Research Topics

Our research group’s ultimate goal is to develop an understanding of how individual specific biological structures influence human cognition, under both normal and pathological conditions.

Research in the lab is focused on in-vivo mapping of human brain structures. We are investigating the relationship between anatomy, function and behavior in the normal population and in neurological disorders. The research projects in the lab are focused on in-vivo quantitative magnetic resonance imaging (qMRI).

We are developing tools to biophysically explain MRI signals at different levels and resolutions: from molecular local sources through cellular organization to mapping of brain networks across the entire brain. Using these tools, we are studying brain development, aging and neurological disorders.

We are investigating the relationship between anatomy, function and behavior in the normal population and in patients with neurological disorders. The research projects in the lab are focused on in-vivo quantitative magnetic resonance imaging (qMRI).

Biophysical Modeling of Brain Structure

We believe that, in order to answer basic questions in human brain research, biophysical modeling of both the brain tissue and the MRI signal is needed.
Brain Structure and Function
Our long-term goal is to explain individual genetic, behavioral, and physiological differences according to their specific anatomical and functional brain variations.

Diagnostic Tools
Just as we have units to record the changes in a child's height or a patient's temperature, we need qMRI measurements in order to longitudinally study the brain.

UPCOMING EVENTS
Learn more about our exciting upcoming events!

Studying at ELSC
Our Int'l Ph.D. program provides outstanding students with top-notch courses in computational neuroscience.

The Building
The Jerusalem Brain Sciences Building will provide a state-of-the-art research and teaching facility for the Edmond and Lily Safra Center for Brain Sciences.

ELSC Media Channel
Get into our media channel and investigate ELSC's latest videos: seminars, public lectures, courses and video articles.