The brain. An organ that has captivated us for as long as its existence has been known. An organ which over the centuries has seen its share of stories steeped in mythical beliefs, pseudo-science and (more rarely) true facts. Before the age of modern technology, its function and structure could only be accessed through invasive procedures (post-mortem or in-vivo) or indirectly, through observational means. However, with the invention of imaging techniques, new insights (and new myths) have seen the light. We can study the functioning brain while individuals perform all kinds of different tasks. We can make assumptions about what those activations mean based on our current understanding of what is involved in those tasks. Some recent technology even allows us to look at brain activity in direct temporal synchrony with movements of speech articulators. Most certainly, we will see more exciting developments happening in the future, including in the area of speech-language pathology as some of the examples showcased in this newsletter will indicate. Let’s enjoy this journey in to the mysteries of the brain and mind!

Pascal van Lieshout, Chair

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Tijana Simic (aka Tina) is a PhD candidate in Professor, Elizabeth Rochon's Language Sciences Lab. The focus of her research is to investigate predictors of aphasia recovery that can be critical to treatment success. She is particularly interested in how executive control and learning principles can inform treatment. The ultimate aim of her work is to modify and/or develop more personalized and effective treatment programs for stroke survivors with communication difficulties. Tina graduated from the MHSc SLP clinical program in 2012 and worked clinically in an outpatient stroke setting for six years.

We asked Tina what drew her to speech-language pathology, her current research interest and what advice she would give her peers who are considering the transition from "the clinical stream" to "a research stream"...

"During my undergraduate studies, I read a novel in which the protagonist was an SLP. I was drawn to the protagonist’s description and philosophy of the profession, which led me to look into it further. I am fascinated with the inner workings of the brain, and enjoy poring over case studies such as those described in ‘The Man Who Mistook His Wife For a Hat’ (by Oliver Sacks) or the ‘Mind of the Mnemonist’ (by Alexander Luria), which are personal favourites. When I started working with stroke survivors in various contexts, I was enchanted by the personal stories and life experiences they shared with me. Knowing how much I’ve been able to learn from them is a very powerful motivator for pursuing research that might help stroke survivors share their experiences with others.

Researchers with a clinical background are highly valuable and much needed in the continued development and evolution of our profession. Pursuing a degree in research is a challenging but a rewarding long-term commitment. My advice to clinicians and clinicians-in-training interested in research is to carefully consider what fuels their curiosity and passion in their work, as this is what will sustain and motivate them to push forward in their research."
Can We Actually Map Successful Speech Therapy In The Brain?

As Speech-Language Pathologists, researchers and even caregivers of children with speech impairments, we have often wondered: “What does speech therapy actually do? Do we somehow change how the brain works?”

Status appointed Adjunct Lecturer, Aravind Namasivayam, PhD from the Oral Dynamics Lab, Department of Speech-Language Pathology, and a co-author on two recent cortical plasticity papers on children with motor speech disorders proposes that “speech motor intervention does alter children’s brain structure, connectivity and function”.

Aravind is thrilled about the preliminary findings, as the studies are the first to explain how and why a speech motor intervention produces its effects. He suggests that the discovery of "Mode of Action" (MoA) for motor speech intervention (specifically PROMPT) in children will (with further research) allow us to (1) identify populations with speech disorders that are most likely to respond to intervention, (2) modify intervention procedures (such as dosage) to replicate the neural effects, and (3) monitor and avoid adverse neural and behavioural outcomes.

If you are interested in learning more; the full post “Does Speech Motor Intervention Alter Brain Structure and Function?” can be found on the SLP website.

Chhib et al., 2016; Fiori et al., 2018; Kadis et al., 2014; Yu et al., 2018.

Mark Your Calendar

+ March 30 - Research Colloquia

+ April 23 - Guest Speaker