

## 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.

**The Interdisciplinary Center for Neural Computation (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/ELSC** graduate students publish their research in the major peer reviewed journals, including Nature, Science, Neuron, and PLoS Biology, and in leading journals in physics and computer science. Many do their postdoctoral work in prominent neuroscience labs in the US and in Europe. Graduates of the program account for a large percentage of neuroscience positions at Israeli universities.

## Why the Ph.D. Program?

### The Alice and Jack Ormut Ph.D. Program in Brain Research: Computation and Information Processing

Unraveling the mysteries of the mind and the brain is one of the most fascinating endeavors in all of science. The program was created by **ICNC** with the understanding that the solution to this mystery requires multidisciplinary collaboration.

The objective of 5-year Ph.D. program is to provide outstanding students with theoretical and experimental tools that will allow them to employ a broad range of approaches, both experimental and theoretical, in order to understand how the nervous system efficiently performs a wide variety of functions, such as perception and action, learning and memory, thought and creativity.

The students are provided with theoretical and experimental tools in the following core fields: neuroscience (information processing in neurons, anatomy and physiology of the nervous system), physics (neural networks, dynamic models, and statistical mechanics), computer science (theory of computation, learning and optimization), and psychology (cognition, memory, and problem-solving).

All courses of the program are taught in English. The first 3 semesters of the program include the core courses, after which students join research labs and perform their thesis research. Each student is provided with an individualized program, comprised of both required and elective courses, that allows them to meet the necessary requirements for the doctorate. Throughout their studies, students are given the opportunity to participate in international conferences, and are encouraged to visit similar research centers around the world. Scholarships and partial tuition grants are available beginning in the first year of the program.

## Why the Hebrew University?

The Hebrew University is consistently rated as the top Israeli university in international educational surveys. The Hebrew University's 24,000 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 site, 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, sport competitions and other special events are held throughout the year.



## Admissions

Eligible candidates are those with a record of academic excellence (having completed their bachelor's degree with an average grade of 85 or equivalent); students with M.Sc. degrees that meet the requirements of the university for acceptance to the doctoral program; and students that come from the fields of life sciences, mathematics, social sciences, engineering, and medicine. Each year, the program's admissions committee accepts the best candidates for the program. The application deadline is in the winter for admission the following year, and applicants are notified of the committee's decision in the spring.

## Application

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



## Contact Us

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**Additional information can be found online:**

<http://icnc.huji.ac.il>



The Alice and Jack Ormut

**Ph.D. Program  
in Brain Research:**

**Computation and  
Information Processing**

