

# Laser Physics

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: **Sergey V. Kireyev , Professor, Ph.D., Professor of the Department of Laser Physics.**

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**Basic department:** Laser Physics (№ 37).

## Goals of the Program

The program aim is to obtain the highest education 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. PostGraduates 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:** 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:** 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 program stimulates PhD students for independent scientific research work at high professional level with self-appraisal of results. Practical application of obtained results is the focus of the program. Special attention is given to research work. This allows students to practice in compiling the literature overview in the research field, modeling of physical phenomena with standard software suits, experimental work, analysis of obtained results, preparing scientific publications, patent research.

The curriculum includes:

- specialized programs for PhD students, individual studying plans, academical mobility.
- participation in research and teaching together with leading specialists in the field, practical work of PhD students in scientific groups of various organizations;
- competitive selection of PhD students and help in their employment in Russian scientific centers, State Atomic Energy Corporation "Rosatom", and others.

## 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