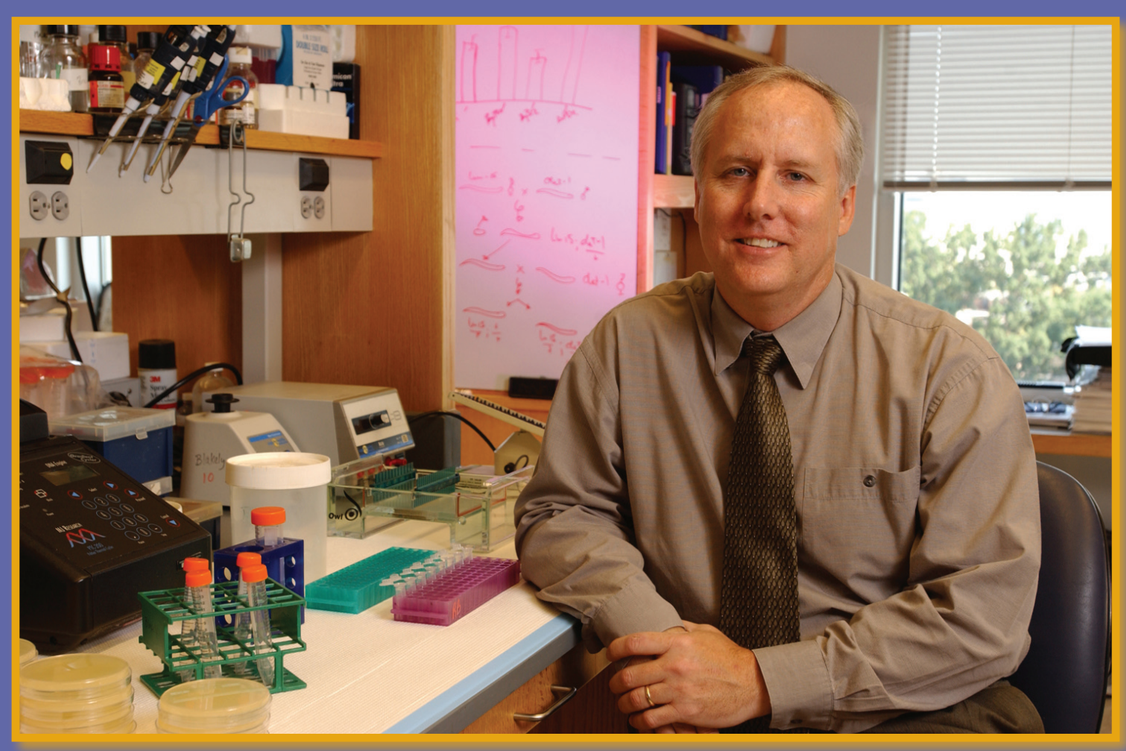
LSU Health Sciences Center

Neuroscience Center of Excellence

Louisiana State University Health Sciences Center

School of Medicine



Randy D. Blakely, Ph.D.

Allan D. Bass Professor of Pharmacology & Psychiatry
Director, Vanderbilt Center for Molecular Neuroscience
Director, Vanderbilt Brain Institute
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Chancellor's Award Lecture in Neuroscience

May 29, 2007
3:00pm
2020 Gravier Street
8th Floor
Conference Room

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A Fine Balance: Contributions of Disrupted Neurotransmitter Transport to the Origins and Pharmacology of Psychiatric Disorders

The duration and magnitude of chemical signaling at synapses is under the control of membrane transport proteins responsible for neurotransmitter clearance. Medications that treat millions of people suffering from mood, anxiety and attention-deficit disorders target these transporters, presumably to effect a normalization of disrupted chemical signaling. We have sought to expand our understanding of neurochemical changes that support psychiatric disorders through studies of identified, functional transporter coding variants. Our findings support a role for tightly controlled chemical signaling during brain development that is disrupted in subjects with autism and ADHD. Furthermore, our work underscores the intricate control over synaptic signaling organized by a network of transporter regulatory proteins. The elucidation of this network suggests novel molecules that may support psychiatric disease risk or be targeted by more effective medications.