



POLYTECH

Peter the Great
St. Petersburg Polytechnic
University

NATURAL SCIENCES

ADVANCES AND APPLICATIONS
IN PLASMA PHYSICS

PROGRAM NAME: Advances and Applications in Plasma Physics

AWARD: Master of Science

DURATION: 2 years

MODE OF STUDY: full time

PROGRAM OUTLINE: The program is intended for undergraduate students who want to deepen their knowledge of physics and who want to pursue a research career at a university, research laboratory, or at the largest mega-class plasma systems. Along with lectures on the courses of the program, much attention is paid to the work of students in research groups working in promising areas of modern physics: plasma physics theory, high-temperature plasma modeling (using parallel computing at the Polytechnic supercomputer center), plasma physics diagnostics, and automation of a physical experiment.

CURRICULUM (GENERAL MODULES):

MODULES	ECTS
Plasma theory	10
Computational physics	13
Plasma diagnostics & spherical tokamaks	12
Thermonuclear controlled fusion & neutron sources	15
Research and Master thesis	60
Humanities	10
Total	120

ENTRY REQUIREMENTS:

- Bachelor in Physics, Engineering, Applied Physics, Computer Science or similar.
- English language proficiency B+ level.
- Basic knowledge of Electrodynamics and Statistical physics is required.
- Entrance examination.
- Interview with the program coordinator.

PARTNERS:

- France - Université de Lorraine, Nancy
- Belgium - Ghent University

CAREER OPPORTUNITIES:

After completing the master's program, students will have the skills necessary for a successful career as a physics researcher, whether in industry, in scientific organizations, or elsewhere. Our graduates have the potential to work in a wide variety of fields: from modeling physical processes in plasma systems to developing new devices and performing research on them.

