IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Joint Fusion School of the International Atomic Energy Agency, the Italian National Agency for New Technologies, Energy and Sustainable Economic Development and the Ettore Majorana Foundation and Centre for Scientific Culture

Hosted by the
Government of Italy

through the

Italian National Agency for New Technologies, Energy and Sustainable Economic Development and Ettore Majorana Foundation and Centre for Scientific Culture

Erice, Italy

7–12 June 2026

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Information Sheet

Introduction

The school is hosted at the historic Ettore Majorana Foundation and Centre for Scientific Culture (EMFCSC), an institution renowned for fostering international scientific exchange since its establishment in 1962 by physicist Antonino Zichichi. Set within the medieval hilltop town of Erice, Italy, the EMFCSC

has become a global hub where leading researchers, educators, and young scientists gather to share knowledge and advance emerging fields of science and technology.

The international school on fusion at the EMFCSC was established in 1972 and has since played a pivotal role in training generations of fusion researchers. This year's school is organized in collaboration with the International Atomic Energy Agency (IAEA) and Italy's National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA).

The school combines high-level lectures from leading experts with the unique interdisciplinary spirit that has characterized the EMFCSC for more than sixty years. Participants will gain not only technical knowledge but also the opportunity to engage in open dialogue across disciplines, generations, and national borders, reflecting the school's mission to cultivate the next generation of scientists, engineers, and leaders in fusion research.

Objectives

The purpose of the school is to introduce participants from Southern Europe and Africa to the foundations of magnetic confinement fusion design. Special emphasis is placed on understanding the relationship between magnetic field strength and machine size – a central consideration in the design, optimization, and performance assessment of magnetic confinement fusion systems.

Target Audience

The school is designed for graduate students, early-career researchers, and young nuclear scientists and engineers who are strongly motivated to deepen their knowledge in plasma physics, magnetic confinement, fusion materials, and high field applications.

Working Language

The working language of the event will be English. All communication and papers must be sent to the IAEA in English. No simultaneous interpretation will be provided.

Structure and Topics

The school programme will consist of six hours of lectures each day, delivered by leading experts in plasma physics, fusion science, and high-field technologies. In addition to the core lectures, the programme includes a student poster session, discussion sessions, technical roundtables, and a series of lightning talks, offering participants multiple opportunities to present their work, exchange ideas, and engage with instructors and peers.

A certificate ceremony will be held on the final day, followed by a high-level lecture from an invited guest speaker. The programme will also feature social activities, fostering informal networking and strengthening connections across the international participant community.

The lectures will cover the following topics

- **Introduction to Fusion Energy**
  - The role of fusion in the global electricity outlook
  - Historical perspective and current progress in fusion research and technology
- **Plasma Physics and Magnetic Confinement**
  - Principles of tokamak/stellarator operation and plasma stability
  - Interplay of plasma beta, magnetic fields, and stability limits
- **Magnetic Fields and Tokamak Size**
  - Fundamental equations linking magnetic field strength and power density
  - Engineering constraints: electromagnetic forces, structural stress, and thermal loads
- **High-Field Applications**
  - Advantages and challenges of high-field magnets
  - Simplification of magnet cooling schemes and structural impacts
- **Power Exhaust and Divertor Technology**
  - Heat flux management and advanced divertor designs
  - The role of seeded impurities, detachment strategies, scenarios development
- **Neutronics and Tritium Fuel Cycle**
  - Neutronics, nuclear aspects, tritium self-sufficiency
  - Design of breeding blankets and integration
- **Structural Materials and Innovations**
  - Advances in high-yield strength materials for high-field magnets
  - Impact of material limitations on scalability
- **RAMI and Fusion Nuclear Technology Qualification**
  - RAMI considerations
  - Validation and qualification of components

Participation and Registration

All persons wishing to participate in the event have to be designated by an IAEA Member State or should be members of organizations that have been invited to attend.

In order to be designated by an IAEA Member State or invited organization, participants are requested to submit their application via the InTouch+ platform (https://intouchplus.iaea.org) to the competent national authority (Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy

Authority) or organization for onward transmission to the IAEA by **17 April 2026**, following the registration procedure in InTouch+:

1. Access the InTouch+ platform (https://intouchplus.iaea.org):
   - Persons with an existing NUCLEUS account can sign in to the platform with their username and password;
   - Persons without an existing NUCLEUS account can register here.

2. Once signed in, prospective participants can use the InTouch+ platform to:
   - Complete or update their personal details under 'Complete Profile' and upload the relevant supporting documents;
   - Search for the relevant event under the 'My Eligible Events' tab;
   - Select the Member State or invited organization they want to represent from the drop-down menu entitled 'Designating Authority' (if an invited organization is not listed, please contact InTouchPlus.Contact-Point@iaea.org);
   - If applicable, indicate whether financial support is requested and complete the relevant information (this is not applicable to participants from invited organizations);
   - Based on the data input, the InTouch+ platform will automatically generate the Participation Form (Form A) and/or the Grant Application Form (Form C);
   - Submit their application.

Once submitted through the InTouch+ platform, the application, together with the auto-generated form(s), will be transmitted automatically to the required authority for approval. If approved, the application, together with the applicable form(s), will automatically be sent to the IAEA through the online platform.

NOTE: The application for financial support should be made, together with the submission of the application, by **17 April 2026**.

For additional information on how to apply for an event, please refer to the InTouch+ Help page. Any other issues or queries related to InTouch+ can be sent to InTouchPlus.Contact-Point@iaea.org.

Selected participants will be informed in due course on the procedures to be followed with regard to administrative and financial matters.

Participants are hereby informed that the personal data they submit will be processed in line with the Agency's Personal Data and Privacy Policy and is collected solely for the purpose(s) of reviewing and assessing the application and to complete logistical arrangements where required. The IAEA may also use the contact details of Applicants to inform them of the IAEA's scientific and technical publications, or the latest employment opportunities and current open vacancies at the IAEA. These secondary purposes are consistent with the IAEA's mandate. Further information can be found in the Data Processing Notice concerning IAEA InTouch+ platform.

Expenditures and Grants

No registration fee is charged to participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the event. The IAEA has, however, limited funds at its disposal to help meet the cost of attendance, covering school activities, meals, and accommodation at the EMFCSC, for a select number of participants. Upon specific

request, such assistance may be offered to normally one participant per country, provided that, in the IAEA's view, the participant will make an important contribution to the event. Priority for financial support will be given to applicants from Southern Europe and Africa.

Master's students enrolled at universities in EUROfusion member states (see: https://euro-fusion.org/eurofusion/members/) are eligible to apply for travel and subsistence support through FuseNet. Details on eligibility criteria and the level of financial support are available at: https://fusenet.eu/education/support/educational-events.

The application for financial support should be made, together with the submission of the application, by **17 April 2026.**

Venue

The event will be held in Erice, Sicily, at the EMFCSC. Information on how to reach the EMFCSC is available at: https://centromajorana.it/directions.html

The school agenda, together with information on local arrangements, will be sent to designated participants when the completed application has been received and approved.

The EMFSC contact points are:

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Visas

Participants who require a visa to enter Italy should submit the necessary application as soon as possible to the nearest diplomatic or consular representative of Italy.

Key Deadlines and Dates

17 April 2026	Deadline for submission of applications via the InTouch+ platform for participants requesting financial support, covering school activities, meals, and accommodation at the EMSFC
30 April 2026	Notification of acceptance of registration and award of grants
8 May 2026	Deadline for submission of applications via the InTouch+ platform for participants not requesting financial support

Lecturers

Paola Batistoni (School Director)	Italy
Bethany Colling	United Kingdom
Dario Cruz	FuseNet
Christian Day	Japan
Pietro Alessandro Di Maio	Italy
Stephanie Diem	United States of America
Achilleas Evangelias	France
Gianfranco Federici	Germany
Francesca Ferrazza	Italy
Jiangang Li	China
Simon McIntosh	ITER Organization
Luigi Muzzi	Italy
Gian Mario Polli	Italy
Lee Packer	United Kingdom
Diego Pereira	France
Alessandro Spagnuolo	Italy
Rosaria Villari	Italy
Marco Wischmeier	Germany
Hartmut Zohm	Germany

IAEA Contacts

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Subsequent correspondence on scientific matters should be sent to the Scientific Secretary/Secretaries and correspondence on other matters related to the event to the Administrative Secretary.

Host Organization Contact Points

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Event Web Page

Please visit the following web pages regularly for updates and new information about this event:

https://conferences.iaea.org/event/469/
https://centromajorana.it