Summer 2018 Newsletter

APHASIA AND NEUROLINGUISTICS RESEARCH LABORATORY
CENTER FOR THE NEUROBIOLOGY OF LANGUAGE RECOVERY
Director:
Dr. Cynthia K. Thompson

Newsletter Contents:

A Ground-breaking International Collaboration Strives to Improve Stroke-related Healthcare in China

By Jiayi Lu (undergraduate student at NU and CNLR researcher) and Dr. Matthew Walenski (CNLR Research Associate).

In the Fall of 2012, Dr. Cynthia Thompson (Director, Center for the Neurobiology of Language Recovery (CNLR) and Ralph and Jean Sundin Professor of Communication Sciences and Disorders at Northwestern (NU)) and Professor Liqun Gao (Dean of the new School of Communication Science at Beijing Language and Culture University (BLCU)) developed the Joint NU/BLCU Center for Aphasia in China and launched a research project addressing language and brain recovery in Mandarin-speaking people with chronic aphasia. The project, focused on recovery of sentence processing in a tonal language, is the first of a series of research and clinical projects the Center will undertake to help Chinese people with aphasia.

The project is now well underway and, following China's announcement of its increased commitment to treatment for people with aphasia, it has received generous support from the Chinese Government. Indeed, the incidence of stroke and stroke mortality in China are among the highest in the world. According to the 2017 China Stroke Prevention and Treatment Report, over 12 million people in China 40 years of age or older, have had at least one stroke, resulting in chronic physical and cognitive disorders in over 8 million people. There are approximately 2 million new stroke patients in China every year and many survive.

During the 18th National Congress of the People's Party of China, President Xi announced that China aims to vastly improve its heath care system, with a goal to become one of the best in the world by 2030. Toward this end, the Chinese government began a newly developed "Standardizing Clinical Practice 3-year-plan" in 2018 for stroke prevention and treatment in China. As part of this initiative, Dr. Thompson, together with Professor Gao, held two (of four) workshops in China in 2018 to train therapists who work with people with aphasia to administer language assessment and treatment protocols developed, and shown to be efficacious, for English speaking patients by Dr. Thompson and colleagues. Dr. Min Liao, from Beijing, worked in the CNLR from 2015 to 2017 to prepare these protocols for Mandarin speakers, which are now ready for use in China. The third workshop will be held in August 2018 in Qiqihar, China, featuring lectures on aphasia assessment and treatment by Drs. Audrey Holland (Professor Emeritus, University of Arizona) and Swathi Kiran (Boston University), together with Dr. Thompson. The final workshop in October will focus on neuroimaging, featuring Drs. Elena Barbieri and Todd Parrish, from the CNLR research team.

The Tianjin city government also has dedicated a new building to the Joint NU/BLCU Aphasia Center. The building will have state-of-the-art clinics and research laboratories, with equipment to study the effects of aphasia treatment. Professor Gao and Dr. Thompson are working together to design the new clinical and research space. Dr. Thompson also travelled to China in June 2018 to present the keynote address at the 4th Annual Scientific Meeting of the Chinese Stroke Association (pictured above) and presented the results of her research at the Tiantan Hospital Annual Stroke Conference. Tiantan Hospital is the largest and most prestigious facility focused on treatment and research of neurological disorders in China.

Support Group Info & People to Know

Support Group Meetings

General Information:

Aphasia Support Group Meetings are held the first Thursday of each month (except for Janurary and August) from 12:00pm to 1:00pm in Room 1-530 of the Center for Audiology, Speech Language, and Learning Building - 2315 Campus Drive. Please contact Mary Cosic for more information at 847-467-7591 or m-cosic@northwestern.edu.

Public Transportation:

The lab is located three blocks east of the Noyes Stop on the Purple Line.

CTA: 1-888-968-7282
www.transitchicago.com

RTA: 1-312-836-7000
www.rtachicago.com

Upcoming Meetings:

July 5th

September 6th

October 4th

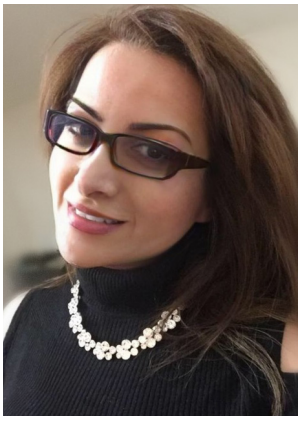
November 1st

December 6th

Do you have a story to tell?
We'd like to know!

If you would like submit a piece to be featured in an upcoming ANRL newsletter, please contact Kathy at 847-467-7591. Possible topics include: tips and advice, hobbies (e.g. cooking, crafts, etc.), health, research, and your personal experience with aphasia.

Spotlight a Stroke Survivor: Volunteer Emma Maxwell



Emma started volunteering at the Northwestern Aphasia and Neurolinguistics Laboratory in July 2017, only a few months after she, herself, had a stroke that left her with aphasia. One day in January, 2017, while on vacation in Dubai, she awoke with a feeling of numbness on the right side of her body (both her arm and leg), and her speech did not make sense. She immediately went to the hospital, but the doctors in Dubai had difficulty recognizing that she had had a stroke because she showed no motor weaknesses in her face (i.e., drooping of one side). Ultimately, they realized that stroke does not always affect the facial muscles, and the diagnosis of stroke was confirmed. Emma was hospitalized and given medication to prevent another stroke. Early post-stroke she was only able to use single words and simple phrases to express basic needs. She could understand information better than she could produce it, but it took effort to fully process what people said. During her hospital stay and after, Emma's motor skills improved remarkably with very little physical therapy. Her speech was another story. Although significantly impaired, treatment programs for adult aphasia in Dubai were essentially non-existent. Hence, Emma received speech-language therapy protocols developed for children. Nevertheless, Emma perservered. She practiced speaking as much as possible and found apps to help her re-learn how to produce the sounds of letters. Determined, she worked on her speech for months, all the while maintaining a positive outlook:

"Brain stroke isn't the end result. If you woke up one day with a stroke, then be sure that this is not how your life is going to end up this way! The healing isn't easy! But know that you are going to heal."

After returning home to the United States, Emma looked for centers and programs for aphasia treatment when she discovered Northwestern, our lab, and support group. After attending multiple support group sessions, Emma asked to be involved in the lab, expressing that she viewed this as a way to help people with aphasia. She said: "I can't really help the people with aphasia or develop treatments that are helpful, but I can help people who are helping people. That's your lab, and I want to help". Emma now works with a team in the lab to plan our monthly Aphasia Support Group meetings and develops sections of our lab newsletter. She expressed that work in the lab also has been helpful for her, opening her eyes to different treatments for stroke recovery and resources for aphasia treatment.

It's true that Emma's stroke affected her ability to understand and produce language, but it also allowed her to become a stronger, more people person. The difficulties she experiences during early recovery allowed her to better understand the difficulties other people with aphasia experience. Her stroke and aphasia also helped her to realize that she wanted to help others, understanding firsthand how devastating it can be to lose the ability to communicate effectively and how things improve over time. She acknowledges that while her stroke greatly changed her life, it did not end it, and many new experiences and opportunities await. Emma notes that one of the highlights of volunteering in the lab is seeing the hope inside the patients' and their families' eyes as she talks about her journey. She said, "I thought if I could inspire and give hope to one person then my heart will be happy!" Emma plans to continue volunteering in the lab, pursuing her goal of returning to her work as a physical trainer, and not ruling out one day climbing Mount Everest!

People to Know (cont.) & Current Events

People to Know: Undergraduate Research Aides

Caitlin Somerville

Caitlin is a junior at Northwestern majoring in Neuroscience. She has been working at the Aphasia Lab since January 2018, helping enter, organize, and analyze data, transcribe and code speech samples, develop stimuli for eye-tracking experiments, and run EEG experiments. She hopes to attend medical school in the future and is currently interested in pursuing obstetrics and gynecology. In her free time, she likes to watch hockey, listen to music, and spend time with friends.

Olivia Schmidt

Olivia is a senior at Butler University, majoring in Communication Sciences and Disorders with a minor in French. Olivia has been volunteering at the NU Aphasia Lab since May 2018. She provides language treatment, helps create stimuli for experiments, and analyzes data. Her fascination in aphasia developed through the Butler Aphasia Community, an aphasia support group where she helped facilitate conversations. Olivia plans to attend graduate school in Speech-Language Pathology. In her free time this summer Olivia is looking forward to spending time at the beach and going on bike rides.

Isabella Vavra

Isabella Vavra is a sophomore at Northwestern. She is majoring in Communication Sciences and Disorders but is also interested in English, French, literature, and cognitive science. She has been working in the Aphasia Lab since April 2018. She develops auditory stimuli for experiments, keeps the lab organized and helps put together the newsletter. Bella intends to attend graduate school in Speech-Language Pathology. In her free time, she enjoys reading, watching Netflix with friends, and being involved in the Northwestern community.

Caroline Baginski

Caroline is a junior at Northwestern majoring in Communication Sciences and Disorders. She has been volunteering at the Aphasia Lab since April 2018. She is helps create experiments that test sentence production and comprehension. Caroline aims to pursue a Master's in Speech-Language Pathology. She is excited to create long-term relationships with her patients and see them grow in their treatment and as individuals. In her free time, Caroline enjoys discovering new music, dancing, and exploring hole-in-the-wall restaurants with her family.

In The News

A Virtual World for People with Aphasia

A new therapy tool is being tested in the UK called "Eva Park", which is a virtual world created just for people who struggle with aphasia. This tool can be used to practice conversations and real world interactions, to practice describing things seen or done, or even to facilitate aphasia support groups virtually. The therapy has also been found to improve mood and encourage play and laugher with therapy, which is important in a condition with a high rate of depression. (https://www.aphasia.org/stories/virtual-world-people-with-aphasia/)

Could this drug help the brain recover after a stroke?

Researchers at Yokohama City University are testing the effectiveness of a potential new post-stroke recovery drug called edonerpic maleate. The drug works to improve neuroplasticity by strengthening brain cell connection and by providing nourishment to the parts of the brain involved with forming these connections. In monkeys who had experienced strokes, the ones who had been injected with the drug prior to therapy displayed better dexterity and overall better recovery than the monkeys who had not received the drug. This drug could eventually be used to help enhance therapy for stroke patients. (http://www.latimes.com/science/science-now/la-sci-sn-brain-recovery-stroke-20180406-story.html)

Oprah's and Einstein's Faces Help Spot Dementia

New Northwestern Medicine research is working to develop a facial recognition test that is tailored to younger people (40 to 65 years old) in order to help identify signs of early-onset dementia. The study tested people with primary progressive aphasia, as well as neurotypical participants, and involved an MRI scan. This test may also help us to understand how the brain works in calling to mind words and objects. (https://news.northwestern.edu/index.php/stories/2013/08/oprahs-and-einsteins-faces-help-spot-dementia/)

Stroke rehab study uses neurostimulation to 'rewire' the brain, improve recovery

A clinical trial at the Ohio State University Wexner Medical Center is testing the use of a neurostimulator, called a vagus nerve stimulator, to improve motor function in stroke patients. The stimulator, when activated, causes neurotransmitters to be released, which make the brain more susceptible to forming new neural connections. Activating this device during physical therapy could allow new skills and abilities to be learned more quickly, and effectively speed up therapy and recovery for patients. (https://news.osu.edu/news/2018/05/02/stroke-rehab-study/)

Activities Corner

Brain Sudoku

This puzzle can be solved with logic and without guessing. Each box should have a letter from the words T O P B R A I N S. Each row must contain only one of each letter; each column should contain only one of each letter; each of the nine 3x3 boxes should contain only one of each letter. If you can solve this puzzle, then you join the special group of "TOP BRAINS."

S	N				P			I
		O			T		S	
			N		B		O	A
I		B		P				R
	T		S	R	N		A	
A				B		S		T
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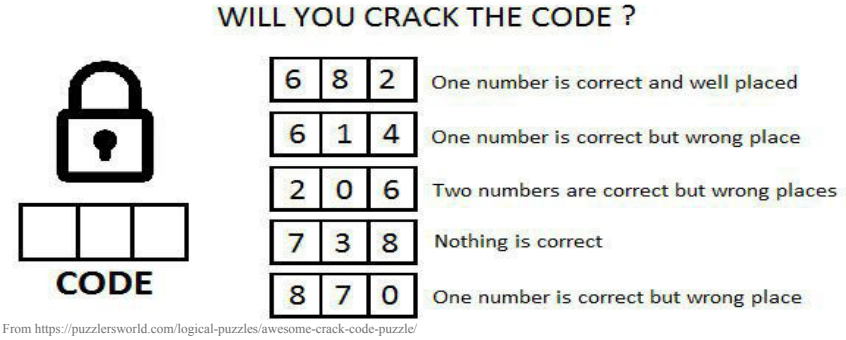
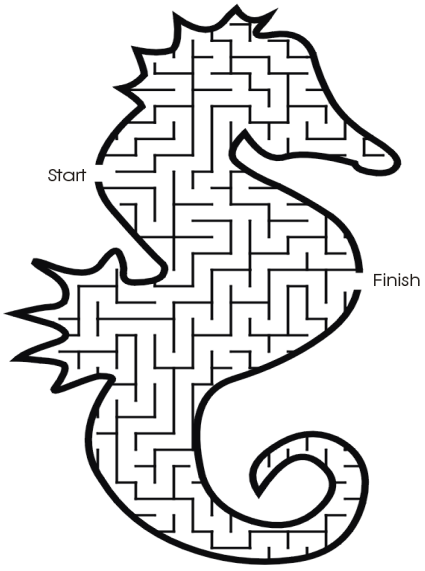
https://faculty.washington.edu/chudler/pdf/S1.pdf



From https://puzzlersworld.com/logical-puzzles/awesome-crack-code-puzzle/



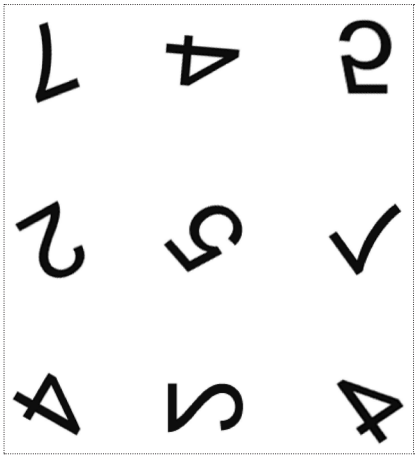
From http://www.printactivities.com/Mazes/Shape_Mazes/Seahorse-Maze.html

Mental Rotation Brain Teaser

Here is a brain teaser to stimulate your mental rotation cognitive skills.

For each number in the matrix below, decide whether it is a normal or reversed number, as in this example:

4 normal ↄ reversed



From https://sharpbrains.com/blog/2014/06/09/test-your-cognitive-skills-with-visual-brain-teasers/

Riddles

Q1. What starts with an "e," ends with an "e," and contains one letter?

Q2. I travel all over the world, but always stay in my corner. What am I?

Q3. What has 13 hearts, but no other organs?

Q4. What kind of coat is always wet when you put it on?

from https://www.rd.com/jokes/riddles/

Answers
Riddle - Q1: Envelope Q2: A stamp Q3: Deck of cards Q4: A coat of paint
Number reversal - Row 1: normal, reversed, reversed
Row 2: normal, normal, reversed
Row 3: normal, reversed, reversed
Code - 042