



iter newsline

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30 March 2009 — #75

News

A very 'Happy Friday' indeed

The sun and the food certainly helped, but most of all it was the company that made last Friday so happy. A big crowd of old and new ITER colleagues gathered in- and outside the ITER Headquarters building to meet, eat and enjoy. It was a nice opportunity to catch up, meet new faces and greet the first rays of spring sunshine. And this was only the beginning, because we plan to do this again and again, every last Friday of the month. So next time, bring your colleagues, bring your boss, introduce them to people you already know and have them introduce you to people you have never met before. Can you think of a more enjoyable way to get to know the people that form this Organization?



Looking forward to seeing you at the end of April for the next Happy Friday.

-Iris Rona

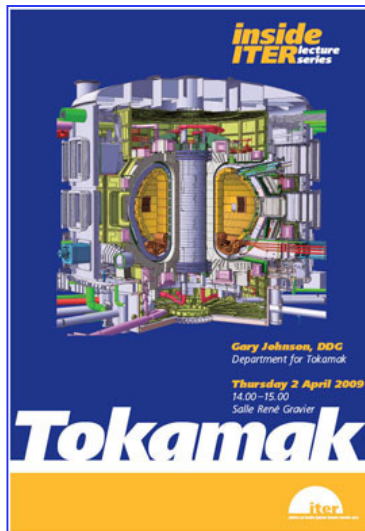
Setting up the Framework for ITER's Test Blanket Program

Speaking in ITER language, no "port allocation" had been made to the meeting room in the Aquabella Hotel in Aix-en-Provence - no window to distract the attention of the government representatives and experts from the seven Members attending the first meeting of the ITER Council Test Blanket Module Program Committee last week. A historical meeting marking the program's official launch under the ITER umbrella.

Announcements

Inside ITER Tokamak

Want to learn more about the major scientific and technological challenges of the ITER Tokamak?



Don't miss the next Inside ITER Seminar, presented by Gary Johnson, on Thursday 2 April from 14.00 to 15.00 in the Salle René Gravier.

See you there!

-Iris Rona

Featured Video

Think of a Swimming Pool



[Click the image above to view the video...](#)

This week, Dr. Mario Merola, ITER Blanket Section Leader, explains the function of the Divertor.

[Click here to view the video...](#)

Local

On April the First, Better Watch your Back!

Director's Corner

Challenging tasks ahead

We are now in the third year of our mission, and I would like to look back on what has been achieved since the signing of the ITER Agreement in Paris on 21 November 2006.



Kaname Ikeda
ITER Director-General

Thanks to the steady management of Agence ITER France, the levelling works for the 80-hectare tokamak platform will be completed within a matter of weeks. The next step will be the pre-excavation of the tokamak pit and the construction of the Poloidal Field Coil Winding facility. The commencement of building activities will truly be a new page in the ITER story.

Also, the ITER team has grown impressively over these last years — in Cadarache but also within the Domestic Agencies. It is the experience and enthusiasm of these people that is pumping life into the project and making its wheels turn. It has been a privilege to oversee such rapid development.

Finally the design of the ITER machine has been reviewed down to the last bolt, and although issues have arisen that will require our concerted attention, we are making good progress. In all, twelve procurement arrangements have been signed and the first manufacturing of strands for the ITER magnets has begun. I think we can be proud of what has been achieved so far.

Major challenges lie ahead, however. The most challenging task of the next months is to define the new project baseline, meaning that we have to define the scope and schedule of the project, and at the same time address the question of monetary resources. Our number one object is to control the cost of the project. Following the recommendation of the ITER Council, we are working closely with the Domestic Agencies on this question and have identified a list of potential cost-saving actions.

At the top of this list is procurement sharing optimization. In layman's terms this means reviewing the way in which manufacturing of the various parts of the ITER machine is distributed among the Members — an area that we are convinced holds much potential for cost containment. ITER is an international collaborative effort, and it is important to achieve equal distribution among all the Members both in terms of manufacturing and in terms of cost. However, through bilateral or trilateral agreements, or the creation of consortia, there is room for the process to be optimized.

Bilateral and trilateral agreements between the Domestic Agencies and the ITER Organization have already been established in the domains of cable and magnet production, and in diagnostics. These initiatives have shown us that it is possible - through a more global approach to optimization - to record real savings in terms of reduction of infrastructure and manpower, while all the while



Getting the TBM program on track: Program Chairman Satoshi Konishi, IO Technical Officer Luciano Giancarli and Valery Chuyanov, ITER Deputy Director General for Fusion Physics.

It is stated among the technical objectives of ITER that "ITER should test tritium breeding module concepts that would lead in a future reactor to tritium self-sufficiency and to the extraction of high-grade heat and electricity production." In fact, ITER is a unique opportunity for testing mock-ups of breeding blankets, called Test Blanket Modules (TBMs) in a real fusion environment.

The TBMs will test specific technologies that shall ensure tritium breeding self-sufficiency in the future - one of the major technological breakthroughs required for passing from ITER to the demonstration fusion power plant DEMO and finally to fusion power plants. ITER will gain the 10 kilograms of Tritium necessary for its expected 20-year lifetime from external sources. But for DEMO, with an expected electrical power output of 800 MW, about 300g of Tritium will be required per day. "As there is no sufficient external source of Tritium for fusion energy development beyond ITER, the successful development of Tritium Breeding Blankets is essential for the whole mission of fusion power," explains Luciano Giancarli, ITER Chief Technical Officer for the TBM Program.

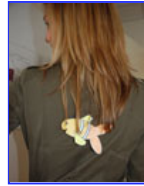
The goal of this first TBM Program Committee meeting was to define the governance of the TBM program - or how the ITER Organization and the seven Members will coordinate their work. "Nothing more, nothing less," as the panel's Chairman Satoshi Konishi, Professor at the Institute of Advanced Energy at Tokyo University, explained. Three ports within the ITER machine are allocated for testing the six Blanket technologies. Each port will be shared by two Members or TBM Partnerships or, as in the case for Europe, one Member with two different technologies on the test stand. "We will certainly see some kind of conflict of interest along our way, but we will solve these conflicts", Konishi said. "This is part of our mission."



The members of the first Test Blanket Module Program Committee in Aix-en-Provence last week.

In what was commonly regarded as a "very good start to a long term exercise", the panel recommended a reference port allocation and the nomination of Port Masters and TBM Leaders: Port Master for port number 16 will be Europe who will be testing the concept of both the Helium-cooled Lithium Lead and the He-cooled Pebble Beds (Ceramic/Beryllium) Blanket. Port Master for port number 18 will be Japan, who will themselves test

On Wednesday this week, you may end up with a paper fish pinned to your back. This is how children in France celebrate "April Fool's Day", a worldwide tradition the French claim to have originated.



Watch out! On Wednesday you may end up with a paper fish pinned to your back.

The story begins long ago. In 1564, French King Charles IX reformed the calendar and moved the start of the year from the end of March to the first of January. Despite the royal decree, many people did not accept the change and maintained the old tradition of celebrating the New Year during the week of the spring equinox, when night and day are of equal length. Rejoicing at the promises of spring, they would exchange greetings and gifts, often in the form of food.

These "traditionalists" were considered backward fools who stubbornly clung to the "old ways". They were mocked, and pranksters would play tricks on them such as attaching fake food, mud cakes, or paper fish to their backs. This is the origin of the "Poisson d'avril" - the French equivalent of "April Fool's".

Five centuries later, teachers, parents and figures of authority still fall prey to "poissons d'avril". In the 1960s, it was popular to broadcast outrageous news on French national television on this day. One of these pranks drew quite a lot of laughs from viewers; it was announced that a law would soon be passed prohibiting smoking in public places. A really good "poisson d'avril" has to be plausible and convincing though, and this one, some 40 years ago, wasn't either.

-Robert Arnoux

Portrait

ITER — A New Kind of City

Ananta Sahu joined the ITER project in 2007. "It was a great opportunity to work in a new kind of international environment. It's almost like being in a brand-new city, where people from all over the globe come together to work and live."



Ananta Sahu

Originally from Kolkota in eastern India, Sahu earned a Master's from the Indian Institute of Technology at Kharagpur. Following completion of his degree, he was hired by the Institute for Plasma Research (IPR) in Gujarat where he worked for twelve years before joining ITER. His specialty is cryogenics — technology that goes hand-in-hand with the giant superconducting magnets that will control, or confine, the hundred-million degree plasma inside of the ITER Tokamak.

Sahu travels to Hefei, China about six times per year to work with the Chinese ITER team that is responsible for procuring the magnet feeders. Design work is in the process to prepare for Procurement Arrangements. The Chinese team will then need to complete detailed manufacturing drawings, and to select four or five industrial partners for manufacturing.

The collaborative and challenging aspects of ITER

respecting existing R&D work and deadlines.

However unique the ITER Organization may be in its scientific goals and conception, we must not forget that we are a construction project that must stick to deadlines and budgets. We are determined to present solutions to the next ITER Council meeting in June this year that will result in cost management in the interest of all ITER stakeholders.

-Kaname Ikeda, ITER Director-General

Announcements

Exciting News! ITER on TV

The local TV channel Télé Locale Provence (TLP) is producing a series of programs on ITER and the road to fusion energy entitled Une Energie pour Notre Avenir (Energy for our Future). There will be ten 15-minute programs in all, each dealing with a specific aspect of fusion energy and the ITER project. Included will be interviews of ITER scientists, outside experts, local personalities and residents of the region who have questions about the ITER project.



"Most people in our region know very little about ITER", says Sébastien Galaup, TLP's Program Director. "As a local channel, we feel it's part of our duty to explain what the project is about, outline its scope and stakes and introduce the people who are part of it." Some of you may have already met Sébastien and Pierre-Paul Giudicelli, TLP's camera operator. They both have a way of making science fun, understandable and entertaining for the general public. "It is a big challenge for us and a very exciting one. We hope the programs convey the fun we have had in making them."

The series started off on Saturday 28 March with "La fusion pour quoi faire?" (Fusion, what for?) The program will air 18 times during the week of 28 March-4 April, and 18 times during the week of 11-18 April (please see schedule below). The second program called "La fusion, mode d'emploi" (Fusion, instructions for use) will begin to air late April.

-Robert Arnoux

TLP broadcasts through hertzian airwaves and on the Terrestrial Digital Network (TNT), but not on cable. So here is some practical information on how to receive the programs:

- In Manosque, Channel 47
- In the Céreste area, Channel 51
- In the Forcalquier area, Channel 44
- In the rest of Haute-Provence, Channel 56

Program # 1 will be aired according to the following schedule:

the concept of Water-cooled Ceramic Breeder (+Beryllium) and who will oversee the joint effort of US and Korea on testing the Dual-Coolant Lithium-Lead concept. Port 2 will finally be "mastered" by China, who will test He-cooled Ceramic Breeder (+Beryllium) technology plus the technology of Lithium-Lead Ceramic Breeder (LiPb & He, Dual-Coolant type) pursued by India. This is the recommendation the meeting will propose to the next ITER Council meeting in June this year.

The participants also agreed that appropriate persons acting as Port Masters and Team Leaders shall be nominated by 26 April. The second meeting of the Test Blanket Module Program Committee is scheduled for October this year.

[Watch a short interview with Chairman Satoshi Konishi...](#)

China Signs Support Contract with the ITER

On Monday, 23 March 2009, the ITER Organization and the Chinese company Rongxin Power Electronic Co. Ltd (RXPE) signed a framework contract for the supply of engineering and consultancy support to the ITER Organization for the design and installation of the ITER Reactive Power Compensation System. This device provides fast-acting reactive power compensation on high-voltage electricity transmission networks.



Mr. Q.Zuo (president of RXPE), Mr. D.Ye (Vice-Mayor of Anshan), and representatives of ITER Organization and the Chinese Domestic Agency celebrate the signature of the framework contract.

RXPE engineers and designers will work both at the ITER site in Cadarache, France, and the RXPE location in Anshan, a city in Liaoning Province, China. The support work will include providing consultation on technical issues, defining building requirements and layout, contributing to the system interface control document, defining test criteria, and contributing to system integration requirements. The work will also contribute toward finalizing baseline design and design criteria at the level required for the preparation of functional technical specifications for the procurement of the ITER Reactive Power Compensation System. The duration of the contract is two years with the option of extending it for another three.

-Ivone Benfatto, Head of the ITER Electrical Engineering Division

Think-Tank on Leak Localization Techniques

Knowing that it happened is one thing, knowing where it happened is another: the talk here is about leaks. Leaks in the ITER vacuum system during operation will most certainly occur despite every effort to assure maximum leak-tightness. The challenge is thus to find the right means to effectively detect and localize leaks in order not to jeopardize ITER project goals and timescales.

That is why the ITER team, lead by the ITER

makes Sahu's job extremely interesting. He works regularly with scientists at the CERN particle physics laboratory in Geneva, who are sharing expertise acquired in high-temperature superconducting current leads and cryogenics within the scope of a Cooperation Agreement with ITER. "This is a very unique international collaborative effort," says Sahu. "It is very exciting to see so many nations pulling together to work toward one goal: a new source of energy for humanity."

-Krista Dulon

Image of the Week

Smiling for the Family Album



The participants of the most recent IO-DA Coordination Meeting in Korea lining up in front of KSTAR

Fusion World

Back to the Future



Dr. Anil Kakodkar, Chairman of the Indian Atomic Energy Commission who played an influential role in India's participation in the ITER project, visited JET on 25 March as part of a high-ranking delegation undertaking a fact-finding tour of the UK. During the visit, he held discussions with Francesco Romanelli, EFDA Associate Leader for JET, and Steve Cowley, Director of UKAEA Culham, in which they were joined by Octavi Quintana Trias of the European Commission and Sir Chris Llewellyn Smith, Chairman of the ITER Council.

-Jennifer Hay, UKAEA Culham

Visitors

JAEA representatives visit ITER site

On 16-17 March, Dr. Toshio Hirayama, Head of the

- Tuesday: 2:30 a.m., 7:30 a.m., 10:00 p.m.
- Wednesday: 1:00 a.m., 1:30 p.m.
- Thursday: 1:30 a.m., 6:30 a.m., 11:30 p.m.
- Friday: 1:00 a.m., 10:30 a.m.

The ITER programs will also be accessible on the Internet at <http://www.tip.fr/>. DivX Web Player must be downloaded and installed to view the program (follow the link on the site's opening page).

[You may also click here to view the video streamed from the ITER website...](#)

"Interfaces" Now Available in English!

Interfaces, the bi-monthly magazine published by the Agence ITER France, is now also available in English.

[Click here to read...](#)

5th Int'l Workshop on Plasma Assisted Combustion

This is the first call for papers for the 5th International Workshop and Exhibition on Plasma Assisted Combustion (IWEPAC) to be held September 15-18, 2009 in Falls Church, Virginia, USA. (Washington, DC area).

[Click here for more info...](#)

7th Int'l Symposium on Applied Plasma Sciences

The 7th International Symposium on Applied Plasma Science (ISAPS '09), will be held at the University of Hamburg, Germany, 31 August — 4 September 2009. This Symposium is held to promote international collaboration in Applied Plasma Sciences. All questions related to this Symposium should be directed to the chairmen: hine@jwri.osaka-u.ac.jp or kobayasi@jwri.osaka-u.ac.jp

Baby boomer



On Sunday, 22 March, at 9.52 am, Alberto Loarte and his wife Marta gave birth to their daughter Gabriela. Gabriela weighed 2.725 kilos and measured 38.5 cm. "Gabriela behaves well and lets her parents sleep a bit", Alberto says. "We are all very happy, including her brother Alonso"

Links

ITER "Inter Parents"

<http://www.ipm04.fr/>

Vacuum Group plus experts from different fields, is meeting for a brainstorming workshop near Orange this week to identify possible techniques which could be adapted or developed to solve the ITER leak localization issues.



Knowing that it happened is one thing, knowing where it happened is another: The participants of the workshop on leak-localization.

Two types of leaks are considered to present the largest localization challenge for ITER: one is a water leak into the main tokamak or cryostat, the other a helium leak into the cryostat. Participants in the workshop will compare ideas to be pursued for further R&D, and identify integration issues for the current component design.

Conferences

6-10 April, 2009

[4th International Conference on the Frontiers of Plasma Physics and Technology](#)
Kathmandu, Nepal

11-14 May, 2009

[12th International Workshop on Plasma-Facing Material & Components](#)
Jülich, Germany

31 May-5 June, 2009

[36th IEEE International Conference on Plasma Science \(ICOPS2009\) and 23rd Symposium on Fusion Engineering \(SOFE2009\)](#)
San Diego, CA, USA

15-19 June, 2009

[7th IAEA Technical Meeting on Control, Data Acquisition, & Remote Participation for Fusion Research](#)
Aix-en-Provence, France

24-26 June, 2009

[18th Topical Conference on Radio Frequency Power in Plasmas](#)
Gent, Belgium

29 June - 3 July, 2009

[36th EPS Conference on Plasma Physics](#)
Sofia, Bulgaria

31 August - 11 September, 2009

[3rd Karlsruhe International School on Fusion Technologies](#)
Karlsruhe, Germany

7-12 September, 2009

[14th International Conference on Fusion Reactor Materials](#)
Sapporo, Japan

13-17 September, 2009

[9th European Conference on Applied Superconductivity \(EUCAS\)](#)
Dresden, Germany

21-24 September, 2009

[14th International Symposium on Laser-Aided Plasma Diagnostics](#)

Center for Computational Science & E-System (CCSE) at the Japan Atomic Energy Agency (JAEA), and Mr. Hiroshi Takemiya, Manager, CCSE / JAEA came to visit ITER.

They had a series of meetings with ITER staff on secured IT systems and enjoyed a visit to the ITER site.



From left to right: Mr. Hiroshi Takemiya, Dr. Toshio H-Hirayama and Sylvie André, Head of Communication at Agence ITER France.

-*Véronique Marfaing*

Local School visits ITER

More than 40 pupils from the Collège Camille Raymond visited ITER on 26 March. The young people, aged 11-14, came from the region of Château Arnoux, just north of Cadarache. The visit is part of a new program run by Agence ITER France that organizes visit to ITER for all interested schools in the region. After a tour of the site, Neil Calder, Head of Communication gave a presentation on ITER.



Newcomers

Bharatkumar Arambhadiya

Bharatkumar Arambhadiya joined ITER on 16 March 2009 as Instrumentation and Standardization Technician in the CHD Department. Before coming to ITER he worked in Vacuum Instrumentation & Control System of the Aditya Tokamak in INDIA for five years.



Bharatkumar Arambhadiya

Bharatkumar lives in Manosque and in his spare time he enjoys reading, movies, playing chess, cooking and travelling.

Mahaboob Basha Syed

Mahaboob Basha Syed joined ITER on 2 March 2009 as Civil Engineer for Nuclear Buildings, within the CCS Department.



All the world's tokamaks...

<http://www.tokamak.info/>

ITERfan.org Club Forum

<http://forums.iterfan.org/>

Safety Tip

When Wild Winds are Blowin

In the South of France the wind can be quite strong, as we all experienced last week. These gusts mainly come in from the northwest and are known as the Mistral.

In such weather conditions there is not only the risk of falling trees; last week part of a street light pole fell down into the car park of building 519. We were lucky that it fell between two cars and that fortunately no one was injured and no car damaged.

So, please be very careful in strong winds. Avoid walking under trees, beware of every noise when out of doors, and report any anomaly to the Building Security Supervisor, Alain Le Bris.

-*Pierre Reynard, Head of the ITER Safety Control Division*

NewsLine Editor

The ITER Newsline is produced by Sabina Griffith. Suggestions for future articles, comments and corrections, as well as items for the calendar are welcome, and can be sent to sabina.griffith@iter.org.

Castelbrando, Treviso, Italy

October 6-9, 2009

[ICNSP2009](#)

Lisboa, Portugal

11-16 October, 2009

[9th International Symposium on Fusion Nuclear Technology](#)

Dalian, China

18-23 October, 2009

[21st Int'l Conference on Magnet Technology \(MT-21\)](#)

Hefei, China

2-6 November, 2009

[51st Annual Meeting of the APS Division of Plasma Physics](#)

Atlanta, Georgia, USA

Before coming to ITER he worked at the Bhabha Atomic Research Centre in Mumbai, India for 12 years. He was responsible for the analysis and design of nuclear buildings, seismic re-evaluation and retrofitting of existing nuclear installations, fracture mechanics of concrete, and ultimate load predictions of containment structures.



Mahaboob Basha Syed

Basha lives in Aix-en-Provence. In his free time he enjoys touring around to discover his new environment.

-Iris Rona