

# International Polytechnic Summer School "Advances in Nuclear Fusion Science (Polytech - SOKENDAI)"

## Peter the Great St. Petersburg Polytechnic University

Degree or qualification is awarded: **Certificate**

Language of study: **English**

Mode of study: **distance learning, full-time**

Duration: **1 week**

Availability of free education: **no**

Price: **160-305 Euro**

Programme webpage at the university website:

[https://summerschool.spbstu.ru/programs/advances\\_in\\_nuclear\\_fusion\\_science\\_polytech\\_sokendai/](https://summerschool.spbstu.ru/programs/advances_in_nuclear_fusion_science_polytech_sokendai/)

Programme curator: **Department of International Educational Programs**

Tel.: **+7 (812) 534-25-31**

E-mail: [summerschool@spbstu.ru](mailto:summerschool@spbstu.ru)

July 26 - July 30, 2021

\* This is a new Summer School module oriented at Master and PhD students specializing in high-temperature plasma physics and controlled nuclear fusion. The lecturers are scientific researchers working and publishing in the corresponding field. The purpose is to give the young participants the possibility to learn directly from the authors of the contemporary scientific publications contributing to the development of the physics basis of the controlled nuclear fusion.

\* Fundamental scientific results by Polytech and SOKENDAI have found applications in physics of tokamaks, stellarators/heliotrons and other related fields. Scientists from both institutions will give lectures in their areas of expertise.

\* Controlled nuclear fusion is the most complex scientific and technical task the mankind has ever encountered. The demand for a clean, accessible, and dependable energy source is recognized and corresponds to the United Nations Sustainable Development Goals. The Topic Cluster "Magnetoplasma; Tokamak Devices; Plasmas" is within top 25% in the world by prominence according to the SciVal portal by Elsevier.

\* The tokamak was invented in Russia in early 1950s. In 1969 under the leadership of academician L.A. Artsimovich a controlled thermonuclear fusion in a tokamak was implemented in laboratory conditions for the first time in the world. In 2020 the ITER tokamak assembly started. The JT-60SA tokamak is now being prepared for the first plasma experiments in Japan. These devices are major milestones on the path to DEMO, i.e. a demonstration nuclear fusion power plant. ITER is to demonstrate the integration of science, technology, and safety features for a fusion reactor. JT-60SA is aimed at key physics issues for ITER and DEMO.

Duration: 1 week

ECTS credits: 2.0

Participation fee:

Online format: 160 eur

On-site format: 305 eur

Cultural program

- Socio-cultural program of extracurricular activities and networking events are included\*:

Online format:

- - Online Pub Quiz;
- - Online Interactive Tour to SPbPU Museum;
- - Online broadcasting of excursion to the Hermitage museum;

On-site format:

- - Boat city tour for students to get acquainted with the beauty of the city;
- - Excursion to the Hermitage, one of the world's largest and oldest museums of fine art;
- - Pub Quiz in the city center of St. Petersburg;
- - Excursion to Pushkin, former tzar summer residence famous for its palace and park ensemble. Students will visit the outstanding Catherine Palace with glorious Amber room (optional, for extra price);
- - Excursion to Peterhof palace-ensemble with picturesque gardens, a countless number of fountains and giant golden statues (optional, for extra price)

\*All of the listed above activities are planned to take place but in case any of those will have to be cancelled, an alternative event will be offered to participants.

Deadline for registration

Online format: July 12, 2021

On-site format:

- for EU- or visa-free countries nationals: June 28, 2021

- for non-EU nationals: May 17, 2021

## **Specializations within this programme**