

Who Are We?

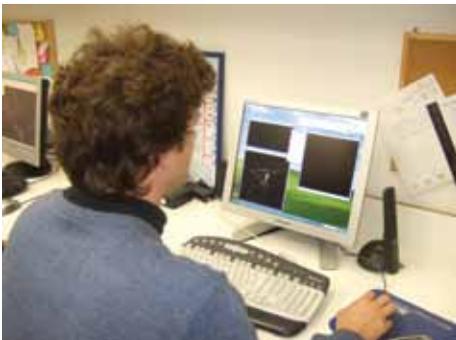
A new scientific venture, the Edmond and Lily Safra Center for Brain Sciences (ELSC) is unique in its interdisciplinary approach to brain research. It is one of the few places in the world where scientists from different fields work closely together toward a better understanding of the brain.

ELSC is building upon Hebrew University's record of excellence and innovation, bringing together top experts, outstanding young faculty recruits, talented students, generous research funding, and state-of-the-art equipment.

ICNC is renowned worldwide for its groundbreaking research in neural computation involving systems neurobiology, psychology, physics and computer science. ICNC scientists develop Brain-Machine Interfaces and Deep Brain Stimulation techniques, participate in directing the Blue Brain Project, and lead the neurophysics enterprise in theoretical physics and applications of machine learning in neuroscience.

ICNC has pioneered the theoretical and experimental study of the dynamics and computation capabilities of large networks and develops new insights into the mechanisms underlying brain dysfunction. These projects involve the intense multidisciplinary collaboration that makes ICNC unique.

ICNC has recently been incorporated into ELSC, and is taking the lead role in the Ph.D. program in computational neuroscience.



Why Study at ELSC and ICNC?

ICNC graduate students publish their research in major peer-reviewed journals, including *Nature*, *Science*, *Neuron*, *PLoS*, *Journal of Neuroscience*, and in leading journals in physics and computer science. Many students continue their post doctoral work in prominent neuroscience labs in the U.S. and in Europe. Graduates of the program account for a large percentage of neuroscience positions at Israeli universities.

Core Courses

The core courses of the program provide students with expertise in:

- Neurobiology – the relationships between the physiology and anatomy of the nervous system to its function.
- Techniques of neuroscience research – from the intracellular electrode to optogenetics and fMRI.
- Physics – theory of dynamical systems with applications to neural networks, computation and learning.
- Computer science and engineering – signal processing, statistical learning theory and machine learning, computer vision, computational linguistics, information theory and control theory – all with special attention to computational neuroscience.
- Psychology – with an emphasis on cognition, memory and perception.

In addition, the program has a large number of elective courses that vary from year to year. The program offers courses in Models of Perception-Action Cycles, Dynamic Systems and Control, The Cerebellum and its Role in Current Research, The Biological Basis of Neurodegenerative Diseases, and Contemporary Issues in fMRI Research, as well as lab courses – Live Imaging of Neurons and Networks, and Brain Imaging/Brainvoyager Data Analysis Workshop.

Why the Hebrew University?

The Hebrew University is consistently rated as the top Israeli university in international educational surveys. The Hebrew University's 23,000 students – half of whom are graduate students – represent the vibrant Israeli society and include Jews, Christians and Muslims. The Hebrew University is open to all academically qualified applicants, regardless of nationality, race, creed, color or religion.

Why Jerusalem?

Jerusalem offers an unparalleled mix of past and present culture. From world-class restaurants and cafes to historical religious sites, the city is a melting pot of ancient roots and modern innovations. Jerusalem is rich in art galleries, museums, theaters and concert halls. Exciting festivals, exhibitions, sports competitions, and other special events are held throughout the year. For further information on Jerusalem, see <http://tour.jerusalem.muni.il>.



The Program

The program has two tracks:

The first track is intended for students who are mostly interested in participating in the wide range of courses offered by the interdisciplinary graduate program at ELSC/ICNC. The courses will be given in English. Students in this track will be expected to take about 10 credit points in formal courses in each of the two semesters they spend at the Hebrew University, in addition to two lab rotations (one in each semester). They will be under the direct supervision of the head of the Ph.D. program.

The second track is designed for students who are mainly interested in working in a specific lab as part of their graduate research. These students will pre-arrange their visit with the target lab and will be expected to spend most of their time working on the pre-defined research project. While they will also be able to take courses at ELSC/ICNC, they will not be required to do so.

Track assignment will be discussed with the student after the interview, which is part of the application process. Information about the participating laboratories can be found on the Internet at <http://icnc.huji.ac.il> and <http://elsc.huji.ac.il>. We encourage potential applicants to contact the labs in which they are interested beforehand.

All participants will be expected to take two courses given at RIS. RIS offers courses designed for international graduate students in a wide variety of subjects, including language instruction in Hebrew and Arabic and seminars on Israeli society and politics, the Middle East, the Bible, comparative religion, Jewish studies, Jewish education, management of non-profit organizations and philanthropy studies.

Towards the end of their stay, students will be encouraged to present a lecture on their research, both for the students and faculty of RIS and for students and faculty of ELSC/ICNC.

Application

Candidates should send the following documents by e-mail to Ms. Ruthi Suchi, administrative director of the program (icnc@alice.nc.huji.ac.il):

1. Current CV.
2. One-page statement of scientific interests and objectives for the one-year visit.
3. Two or more letters of recommendation, one of them from their Ph.D. advisor.
4. Official transcripts from each university attended.
5. Proof of English proficiency (required only for non-native speakers of English, as detailed in <http://icnc.huji.ac.il/phd/eng/registration>).

Candidates who fulfill the excellence requirements of the program will be interviewed by the teaching committee of ELSC by phone or video conference. Track assignment and the detailed plan for the visit will be worked out with the accepted candidates.

Applicants who require further information are invited to review the application process at:
<http://elsc.huji.ac.il/education>
<http://icnc.huji.ac.il/phd/eng/registration>

Support

Students will be supported by a stipend of US \$20,000. This stipend will cover registration at both ICNC/ELSC and RIS, housing in the student village on Mt. Scopus, health insurance, and a contribution towards living expenses. The stipend is not intended to cover travel expenses to and from Israel.

contact us

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One-Year Fellowships for Studying Brain Sciences in Jerusalem

The Edmond and Lily Safra Center for Brain Sciences (ELSC), the Interdisciplinary Center for Neural Computation (ICNC) and the Rothberg International School (RIS) at the Hebrew University of Jerusalem are offering one-year fellowships for excellent Ph.D. students in Neuroscience.

The program is designed for students with a record of excellence at any stage of their graduate studies. The students will spend a year in Jerusalem, hosted and supported by RIS and ELSC, while participating in and contributing to the burgeoning brain research venture at the Hebrew University.

