

## **12.04.04 Biological Systems and Technologies**

### **Biomedical Nanotechnologies**

#### **Program objective**

Training specialists for the development of new nanomaterials and biomedicine technologies and methods of their use in healthcare for early diagnosis and targeted treatment of socially dangerous diseases.

#### **Key research and professional activities**

biomedical nanotechnology (nanomaterials and devices for photodynamic and sonodynamic therapy, hyperthermia)

materials science for medicine

propagation and interaction of laser radiation with human tissues and organs

biomedical diagnostic images

experimental research and introduction of materials and methods for biomedicine (materials for creating nanosensors of molecules for biomedical purposes, model objects of living nature for studying nanomaterials and new methods of medical diagnostics and therapy)

#### **Practical training and employment opportunities**

- Institutes and enterprises of Rosatom State Corporation
- Institutes of the Russian Academy of Sciences
- national and foreign research centers
- universities of the Russian Federation and abroad
- small innovative enterprises, etc.