
Specialized English-taught International Semester Programs of Master's level "Bioluminescent Biotechnologies" at Siberian Federal University

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Abstract

Specialized English-taught International Semester Programs of Master's level "Bioluminescent Biotechnologies" offered by Siberian Federal University (SibFU), School of Fundamental Biology and Biotechnology, constitutes a module of English-taught Master's Degree Program "Biological engineering".

The module consists of a number of compulsory and elective courses such as Physics and chemistry of bioluminescence, Bioluminescent Biotechnologies, Photobiophysics, Laboratory training course: Mechanisms and Applications of Bioluminescence, and a research work on the topic of students' interests.

The scientific projection in bioluminescent biotechnologies aims to encourage research skills by students through an individual research project in biology, biological engineering or biophysics. Students will follow all steps of research process from the problem statement to the achievement and analysis of experimental results.

The program is designed with emphasis on practical skills development and students work in the modern and well-equipped SibFU Laboratory of Bioluminescent Biotechnologies. This laboratory was established through the collaboration of the world's strongest team of scientists engaged in fundamental research of light emission by living organisms, i. e. bioluminescence, and the Nobel Laureate Professor Osamu Shimomura.

The courses focus on exploring basic and applied aspects of bioluminescence. Comprehensive tutorials created specifically for module courses by teams of scientists from the two institutions: Siberian Federal University and the Research Institute of Biophysics (Siberian Branch, Russian Academy of Science). Team of scientists has developed a special training kit for this course, which besides detailed methodological guidelines and presentation materials includes electronic.

Course Guides and all accompanying materials are designed and available at the course web-pages through e-learning SibFU web site: www.e.sfu-kras.ru.

*Speaker

Our strongly research-based Master's degree programs give our graduates a solid background (in-depth knowledge, tools and competencies) for further development to compete on the job market.

This module has been implemented in compliance with the Bologna system with using the ECTS system for academic mobility of exchange students and academic staff.

Keywords: Bioluminescence, Master's Program, Bioluminescent Biotechnologies, research, based education, exchange students, academic mobility