

# Photonics and Optical Information

National Research ITMO University

Degree or qualification is awarded: **M.S. in Photonics and Optical Computing**

Language of study: **Russian, English**

Mode of study: **full-time**

Duration: **2 years**

Availability of free education: **yes**

Price: **262 000 Rubles per year**

Programme webpage at the university website:

[http://en.ifmo.ru/en/faculty/12/Faculty\\_of\\_Photonics\\_and\\_Optical\\_Information\\_Technology.htm](http://en.ifmo.ru/en/faculty/12/Faculty_of_Photonics_and_Optical_Information_Technology.htm)

Programme curator: **Tatiana P. Banderova**

Tel.: **+7 (812) 457-17-90**

E-mail: [international@itmo.ru](mailto:international@itmo.ru)

As the basic subjects the student will learn electric engineering and electronics, engineering and computer graphics, metrology, standartization and sertification, optical physics.

As the professional disciplines the students will learn informatiom and information systems theory, fundamentals of photonics, architecture compuring systems.

## Specializations within this programme

### Quantum Communications and Femtotechnologies

**Place of Study:** Russia

**Outcome (diploma or credits):** Master of Science (ITMO University)

**Duration:** 2 years, 120 credits

**Language:** English

**Application Deadline:** 09 August 2021

**Admission Requirements:** Bachelor's degree in the field of Optics/Photonics or equivalent, with excellent/good grades; CV & motivation letter; the upper-intermediate level of English.

For admission to the partner university IELTS or TOEFL may be required

## Program description

The program is designed for prospective Master's students who wish to specialize in the field of optical and quantum technologies for the transfer, recording and processing of information, and in the field of femtotechnologies. Students acquire profound knowledge and practical skills both in general professional disciplines of the "Photonics and optical information technologies" subject area, and in such specialized professional disciplines as "Optical communication lines and quantum communications", "Optical systems for recording, storing and displaying of information", "Femtosecond optics and femtotechnologies". It is important to note that the students spend more than 50% of the time working at the scientific laboratories and centers of the International Institute of Photonics and Optical Information Technologies, and such innovative industrial companies as Quantum Communications LLC, gaining practical skills of implementing projects commissioned by the Ministry of Higher Education and Science of the Russian Federation and the industry.

**More information [here](#)**

### **Contacts**

ITMO International Admission Office  
[international@itmo.ru](mailto:international@itmo.ru)

## **Physics and Engineering**

### **PROGRAM DESCRIPTION**

The Physics and Engineering Master's program aims to train specialists in interdisciplinary research in quantum mechanical modeling of new materials and low-dimensional systems, as well as experiments in nanophotonics, materials science, and life science.

The program includes the following specializations:

- Quantum Materials (computer modeling of functional materials and physics of low-dimensional structures)
- Hybrid Materials (chemistry and cell biology, materials science, and experimental nanophotonics)

### **Contacts**

Julia Tolstykh  
[julia.tolstykh@metalab.ifmo.ru](mailto:julia.tolstykh@metalab.ifmo.ru)

## **Physics and Technology of Nanostructures**

### **PROGRAM DESCRIPTION**

Nanoengineers and Nanotechnologists at high-tech industrial companies in the fields of electronics, instrument-making, nano industry and other knowledge-intensive industries, both in Russia and abroad.

Would you like to build an exciting career in the rapidly growing field of nanostructures? Do you want to work hand in hand with the world's leading scientists and gain hands-on research in this perspective area? Then this program is for you!

### **Contacts**

ITMO International Admission Office  
[international@itmo.ru](mailto:international@itmo.ru)

## **Quantum Technologies in the Industry**

### **PROGRAM DESCRIPTION**

Optoelectronics is a rapidly expanding field of science and technology. Light-based technologies and optoelectronics become the basis for energy-efficient and high-speed information and communication systems of the future. This trend calls for top-tier specialists capable of solving experimental, technological, and production issues in a new rapidly developing scientific and technical field.

### **Contacts**

Irina Smirnova

