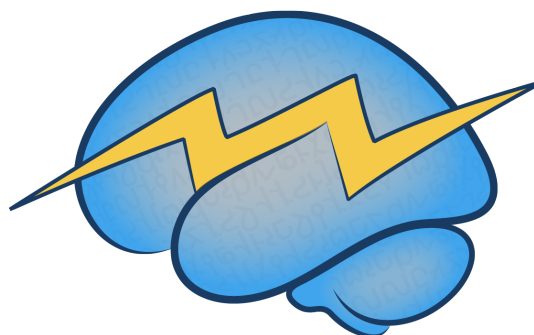


Georgetown University

# COGNITIVE RECOVERY LAB



Issue 3 • Summer 2019

## 2018 - 2019 HIGHLIGHTS

We've been busy since our last newsletter! This year we kicked off the BUILD study. Thank you to everyone who has participated so far! We finished recruitment for the TEASER and CELIA studies, and we hope to be able to share findings with you soon!



*Members of the Cognitive Recovery Lab, left to right. Front row: Sarah Snider, Candace van der Stelt, Maryah Ghaleh, Andrew Demarco, Josh Mccall. Back row: Peter Turkeltaub, Vivian Dickens, Kelly Michaelis, Stephen Tranchina, Liz Dvoark, Elizabeth Lacey, and Joey Posner. Not pictured: Kelly Martin.*

### **We're Recruiting for the BUILD Study!**

We are continuing to recruit participants for a large NIH-funded study on language recovery after stroke. See the last page of this newsletter for more information. Thanks for reading!

Need to update your contact information with us? Let us know!

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## RECENT NEWS

In July, Kelly Michaelis defended her dissertation on Speech Perception, and has received her PhD. She will begin a postdoctoral position with Dr. Leo Cohen this fall at the



*Kelly Michaelis with Dr. Peter Turkeltaub at her dissertation defense.*

National Institute of Neurological Disorders and Stroke. In May, Viv Dickens received an NIH grant to complete his Ph.D. thesis research on reading difficulties after stroke. This research will help us understand the basis of reading problems in people with aphasia. Also in May, graduate student Kelly Martin was awarded a one-year training grant through Georgetown's Neural Injury and Plasticity (T32) training program to conduct her research on language development after perinatal stroke. Congratulations to all of our students!!!

Two of our undergraduate research assistants graduated in May. Vanessa Lim graduated with a Bachelor's of Art from the Department of Human Science in the School of Nursing and Health Studies. Jennifer Zack graduated with a Bachelor's of Art from the Department of Psychology. Both Vanessa and Jenny will be working as clinical assistants before applying to medical school. We thank them for their commitment to the lab and wish them both the best for their futures!

Congratulations to Liz Dvorak for graduating with her Master's in Psychology from the Department of Psychology from American University last December. Her knowledge has been a huge contribution to the lab! Research Assistant, Stephen Tranchina, left the lab but is staying at Georgetown University to pursue a medical degree at Georgetown University Medical School. We thank him for all of his support to the lab and wish him the best in medical school!

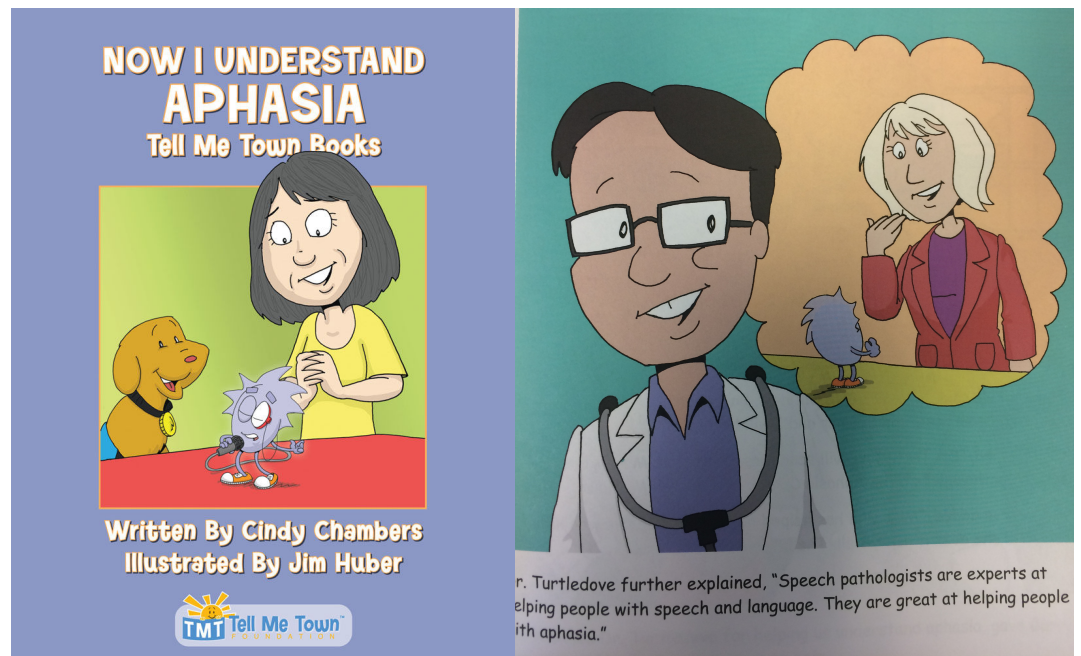
Postdoc Andrew Demarco was named the 2019-2020 Fellow for NIH's Stroke National Capital Area Network for Research (SCANR). This award will support Andrew's continued research on understanding the effects a stroke can have on spared neural tissue. This research may help give a better understanding of why certain strokes can cause certain impairments in aphasia.

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Dr. Turkeltaub appears as a character, “Dr. Turteldove,” alongside Darlene Williamson from the Stroke Comeback Center (“Ms. Will”), in a new children’s book on aphasia. The book is called “Now I Understand Aphasia” and is available on Amazon.com.

*Dr. Turkeltaub and Darlene Williamson in the new children’s book on aphasia.*



## ALUMNI NEWS

In alumni news, prior graduate student Mackenzie Fama finished her first year as an Assistant Professor in the Department of Speech-Language Pathology at Towson University. In addition, William Hayward, also a prior graduate student, welcomed a baby girl, Matilda Josephine Hayward, born April 1, 2019. William is currently a Resident in Neurology at Georgetown University Hospital.

## WELCOMING NEW LAB MEMBERS

We are excited to have new graduate students in the lab. Joey Posner joined the lab last year. He is an M.D./Ph.D. student, and is co-mentored by Drs. Rhonda Friedman and Peter Turkeltaub. He is studying the way that important brain regions talk to each other when we read words, and how this communication changes after a stroke.

Josh Mccall, an M.D./Ph.D. student, joined us this past spring semester. Josh is studying how people with aphasia detect errors in their speech. We hope this may lead to new treatments to improve the ability to recognize and correct errors.

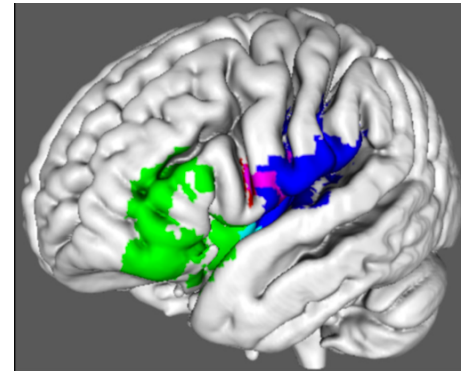
We are also excited to welcome new post-doc, Dr. Davetrina “Seles” Gadson, to the lab. Seles completed her Ph.D. in Communication Sciences and Disorders at the University of Georgia in May 2019. When she joins us in September 2019, she will study how racial and socioeconomic factors impact the brain-basis of aphasia recovery after stroke. Welcome, Joey, Josh, and Seles!

Joey (left), Josh (middle), Seles (right)



## NEW RESEARCH PUBLICATIONS

Graduate student Viv Dickens published a paper in the *Journal of Neuroscience*. Most people with aphasia have some difficulty reading. Viv's paper examined how stroke location affects reading abilities. Reading unfamiliar words relies more on motor areas (red & magenta) than familiar words. Reading words with regular spellings (like “mint”) relies more on sensory (blue) and motor areas (blue & magenta) compared to words with irregular spellings (like “yacht”). Words with concrete meanings (like “car”) are often easier to read than words with abstract meanings (like “truth”). This advantage for concrete words relies on frontal brain regions (green).



Mackenzie Fama published three papers this year on inner speech in aphasia. Her results show that “successful inner speech” (the feeling that you can say a word silently in your head) in aphasia is meaningful. This feeling relates to knowledge of the sounds of words, but does not relate to the ability to pronounce speech correctly. This research validates what people with aphasia tell their doctors and speech therapists every day. Her results are also important for our understanding of what inner speech is, and may help develop new treatments for aphasia.

Peter Turkeltaub co-authored three additional collaborative papers this year. One, published in *Human Brain Mapping*, identified critical brain regions associated with HIV

and HIV-associated cognitive disorders. This may help improve diagnosis and treatment of cognitive impairment associated with HIV. The second paper, published in *Neuroimage*, showed that different brain regions are activated when learning words versus grammar in a foreign language. Another, published in *Cerebral Cortex*, used transcranial magnetic stimulation to demonstrate that “hub regions” in the frontal lobe are particularly important for working memory.

This work is only possible with the help of our participants, so we thank you for your contributions! Please email us at [crlab@georgetown.edu](mailto:crlab@georgetown.edu) if you have any questions or if you would like a copy of any of our publications.

## RECENT CONFERENCE PRESENTATIONS

- Andrew DeMarco presented a poster at the biennial Conference on Brain Connectivity in Montreal, CA in September 2018.
- Peter Turkeltaub gave a talk and Maryam Ghaleh presented a poster at the Academy of Aphasia meeting in Montreal, CA in October 2018.
- Peter Turkeltaub gave a talk and participated in a symposium about brain plasticity and aphasia recovery at the **American Speech-Language Hearing Association Convention** in Boston, MA in November 2018.
- Elizabeth Lacey and Candace van der Stelt presented a poster at the annual **Aphasia Access Leadership Summit** in Baltimore, MD in March 2019.
- The lab presented four posters at the **American Academy of Neurology Conference** in Philadelphia, PA in May 2019, including posters presented by Liz Dvorak and Andrew DeMarco.
- Peter Turkeltaub was the keynote speaker at the **Clinical Aphasiology Conference** in Whitefish, MT in May 2019.
- Candace van der Stelt and Sarah Snider presented a poster at the **American-Speech-Language-Hearing Association’s Healthcare Connect Conference** in Chicago, IL in July 2019.
- Vivian Dickens, Maryam Ghalah, and Kelly Michaelis traveled to Helsinki, Finland in August 2019 to present posters at the **Society for the Neurobiology of Language Conference**.

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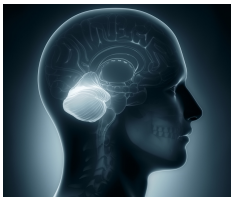
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## THANK YOU TO OUR PARTICIPANTS

Thank you to all of the people who participated in our studies this past year! We so appreciate the time and energy you commit to making our studies possible. We finished enrollment for the CELIA study and are currently analyzing the results! We also finished enrollment for the TEASER study! TEASER is a collaboration with a lab at University of North Carolina, and we're currently waiting for them to finish enrollment. Also, thank you to those who have participated in kicking off the BUILD study this year!

## CURRENT STUDIES

We are currently enrolling participants for our NIH-funded study called **BUILD**. We are looking for people who have had a left hemisphere stroke, as well as healthy individuals to be control participants. What is the **BUILD** study about? Keep reading!



Have you ever wondered why you recovered so well after your stroke? Have you wondered why you didn't recover as well as you'd hoped? Have you wondered why your strengths and weaknesses are so different from other stroke survivors you meet? In **BUILD**, we're studying whether these differences are due to the nature of your stroke and also the strength of brain structures and connections that were not affected by your stroke. By understanding these "individual differences" in language and the brain, we hope in the future to predict who will recover well and who may need extra help after their stroke. We also hope that **BUILD** will guide us toward new targets for brain stimulation treatment in the future. Participation requires a few sessions of language testing and an MRI scan.

Please call or e-mail Dr. Elizabeth Lacey (Elizabeth.Lacey@georgetown.edu or 202-877-1124) or Candace van der Stelt (cv486@georgetown.edu or 202-687-5205) if you are interested in participating.

### The BUILD Study

- Brain-based Understanding of Individual Language Differences after stroke
- 4-5 sessions of language, speech, and cognitive testing (at Georgetown or NRH)
- One MRI scan (at Georgetown)
- Help us understand more about aphasia and the brain
- After the study, you will receive a report with our observations about your language abilities and pictures of your brain

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