

# Nanomaterials for biology and medicine

National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)

Degree or qualification is awarded: **Bachelor's degree**

Language of study: **Russian**

Mode of study: **full-time**

Duration: **4 years**

Availability of free education: **yes**

Price: **89 872 rubles per year**

Programme curator: **Natalya B. Epshtein**

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

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

## **OBJECTIVES:**

The program is aimed to train professionals with deep knowledge of chemical, physical, mechanical and pharmaceutical properties of substances, which let graduates be able to solve effectively a problem of new nanomaterials for biology and medicine and modern original medications.

Different types of materials and nanomaterials, technologies for their production and methods of their analysis (including materials for diagnostics and therapy of dangerous diseases, i.e. oncology, magnetic materials for hypothermia and other "smart" materials) are the main objects of professional activity of graduates.

Department is equipped by modern technological and analytical equipment and cleanrooms, what allows our students to combine effectively the education with work on the modern apparatus being involved in research.

## **THE MAIN SCIENTIFIC DIRECTIONS:**

Scientific, industrial-technological, management and pedagogical practice in the areas related to the use of chemical, physical and mechanical properties of materials. Trained graduates are able to work in national and international pharmaceutical companies, in agencies of large pharmaceutical and medical corporations, analytical laboratories, etc.

## **Professional Activities:**

- Design of medications based on traditional technologies and nanotechnologies;
- Development of nanomaterials for hyperthermia;
- Research of bioequivalence and interchangeability of medications;
- Development of radiopharmaceutical drugs for diagnostics and therapy.

## **INTERSHIP AND EMPLOYMENT**

- Corporations of Caluga pharmaceutical cluster;
- The Russian State Atomic Energy Corporation "Rosatom";
- Scientific centres:
  - State Scientific Center of the Russian Federation
  - Institute of Physics and Power Engineering named after A.I. Leipunsky
  - Physico-Chemical Institute named after L.Ya. Karpov

- A.F. Tsyba Federal Research Medical Center "Radiology Research Center" of the
- Ministry of Health of Russia
- AstraZeneca Industries;
- Obninsk chemical and pharmaceutical company;
- Hemofarm Ltd.
- LLC BION
- LLC "BERAHIM"
- SLL "CHEMFARMKOMPLEKT"
- "Calugapharmacy"
- The company "Berlin-Chemie / A. Menarini";
- "PHARM-SYNTHESIS"
- Nearmedic Group of Companies
- "PharmVILAR", etc.

### **Specializations within this programme**