Tom Slick Research Award in Consciousness recipient has MSF-funded research published in prestigious journal *Science*

The January 1, 2010, issue of *Science* magazine featured the article, "Reproducibility Distinguishes Conscious from Nonconscious Neural Representations," based on research by Aaron Schurger -- with credit to the "Mind Science Foundation" in the acknowledgements section.

The article is based on Dr. Schurger's MSF-funded research, "Comparing the Distributed Pattern of Neural Activation in Response to Perceptual Events With and Without Awareness." Dr. Schurger was a 2005 recipient of a Tom Slick Research Award in Consciousness. The article also appeared in the November 12, 2009, online version of *Science* magazine, *ScienceE xpress* as "Distinguishing Conscious and Unconscious Brain Signals."

This study, jointly conducted by Dr. Schurger, Francisco Pereira, Anne Treisman, and Jonathan D. Cohen, all of Princeton University, produced findings that, according to *Science*, "may help researchers assess the consciousness of patients who have been under anesthesia or in a

coma, and they may also be useful for studying brain function in conditions like schizophrenia, autism and dissociation disorders." Dr. Schurger's research technique involves using functional magnetic resonance imaging (fMRI), "to record brain activity patterns while volunteers performed a simple visual category discrimination task" (
Science
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Aaron Schurger's research is primarily focused on sensory awareness and its relationship to perception and attention. The brain can process information from the senses to a remarkable level of abstraction, without that information necessarily being accessible to awareness. Dr. Schurger is interested in comparing the neural dynamics that accompany perception-with-awareness with those that accompany perception-without-awareness. Specific areas of research include the role of neural synchrony in attention and awareness, "blindsight" (the ability of some cortically-blind patients to guess remarkably well regarding visual stimuli that they cannot see), and localized versus distributed correlates of awareness (using fMRI pattern-classification techniques).

Dr. Schurger Thanks MSF and MSF Donors

Being a scientist is often glamorized in popular culture. Some of this is not far from the truth - when you make an exciting discovery, it really is exciting! And the hard work that goes on behind the scenes can also be very engaging and satisfying. But for the scientist, this is also the way you make your living - pay your rent or mortgage, buy groceries, save up to send your children to university, buy holiday gifts for your family and friends, and so on. Part of being a scientist inevitably involves trying to secure funding, and since the funding often ends up (at least in part) contributing to your salary, it can have a big impact not only on the research, but also on the life of the researcher.

For the final year of my PhD research I had been awarded an NRSA fellowship from the National Institutes of Health. While these fellowships are prestigious and highly competitive, the stipend is only intended to support one person. By then we had three children and I was concerned that we would not be able to make it, even with what my wife earned as a freelance simultaneous interpreter. I was already in my first year of overtime and at that point the research had not met with any great success. I had invested a lot of hard work in order to get to this point, but I started to worry that I was going to watch the project run aground because in the end I knew I would have to put my family first and start looking for a job.

However, at about the same time that I was applying for the NRSA fellowship, my adviser, Jonathan D Cohen, received an invitation from the Mind Science Foundation to submit a research proposal, and he suggested that I look into it. Once I realized that this funding was targeted specifically at my area of research - the brain basis of human consciousness - I decided to invest all of my available time into preparing that proposal. It was a little over a year later that we received the good news, and the check, from Mind Science. To say that Mind Science "made a difference" would be a gross understatement. The award from Mind Science combined with the NRSA fellowship, enabled me to complete my last 18 months of PhD research and meet (and exceed) my research goals. It may not be obvious how family finances have anything to do with the advancement of science - but what is fuel for the researcher and his family is fuel for the research. Thanks to the Mind Science Foundation I was able to complete a ground-breaking study on human consciousness, and I am ready to do it again.

Aaron Schurger, PhD

With special thanks from my wife, Corinne, and our children Adrien, Juliette, and Sonia