



U.S. Burning Plasma Organization e-News
May 15, 2008 (Issue 20)

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Dear Burning Plasma Aficionados:

This newsletter provides a short update on U.S. Burning Plasma Organization activities. E-News is also available online at <http://burningplasma.org/enews.html>. Comments on articles in the newsletter may be sent to the editor (R. Nazikian rnazikian@pppl.gov) or assistant editor (Emily Hooks ehooks@mail.utexas.edu).

Thank you for your interest in Burning Plasma research in the U.S.!

Director's Corner by J. Van Dam

Many of the USBPO scientists have been busy recently due to involvement in Five-Year Plan reviews for major experimental facilities, either serving as review committee members or preparing presentations to the review committees. As a consequence, the Research Committee skipped one of its regular bi-weekly meetings—but got back to the business of burning plasmas on May 14.

ITPA Meetings: Recall that the ITPA—which stands for the International Tokamak Physics Activity—is the international arm of the USBPO. Several of the ITPA topical groups held meetings recently. At the May 14 USBPO Research Committee meeting, we heard reports about two of them: the ITPA MHD topical group meeting (25-29 February, Naka, Japan) and the ITPA Pedestal and Edge topical group meeting (28-30 April, San Diego). The ITPA Steady State Operation topical group also met recently (15-17 April, Boston), as did the ITPA Diagnostics topical group (14-18 April, Lausanne, Switzerland). The ITPA Transport Physics topical group and the Confinement Database and Modeling topical group held a joint meeting (22-25 April, Oak Ridge).

ITPA Structure: According to a revised charter approved by the international partners, the ITPA has now come under the auspices of the ITER Organization. In the process, the seven ITPA topical groups are being slightly re-organized, as shown in the following table:

Current ITPA topical groups	Future ITPA topical groups
Diagnostics	Diagnostics
Pedestal and Edge	Pedestal
Divertor and SOL	Divertor and SOL
MHD	MHD Stability
Confinement Database and Modeling	Energetic Particles
Transport Physics	Transport and Confinement
Steady State Operation	Integrated Operation Scenarios

Many of the leaders and deputy leaders of the topical groups have served in these positions for a number of years. Hence the Coordinating Committee plans to refresh the leadership with new blood. The USBPO Research Committee, at its April 16 meeting, proposed a number of candidates from the US. Subsequently the members of the USBPO Executive Committee held a discussion with US members of the ITPA Coordinating Committee, which led to a list of US nominees for the leader and deputy leader slots. Erol Oktay, who is one of the US members of the Coordinating Committee, also serves as the official US Contact Person. He and the respective Contact Persons from the other six ITER partners will negotiate the selection of the leadership. Incidentally, a new feature is that each topical group will have a co-deputy leader who is an ITER Organization staff scientist, in addition to the deputy leader from one of the ITPA Parties. The new leadership should be in place by the time of the annual meeting of the Coordinating Committee (June 30-July 1, 2008).

STAC-4 Meeting: The next meeting of the ITER Council’s Science and Technology Advisory Committee (STAC) will be held May 19-22 in Cadarache. The ITER Organization has just recently released the agenda and the documents to be discussed at that meeting, which include the ITER Research Plan, Project Plan and Resource Estimates, Options for the Baseline, Overall Project Schedule, Overall Project Cost, and Project Specification Document. In addition, the STAC members were sent a document describing the implementation of the Test Blanket Module program under the ITER Agreement. The STAC will meet jointly with the Management Advisory Committee (MAC) for a half-day session, in order to discuss issues of mutual relevance. The STAC meeting will conclude with a tour of the ITER construction site. It should be exciting to see dirt being moved and building foundations laid for what will become one of the largest-ever international science projects.

ITER newsletters: Just a reminder to our readers that the *ITER Newslines* is available at <http://www.iter.org/newsline/issues/current/ITERnewsline>. The present issue has an interesting look back in time to a 1958 article in *Life* magazine about the “doughnut method” and the Perhapsatron.

📣 **Announcements**

Submit BPO-related announcements for next month's eNews to Raffi Nazikian at rnazikian@pppl.gov.

Reports

Update on Activities of ITER STAC by Mickey Wade

Over the past nine months, three members of the Burning Plasma Organization (Michael Bell from PPPL, Ed Synakowski from LLNL, and Mickey Wade from General Atomics) have worked with the ITER Organization and other members of the international fusion research community to develop the ITER Research Plan (IRP).

The primary aim of the IRP is to define the plan of research and development and facility exploitation necessary to meet the ITER mission goals, starting in the construction phase and continuing into the second ten years of ITER operation. The basic operations plan in the IRP is foreseen to follow four phases:

- A non-nuclear phase in which the tokamak and its various subsystems are commissioned, the licensing assumptions for proceeding to active operation are validated and the first steps towards developing plasma scenarios are taken;
- A deuterium phase in which the scenarios required for DT operation are developed and brought to full performance;
- A first DT phase with the goal of achieving the Q=10 mission, of developing regimes that are compatible with true steady state operation and of exploring a wide range of plasma physics issues in the burning plasma state; and
- A second DT phase with the goal of demonstrating technologies and operating regimes that will be used in a demonstration fusion reactor to follow ITER.

The IRP outlines the logical order of the research programme and the necessary prerequisites for them, both in terms of auxiliary hardware availability and output from previous steps in the plan. The IRP also considers possible upgrade paths, delineating their potential impact on the research plan and defining points within the plan at which such upgrades should be available.

The IRP also lists potential burning plasma research activities that will be enabled by successful operation of ITER. The primary source for these activities was the report "Planning for U.S. Fusion Community Participation in ITER" prepared by the U.S. BPO's Energy Policy Act Task Group in 2005.

2008 BPO-Related Meetings

May 11-15

[17th High-Temperature Plasma Diagnostics Conference](#)

Albuquerque, NM

May 12-16

[6th Int'l Symp on Non-Thermal Plasma Technology](#)

Taipei, Taiwan

May 15-16

[Magnetics 2008 Conference](#)

Denver, CO

May 18-23

[5th Int'l Conf on Physics of Dusty Plasma](#)

Ponta Delgada, Azores, Portugal

May 26-28

[18th Int'l Conf on Plasma Surface Interactions in Controlled Fusion Devices \(PSI-18\)](#)

Toledo, Spain

Jun TBD

ITPA CC Topical Group Mtg

Location TBD

Jun 8-12

[ANS Annual Meeting](#)

Anaheim, CA

Jun 9-13

[35th EPS Conference on Plasma Physics](#)

Hersonissos, Crete, Greece

Jun 15-19

[35th IEEE International Conference on Plasma Science \(ICOPS2008\)](#)

Karlsruhe, Germany

Jun 15-19

[23rd Symposium on Plasma Physics and Technology](#)

Prague, Czech Republic

Jun 24-27

Innovative Confinement Concepts

Reno, NV

Jul 6-11

[17th Int'l Conf on High-Power Particle Beams \(BEAMS'08\)](#)

Xi'an, China

Jul 13-20

[37th Scientific Assembly of the Committee on Space Research and Associated Events \(COSPAR 2008\)](#)

Montreal, Canada

Jul 15-19

[19th Europhysics Conf on the Atomic and Molecular Physics of Ionized Gases \(ESCAMPIG-2008\)](#)

Granada, Spain

Jul 27-Aug 2

[7th International Wksp on Strong Microwaves: Sources and Applications](#)

Nizhny Novgorod, Russia

Aug 25-29

[24th Summer School & International Symp on the Physics of Ionized Gases](#)

Novi Sad, Serbia

Sep 1-4

[13th EU-US TTF Wksp](#)

Copenhagen, Denmark

Sep 8-12

[Int'l Congress on Plasma Physics](#)

Fukuoka, Japan

Sep 15-18

ITPA SolDiv Topical Group Mtg

Japan

Sep 15-19

[25th Symp on Fusion Technology \(SOFT\)](#)

Rostock, Germany

Sep 22-27

[Int'l Conf & School on Plasma Physics & Controlled Fusion and 3rd Alushta Int'l Wksp on the Role of Electric Fields in Plasma Confinement in Stellarators and Tokamaks](#)

Crimea, Ukraine

Sep 25-27

[18th IAEA Technical Mtg on Research using Small Fusion Devices](#)

Crimea, Ukraine

Sep 28-Oct 2

[18th ANS Topical Mtg on the Technology of Fusion Energy](#)

San Francisco, CA

Sep 29-Oct 2

[coNuSS 2008](#)

Belgrade, Serbia

Oct 12-18

[22nd IAEA Fusion Energy Conf - 50th Anniversary of Controlled Nuclear Fusion Research](#)

Geneva, Switzerland

Oct 20-25

[11th Int'l Conf on Electrostatic Precipitation \(ICESP-XI\)](#)

Hangzhou, China

Oct 20-22

ITPA CBDM, Transport, and Pedestal & Edge Physics Mtgs

Milan, Italy

Oct 20-22
ITPA MHD Topical Group Mtg
Lausanne, Switzerland

Oct 20-23
ITPA SSO Topical Group Mtg
Location TBD

Nov TBD
ITPA/IEA Joint Experiment Coordination Mtg
Location TBD

Nov 9-13
[ANS Winter Meeting](#)
Reno, NV

Nov 17-21
[50th APS-DPP](#)
Dallas, TX

Nov 23-25
MHD Control Wksp
Austin, TX

Nov/Dec TBD
ITPA Diagnostics Topical Group Mtg
IPR, India

Please submit your 2008 events to Emily Hooks at ehooks@mail.utexas.edu.

For more Fusion Research-related events, visit the USBPO Upcoming Events page online at <http://burningplasma.org/events.html>.