



# RESEARCH2REALITY

Shining a light on research & innovation.

## Bringing Accessible Design Within Reach

An Interview with **Denise Henriques**, Health Scientist, York University  
York University, Vision: Science to Applications (VISTA)

I'm particularly interested in the arm motor system and how the brain controls that. We're talking about really simple, point-to-point reaching. So I point to here, and I get to another target. This has a lot of complex issues. We have to localize where this object is, where I want to get to, and figure out how we're going to move in order to get there. We can use this as a model to understand more complex movements.

### How does your research work?

In my research, usually we have people try to move a cursor that represents our hand onto different targets. So we have a target, they have to move their hand toward it to acquire that target. This involves multiple processes: they have to be able to assess where that target is, be able to figure out where that location is, and figure out the correct movement toward it.

We manipulate that information. We manipulate the location of the target, we manipulate where they see their vision, the visual feedback of their hand, in order to understand how people are able to cope and adapt to these different circumstances. How quickly, how long they're able to persist in this, whether we see changes in these processes across different populations.

I'm interested in seeing how these processes change with age or in patients who suffer from disease or damage, particularly to their cerebellum. Or in the case of basal ganglia, an area that's atrophied when people suffer from Parkinson's disease. Because damage to the cerebellum and Parkinson's disease are associated with motor deficits, and there are very prevalent kinds of conditions in our older population. So it will be really important to understand their contribution to motor control and motor learning.

