Master's Degree Program

Photovoltaics and Solar Energy Technology

Saint Petersburg Electrotechnical University "LETI"
Department of Quantum and Optical Electronics
Master's Degree Program
Photovoltaics and Solar Energy Technology

Number of students: 10-15
Program: 120 ECTS credits, full-time study (2 years)
Eligibility: candidate must hold a Bachelor's Degree in the corresponding field

An academic year includes 2 semesters beginning on 1st September and 10th February, winter holidays (2 weeks: January), summer holidays (2 months: July, August). Master’s Thesis defense is in June.

The program is offered by the Department of Quantum and Optical Electronics
Program Director: Prof. Afanasjev V. P., Head of the Department of Quantum and Optical Electronics
Program Coordinator: Asst. Prof. Pukhova V., Department of Quantum and Optical Electronics

You can apply for the program via vmpukhova@etu.ru
For more information, please, visit http://eltech.ru/en/study/masters-degree/photovoltaics-and-solar-energy-technology
Our students get knowledge of underlying physical principals and material science aspects of photovoltaics, technology and metrology of solar modules, equipment, design and maintenance of solar power plants. Special attention is paid to silicon photovoltaics, including the most efficient HIT (Heterojunction with Intrinsic Thin layer) structures.

Program curriculum includes following advanced courses:
- Fundamentals of solid state physics
- Fundamentals of Photovoltaics
- Computer Simulation in Electronics
- Microelectronic technology
- Metrology of photovoltaic cells and modules
- Diagnostics of materials and structures in microelectronics and photovoltaics
- Optical and spectroscopic methods of diagnostics in photovoltaics
- Technology of silicon solar modules
- Laser technologies and processing in manufacturing of solar modules
- Microprocessors and microcontrollers
- Equipment and automation of solar power plants
Our students have access to the most modern and sophisticated technological and metrological equipment for solar modules production and testing in the laboratories of ETU "LETI" and TF TE Ioffe R&D Center. Using these facilities they carry out scientific research and get skills of practical work with real metrological instruments and technological apparatuses.

Educational programs of ETU "LETI" are constantly modernized, following the principle "Training through research". Graduates of our University receive new, profound knowledge and practical skills of work.

In 2015 program "Photovoltaics and Solar Energy Technology" successfully underwent general assessment and was awarded EUR-ACE® label by ENAEE - European Network for Accreditation of Engineering Education.

For more information, please, visit [http://eltech.ru/en/study/masters-degree/photovoltaics-and-solar-energy-technology](http://eltech.ru/en/study/masters-degree/photovoltaics-and-solar-energy-technology) or contact us via vmpukhova@etu.ru
Our facilities

Technological equipment of ETU "LETI"
(solar modules located on the roof of the building No 5)

Technological equipment of TF TE Ioffe R&D Center
Our partners

TF TE Ioffe R&D Center
(Saint Petersburg, Russia)
http://tf-tc.ru/

Hevel Solar
(Novocheboksarsk, Russia)
http://www.hevelsolar.com

Lappeenranta University of Technology
(Lappeenranta, Finland)
http://www.lut.fi

Satbayev Kazakh National Technical University
(Almaty, Kazakhstan)
http://www.kazntu.kz/ru
Saint Petersburg Electrotechnical University "LETI"
Established in 1886, ETU “LETI” is the oldest Electrotechnical University in Europe and provides a superior quality of education. Today 5 members of the Russian Academy of Sciences, 20 laureates of national and international awards and over 200 PhD are working in ETU. University provides high-technology laboratory facilities and cooperates with many innovation enterprises in Russia and other countries. It guarantees high quality of practical training for students and their competitive abilities on the world labour market. ETU is ranked one of the top 14 Russian Universities of the highest research significance, and one of the top 4 Russian Universities of technology with the highest citation index. ETU takes the third place in the National Technical University rating “The demand for graduates”. ETU offers a wide range of educational programs in the leading scientific fields and greets people from all over the world.
Department of Quantum Electronics and Optoelectronic Devices

Department of Quantum Electronics and Optoelectronic Devices is one of the oldest and the most renowned departments in the University. It was established in 1931, more than 80 years ago. The research activity of the Department is focused on semiconductor and thermoelectric photodetectors, infrared systems, lasers and laser technologies, optoelectronic devices for remote sensing and photovoltaics.

Many outstanding Russian scientists and engineers graduated from the Department of Quantum Electronics and Optoelectronic Devices. The most renowned of the Department’s alumni is the laureate of the Nobel Prize in Physics (2000) Prof. Zhores Alferov, who started his brilliant scientific career in the laboratories of the Department.

Carl XVI Gustaf presents the Nobel Prize in Physics to Zhores Alferov (Stockholm, December 10, 2000)
We are waiting for you!

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