

# Biological Engineering

Siberian Federal University

Degree or qualification is awarded: **M. Sc.**

Language of study: **English**

Mode of study: **full-time**

Duration: **2 years**

Availability of free education: **no**

Price: **250 000 RUB per year**

Programme webpage at the university website: <http://www.sfu-kras.ru/en/masters/biological-engineering#tab3>

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The program is for students with experience in the study of natural sciences and wishing to master the modern methodology of scientific research for their further improvement in the field of biological engineering.

**The goal** of the Biological Engineering program is to develop students' research skills through individual scientific work in the field of biology, biological engineering or biophysics. Students will master all stages of scientific research from setting a scientific task to obtaining scientific results and analyzing experimental data. Most of the classes are held in one of the most modern laboratories of SibFU - the Laboratory of Bioluminescent Biotechnologies organized under the guidance of Osamu Shimomura, a Nobel prize laureate in Chemistry, who is the leader of one of the most powerful scientific groups engaged in the fundamental study of the phenomenon of light emission by living organisms.

## **Competitive advantages for the graduate:**

Within the framework of this program, students study the phenomenon of bioluminescence from all positions - genetic, molecular, evolutionary and environmental. Master's research work will be related to the study of the chemical nature of light emission in both recently discovered and well-studied species (fungi, earthworms, coelenterates, bacteria, etc.). Students will have the opportunity to simulate the functioning of enzymes in the cellular hyaloplasm, study the possibilities of obtaining new recombinant bioluminescent organisms and create biosensors of new generation based on bioluminescent, which find their application in environmental monitoring and medicine. The program also addresses the fundamental and applied aspects of the use of bioluminescence. Employment: graduates can work in research institutes and centres, pharmaceutical companies, biomedical laboratories, environmental authorities and nature management agencies, universities. Graduate students have the opportunity to enter the postgraduate program at SibFU, other universities or academic institutes, including foreign ones, and defend their PhD dissertation. During their studies on the master's program, students have the opportunity to undergo training and/or scientific internships and gain experience in leading foreign universities and research centres.

## **Specializations within this programme**