



KEY FACTS

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| ► Admission requirements | Applicants are required to hold a Bachelor's, Specialist or Master's degree in related subject area. All applicants should demonstrate English skills at B+ level. |
| ► Admission tests | Examinations in the field of cell biology, biophysics and the interview in English with a program coordinator (option - via Skype). |
| ► Admission procedure | Written on-line application. Application deadline is June, 30th. Applicants from abroad may find more information available at the official web-site of SPbSPU www.spbstu-eng.ru . |
| ► Semester and date of be-ginning | Winter semester is September, 1st. |
| ► Length of programme | 2 years |
| ► Degrees awarded | Master of science (MSc) |
| ► Tuition fee | Tuition fee for student – 190 000 rub for 1 year. |



CONTACT DETAILS:

St. Petersburg State Polytechnical University
Ilya Bezprozvanny, Programme Coordinator
Polytechnicheskaya, 29, 3rd University building, 195251 St. Petersburg
Telephone.: +7-812-9995295, +7-812-2909639
E-mail: medphiz@gmail.com
www.spbstu-eng.ru

MASTER OF SCIENCE IN NEUROBIOLOGY

THE MOLECULAR AND CELLULAR NEUROBIOLOGY

INTERNATIONAL MASTER DEGREE PROGRAMME IN ENGLISH

Key information about the study programme in Saint-Petersburg



2014
www.spbstu-eng.ru

- Master's programme "The Molecular and cellular neurobiology" is conducted in English.
- World-famous professors from SPbSPU and leading schools.
- Unique opportunities for international academic mobility. Training periods abroad at academic partners of SPbSPU.
- Wide-range of elective courses to individually profile the education depending on the field of interest. There are options for the experience in advanced experimental research.
- «The Molecular and cellular neurobiology» combines principles of traditional academic education with the content based on the current real-world experience.



St. Petersburg State Polytechnical University

In 2010 St. Petersburg State Polytechnical University gained the status of the "National Research University", also known as Polytech, an acknowledged leader in Russian engineering education. Nobel Prize winners P.L. Kapitsa, N.N. Semenov, Zh.I. Alferov are only a few of hundreds of gifted and talented scientists whose professional activities are associated with Polytechnic University.

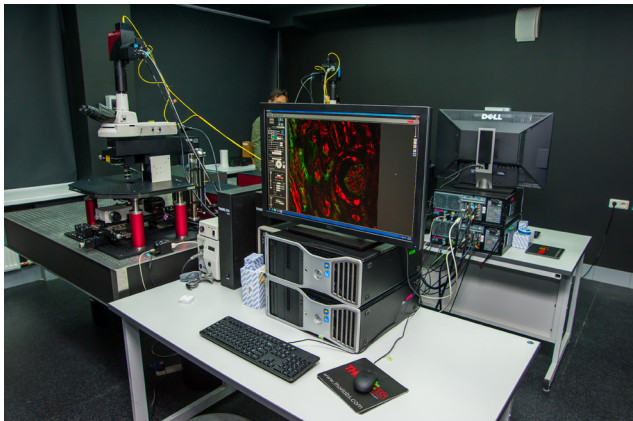
St.Petersburg State Polytechnical University was founded in 1899. At present in SPbSPU there are 30197 students and postgraduates, 3056 of whom are foreign citizens from 98 countries who study at different SPbSPU programmes. The University offers educational programmes in the following areas: engineering, physics, economics, humanities and information technologies.

The University is proud of its longstanding traditions of international cooperation with many foreign educational institutions, research organizations and industrial companies in the field of education and science. Among the University partners there are more than 327 universities, 131 scientific and research institutions and 172 companies from over 55 countries.

Curriculum

| 1st SEMESTER (30 credits) | |
|--------------------------------|---|
| ► Compulsory Courses | <ul style="list-style-type: none">Cellular neurophysiology (5,5 ECTS)Neurobiology (5,5 ECTS)Protein Chemistry and Folding (4 ECTS)Trends in modern science – HORIZONS (5,5 ECTS)Experimental neurobiology (4 ECTS)Applied problems of neuroscience (5 ECTS)Informational technologies in technical physics (5 ECTS)Mathematical modeling in technical physics (5 ECTS)Molecular methods in neurobiology (2,5 ECTS)English for academic purposes (5,5 ECTS)Structure and functions of cellular compartments (3,5 ECTS)Philosophical Concepts in Physics (5 ECTS)Cellular and genetic engineering (7 ECTS)Fundamentals of protein crystallography in neurobiology (3,5 ECTS)Laser technologies in medicine (5 ECTS) |
| ► Elective Courses | <ul style="list-style-type: none">Introduction to Molecular Modelling (3,5 ECTS)Biomedical Scientific Business (4 ECTS)Fundamentals of applied atomic and molecular spectroscopy (5 ECTS)Molecular cloning (3,5 ECTS)Pathophysiology for the Health Sciences (3,5 ECTS)Seminars in Optogenetics (5 ECTS)Seminars in Electrophysiology (5 ECTS) |
| ► Scientific and Research work | <ul style="list-style-type: none">1st and 2nd semester (20 ECTS)3rd semester (19 ECTS)4th semester (Master's Theses Completion, 30 ECTS) |

Master thesis has to be defended in front of the committee consisting of professors and corporate representatives



MSc The Molecular and Cellular Neurobiology

The programme is implemented with the participation of the leading professors and lecturers of SPBSPU's Institute of Physics, Nanotechnology and Telecommunication and guest lecturers from the leading schools in Europe and USA. All lectures and seminars are delivered in English.

Objective of the programme

Master's programme is designed to educate students for careers in the biomedical science, in the pharmaceutical and health care industries.

The programme's main feature is the combination of fundamental education in physics and mathematics with the knowledge and skills in biological and physiological analysis. Using scientific research and experimental base of the Laboratory of Molecular Neurodegeneration SPbSTU students have an opportunity to develop skills in modern experimental techniques, biophysical and biomedical technologies.



| KEY ADVANTAGES |
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| <ol style="list-style-type: none">The programme provides our students with the knowledge and competences for a further professional career in biomedical field. Good command of English allows the participation in the seminars delivered in English by guest lecturers and provides internships in international centers and companies.The programme offers a unique opportunity for the joint study of Russian students with students from the universities from all over the world as well as the opportunity to participate together in academic and extracurricular activities at SPbSPU.Unique opportunities for international academic mobility. One semester of training abroad at academic partners of SPbSPU. |

Length and format of the programme

2 years, full-time, classes 3 times a week, research projects 2 times a week, compulsory and elective courses, challenging scientific research projects.

Total workload

120 credits

TEACHING METHODS

The focus of the programme is to enrich the knowledge and develop practical research skills in the field of experimental cell biology, neurobiology and medicine. Workshops, scientific discussions, individual project presentations are the key part of the programme. Students will learn to formulate scientific problems, questions, ways and methods to solve them.

Every student enrolled to MSc programme in Molecular and cellular neurobiology is offered to have a period of training abroad at one of the partner universities of SPbSPU.



PROGRAMME PARTNERS

- UT Southwestern Medical Center (USA)



- KU Leuven Medical Center (Belgium)



- University of Tokyo (Japan)



- International Institute of Molecular and Cell Biology (Poland)



and others