



Richard Davidson

Brain Wave Patterns Lead to New Autism Treatment

Functional magnetic resonance imaging (fMRI), a technology that came to fruition in the last 10 years, has enabled Richard Davidson, at the University of Wisconsin-Madison, to detect distinct patterns of blood circulation in the brain associated with difficulty in regulating negative emotion. The pattern involves decreased activation in the brain's prefrontal cortex, and hyper activation of an area critical to fear, the amygdala.

Davidson recently found similar patterns in autistic children when they are exposed to innocuous stimuli, such as neutral faces. "We believe this leads to 'gaze aversion,' a key aspect of social withdrawal in autistic children," Davidson says. This finding has enabled Davidson's team to develop experimental "neurally inspired" behavioral treatments for children with autism.