

# Information-measuring and control systems

National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)

Degree or qualification is awarded: **Researcher. Lecturer-researcher**

Language of study: **Russian, English**

Mode of study: **full-time**

Duration: **4 years**

Availability of free education: **yes**

Price: **325 000 rubles per year**

Programme curator: **Vladimir V. Kadilin , Associate Professor, Ph.D., Associate Professor of the Applied nuclear physics.**

Tel.: **Contact name: Olga N. Petukhova, Phone number. +74957885699, ext. 8045.**

E-mail: [ONPetukhova@mephi.ru](mailto:ONPetukhova@mephi.ru)

**Basic department:** Applied nuclear physics (№24)

## Goals of the Program

The program aim is to obtain the highest-depth vocational training allows graduates to work successfully in the field of activities related to laser physics, research and development of lasers, laser applications for technical, biomedical and information problems. Graduates of the Bachelor will have universal competences, contributes to their social mobility and demand in the labor market .

## Characteristics of the scope and objects of professional activity of future graduates

Area of professional activity: research aimed at the development of the theory, the designing and application of lasers and laser systems, both for distance and high-precision measurements and diagnostics, as well as for the development and use of new laser technology, including nanotechnology.

## Objects of the professional activity

Objects of professional activity: lasers, laser processing tasks, the use of lasers in the field of medical physics, biophysics, condensed matter physics, physics of fast processes, information and diffractive optics, remote and high-precision measurements and diagnostics, mathematical models of theoretical and experimental studies of phenomena and laws in the field of laser physics, propagation and interaction of laser light with objects animate and inanimate nature, environmental monitoring.

## Brief description of the curriculum

The research work of students is carried out in close connection with work carried out at the department and research organizations NTO "IRE-Polus", "Laser Center" MEPhI, institutes of the Russian Academy of Sciences and industry organizations.

Graduates of the department are trained for a wide range of problems in the first place, such as the development and construction of:

- Lasers and their components;
- High-precision laser measurement systems;
- Programs for data processing and storage, as well as to simulate physics-cal processes and the various devices;
- Automated control systems;
- Systems of optical information processing

## The base of industrial and/or scientific practice and employment

Russian research centers, NTO "IRE-Polus", Institute of the Academy of Sciences.

## **Specializations within this programme**