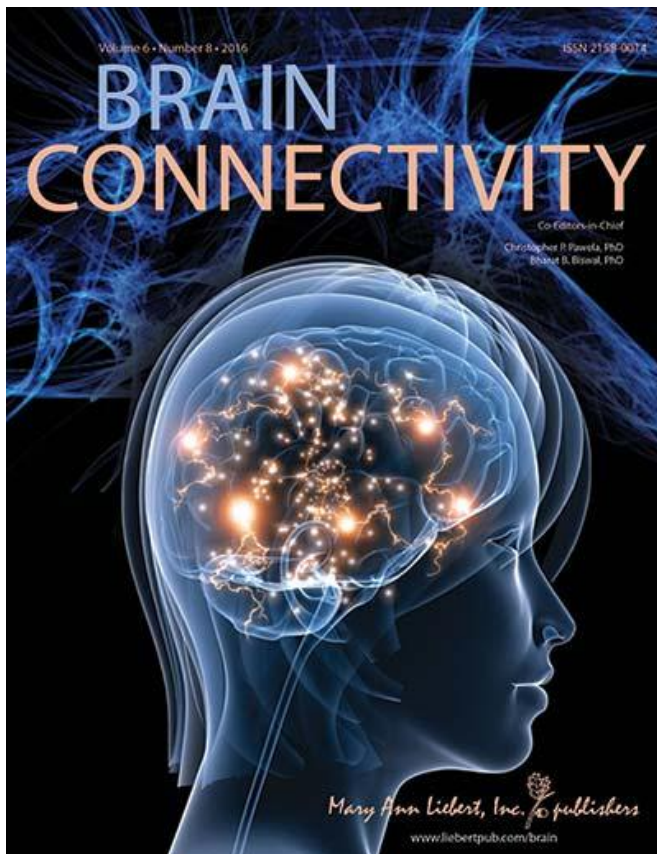


New quantitative technique shows microstructural brain alternations in autism spectrum disorder

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Credit: Mary Ann Liebert, Inc., publishers

A new study found significant changes in white matter pathways in the brains of individuals with autism spectrum disorder (ASD) using a novel technique called Automated Fiber Quantification (AFQ). Evidence of both increases and decreases in diffusion across white matter tracts and the relationship of these changes to patient age are reported in *Brain Connectivity*.

Lauren Libero, UC Davis M.I.N.D. Institute, Sacramento, CA, Wesley Burge, Hrishikesh

Deshpande, and Rajesh Kana, University of Alabama at Birmingham, and Franco Pestilli, Indiana University, Bloomington, describe the AFQ technique in the article entitled "White Matter Diffusion of Major Fiber Tracts Implicated in Autism Spectrum Disorder." AFQ gives researchers access to diffusion information along an entire tract of [white matter](#), instead of having to rely on average measures, which may improve their ability to identify clinical differences that are linked to microstructural changes in the brain.

"Autism researchers have hypothesized that the disorder is caused by large-scale disruptions in [brain connectivity](#)," says Christopher Pawela, PhD, Co-Editor-in-Chief of *Brain Connectivity* and Assistant Professor, Medical College of Wisconsin. "Lauren Libero and colleagues support this hypothesis by demonstrating that subtle alterations of white matter tracts, which are the structural wiring system in the brain, are present in affected individuals. They performed this work using their newly developed [magnetic resonance imaging](#) methodology that provides increased sensitivity to white matter changes."

More information: Lauren E. Libero et al, White Matter Diffusion of Major Fiber Tracts Implicated in Autism Spectrum Disorder, *Brain Connectivity* (2016). [DOI: 10.1089/brain.2016.0442](https://doi.org/10.1089/brain.2016.0442)

Provided by Mary Ann Liebert, Inc

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