Research Topics

What do we study? (one example)

The visual image is heavily blurred in the periphery (the fovea, a region with highest visual acuity, is limited to the central ~2 degrees of the visual field). One of our means to compensate for this limitation is to constantly scan the visual scene, making about 3 saccades in a second, thereby generating a novel retinal image is changing with every new eye movement. Incredibly, our brain seamlessly generates a stable representation of the visual scene in spite of this jerky and incomplete visual information. This perceptual stability is so robust that we live in an illusion that we see everything at the highest precision all at once.

How does our brain perform this?

Eye opener project: Vision following late emergence from congenital blindness
Consider the following: you’ve been blind from birth for years, and the image of the external world has never reached your retina. Suddenly, this obstacle is removed. What exactly will you be able you see? Can you visually recognize everyday objects? Will an object (e.g.

Visual perception, memory & eye movements
Our brain constantly generates a stable and seemingly complete representation of the visual scene in spite of the fact that the visual image is heavily blurred in the periphery (see demo) and is constantly changing due to our eye movements. How do we achieve this?

Action observation
The visual system is comprised of two visual streams, the dorsal and ventral streams, sometimes described as the ?What? and ?How? streams, but it is clear that these simple tags do not characterize their functions accurately.
Previous Research
A body-part map in the occipito-temporal cortex, Plasticity in the visual cortex following blindness, Hand-position space, Visuomotor interactions.

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It is now widely accepted that deciphering the enigma of the brain is the most challenging intellectual endeavor of the 21st century, "The Century of the Brain" - Join our quest and become a friend of ELSC.

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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.

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