

Translating stroke data to help people recover their ability to read and process language

Fast Takes – Episode 13

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JOAN BANKS-SMITH: 00:08 Welcome to a FastTakes *Women in Science* podcast honoring the International Day of Women and Girls in Science. Celebrated on February 11th, this United Nations initiative recognizes the critical role of women and girls in science and technology communities and calls for strengthening of their participation in STEM fields. Did you know that today just 30 percent of researchers are women and only 35 percent of all students enrolled in STEM-related fields of study are women. At Kessler Foundation, 70 percent of our staff are women, making major contributions to the advances we achieve in rehabilitation research that changes the lives of people with disabilities. This is your host, Joan Banks-Smith, creative producer here at Kessler Foundation. In this episode, I had the chance to talk to Dr. Oglia Boukrina, a research scientist in our Center for Stroke Rehabilitation Research. Welcome to the show, Dr. Boukrina.

OLGA BOUKRINA: 01:12 Thank you.

BANKS-SMITH: 01:13 Dr. Boukrina, can you tell us about your work at Kessler Foundation?

BOUKRINA: 01:18 I work with stroke patients who had a unilateral brain injury, studying their cognitive deficits and specifically whether they're able to speak and read. And we also studied their attention.

BANKS-SMITH: 01:32 How did you actually get into this field?

BOUKRINA: 01:34 I've always been interested in psychology. It always fascinated me. I had a chance to take psychology in high school and learned about Freud and Erikson and Maslow. And then in college, I studied cognitive psychology, working with some of my professors closely in their laboratory work. So I've always been interested in psychology in particular, and then lately interested in how people recover after a brain injury such as stroke.

BANKS-SMITH: 02:06 During your formal education, did you have any mentors in coursework that helped shape your desire to pursue the field you're in today?

BOUKRINA: 02:13 I completed my undergraduate degree at Binghamton University and I studied psychology there. I worked closely with a mentor whose name is Dr. Kenneth Kurts, studying human learning and how people use comparison and learning these. These are all concepts very important for education. We used to have a lot of brainstorming sessions and that taught me how to think critically, how to develop research ideas, how to pursue them. Then I completed my doctoral work at Rutgers University working with Steven Catherine Hansen. There I studied cognitive neuroscience, specifically looking at the neural basis of language processing and in particular looking at how people learn and process two languages when they're bilingual. That was a question I pursued in my dissertation work. I also completed postdoctoral work at Rutgers University with Dr. William Graves, and there we were also looking at language processing and reading, getting more in depth in terms of models of reading

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and how they square with which parts of the brain supports different components of reading. And then from that, that was an easy transition to start looking at stroke and how does stroke impair our ability to process language and read words and what components specifically a stroke impairs when it occurs in a particular part of the brain. And now I'm also trying to translate this knowledge, these theories that we've studied, into specific ways and how we can help people regain or recover some of the lost ability to read and process language.

BANKS-SMITH: 03:56

What is the most memorable thing that has happened to you while working in science?

BOUKRINA: 03:59

There's meeting people that you only read about in their manuscripts and papers, and then you meet your hero. That's very kind of memorable and impressive. For me, it was Ken Heilman, for example, or Dedre Gentner, some of the great scientists of our time. Funny memory from my past experiences when I was doing my graduate school interview and I was very nervous, and I had a meeting with Harold Siegel, who was the chair of the psychology department at the time at Rutgers University. I was super nervous but he made it-- he put me at ease by asking me about my hobbies, and we ended up talking about knitting for ten minutes [laughter].

BANKS-SMITH: 04:40

Well, that's certainly a different, I would have say.

BOUKRINA: 04:44

That was great on his part because it completely took away my nervousness. Then we talked about other things, but it was really helpful.

BANKS-SMITH: 04:52

Well, thank you so much for spending time with us today. We really appreciate it.

BOUKRINA: 04:55

Okay, thank you.

BANKS-SMITH: 04:57

To learn more about Dr. Boukrina, the Center for Stroke Rehabilitation Research, and Kessler Foundation, check out the links in the program notes. Tuned into our podcast series lately? Join our listeners in 90 countries who enjoy learning about the work of Kessler Foundation. Follow us on Facebook, Twitter, and Instagram. Listen to us on Apple podcast, Spotify, SoundCloud or wherever you get your podcasts. This podcast was recorded on Monday, January 18th, 2021 remotely and was edited and produced by John Banks-Smith, creative producer for Kessler Foundation.