

## **Program "Controlled fusion and plasma technologies"**

**Major:** 16.04.02 High-tech plasma and power plants

**Educational level/Term of apprenticeship:** Master/2 years

**Language:** Russian / English (for foreign students or at the choice)

**The training department:** The program is implemented at the Plasma Physics Department of the Institute for Laser and Plasma Technologies of MEPhI. The teaching staff of the department has 50 years of experience in education and research in plasma physics and plasma-surface interaction. The department is recognized in the Russian Federation as the basic place for training researchers in plasma physics and plasma surface interactions. Besides the permanent staff, researchers from leading Russian research centers such as NRC "Kurchatov Institute", TRINITI, Lebedev Institute of Physics, and others, are also involved in teaching. The department participates in international collaboration both in research and education.

**Abstract:** The aim of the program is to prepare Masters for world-class R&D in the field of plasma physics, plasma surface interactions, and plasma technologies. Students get a comprehensive understanding of plasma physics, methods creation of plasma, plasma heating and control, plasma diagnostics, plasma surface interaction, and plasma application. Students have access to unique experimental facilities, and computer clusters. They can specialize both in experimental and theoretical directions. The program includes unique courses "Plasma-surface interaction", "Plasma spectroscopy", "Automation of experimental facilities", "Engineering and physical bases thermonuclear reactors", "Physics of plasma confinement in toroidal systems", "Weakly-ionized plasma in technology and ecology", "Electro-reactive engines and their application in space", "Plasma chemistry" etc.

After graduation the Master course one can continue training within the PhD program.

The program gives the basics for further work not only in fusion but also in cosmic plasma, laser plasma, various aspects of plasma-surface interaction and plasma technologies. Graduates work in international research organizations including ITER organization, leading research centers and universities all over the world, as well as in industry

**Requirements for admission:** Bachelor of Science Degree. Good basic knowledge in physics and mathematics.