The Edmond and Lily Safra Center for Brain Sciences is one of the only places in the world where scientists from different fields work closely together in an interdisciplinary approach towards understanding the brain. Research at ELSC encompasses molecular, cellular, circuit and behavioral levels, with particular emphasis on brain theory and modeling.

Research Topics

Sensation and Perception
The Sensation & Perception research labs at the Hebrew University focus on how our brain generates a representation of the world around us, combining incoming perceptual information with memory to enable us to act.

Movement Planning and Control
Scientists at the "Movement Planning and Control" laboratories focus on basic questions such as: How is visual information translated for use by the motor system? How do motor neurons learn new patterns of movement? How and where are learned movements stored in motor memory? A special avenue of research is the development of Brain Machine Interfaces, the control of artificial, robotic limbs through a brain interface.

Computational Neuroscience
The field of computational neuroscience combines theoretical physics, advanced mathematics and state-of-

the art computer technology to create powerful models of working neural networks.

**Consciousness and Cognition**
Researchers at ELSC use advanced EEG and fMRI brain mapping tools to understand what happens in the brain when we become aware of something.

**Neurological Disorders**
Scientists at the Hebrew University are making similar advances in diseases as diverse as schizophrenia, depression, and Alzheimer's, and are starting to unravel the mechanisms underlying these illnesses.

**Centers and Units**

**ELSC Neuroimaging Unit (ENU)**

**Max Planck Hebrew University Center**
New Max-Planck Center with the Hebrew University Jerusalem.

**Scientists**

See all Investigators

- **Yoram Burak, Ph.D**
  Computational Neuroscience and Biophysics
Prof. Hanoch Gutfreund
ELSC Faculty member

Prof. Haim Sompolinsky
The Neurophysics Lab

Prof. Eran Meshorer
meshorer's web site

Prof. Ehud Zohary
Linking Perception, Memory and Action

Prof. Amir Amedi
Lab for Multisensory Research
Prof. Yair Weiss
Human and machine vision

Prof. Idan Segev
The Lab for Understanding Neurons

Prof. Yosef Grodzinsky
Neurolinguistics Lab

Alexander Binshtok, PhD
Pain Plasticity Research Group

Mati Joshua, Ph.D.
Mati Joshua’s Lab
Prof. Baruch Minke
Baruch Minke's web site

Prof. Chaya Kalcheim
Developmental Neurobiology Lab

Prof. Israel Nelken
Laboratory of Auditory Neurophysiology

Ami Citri, Ph.D.
Experience-Dependent Plasticity in Reward Circuits

Inbal Goshen, Ph.D.
goshen's lab web site
Prof. Hermona Soreq  
Professor of Molecular Neuroscience

Prof. Hagai Bergman  
Basal Ganglia Research Lab.

Aviv Mezer, Ph.D.  
Mezer Lab's web site

Prof. Naftali Tishby  
Machine Learning and Computational Biophysics

Prof. Yosef Yarom  
Cerebellum Lab
Prof. Yonatan Loewenstein
Laboratory of Decision Making

Prof. Yifat Prut
Laboratory of Motor Control

Prof. Merav Ahissar
Perceptual Plasticity and Cognitive Abilities

Prof. Adi Mizrahi
Laboratory of neuronal and circuit plasticity

Positions at ELSC

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Tenure Track Positions: NON-HUMAN PRIMATE RESEARCH
Tenure Track Positions at ELSC Special Call: Non-Human Primate research computational-experimental approach

Neuroscience Postdoctoral Program
ELSC invites applications for postdoctoral fellows in the following fields: Theoretical and Computational Neuroscience, Systems Neuroscience, Molecular and Cellular Mechanisms, Cognitive Neuroscience, and Neuronal Circuits.

Publications

- [Anonymous]. Submitted Shorter neural adaptation to sounds accounts for dyslexics’ abnormal perceptual and reading dynamics.
- Shaham, N, Burak Y. Submitted Slow Diffusive Dynamics in a Chaotic Balanced Neural Network.
- Deouell, LY. 2016 Microsaccades mediate a bottom-up mechanism for cross-frequency coupling in early visual cortex (Commentary on Lowet et al.). The European journal of neuroscience. 43(10):1284-5.

ELSC Brochures
Heller Lecture Series in Computational Neuroscience 2010-2011
New Academic, Tenure Track Positions at ELSC
Ph.D. Program in Computational Neuroscience Registration Information

Upcoming Events

ELSC Friends

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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Studying at ELSC

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

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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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