

First announcement

**The 31st International Toki Conference on Plasma and Fusion Research
(ITC31)**

-Expanding academic world emerging from fusion science-

November 8-11, 2022

Online Conference

<https://itc.nifs.ac.jp>

Scope

The International Toki Conference (since 1989) is a topical meeting dedicated to the future of fusion and plasma science. Under the title of “Expanding academic world emerging from fusion science”, the 31st conference(online) in 2022 will be held as a world-wide forum for international and interdisciplinary discussions towards the universalization of fusion and plasma science.

The conference is organized by eleven special sessions to present the academic plans and prospects for a new phase of the National Institute for Fusion Science (NIFS), as well as related plenary/invited talks and contributed poster sessions. Focusing on the universal questions raised in the conference, each organized session will contribute to lay the foundation for sustainable future science and technology by integrating academics. It is our hope that the values and importance will be shared with all participants.

The ITC31 is motivated by the recognition of a paradigm shift occurring in fusion science. So far, fusion science has focused on “numerical targets” that represent the access of plasma parameters (temperature, density, etc.) to the thermonuclear range, and has promoted big projects that literally pioneer the new frontier. In parallel to pushing parameters, these projects have revealed the basic problems that make up the “reason” behind the “results”.

We have reached a level where fusion science can be developed as diverse themes bearing academic meaning. NIFS will evolve into an academic research institute symbolized by the theme of “well-posed and well-defined problems” representing fusion science. We will develop academic issues in science and engineering in an interdisciplinary manner through eleven Units (groups). We will systematize fusion science academics while striving to deepen and universalize research results and hand them down to the next generation and the next generation after that.

Topics to Be Covered

- (1) Fusion Plasma Science
- (2) Basic and Applied Plasma Science
- (3) Space and Astrophysical Science
- (4) Quantum Process and Quantum Beam-Matter Interactions
- (5) Fusion Engineering and Superconductivity & Cryogenic Technology
- (6) Simulation, Diagnostics, Visualization, and Data-driven Science
- (7) Interdisciplinary Prospects

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Meeting Format

The meeting will consist of plenary/invited talks and contributed poster sessions. All presentations will be organized online for video conferencing. The abstracts will be selected by the International Program Committee. The official language of the meeting is English.

Date and Location

ITC31 will be held from November 8, 2022 through November 11, 2022 under online connection for video conferencing.

Abstract Submission

Authors are invited to submit one-page abstracts of their contributed papers online before August 18, 2022. For detailed instructions regarding abstract submissions, please visit the conference website (<https://itc.nifs.ac.jp/>).

*Note:

- The submitter of the abstract must be the same person as the first author of the abstract and the presenter at the conference.
- Each participant may make only one poster presentation.

Publication

Original regular or review/overview articles related to the conference topics as proceedings are encouraged to be submitted to Plasma and Fusion Research (<http://www.jspf.or.jp/PFR/>). Each submitted paper will be put through a peer-review process, and those accepted will be published in the journal. Publication charge is not covered by the conference.

Best Student Presentation Award

This award encourages students to conduct research in the plasma and nuclear fusion fields. Applicants must submit an abstract of their presentation and must complete their registration through the website.

Registration Fee

The registration fee is free.

Important Dates

Start of online abstract submission:	July 1, 2022
Start of online registration:	July 1, 2022
Deadline for abstract submission:	August 18, 2022
Notification of abstract acceptance:	September 26, 2022
Deadline for online registration:	October 12, 2022
Conference:	November 8-11, 2022
Deadline for paper submission:	December 12, 2022

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International Advisory Committee

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International Program Committee

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Local Organizing Committee

Y. Todo (Chair), M. Sato (Scientific Secretary), P. Adulsiriswad, H. Chikaraishi, K. Fujita, M. Goto, Y. Hamaji, Y. Hishinuma, K. Ichiguchi, M. Idouakass, K. Ikeda, R. Ishizaki, R. Kanno, G. Kawamura, S. Matsuoka, N. Mizuguchi, K. Mukai, M. Nakata, H. Noto, M. Nunami, S. Satake, R. Seki, H. Sugama, C. Suzuki, S. Toda, T. Tokuzawa, H. Wang, J. Wang, O. Yamagishi, H. Yamaguchi, Y. Yoshimura

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