

Webinars on Nuclear Fusion Research

Participation is free for all interested.
The full programme is attached below.
Recorded past webinars are available at www.belgianphysicalsociety.be

The fourth webinar takes place on

Wednesday 20 October 2021, 18:00

where

Dr. Juan Knaster,
Deputy Head of the ITER Programme Department
Fusion for Energy (F4E) at ITER Organisation, Cadarache, France

will present

" Materials research for fusion availability of fusion relevant neutron sources"



Dr. Juan Knaster was staff in CERN in the late nineties for the design and construction of the LHC. In 2005 he moved to the fusion world, his professional passion, joining the ITER International Team before the ITER Agreement was signed. Up to 2012, he was in charge of the design of the TF coils of ITER as a staff member of the ITER Organization. Up to 2018 he was leading the IFMIF/EVEDA Project based in Japan, mandated to design and validate with full scale prototypes the main technological challenges related with the most promising concept of a fusion relevant neutron source, which is essential for the success of the fusion programme. Today he is Deputy Head of the ITER Programme Department of F4E based in Cadarache.

The successful development of fusion energy requires the understanding of the degradation of structural materials exposed to 14 MeV neutrons. While nuclear fission development enjoyed the availability of experimental reactors for materials testing (with neutron energies on average <2 MeV), D+T fusion with its 14 MeV neutrons does not. The most promising solution to generate 14 MeV neutrons is based on a deuteron beam at 40 MeV in CW mode impacting a flowing liquid Li screen. The seminar will address the reasons why the availability of a fusion relevant neutron source is indispensable for the consolidation of fusion energy, the different existing technologies and their maturity and the most promising solution ahead.

Connection to the Webinar by Zoom link:

<https://us02web.zoom.us/j/85774373614?pwd=d05mMIJBTmRBN25vck41UHcvU29ldz09>

Meeting ID: 857 7437 3614 Passcode: 925343

The joint BPS-ISI Webinars are held on Wednesday afternoons at 16:00 to allow, in particular, the participation of secondary school teachers.

Exceptions to this fixed schedule are indicated in **red**

Each presentation lasts about 45 minutes, followed by questions/answers.

Full Programme of the BPS-ISI Joint Webinars on NUCLEAR FUSION RESEARCH

Wednesday 29 September 2021, 16:00

Dr. Julien Hillairet, Directeur de Recherches, Institut de Recherche sur la Fusion Magnétique, CEA Cadarache, France

"Introduction to nuclear fusion research"

Tuesday 5 October 2021, 16:00

Dr. Alberto Loarte, Head of the ITER Science Division, Science, Controls and Operation Department, ITER Organization, Cadarache, France

"Objectives and status of the ITER project, the first fusion reactor under construction"

Wednesday 13 October 2021, 16:00

Prof. Dr. Thomas Klinger, Director of the Division Stellarator Dynamics and Transport, Director of the Project Wendelstein 7-X, Max Planck Institute for Plasma Physics, Greifswald, Germany

**"The long way to steady-state fusion plasmas
The superconducting stellarator experiment Wendelstein 7-X"**

Wednesday 20 October 2021, 18:00

Dr. Juan Knaster
Deputy Head of ITER Programme Department, F4E at ITER Organisation, Cadarache, France

"Materials research for fusion: availability of fusion relevant neutron sources"

Wednesday 27 October 2021, 16:00

Prof. Dr. Vladimir Tikhonchuk,
Centre Lasers Intenses et Applications, Université de Bordeaux, France

"Inertial fusion research: physics, status and latest results"

Connection to each of the above Webinars is by Zoom link:

<https://us02web.zoom.us/j/85774373614?pwd=d05mMIJBTmRBN25vck41UHcvU29ldz09>

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