



RESEARCH2REALITY

Shining a light on research & innovation.

'Cutting to the Heart of Free Will and Human Nature'

An interview with **Jeffrey Schall**, Neurophysiologist, York University
Scientific Director, Neurophysiology Centre, Vision: Science to Applications
(VISTA)

Our research program is interested in how the brain makes decisions and guides actions, so we present our subjects with choices. Those choices transpire through time, and sometimes moving too quickly leads to an error. You feel the sense of 'oops' and we want to understand where in the brain that feeling of 'oops' comes from, and how next having made that mistake you correct actions in the future.

We investigate that using eye movements in the visual system because it's such a solid platform. We know more about the visual system in the eye than any other system. I've been fortunate to navigate an intersection between neuroscience and psychology. broadly speaking. So there are problems that psychologists have articulated that they can't answer because they don't have access to the brain. There are questions that neuroscientists have developed that have no psychological implementation yet because they don't know how it works. And so finding the places where that intersection comes together and a bridge can be built creates real opportunities for synergy, breakthrough, and useful implementation.

What is the future promise of your research?

The questions we are interested in cut to the heart of free will and human nature. If all we do is neurons discharging and muscles contracting, where's

