



### (A) GENERAL DATA

<b>Title</b>	Doctoral School of Biology
<b>Degree</b>	PhD in Biology
<b>Type</b>	Degree program
<b>Level</b>	Doctoral level
<b>Accreditation number</b>	OH-FRKP/406-3/2007.
<b>Faculty</b>	Faculty of Science
<b>Institute</b>	Institute of Biology
<b>Department(s)</b>	Doctoral School of Biology
<b>Language</b>	English
<b>Duration</b>	4 + 4 semesters
<b>ECTS credits</b>	240
<b>Place</b>	ELTE Lágymányos Campus
<b>Minimum number of new students<sup>1</sup></b>	3
<b>Maximum number of new students</b>	60

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<sup>1</sup> If the number of admitted students does not reach threshold the program may be cancelled.



## **(B) PROGRAM CONTENT**

### **Short description:**

The Biology PhD School of the Eötvös Loránd University was founded in 2001. It is the largest postgraduate biology program in the country, offering research oriented training in a wide range of areas of modern biology. The main topics include theoretical and evolutionary biology, ethology, ecology, and conservation biology, molecular neurobiology, physiology, human biology, immunology, experimental plant science, cell biology, microbiology, molecular genetics and cell biology, structural biochemistry, taxonomy. The selection of courses covers both theoretical background and lab or field skills and experience. The training emphasizes practical skills: the majority of credits are earned with supervised research work under personal tutoring by leading researchers. Students are involved in collaborative research taking advantage of the collaboration networks within the institute and with international partner institutions. The aim of the training is to fully prepare students for a successful career in the life sciences: either in basic research or in the industry.

### **Strength of program:**

The Institute of Biology employs more than one hundred full or part time professors and teachers who have many years of teaching experience and are well-recognised scientists in their field of work. The Biology Program also receives support from other distinguished researchers working in close association with the Institute as senior scientists, and grant holders. Members of the Biology Program have a wide range of international contacts, and collaborate with several outstanding research institutes and universities both in and outside Hungary, and regularly invites foreign visitors doing research and/or giving courses.



## (C) STRUCTURE

The program is strongly research oriented: apart from attending specialized courses, the students are expected to start their research work well before the end of the first year. At the end of each year the students report about their research progress. It is expected that students publish at least two papers in peer-reviewed internationally renowned journals of their field.

**Below is a short list of the main selected courses from which the students are expected to choose depending on their research interest:**

- Multivariate analysis of biological data
- Conservation biology
- Seed bank ecology
- Bryophyte ecology
- Spatial heterogeneity and its ecological consequences
- Behaviour genetics
- Cognitive ethology
- Human ethology
- Ethology
- Behaviour ecology
- Immunology seminars
- Signals and signal processing in the immune system
- Immunology of infections
- Immunopathology
- Links between innate and adaptive immunity
- Plant biotechnology
- Plant molecular biology
- Plant stress physiology
- Ultrastructural bases of plant cell functions
- Plant transformation and transgenic plants
- Genetic analysis
- Developmental genetics
- Gene technology and recombination
- Clinical human genetics
- Gene silencing, RNA interference
- Introduction to neurobiology
- Developmental biology
- Immuno-histo- and cytochemistry
- Biology of stem cells
- Tumor cell biology
- Molecular biology of learning and memory
- Neuronal cell differentiation
- Neurochemistry
- Behaviour physiology
- Electrophysiology
- Auxology
- Genetics of human growth
- Directed evolution in protein science
- Structural biology of DNA repair



Structure and function of intrinsically disordered proteins  
Transient enzyme kinetics  
Fluorescence spectroscopy  
Biometry  
Biogeography  
Ecological informatics  
Molecular taxonomy in zoology  
Reproductive and feeding strategies  
Computer programming for biologists  
Seminars in evolutionary biology and ecology  
Evolutionary game theory  
Computer modelling in biology  
Models of prebiotic evolution

## **(D) CAREER**

### **Career opportunities:**

Biology is the science of the 21<sup>st</sup> century. Students finishing our Biology Program will have the necessary skills to apply for jobs around the globe. While many of our former students obtain postdoctoral positions throughout the world, a large portion of them gets tenure or tenure track positions at universities or research institutes. Some of our students will pursue their research career in the non-academic environment of large international research institutions, tied to high-tech development or to the economic or financial world.

### **Job examples:**

- Biologist,
- Biochemist,
- Geneticist,
- Neurobiologist,
- Ecologist.



## (E) ADMISSIONS FOR THE ACADEMIC YEAR 2017/2018

### TUITION AND OTHER FEES

	EU/EEA students	non-EU/EEA students
<b>Tuition fee/semester</b>	1910 (EUR)*	2500 – 4500 (EUR) depending on the research topic
<b>Application fee</b>	160 (EUR)	160 (EUR)
<b>Registration fee</b>	60 (EUR)	60 (EUR)

\* Reduced fee: 350 EUR, if you research not in the University territory.

<b>Offered for the academic year 2017/2018?</b>	<b>YES</b>
<b>Deadline for applications – September intake</b>	<b>20 April 2017</b>
<b>Is there a February intake?</b>	<b>NO</b>

#### Admission requirements – Language requirements: *English*

The successful applicant must have a M.Sc. (in biology or chemistry), M.D., D.V. and a good command of English. The Programs (see their list below) may restrict the range of degrees that they accept in order to ensure that the field in which applicant's prior degree was issued, and the curriculum of applicant's graduate studies meet the special expectations of the Program. On an interview by tutors in the chosen program, the applicant will be asked about her/his prior studies, research experience, thesis work, motivation and theoretical knowledge.

#### Admission requirements – Documents to submit with application:

- ✓ Master-level degree
- ✓ Transcript of records
- ✓ CV
- ✓ Motivation letter
- ✓ Research plan
- ✓ Letter of recommendation



- ✓ Application form
- ✓ Copy of the main pages of the passport (needs to be valid)
- ✓ Passport photo
- ✓ Certificate of clean criminal records
- ✓ Copy of application fee transfer

#### **Application procedure:**

The application can be done by sending a letter to Prof. Ádám Miklósi ([adam.miklosi@ttk.elte.hu](mailto:adam.miklosi@ttk.elte.hu)) and study administrator ([doktoranduszugyek@ttk.elte.hu](mailto:doktoranduszugyek@ttk.elte.hu)) with a short CV, copy of the degree certificate, transcript of results, a language examination certificate, two letters of recommendation and short indication of the interest in specific subprograms (see list under *Structure* menu point). The coordinator will forward the letter to the respective Program leader. Prof. Adam Miklósi and the program leaders deal only with the educational aspects of admission and do not deal with any bureaucratic and financial issues. All such questions and inquiries should be sent to study administrator ([doktoranduszugyek@ttk.elte.hu](mailto:doktoranduszugyek@ttk.elte.hu)).

**Important note:** It is the student's responsibility to find a qualified teacher in the institute who is willing to act as a supervisor and they write together the research plan which is submitted along the application.

#### **Procedure of the entrance examination:**

- 1) The deadline for the submission of ALL documents is the 25<sup>th</sup> May each year
- 2) The Program leader contacts the student by email and they set a date for the oral interview by skype. The interview consists of two parts. In the first part the teachers check the scientific knowledge of the student about the specific field of the program, in the second part they discuss the research plan submitted by the student. The interview lasts about 20-30 minutes.
- 3) After the interview the student is informed whether he/she is accepted as a student in the PhD Program via email.
- 4) The central administration of the faculty informs the student bureaucratic and financial condition of the admission ('Letter of acceptance').



## **(F) CONTACT**

### ***Program leader***

Name: Prof. Anna ERDEI

### ***Program coordinator***

Name: Prof. Ádám MIKLÓSI

E-mail: [adam.miklosi@ttk.elte.hu](mailto:adam.miklosi@ttk.elte.hu)

### ***International program coordinator***

Name: Ms. Angelika ÚJVÁRY

E-mail: [inter@ttk.elte.hu](mailto:inter@ttk.elte.hu)

### ***Study administrator of doctoral students***

Name: Ms. Eszter VIRÁG

E-mail: [doktoranduszugyek@ttk.elte.hu](mailto:doktoranduszugyek@ttk.elte.hu)