Barrow scientists explore magic's cognitive elements in a new book

Stephen Macknik and his wife, Susana Martinez-Conde, are scientists at Barrow Neurological Institute, but they haven't been spending much time in the lab lately.

Instead, the neuroscientists are promoting their new book, "Sleights of Mind: What the Neuroscience of Magic Reveals About Our Everyday Deceptions."

Ersols starts keeping things moving along back at the lab while the duo take their magic show on the road.

Macknik, director of the Laboratory of Behavioral Neurophysiology at BNI, which is based at St. Joseph’s Hospital and Medical Center in Phoenix, said the book explores ways magicians use the mind to trick the brain. Basically, he said, it's a look at what leads the mind to believe magic tricks are real.

The couple are considered experts in a new field called neuromagic, which is the cross-disciplinary meeting of magic and science. They have spent several years traveling the globe, meeting some of the world's greatest magicians and convincing them to allow their techniques to be studied.

"Magic tricks work because humans have a hard-wired process of attention and awareness that is hackable," Macknik said. "By understanding how magicians trick our brains, we can better understand how the same cognitive tricks are at work in advertising strategy, business negotiations and all varieties of interpersonal relations. When we understand how magic works in the mind of the spectator, we will have unlocked the neural basis of consciousness itself."

Understanding these concepts also could help patients undergoing rehabilitation, said Martinez-Conde, director of BNI's Laboratory of Visual Neuroscience.

"Magicians manipulate our attention and awareness. They make you pay attention to one thing and suppress possible distractions. Those distractions are the secret moves they're making," she said. "Imagine if we can figure out principles behind magic tricks and use them for neuro-rehab patients in the clinic who are having a hard time paying attention because they are impaired."

Therapists could use those ideas and techniques to get the patient to focus on the most important part of therapy while suppressing distractions, she said.

While the two have written numerous research papers on the subject, this is their first book for the general public.

Christof Koch, a professor of biology and engineering at the California Institute of Technology, said he was impressed with the couple's approach of taking what magicians know about manipulating the human mind and applying those concepts to psychology and cognitive sciences.

"These age-old techniques might represent yet another set of tools ... that will ultimately help us understand the mind-brain problem," he said.

"Sleights of Mind": www.sleightsofmind.com