



31st IAEA Fusion Energy Conference (FEC 2027)

Seoul, Republic of Korea

4–9 October 2027

Organized by the
International Atomic Energy Agency (IAEA)

Hosted by the
Government of the Republic of Korea

through the
Korea Institute of Fusion Energy

Announcement and Call for Synopses

A. Introduction

The International Atomic Energy Agency (IAEA) fosters the exchange of scientific and technical results in fusion energy research, development, and demonstration through its series of Fusion Energy Conferences. The 31st IAEA Fusion Energy Conference (FEC 2027) aims to provide a global forum for the exchange of scientific and technical results in fusion energy research and development on a range of themes, including experiments and theory for magnetic, inertial, and innovative confinement concepts, fusion technology and materials, and potential pathways to fusion energy.

According to the IAEA's Fusion Facility Database¹, as of 2027 more than 150 experimental and test facilities are operating, under construction or being planned, alongside nearly 30 fusion plant designs under development, including demonstration units, prototypes, and prospective commercial power plants. Major international projects such as ITER continue to advance the scientific and technological foundations for fusion energy, while recent breakthroughs across public and private initiatives have further accelerated progress in the field. Combined with the emergence of a dynamic industry and growing global concerns related to energy security and sustainability, momentum around fusion has expanded significantly. Attention is now increasingly focused on addressing the remaining scientific, technological, regulatory, and economic challenges required to demonstrate fusion power as a safe, reliable, and commercially viable long-term energy source

The scope of FEC 2027 is, therefore, intended to reflect the priorities of this new era in fusion energy research, development, demonstration, and preparation for deployment. The conference aims to provide a global platform for sharing the latest results and progress from both the public and private sectors, shaped by these emerging priorities and rapidly changing landscape. It will highlight worldwide advances in fusion experiments, theory and modelling, technology, engineering, materials, advanced concepts, safety, socioeconomics, and commercialization pathways. In doing so, FEC 2027 will contribute to identifying key challenges, fostering international collaboration, and helping define the way forward for the realization of fusion energy.

With the participation of international organizations, representatives from more than 50 countries, and a broad range of research institutions, academia, and private companies, the conference is expected, as in previous editions of the series, to serve as an important platform for identifying opportunities and mechanisms for sustained and effective international collaboration in fusion research and development.

The 31st Fusion Energy Conference is being hosted by the Korea Institute of Fusion Energy in Seoul, Republic of Korea from 4 to 9 October 2027. Previous conferences in this series were held in Salzburg, Austria (1961), Culham, United Kingdom (1965), Novosibirsk, Russian Federation (1968), Madison, United States of America (1971), Tokyo, Japan (1974), Berchtesgaden, Germany (1976), Innsbruck, Austria (1978), Brussels, Belgium (1980), Baltimore, United States of America (1982), London, United Kingdom (1984), Kyoto, Japan (1986), Nice, France (1988), Washington DC, United States of America (1990), Würzburg, Germany (1992), Seville, Spain (1994), Montreal, Canada (1996), Yokohama, Japan (1998), Sorrento, Italy (2000), Lyon, France (2002), Vilamoura, Spain (2004), Chengdu, China (2006), Geneva, Switzerland (2008), Daejeon, Republic of Korea (2010), San Diego, United States of America (2012), Saint Petersburg, Russian Federation (2014), Kyoto, Japan (2016), Ahmedabad, India (2018), Nice, France (2021)², London, United Kingdom (2023), and Chengdu, China (2025).

¹ See IAEA Fusion Facility Database (2027), <https://nucleus.iaea.org/sites/fusion-portal/SitePages/FFDB.aspx>

² Postponed from 2020 to 2021 and held online because of the global COVID-19 pandemic.

B. Topics

(For further information, see Annex A – Topics)

- **OV** Overview
- **EX** Magnetic Fusion Experiments (including validation)
- **TH** Magnetic Fusion Theory and Simulation
- **TEC** Fusion Energy Technology
- **IFE** Inertial Fusion Energy
- **IAC** Innovative and Alternative Fusion Concepts
- **PWF** Pathways to Fusion

Contributions on these topics will be considered for presentation at the FEC 2027 if they are clearly relevant to the development of fusion energy (see the attached Annex B – Guidelines for Authors). A Programme Committee consisting of a representative international membership will be responsible for the selection of contributions, the arrangements of conference sessions and the overall scientific content of the conference. The Programme Committee will meet in **May 2027** at the IAEA's Headquarters in Vienna, Austria, to finalize the technical programme for the conference.

Please be aware that because of the large interest within some countries in submitting contributions, official authorities in those countries may pre-screen the contributions to be submitted. Authors are advised to acquaint themselves with possible deadlines for this process at their earliest convenience.

C. Submission of Synopses

Anyone wishing to present a contribution during the conference must submit **a synopsis of maximum two pages (A4 PDF) including figures, tables, and references** (see the attached Annex B – Guidelines for Authors) through IAEA-INDICO. Instructions on how to upload the synopses will be made available on IAEA-INDICO, which will be accessible through the IAEA conference web page (see section P). All synopses must be submitted through this system **between 8 February and 14 March 2027, midnight** (Central European Time). Synopses submitted out of the submission time will not be considered under any circumstances. No other form of submission will be accepted.

IMPORTANT: The synopses will be considered by the Programme Committee only if governmental approval (designation) has been received by **31 March 2027**.

8 February 2027 Opening of synopses submission through IAEA-INDICO

14 March 2027 Deadline for submitting synopses through IAEA-INDICO

D. Contributions, Manuscripts and Journal Articles

D.1. Acceptance of synopses as contributions

Authors will be notified by email by **15 June 2027** as to whether their synopses have been accepted and, if so, in which format they are to be presented (i.e., overview oral, regular oral, overview poster or regular poster). They will also be informed of the assigned presentation session.

D.2. Submission of manuscripts

Upon acceptance of their synopsis, authors will be asked to **submit a conference manuscript for each contribution to the conference**. Any contribution for which no manuscript is received by the given deadline will be removed from the conference programme. The deadline for submission of the manuscripts as PDF files through IAEA-INDICO is **26 September 2027 midnight** (Central European Time). The IAEA will not accept submissions after the deadline.

Specifications and instructions for the layout of the full manuscript as well as for the preparation of posters will be posted on the IAEA web page for the conference (see section P) in **June 2027**. The manuscript must be submitted through IAEA-INDICO and uploaded as a PDF file. IAEA-INDICO will be opened for submission of manuscripts on **15 June 2027 midnight** (Central European Time).

Page limits for manuscripts

Overview orals and posters: 12 pages

Regular orals and posters: 8 pages

15 June 2027	Authors notified about the acceptance of their synopses and the format of presentations (specifications and instructions for the layout and electronic format of the full manuscripts, as well as for the preparation of posters, will be posted on the IAEA web page for the conference)
15 June 2027	Opening of manuscripts submission through IAEA-INDICO
26 September 2027	Deadline for submitting manuscripts through IAEA-INDICO

D.3. Dissemination and publication routes

The IAEA will not be issuing proceedings of the 31st IAEA Fusion Energy Conference. Instead, synopses, presentation slides, posters and manuscripts compiled as Conference Material will be made available on the IAEA Fusion Portal (see section P).

For authors who wish to publish their work in a peer-reviewed journal, the primary dissemination route will be the IAEA journal *Nuclear Fusion*. Authors intending to submit their work as a subsequent journal article should ensure that the conference manuscript uploaded to INDICO is clearly identified as a preprint. Alternatively, authors may choose to leave the conference manuscript as the final record.

D.3.1. Submission to *Nuclear Fusion* journal

D.3.1.1. Overview contributions

Authors of contributions within the categories of overview oral and overview poster are kindly requested to submit journal articles based on their conference manuscripts for publication in a dedicated special

issue of the journal *Nuclear Fusion* to appear in 2028. Journal articles should be submitted via <http://mc04.manuscriptcentral.com/nf-iaea> as soon after the conference as possible and by **28 November 2027** at the latest.

28 November 2027 Deadline for submitting overview oral and overview poster papers via <http://mc04.manuscriptcentral.com/nf-iaea> for publication in *Nuclear Fusion*

D.3.1.2. Other contribution categories

Authors of contributions within the category of regular oral and regular poster are also encouraged to submit journal articles based on their conference manuscripts for publication in the *Nuclear Fusion* journal. The manuscripts must contain original work and should omit, or only briefly mention in the introduction, material that has already been published. Papers should be appropriate, in terms of style and content, for a high-quality scientific journal and will be subject to the standard double-referee peer review procedure observed by the editors of *Nuclear Fusion*.

Upon acceptance of their synopsis, authors will be asked to confirm their intention to submit journal articles based on their conference manuscripts to *Nuclear Fusion*.

Subsequent communications with the authors regarding details for publication and charges will be handled by the *Nuclear Fusion* editorial office (email: nf@iaea.org). Journal articles may be submitted via <http://mc04.manuscriptcentral.com/nf-iaea> at any time before **31 January 2028**.

Accepted papers will be published in the first available journal issue and will be identified and indexed within the journal as IAEA Fusion Energy Conference papers and linked via the DOI to the manuscript in the Conference Material.

31 January 2028 Deadline for submitting regular oral and regular poster papers via <http://mc04.manuscriptcentral.com/nf-iaea> for publication in *Nuclear Fusion*

E. Post-Deadline Synopses

A limited number of post-deadline synopses will be accepted. To be considered, a synopsis must meet all of the following criteria:

- It deals with subject matter appropriate to this conference;
- It presents new experimental or theoretical data, or technological developments, of sufficient importance to attract wide-ranging interest among the conference participants obtained after the deadline for regular submissions; and
- It is submitted together with a completed Form for Submission of Contributions (Form B; see Section F) and an officially endorsed Participation Form (Form A; see Section F).
- **The synopsis should be a maximum of two pages (A4 PDF) including figures, tables, and references**, and should be submitted through IAEA-INDICO **between 15 June and 1 September 2027, midnight** (Central European Time).
- Authors will be notified by email by **10 September 2027** as to whether their synopses have been accepted and, if so, in which format they are to be presented (i.e., post-deadline oral or post-deadline poster). They will also be informed of the assigned presentation session. Authors of post-deadline contributions should be prepared to provide either an oral presentation or a poster. The manuscripts of post-deadline contributions will be included in the conference material and must follow the same guidelines as detailed in Section D. The deadline for submission of the manuscripts as PDF files

through IAEA-INDICO is **26 September 2027 midnight** (Central European Time). The IAEA will not accept submissions after the deadline.

15 June 2027	Opening of post-deadline synopses submission through IAEA-INDICO
1 September 2027	Deadline for submitting synopses for post-deadline acceptance through IAEA-INDICO
26 September 2027	Deadline for submitting manuscripts through IAEA-INDICO

F. Participation and Registration

All persons wishing to participate in the event must be designated by an IAEA Member State or should be a member of an organization that has been invited to attend.

Registration through the InTouch+ platform:

1. Access the InTouch+ platform (<https://intouchplus.iaea.org>):

- Persons with an existing NUCLEUS account can [sign in here](#) 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 ‘Basic Profile’ (if no financial support is requested) or under ‘Complete Profile’ (if financial support is requested) and upload the relevant supporting documents;
- Search for the relevant event (**EVT2502517**) 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 Conference.Contact-Point@iaea.org);
- If applicable, indicate whether a paper is being submitted and complete the relevant information;
- 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 Participation Form (Form A), Form for Submission of a Paper (Form B) and/or 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 form(s) will automatically be sent to the IAEA through the online platform.

NOTE: Should prospective participants wish to submit a paper or request financial support, the application needs to be submitted by the specified deadlines (see section N).

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.

If it is not possible to submit the application through the InTouch+ platform, prospective participants are requested to contact the IAEA’s Conference Services Section via email: Conference.Contact-Point@iaea.org.

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. Further information can be found in the [Data Processing Notice](#) concerning IAEA InTouch+ platform.

G. Expenditures

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 conference. The IAEA has, however, limited funds at its disposal to help cover the cost of attendance of certain 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 conference.

If participants wish to apply for a grant, they should submit applications to the IAEA using the InTouch+ platform through their competent national authority (see Section F). Participants should ensure that applications for grants are:

1. Submitted by **31 March 2027**;
2. Accompanied by Grant Application Form (Form C); and
3. Accompanied by Participation Form (Form A).

Applications that do not comply with the above conditions cannot be considered.

Approved grants will be issued in the form of a lump sum payment that usually covers only part of the cost of attendance.

H. Distribution of Documents

A preliminary programme of the conference will be made available on the conference web page (see section P).

The final programme (**in electronic form only**) will be available free of charge upon registration at the conference. An app is also intended to be made available that will allow participants to access the programme and other conference-related details through their smartphones.

I. Working Language

The working language of the conference will be English. No simultaneous interpretation will be provided. All communications and contributions must be sent to the IAEA in English.

J. Conference Venue and Accommodation

The conference will be held at the COEX, Gangnam in Seoul, Republic of Korea. Participants must make their own travel and accommodation arrangements. Please note that the IAEA is not in a position to assist participants with hotel bookings, nor can the IAEA assume responsibility for paying cancellation fees or for re-booking and no shows.

K. Visas

Participants who require a visa to enter the Republic of Korea should submit the necessary application to the nearest diplomatic or consular representative of the Republic of Korea as soon as possible. Further advice and instructions will be made available on the IAEA web page for the conference.

L. Satellite Meetings

Details on how to arrange room reservations will soon be made available on the web page for the conference (see section P).

M. Exhibitions

Space will be available for commercial vendors' displays/exhibits during the conference (further information will be made available in due course on the IAEA's conference web page).

N. Key Dates and Deadlines

FORMS A, B AND C

31 March 2027	Deadline for submitting Form B and/or Form C (together with Form A); no deadline if only Form A is submitted
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SYNOPSIS AND MANUSCRIPTS

8 February 2027	Opening of synopsis submission through IAEA-INDICO
14 March 2027	Deadline for submitting synopsis through IAEA-INDICO
15 June 2027	Authors notified about the acceptance of their contributions and in which categories (specifications and instructions for the layout of the full manuscripts, as well as for the preparation of posters, will be posted on the IAEA website for the conference) and opening of post-deadline submission through IAEA-INDICO
15 June 2027	Opening of manuscript submission through IAEA-INDICO
1 September 2027	Deadline for submitting synopsis for post-deadline acceptance through IAEA-INDICO
10 September 2027	Authors notified about the acceptance of their post-deadline contributions and in which categories (specifications and instructions for the layout of the full manuscripts, as well as for the preparation of posters, will be posted on the IAEA website for the conference)
26 September 2027	Deadline for submitting manuscripts through IAEA-INDICO

JOURNAL PUBLICATION

28 November 2027	Deadline for submitting overview oral and overview poster papers via http://mc04.manuscriptcentral.com/nf-iaea for publication in <i>Nuclear Fusion</i>
31 January 2028	Deadline for submitting regular oral and regular poster papers via http://mc04.manuscriptcentral.com/nf-iaea for publication in <i>Nuclear Fusion</i>

O. Conference Secretariat

Subsequent correspondence on scientific matters should be sent to the Scientific Secretaries of the conference and correspondence on administrative matters to the IAEA's Conference Services Section.

General Postal Address and Contact Details of the IAEA:

International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 VIENNA AUSTRIA
Tel.: +43 1 2600
Fax: +43 1 2600 2007
Email: Official.Mail@iaea.org

Scientific Secretaries of the Conference:

Mr Matteo Barbarino

Lead Scientific Secretary

Physics Section, Division of Physical and Chemical Sciences
Department of Nuclear Sciences and Applications

Mr Danas Ridikas

Physics Section, Division of Physical and Chemical Sciences
Department of Nuclear Sciences and Applications

Mr Ryan Wagner

Nuclear Power Technology Development Section, Division of Nuclear Power
Department of Nuclear Energy

Contact email address: FEC2027@iaea.org

Administration and Organization:

Mr Sanjai Padmanabhan

Ms Nancy Herter

Ref.: CN-356

Conference Services Section, Division of Conference and Document Services

Department of Management

Email: Conference.Contact-Point@iaea.org

P. Conference Web Pages

Participants are encouraged to visit these web pages regularly to check for new or updated information regarding the conference:

IAEA conference web page:

<https://www.iaea.org/events/FEC2027>

Conference Material will be made available on the IAEA Fusion Portal:

<https://nucleus.iaea.org/sites/fusion-portal/SitePages/IAEA-FECs.aspx>

Annex A – Topics

OV: Overview

Keywords: Device overview, programme overview, topic overview

EX: Magnetic Fusion Experiments

Keywords: Toroidal and Helical Configurations, Confinement, Stability, Performance, Wave-plasma Interactions, Current Drive, Heating, Energetic Particles, Plasma-material Interactions, Divertors, Limiters, Scrape-off-layer

TH: Magnetic Fusion Theory and Modelling

Keywords: Confinement, Stability, Performance and Control, Wave-plasma Interactions, Current Drive, Heating, Energetic Particles, Plasma-material Interactions, Divertors, Limiters, Scrape-off-layer

TEC: Fusion Energy Technology

Keywords: Control, Materials, Magnets, Engineering, System Integration, Radiation Transport and Activation, Safety, Maintenance and Remote Handling, Tritium Breeding, Fusion Nuclear Science and Technology

IFE: Inertial Fusion Energy

Keywords: Experiments, Theory and Modelling, Materials, Power Plant Design, Targets, Drivers

IAC: Innovative and Alternative Fusion Concepts

Keywords: Experiments, Theory and Modelling, Linear Configurations, Non-magnetic Configurations, Magneto-inertial Concepts, Hybrid Concepts

PWF: Pathways to Fusion

Keywords: Fusion Plants (e.g., DEMO, Prototypes, Pilot Plants), Timelines, Roadmaps, Supporting Facilities, Partnership Frameworks, Commercialization, Supply Chains, Critical Materials, Education and Training, Socio-economic and Environmental Aspects, Regulation and Licensing

The keywords are indicative only and not limiting.

Annex B – Guidelines for the Authors

- i. The synopses should be a maximum of two pages (A4 PDF) including figures, tables, and references.
- ii. The synopses are the main material used by the Programme Committee for selection.
- iii. The evaluation criteria are Impact, Novelty and Quality.
- iv. A meaningful title that communicates the main achievements is recommended.
- v. The synopsis should clearly emphasize how the work described meets the criteria. It is recommended that there is a clear focus on results obtained, conclusions, and impact in the field.
- vi. Results obtained and their impact should be described and clearly stated at the beginning to assist the evaluation. Note that the PC work is conducted under strict confidentiality agreement.
- vii. Methodology and motivational statements are important but should not dominate the content of the synopsis.
- viii. The use of 2-3 figures in the synopsis can be very helpful in clearly communicating principal results.
- ix. The synopsis for overview contributions should provide a coherent analysis of a specific subject area, clearly showing cross references in the same FEC. Overview submissions, if accepted within the OV category, will only be considered within this contribution category, i.e., overview oral or overview poster.
- x. Plans to undertake future productive analysis are welcome but cannot substitute for evidence of completed work.
- xi. Conference manuscripts are not peer reviewed publications and will be made available as Conference Material.
- xii. The Conference manuscript should be identified as a preprint, for example in its header or with a watermark – see <https://iopscience.iop.org/journal/0029-5515/page/conference-policy>