



**26th IAEA Fusion Energy Conference
(FEC 2016)
Kyoto, Japan
17–22 October 2016**

**Organized by the
International Atomic Energy Agency**

**Hosted by the
Government of Japan**

**through the
Ministry of Education, Culture, Sports, Science and Technology (MEXT)**

**and the
National Institute for Fusion Science (NIFS)**

Announcement and Call for Papers

A. Introduction

The International Atomic Energy Agency (IAEA) fosters the exchange of scientific and technical results in nuclear fusion research and development through its series of Fusion Energy Conferences. The 26th IAEA Fusion Energy Conference (FEC 2016) aims to provide a forum for the discussion of key physics and technology issues as well as innovative concepts of direct relevance to the use of nuclear fusion as a source of energy.

With a number of next-step fusion devices currently being implemented — such as the International Thermonuclear Experimental Reactor (ITER) in Cadarache, France, and the National Ignition Facility

(NIF) in Livermore, United States of America — and in view of the concomitant need to demonstrate the technological feasibility of fusion power plants as well as the economic viability of this method of energy production, the fusion community is now facing new challenges. The way these challenges are addressed will dictate research orientations in the present and coming decades.

The scientific scope of FEC 2016 is, therefore, intended to reflect the priorities of this new era in fusion energy research. The conference aims to serve as a platform for sharing the results of research and development efforts in both national and international fusion experiments that have been shaped by these new priorities, and to thereby help in pinpointing worldwide advances in fusion theory, experiments, technology, engineering, safety and socio-economics. Furthermore, the conference will also set these results against the backdrop of the requirements for a net energy producing fusion device and a fusion power plant in general, and will thus help in defining the way forward.

With the participation of international organizations such as the ITER Organization and the European Atomic Energy Community (Euratom), as well as the collaboration of more than forty countries and several research institutes, including those working on smaller plasma devices, it is expected that this conference will, as in the past, serve to identify possibilities and means for continuous and effective international collaboration in this area.

The 26th IAEA Fusion Energy Conference is being organized by the IAEA in cooperation with the National Institute for Fusion Science, Japan. Previous conferences in this series were held in Salzburg (1961), Culham (1965), Novosibirsk (1968), Madison (1971), Tokyo (1974), Berchtesgaden (1976), Innsbruck (1978), Brussels (1980), Baltimore (1982), London (1984), Kyoto (1986), Nice (1988), Washington DC (1990), Würzburg (1992), Seville (1994), Montreal (1996), Yokohama (1998), Sorrento (2000), Lyon (2002), Vilamoura (2004), Chengdu (2006), Geneva (2008), Daejeon (2010), San Diego (2012) and Saint Petersburg (2014).

B. Topics

- **OV** Overviews
- **EX** Magnetic Confinement Experiments (for the subtopics, see Annex A)
- **TH** Magnetic Confinement Theory and Modelling (for the subtopics, see Annex A)
- **PPC** Plasma Overall Performance and Control
- **IFE** Inertial Fusion Experiments and Theory
- **ICC** Innovative Confinement Concepts
- **FIP** Fusion Engineering, Integration and Power Plant Design
- **FNS** Fusion Nuclear Physics and Technology
- **MPT** Materials Physics and Technology
- **SEE** Safety, Environmental and Economic Aspects of Fusion

Papers on these topics will be considered for presentation at FEC 2016 if they are clearly relevant to the development of fusion energy (see the attached Annex A, *Scientific Guidelines for Authors*). A Programme Committee consisting of a representative international membership will be responsible for the selection of papers, the arrangements of conference sessions and the overall scientific content of the conference. The Programme Committee will meet in April 2016 at the IAEA's Headquarters in Vienna, Austria, to finalize the technical programme of the conference. Please be aware that because

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

C. Participation

All persons wishing to participate in the conference are requested to register online in advance via the IAEA conference website (see Section P). In addition, they must send a completed Participation Form (Form A) to their appropriate competent authority for subsequent official transmission to the IAEA. **A participant will be accepted only if the Participation Form is transmitted to the IAEA through one of the established official channels** (see Section H).

D. Submission of Synopses and Abstracts

Anyone wishing to present a paper or poster during this conference must submit **a two-page synopsis and an abstract, both in electronic format** (no paper copies), directly to the IAEA. Instructions on how to upload the synopses and abstracts to the conference's web browser-based file submission system (IAEA-INDICO) are available on the IAEA conference website (see Section P). The synopses and abstracts **must** be submitted through this system **between 14 February and 13 March 2016**. No other form of submission will be accepted.

Authors must further submit the following two forms to their appropriate governmental or other competent authority (see Section H) for transmission to the IAEA:

- Participation Form (Form A)
- Form for Submission of a Paper (Form B)

These forms must be received by the IAEA no later than **1 April 2016**.

IMPORTANT: The electronically received two-page synopsis will be considered by the Programme Committee only if these two forms have been received by the IAEA through the established official channels (see Section H). **Authors should be aware that only one paper per same first author may be submitted for consideration.**

E. Conference Contributions, Preprints and Journal Articles

E.1. Acceptance of conference papers

Authors will be notified by email by May 2016 as to whether their papers have been accepted for oral presentation or for poster presentation and will be informed of the assigned paper number and presentation session.

E.2. Dissemination routes

The IAEA will not be issuing proceedings of the 2016 IAEA Fusion Energy Conference. Instead, preprints will be made available online. Subsequently, the primary publishing route is the IAEA journal Nuclear Fusion. Authors may, however, choose to leave the preprint as the final record.

The online conference material will be updated in 2017 with links to the journal articles, and DOIs will be appended to the preprints as required.

E.2.1. Submission of preprints

For every accepted regular contribution a manuscript preprint must be submitted. Regular contributions for which no preprint are received by the given deadline will be removed from the conference programme. Specifications and instructions for the layout and electronic format of the full manuscript preprints as well as for the preparation of posters will be posted on the IAEA conference website (see Section P) by May 2016. The preprints must be submitted through the IAEA-INDICO file submission system in the same way as the two-page synopses. IAEA-INDICO will be reopened for submission of accepted contributions on 22 August 2016. The deadline for electronic submission of the preprints as PDF files is 25 September 2016. The IAEA will not accept regular submissions after the deadline, by INDICO or by email.

IMPORTANT: The system for electronic submission of preprints, IAEA-INDICO, is the sole mechanism for submission of manuscripts for regular papers for FEC 2016. Historically, up to 70% of all papers for previous conferences were submitted during the last week before the submission deadline, which has led to some technical difficulties experienced by submitters due to high traffic on the web server. Authors are therefore encouraged to submit papers as early as possible.

Page limits for preprints

Summaries:	20 pages
Overviews:	12 pages
Oral presentations:	8 pages
Posters:	8 pages

E.2.2. Submission to Nuclear Fusion

E.2.2.1 Overview papers and summaries

Authors of overview papers and conference summary papers are kindly requested to submit their papers for publication in a special issue of the journal Nuclear Fusion to appear in 2017. Papers should be submitted as soon after the conference as possible to <http://mc04.manuscriptcentral.com/nf-iaea>.

E.2.2.2 Regular papers

Authors of all papers accepted for presentation at the conference are encouraged to submit their papers to the journal Nuclear Fusion. 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. All communications with the authors regarding details for publication and charges will be handled by the Nuclear Fusion editorial office (email: nf@iaea.org). Authors will be contacted by the editorial

office in June to ascertain their intentions. Journal papers may be submitted to <http://mc04.manuscriptcentral.com/nf-iaea>. The deadline for submission is 16 December 2016.

If the eventual journal submission is not based on the preprint, the author should inform the journal.

F. Post-Deadline Papers

A limited number of papers will be considered for post-deadline acceptance. To be considered, a paper must meet all of the following criteria:

- It deals with subject matter appropriate for this conference;
- It presents new experimental or theoretical data, or technological developments, of sufficient importance to attract wide-ranging interest among the conference participants;
- It is submitted together with a completed Form for Submission of a Paper (Form B; see Section D) and an officially endorsed Participation Form (Form A; see Section H); and
- A two-page synopsis has been sent as a file attachment by email to the IAEA's Scientific Secretariat for the conference by **21 September 2016** (to this email address: physics@iaea.org and as **PDF files only**). The Programme Committee will meet on **17 October 2016** to consider post-deadline submissions. Authors will be notified promptly about the acceptance or rejection of their papers through announcements posted on the IAEA conference website. Authors of post-deadline papers should be prepared to provide either an oral presentation or a poster. Time will be made available for three post-deadline oral presentations. The manuscripts of post-deadline contributions are to be included in the proceedings and must follow the same guidelines as those that apply to regular papers (see Section **Error! Reference source not found.**).

G. Expenditures

The costs for the organization of the conference are borne by the Host Government and the IAEA.

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 meet the cost of attendance of certain participants. Such assistance may be offered upon specific request to normally one participant per country provided that, in the IAEA's view, the participant on whose behalf assistance is requested will make an important contribution to the conference. Grant applications will only be considered for authors of accepted papers.

If governments wish to apply for a grant on behalf of one of their specialists, they should address specific requests to the IAEA to this effect. Governments should ensure that applications for grants are:

1. Submitted by **1 April 2016**;

2. Accompanied by a duly completed and signed Grant Application Form (Form C);
3. Accompanied by a completed 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. Channels of Communication

All persons wishing to participate in the conference are requested to register online in advance via the IAEA conference website (see Section P). In addition, they must send a completed Participation Form (Form A), Form for Submission of a Paper (Form B) (if applicable), and Grant Application Form (Form C) (if applicable) as soon as possible to one of the competent official authorities (in most cases these are: Ministry of Foreign Affairs, National Atomic Energy Authority or invited organization) for subsequent transmission to the IAEA.

Participants whose official designations have been received by the IAEA will receive further information on the conference at least three months before the event. This information will also be made available on the IAEA conference website.

I. Distribution of Documents

A preliminary programme and Book of Abstracts will be posted on the IAEA conference website (see Section P) as soon as possible.

The final programme and the Book of Abstracts (**in electronic form only**) will be available free of charge upon registration at the conference. It is also planned to make available a smartphone application to provide participants with the possibility to access programme and conference details through their smartphones.

J. Working Language

The working language of the conference will be English. No simultaneous interpretation will be provided.

K. Accommodation

Detailed information on accommodation and other administrative details will be made available on both conference websites (see Section P) well in advance of the conference.

L. Visas

Officially designated participants who require a visa for Japan need to submit the necessary applications to the nearest diplomatic or consular representative of Japan as early as possible (please note that it can take up more than one month to obtain a visa). Further information will be provided on the conference websites (see Section P).

M. Satellite Meetings

Deadline for booking requests: **16 September 2016**.

Details regarding how to arrange for room reservations will soon be made available on the Host Organization's conference website (see Section P).

N. Exhibitions

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

O. Conference Secretariat

IAEA Scientific Secretaries:

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**Contact email address (and also for
submission of post-deadline papers):**

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IAEA Administration and Organization:

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Subsequent correspondence on scientific matters should be sent to the Scientific Secretaries (physics@iaea.org) and correspondence on administrative matters to the IAEA's Conference Services Section.

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P. Conference Websites

Participants are encouraged to visit the two conference websites regularly to check for new or updated information. The conference website addresses are:

IAEA website:

<http://www-pub.iaea.org/iaeameetings/48315/26-th-IAEA-Fusion-Energy-Conference>

Host Organization website:

<http://www.fec2016.jp>