



ALAR
Training Center



ONLINE SUMMER SCHOOL

DIGITAL ENGINEERING IN MICRO- AND NANOELECTRONICS

June 28 - July 9, 2021

DO YOU WANT TO LEARN MORE ABOUT
ENGINEERING IN MICRO- AND NANO-ELECTRONICS?
JOIN THIS SUMMER SCHOOL!

ECTS credits: 4.0



POLYTECH

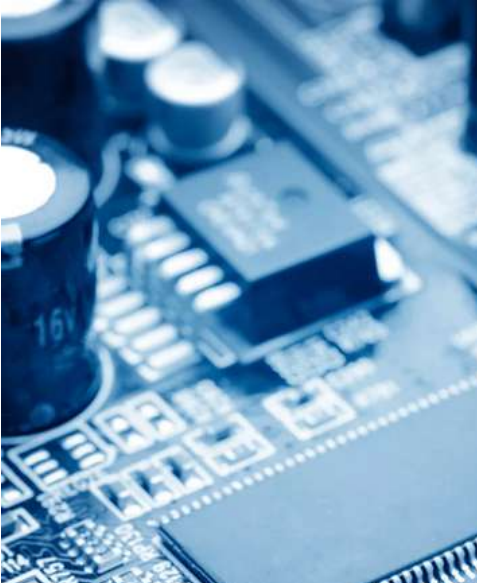
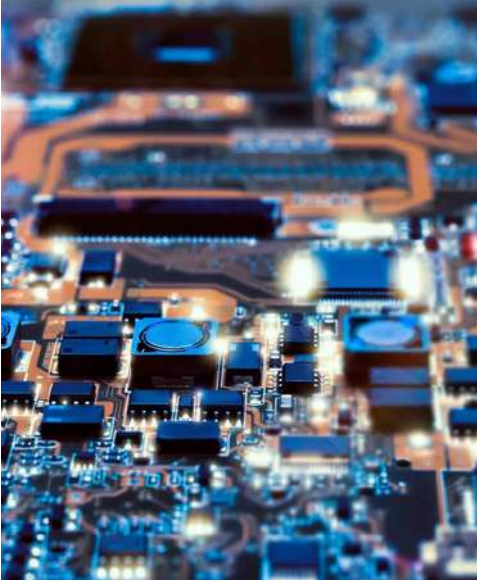
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University



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COURSE DESCRIPTION

This program will help students to achieve solid understanding how modern digital circuits can be built using Verilog Hardware Description Language (HDL) and tested with FPGA devices. We will start from basic digital devices described with Verilog and evaluated on FPGA development boards. Next step will involve more complex digital circuits, including system-on-chip (SoC) based on SCRI microprocessor - open source and free to use RISC-V compatible MCU core, designed by Syntacore company. The course is based on regular classes held in SPbPU and will be carried out by very experienced and highly qualified experts.

The course content includes:

-FPGA-based digital design with Verilog HDL

Part of the course related to FPGA-based digital design starts with a brief overview of the ASIC production and FPGA prototyping and then covers basics of the FPGA-based digital design with Verilog hardware description language.

-Measuring automatization based on LabView

During the measurement automation classes, students will become familiar with visual programming in the LabVIEW platform and learn how to work with integrated circuits via serial communication interfaces, such as SPI and I2C.

-Physical processing simulation on ANSYS

-Microelectronics circuits computer simulation

-Organics electronics basics (materials, devices and current trends)

Students receive or expand their knowledge on structure, properties and main production technologies of materials, learn about manufacturing technologies of components and devices of organic electronics, get state-of-the-art information about advantages, disadvantages and prospective applications of the organic electronic devices.

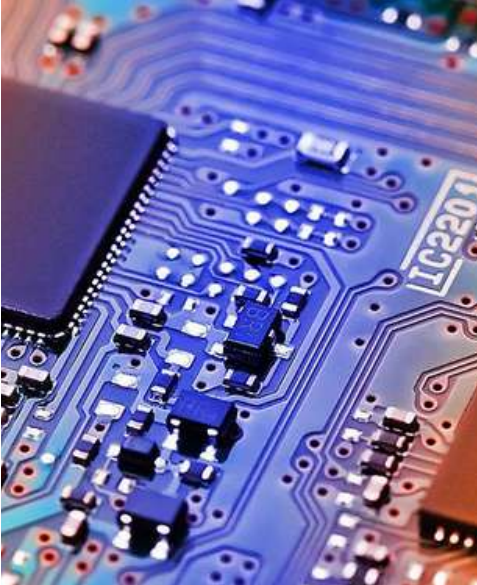
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Cost:

US\$421 - includes registration, teaching costs, 4.0 ECTS credits Certificate, additional Russian Language virtual course by ALAR Training Center (33h) + Certificate

Entrance requirements

- -Knowledge of Calculus and General Physics corresponding to the first two years of a Bachelor's degree program in physics, mathematics, technology etc.
- -Good command of English. All classes and extracurricular activities are conducted in English. Knowledge of the Russian language is not required
- -Applicants are expected to have at least 2 year of University level studies.

Professors and lecturers

- - Prof. Alexander KOROTKOV, Full Professor, Peter the Great St.Petersburg Polytechnic University (Russia)
- - Dr. Ivan PYATAK, Associate Professor, Peter the Great St.Petersburg Polytechnic University (Russia)
- - Dr. Ivan RUMYANTSEV, Senior Lecturer, Peter the Great St.Petersburg Polytechnic University (Russia)

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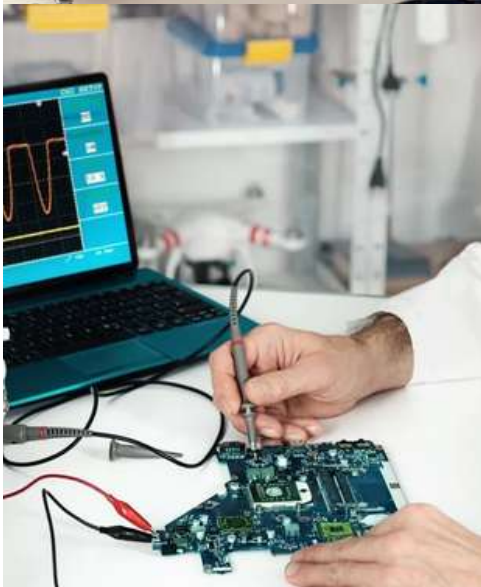
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- - Dr. Vera LOBODA, Associate Professor, Peter the Great St.Petersburg Polytechnic University (Russia)
- - Dr. Victoria KAPRALOVA, Associate Professor, Peter the Great St.Petersburg Polytechnic University (Russia)

Program dates: June 28 - July 9, 2021

Registration deadline: 21 June, 2021



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