Summer/Winter School on Renewable Energy

Saint Petersburg Electrotechnical University "LETI"

Degree or qualification is awarded: **standard certificate**

Language of study: **English**
Mode of study: **full-time**
Duration: **2 weeks**
Availability of free education: **yes**
Price: **30 000 rubles**

Programme webpage at the university website: https://etu.ru/en/study/winter-and-summer-schools/renewable-energy

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School "Renewable Energy " is focused on extra education of Bachelor's degree senior students and Master's degree students in electronics, electrical engineering, physics, and materials science. The aim of the school is to provide students with information about the current achievements in the field of renewable energy sources and photovoltaics with particular emphasis on the physical principles of operation of solar cells based on silicon, methods of their testing and production technology.

About the program

The main characteristic of human activity at the beginning of the XXI century is a rapid growth of energy consumption. As one of the most promising environment-friendly renewable energy sources should be recognized solar energy which provides direct conversion of the solar energy into electrical energy. Over the past 20-30 years, the average growth rate of solar power engineering has been of about 30%. Such an intensive growth is due both to production expansion and to development of new structures and working principles of photoelectric converters.

The School "Renewable Energy" covers the following areas:

- Renewable energy sources and their share in the global energy industry;
- History of development and future prospects of solar energy;
- Classification of photovoltaic solar energy converters;
- Basic principles of operation, design and characteristics of photovoltaic solar energy converters;
- Technology basics and production of silicon-based solar cells and modules;
- Fundamentals of metrology of solar cells and modules;
- Materials science aspects of photovoltaics;
- Basic methods of photovoltaics materials diagnostics;
- Components of solar power systems, and design of solar power plants.

Along with the lectures, the program of the School provides practical trainings and laboratory workshops carried out on the modern equipment.

Key points

Participation in the School "Renewable Energy" allows you to:

- Gain knowledge about the basic physical principles of photovoltaics;
- Study about advanced materials of photovoltaic solar energy converters;
- Understand main principles of technology and metrology of solar modules;
- Learn about the design and operation of solar power plants;
- Get skills of practical work on modern technological and metrological equipment.

Specializations within this programme