



This fall, the lab was awarded a 5-year NIH grant to study brain mechanisms of language recovery after stroke.

NEW RESEARCH PUBLICATIONS

Shihui Xing published a paper in *Frontiers in Neurology* identifying distinct connections between brain areas (white matter pathways) supporting word-level and sentence-level auditory comprehension.

Elizabeth Lacey published a paper in *Neurorehabilitation and Neural Repair*. She examines the various language processes measured by a typical set of language tests and identifies

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relationships between test performance and brain structure.

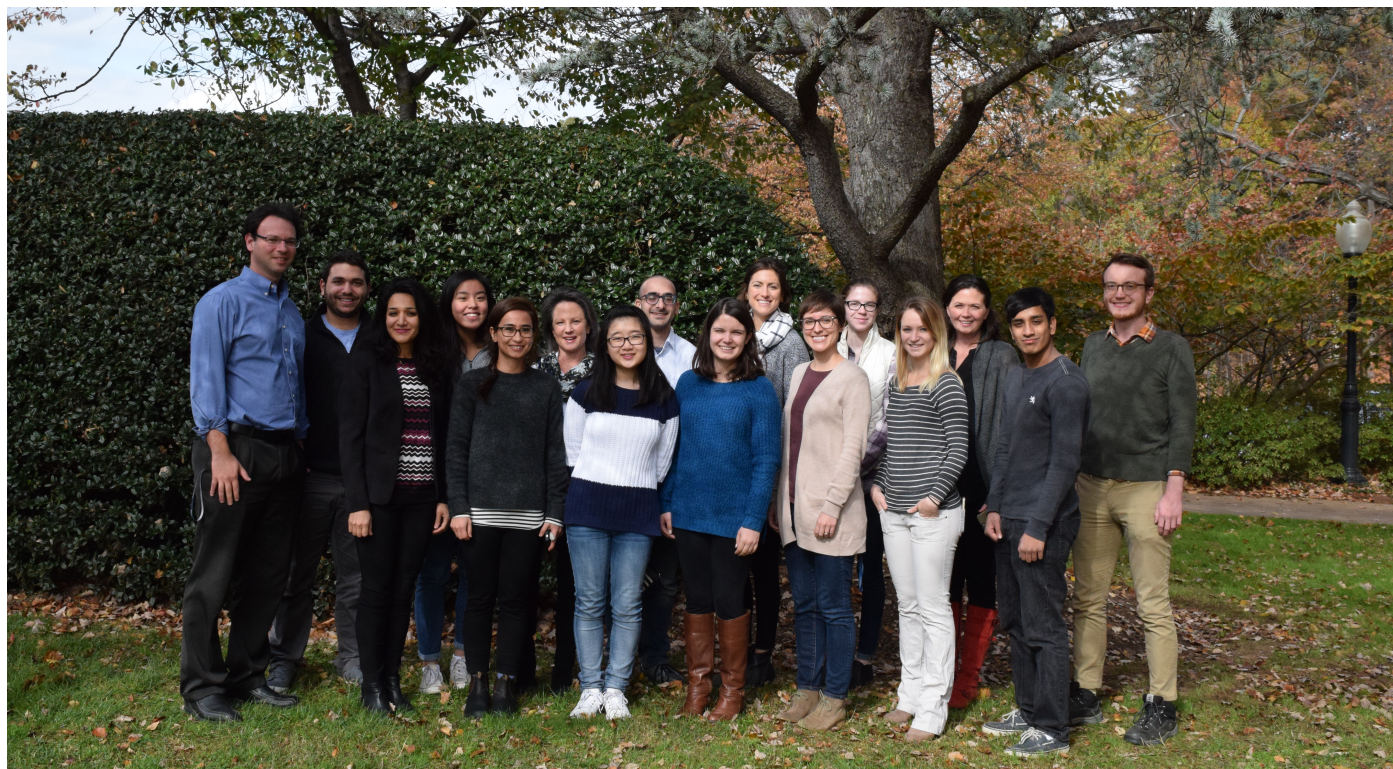
Laura Skipper-Kallal published papers in *Human Brain Mapping* and *Neural Plasticity* on the interactions between stroke location and the brain areas active during spoken naming, an important language ability.

Mackenzie Fama published a paper on her inner speech study in the journal *Brain and Language*. She identified brain regions associated with different experiences of inner speech reported by people with aphasia.

This work is only possible with the help of our participants, so we thank you for being a part of our studies! If you would like a copy of any of our published journal articles, please email us at crlab@georgetown.edu.

NEW LAB MEMBERS

Welcome to Andrew DeMarco, a postdoctoral researcher who received his PhD at the University of Arizona in December 2016, and Maria DeGraba, a research assistant who graduated from UNC Wilmington in May 2017. They are working together on a new aphasia treatment study (see next page, the CELIA study).



Cognitive Recovery Lab, November 2017

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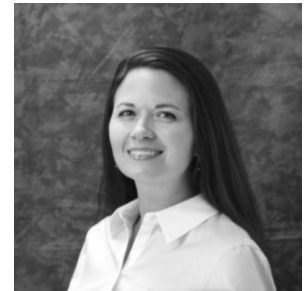
RECENT CONFERENCE PRESENTATIONS

Kelly Michaelis and Mackenzie Fama each gave oral presentations at **Student Research Day** on Georgetown's medical campus.

Members of the lab also presented ongoing research at three major conferences in November 2017. Undergraduate student Ayan Mandal gave a talk at the **Academy of Aphasia** in Baltimore, MD. Mackenzie Fama, Maryam Ghaleh, and Andrew DeMarco each presented a poster on their work at the conference. Mackenzie Fama presented a poster at the **Society for Neurobiology of Language** in Baltimore, MD. Andrew DeMarco presented a poster at the **Society for Neuroscience** in Washington, DC.

CURRENT STUDIES

We have two NIH-funded treatment studies going on in the lab and we are looking for participants. Both studies use a type of noninvasive brain stimulation called Transcranial Direct Current Stimulation (tDCS). It uses weak electrical currents on the head and has no known major side effects. This research is being done because tDCS has shown promise for improving various aspects of brain function, but there are very few good studies on whether it helps improve aphasia. The research will include tDCS, MRI, participation in computerized speech therapy, and tests of language and other abilities. Treatment can be done at your home, at MedStar NRH, or at Georgetown. Please call or e-mail Dr. Elizabeth Lacey (ehl4@georgetown.edu) if you are interested!



The CELIA study

- tDCS of cerebellum
- 4 weeks of therapy with a one-month break after 2 weeks
- MRI scans before and after each treatment period
- New, tablet-based therapy games developed by our post-doc researcher, Andrew



The TEASER study

- tDCS to an area of your brain determined by your MRI scan (personalized stimulation target)
- 3 weeks of therapy includes computer-based treatment while receiving stimulation
- MRI scans before and after therapy
- Follow-up testing at 1 week, 1 month, and 6 months

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