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

See all 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

Prof. Israel Nelken
Labatory of Auditory Neurophysiology
Prof. Chaya Kalcheim  
Developmental Neurobiology Lab

Prof. Hagai Bergman  
Basal Ganglia Research Lab.

Prof. Ehud Zohary  
Linking Perception, Memory and Action

Prof. Baruch Minke  
Baruch Minke’s web site

Prof. Idan Segev  
The Lab for Understanding Neurons
Prof. Naftali Tishby
Machine Learning and Computational Biophysics

Prof. Leon Deouell
Human Cognitive Neuroscience Lab

Prof. Merav Ahissar
Perceptual Plasticity and Cognitive Abilities

Prof. Hermona Soreq
Professor of Molecular Neuroscience

Prof. Eilon Vaadia
Motor Cortex Research Lab
Prof. Yifat Prut
Laboratory of Motor Control

Prof. Shaul Hochstein
Hochstein's web site

Mati Joshua, Ph.D.
Mati Joshua's Lab

Prof. Hanoch Gutfreund
ELSC Faculty member

Prof. Yosef Yarom
Cerebellum Lab
Prof. Adi Mizrahi
Laboratory of neuronal and circuit plasticity

Prof. Amir Amedi
Lab for Multisensory Research

Prof. Yosef Grodzinsky
Neurolinguistics Lab

Prof. Yonatan Loewenstein
Laboratory of Decision Making

Prof. Yair Weiss
Human and machine vision
Inbal Goshen, Ph.D.  
goshen's lab web site

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

Yoram Burak, Ph.D.  
Computational Neuroscience and Biophysics

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

Prof. Eran Meshorer  
meshorer's web site
Positions at ELSC

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Tenure Track Positions at ELSC
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Interdisciplinary Postdoctoral Program in Brain Sciences
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.

Open positions for a PhD candidate in the laboratories of Prof. Leon Deouell and Dr. Yoni Pertzov
Open positions for a PhD candidate in the laboratories of Prof. Leon Deouell and Dr. Yoni Pertzov

Publications

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- Mosheiff, N, Agmon H, Moriel A, Burak Y. Submitted An efficient coding theory for a dynamic trajectory predicts non-uniform allocation of entorhinal grid cells to modules.
- Grodzinsky, Y, Deschamps I, Shapiro LP. In Press Patients with Broca’s aphasia and Young Children can reconstruct elided VPs.
- Jaffe-Dax, S, Frenkel O, Ahissar M. 2017 Shorter neural adaptation to sounds accounts for dyslexics' abnormal perceptual and reading dynamics. eLife. 6
- Lalazar, H, Abbott LF, Vaadia E. 2016 Tuning Curves for Arm Posture Control in Motor Cortex Are Consistent with Random Connectivity.


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