ALAR
Training Center

ONLINE SUMMER SCHOOL

ADVANCED TECHNOLOGIES FOR MATERIALS PROCESSING

Jul 5 - 9, 2021

LEARN MORE ABOUT ADVANCED TECHNOLOGIES, JOIN THIS SUMMER SCHOOL!

ECTS credits: 2.0

POLYTECH
Peter the Great
St.Petersburg Polytechnic
University

POLYTECH
Peter the Great St Petersburg Polytechnic University

ALAR Training Center

BRIEF DESCRIPTION

The School provides the unique opportunity to attend intensive academic program, which is focused on the processing technologies (PT) and joining techniques (JT) with experience of professors from European countries, with different opinions and approaches. The two-weeks School is divided in two blocks: Basics and Advanced. First block will give you the theoretical knowledge, basic descriptions of the technologies and an overview of their applications. Second block consists in advanced topics on these technologies based on state-of-the-art practice based activities in research laboratories and deep aspects of the material microstructure evolutions during processing. The program will cover: PT and JT, powder production and characterization, metallurgical and mechanical properties, residual stresses and post-treatements. The school program is suitable for students and engineers interested in these technologies and topics. All studies are developed in accordance with the European requirements and can be recognized as a period of study abroad.

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Cost:
US$290 - includes registration, teaching costs, 2.0 ECTS credits Certificate, additional Russian Language virtul course by ALAR Training Center (33h) + Certificate

Program dates: Jul 5 - 9, 2021

Registration deadline: 14 June 2021

Entrance requirements

- - Good command of English. All classes and extracurricular activities are carried out in English;
- - Students from different area (material science, mechanical engineering, physics, etc) finishing a Bachelor or in Master;
- - Engineers from industries interested in an introduction and a general overview on AM and JT;
- - Scientists and/or senior engineers interested in advanced topics and actual challenges in AM and JT.

Professors and lecturers

- Anton Naumov, associate professor, Polytech, Russia

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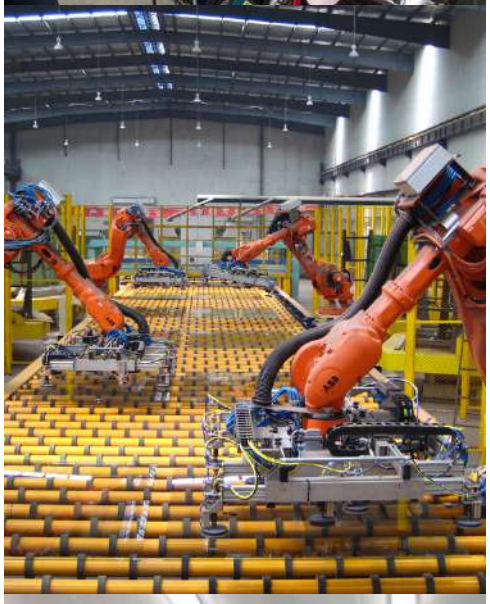

Course description

Block 1: basics

- - Overview of metallic additive manufacturing and friction based joining techniques;
- - Fundamentals on different technologies (PBF, DED, WAAM, FSW …);
- - Physics and mechanics of thermomechanical processes (thermomechanics basics, phase transformation, residual stresses …);
- - Metallurgical and mechanical properties.
- Block 2: advanced
- - Physics of the energy-matter interaction;
- - Advanced metrology in additive manufacturing;
- -Friction based processes and impact on microstructures and properties;
- -Microstructure and advanced physical properties;
- - Focus on steels and aluminium, nickel and titanium alloys,
- Within the school, students will have the opportunity to develop their own project under the guidance of specialists in telecommunications, biophotonics and fiber optics. The development of the project will consist of both the theoretical part (the schematic part and the corresponding calculations), and the practical part where students can assemble and test their own device.

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