



The Abdus Salam
International Centre
for Theoretical Physics



Joint ICTP-IAEA Fusion Energy School

Description:

Participants will attend the two-week-long intensive school featuring expert lectures from academia and the private sector, to develop a wider understanding of fusion energy and to connect with leading researchers.

MORE INFORMATION:

Research into fusion is entering an exciting new era with several large facilities aiming to achieve the crucial milestone of net energy gain. To create sustained fusion reactions, fusion fuel must be heated to 100 million degrees. The fuel is rapidly converted to plasma, which is extremely difficult to confine and control. New international facilities using high energy lasers and superconducting magnets are crucial steps on the way to reliable fusion energy but there are still many challenges to overcome. This school will prepare to address these challenges. Participants will be introduced to the skills in computational and experimental plasma physics, and conduct cutting-edge research and technology under the guidance of leading international scientists and engineers. Participants will have the opportunities to interact with world-class international fusion experts, making the Fusion Energy School an excellent way to explore their interest in fusion and prepare for a career in this field.

CORE LECTURES:

- Plasma Physics for Fusion
- Magnetic Confinement Fusion
- Inertial Confinement Fusion
- Plasma Diagnostic Techniques
- Fusion Energy Technology
- Fusion Fuel Cycle
- Fusion Safety and Regulation
- Fusion Legal and Institutional Aspects
- Workshop on Designing DEMOs and Pilot Plants
- Fusion Laboratory

OPTIONAL LECTURES:

- High Performance Computing
- AI/ML Methods in Fusion
- Low Temperature Plasma Science and Technology
- Laser Interactions and High Density Plasmas
- Astrophysical Plasmas
- Lasers and Atom-Light Interactions
- Nuclear Data



12 - 23 May 2025



Trieste, Italy



**Deadline:
28 February 2025**

DIRECTORS:

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LOCAL ORGANIZER:

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FURTHER INFORMATION:

E-mail: smr4069@ictp.it

Web: <https://indico.ictp.it/event/10834/>

Female scientists are encouraged to apply.

GRANTS:

A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries. There is no registration fee.



60 Years

IAEA Atoms for Peace and Development

