

1st IAEA DEMO PROGRAMME WORKSHOP

15-18 October 2012

*University of California at Los Angeles, Los Angeles, California,
United States of America*



IAEA

International Atomic Energy Agency

www.iaea.org

Announcement

INTRODUCTION

The International Atomic Energy Agency (IAEA) will hold the first IAEA DEMO Programme Workshop (DPW-2012) at the University of California at Los Angeles (UCLA), Los Angeles, California, United States of America from 15 - 18 October 2012. The meeting will be hosted by the University of California at Los Angeles.

BACKGROUND

With the construction of ITER, the worldwide magnetic fusion programme has begun a transition from a fusion science activity to one aimed at producing fusion energy on an industrial, power plant scale. This is driving an increased emphasis on a fusion technology programme which, along with ITER and accompanying research, will bring fusion as a power source within our reach. While internationally there is no agreement on a single roadmap to fusion, the science and technology issues to be resolved for fusion power to become a reality are broadly agreed. Resolving these issues and understanding the options for next-step fusion nuclear facilities are of common interest, even if the emphases and priorities vary from nation to nation. Thus there is substantial scope to add value to the programme by international cooperation. Against this backdrop, the IAEA has established a series of annual DEMO Programme Workshops to facilitate international collaboration on defining and coordinating DEMO programme activities.

OBJECTIVES

The objective of this, the first workshop in the IAEA series, is to discuss a subset of key DEMO scientific and technical issues with the aim of defining the facilities and program activities that can lead to their resolution. The workshop output, to be documented in summary presentations and (tentatively) a journal publication, will be information that could be used by any party as input to the planning of possible roadmaps to DEMO. Opportunities to make greater progress through international collaboration will be identified, ideally leading to coordination or joint work where beneficial. To promote continuity in the workshop series, participants will propose the set of topics for the next workshop(s) in the series, considering the status, expected progress, and need for international discussion among the various DEMO issues.

TOPICS

The Meeting will cover the following topics:

1. Fusion power extraction and tritium Fuel cycle

What choices are available for material, coolant, breeder, configuration and design concepts for fusion nuclear components worldwide (focus on power extraction and tritium fuel cycle)? What are the key fusion nuclear science and technology (FNST) issues and challenges? What issues can be resolved in non-fusion facilities? What issues require experiments in integrated fusion nuclear environment? What laboratory facilities need to be upgraded or constructed in the next 10 years? What are the major parameters and features required in a next step fusion nuclear facility to resolve the FNST issues and develop fusion nuclear components? What is the role of ITER TBM? What are the stages of experiments and development of FNST in a fusion nuclear facility? What strategies can be adopted for design, construction and operation of next step fusion nuclear facility (ies) to address the challenges of RAMI and limited availability of external tritium supply?

2. Plasma power exhaust and impurity control

What choices are available for plasma exhaust in fusion nuclear facilities, where the loads and conditions are harsher than those of ITER? What combination of materials, divertor configurations, neutral gas pumping, and operating scenarios will lead to solutions compatible with good plasma performance, tritium breeding, and long component lifetimes?

3. Magnetic configuration and operating scenario for a next-step fusion nuclear facility

What is the mission for a next step fusion facility and what are the major parameters and features required to fulfill its mission? What choices are available for fusion nuclear facilities that can fulfill this mission? Tokamaks and stellarators are the main configuration candidates at this time, but the choice of operating scenario, e.g. repetitively pulsed or continuous, and the associated control strategies are not firmly resolved.

WORKSHOP ORGANIZATION AND FORMAT

The workshop will be organized around three topics, listed above, where discussion and action are urgently needed. The agenda will be structured with a balance of invited talks and discussion time sufficient to facilitate reaching conclusions. The meeting will end with summary talks on each of the topics. In preparation for the workshop, it is expected that speakers will target their work and their presentations to address the workshop's aims. The international organizing committee is responsible for planning the technical programme and documenting the conclusion.

Language

The working language of the meeting is English; no interpretation will be provided.

Participation

About 40 experts from IAEA Member States and International Organizations are expected to attend the meeting. **All oral presentations will be based on invitation only.** Participants should be actively involved in the topics of the meeting. In order to participate in the meeting, all persons not officially invited by the IAEA to give a presentation at the meeting must send a completed Participation Form (Form A) to their appropriate governmental authority for subsequent transmission to the IAEA. Such a participant will be accepted only if the Participation Form is transmitted to the IAEA through one of the official channels by **10 August 2012.**

Contributed posters

A limited number of posters addressing the workshop topics may be included. Should any participant wish to present a poster, they are requested to submit a one page abstract to physics@iaea.org no later than **10 August 2012**. In addition, they must further submit a duly completed Form A to their appropriate governmental authority for transmission to the IAEA. This form must be received by the IAEA no later than **10 August 2012**.

MEETING LOCATION AND TRANSPORTATION

The meeting will take place at the **University of California at Los Angeles (UCLA)**. It will be held at the UCLA Faculty Center, in the California Room. The Faculty Center's address is *480 Charles E. Young Dr. East, Los Angeles, CA, 90095*. Appended to this document is a campus map indicating the location of the Faculty Center and Parking Lot 2.

Access

Getting there:

Driving directions to UCLA Faculty Center from LAX Airport:

- From LAX, take the 405 Freeway northbound.
- Exit at Wilshire Blvd Eastbound.
- Turn left (north) on Westwood Blvd.
- Turn right (east) on Lindbrook Avenue.
- Follow the left (north) fork when Lindbrook splits, the road becomes Hilgard
- Hilgard skirts the eastern edge of campus, follow it until you reach Westholme Avenue.
- Turn left (west) on Westholme and go to the parking kiosk to purchase parking pass. The parking attendant can assist you locating the lot.
- Parking lot 2 (most probable place where you will be assigned parking) is on the left hand side (south) of Westholme.
- The Faculty Center is on the right hand side (north) of Westholme. The main entrance is on the west side of the building (facing away from Hilgard, shown with a red arrow on attached map).

Additional maps and directions can be found at the following webpages.

Faculty Center Directions: <http://facultycenter.ucla.edu/directions.htm>

UCLA Campus Map: <http://www.ucla.edu/map>

Public Transportation:

There are several types of public transportation: taxi, bus, airport shuttle or hotel shuttle (if you are staying locally in Westwood).

Getting to UCLA by Bus

- [FlyAway](#)
Non-stop bus service from and to LAX
- [Metro](#)
Metro Lines 2, 302, 305 and 761 serve campus, or transfer from other Metro Bus lines.
- [Santa Monica Big Blue Bus](#)
Lines 1, 2, 3, 8 and 12 bring you to campus, or transfer from other lines.
- [Culver City Bus](#)
Line 6 brings you directly to campus, or transfer from Lines 1-5.

PUBLICATION

Electronic Proceedings

Electronic proceedings of the workshop, consisting of slides or posters, will be made available to all participants on an open web site.

Journal Publication

It is tentatively planned to publish a summary of the workshop as a journal article.

EXPENDITURES AND FINANCIAL SUPPORT

The costs for the organization of the meeting are borne by the host organization and the IAEA. No registration fee will be charged to participants.

As a general rule, the IAEA does not pay travel and accommodation expenses for meeting participants. However, limited funds are available to help meet the cost of attendance of a few selected specialists, primarily those from developing countries with low economic resources.

VISAS

Participants who require a visa to enter the United States should submit the necessary application as soon as possible. A letter of invitation, if needed, should be requested from the local organizer by emailing Ms. **Samantha Townsend** at samantha@fusion.ucla.edu.

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UCLA

-  **P36 PARKING STRUCTURES**
-  **36MR PARKING LOT**
-  **CAMPUS ENTRANCE**
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