

Welcome to the

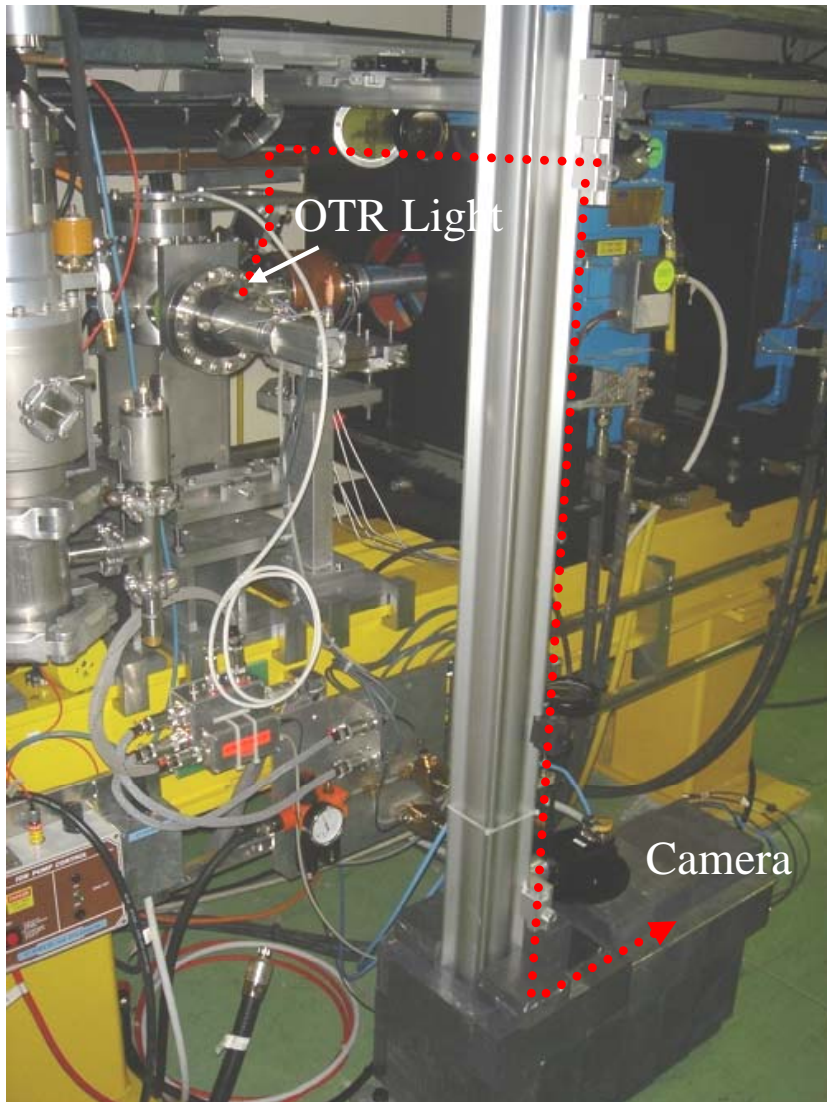
DITANET

advanced School
on Beam Diagnostics

Carsten P. Welsch



A „typical“ Accelerator Diagnostics



- Material sciences
- Thermodynamics
- Electro-Magnetism
- Optics
- Mechanics
- Electronics
- Nuclear Physics
- ...

 Multi-disciplinary field !

What is DITANET ?

- One of the largest Marie Curie Initial Training Networks ever funded by European Union !
- Funding for 21 fellows (17 ESR and 3 ER – not “PhD students”)
- Gives industry an important role !
- Recognition of importance of beam diagnostics at European level !

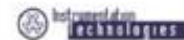
(in physics top 11, 2007 – under extreme competition)

The DITANET Consortium

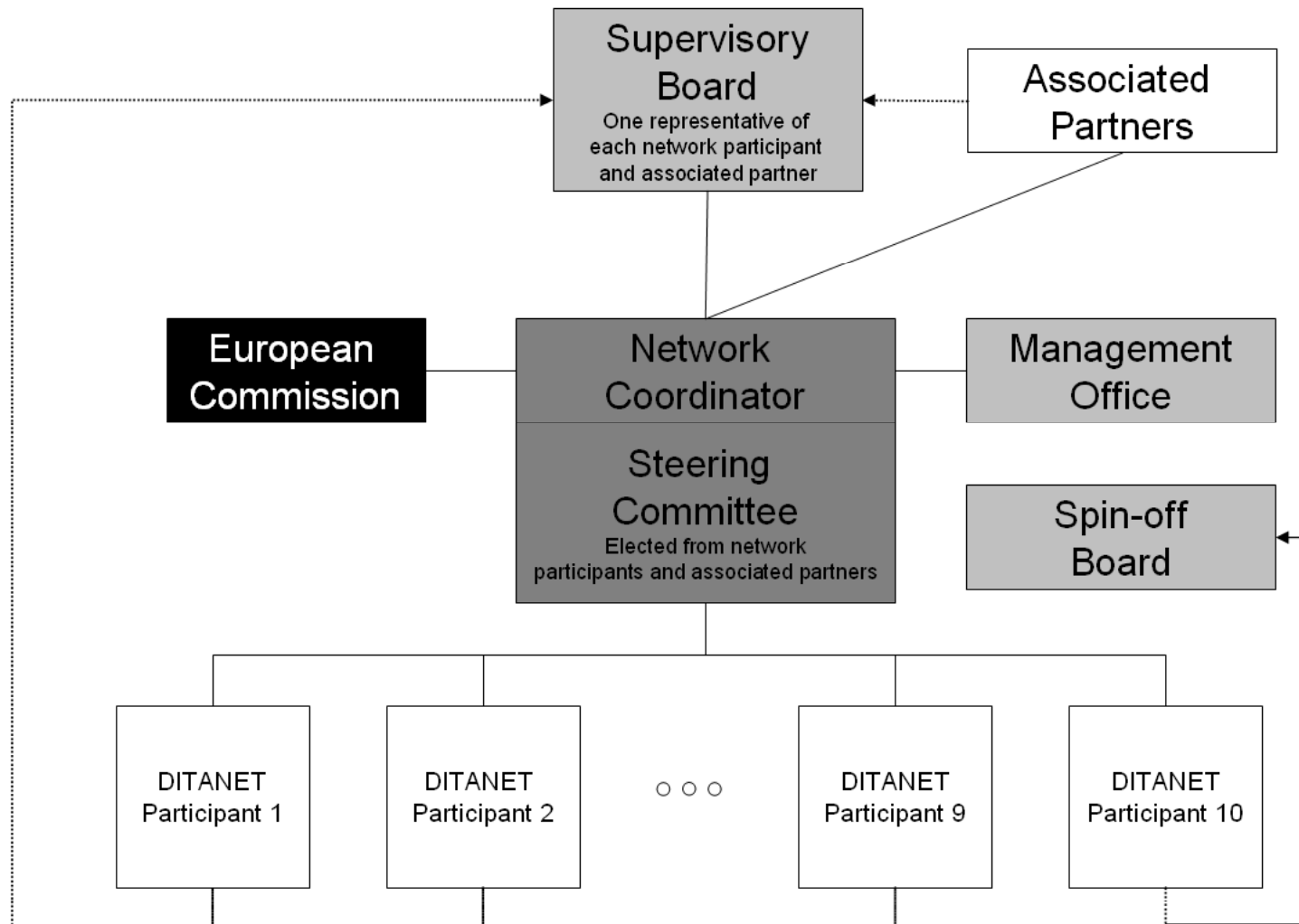
Network Participants



Associated Partners



Management



- In addition: *Adjunct Partners*.

Adjunct Partners

- Part of the long term strategy – DITANET is growing



Training – at each Network Node

- In accordance with national PhD regulations
- Provide trainees with broad skills base
- Expose to other sector
- Promote knowledge exchange and collaboration across the network
- 100% focus on research project

Training – at each Network Node

■ Example: CNA/U Seville, Spain – Z.A. Haidar

Workshops

- Oct 2008 : Workshop on Electronics for Novel Nuclear Physics Detectors at CNA
- Dec 2009 : Workshop on Hadron therapy at CNA

Doctoral Courses

- Dec 2008 : Nuclear Structure (1 week)
- Jan 2008 : Applied Nuclear Physics (1 week)
- Feb 2008 : Experimental Nuclear Physics (1 week)
- Mar 2009 : Nuclear Reactions (1 week)
- May 2009 : Intermediate Energies (1 week)

Schools, Mini Courses and Conferences

- Mar 2009 : 2 day course on Gas Ionization detectors : principles and recent developments
- July 2009 : International School of La Rabida on Basic concepts in Nuclear Physics: theory, experiments and applications (Poster participation: Development of a Tracking System of Exotic Nuclear Beams for FAIR)
- Sept 09 : Biennial of Physics (Spanish Royal Society of Physics) (Poster participation: Development of a Tracking System of Exotic Nuclear Beams for FAIR)

Other

- Tested and learned about several electronics equipments for detectors and data acquisition systems
- 2 semesters of Spanish courses (level 1 and level 2)
- Participated in a contribution to the GSI Annual Report of 2009 : “Fast timing with DSSSD detectors”

From Mid Term Review Report

Network-wide Events *(also: external part.)*



International School
“Beam Diagnostics”
RHUL, 30.3. – 3.4.2009, now: Stockholm
Indico: 55242, 92184
~ 100 participants and lecturers

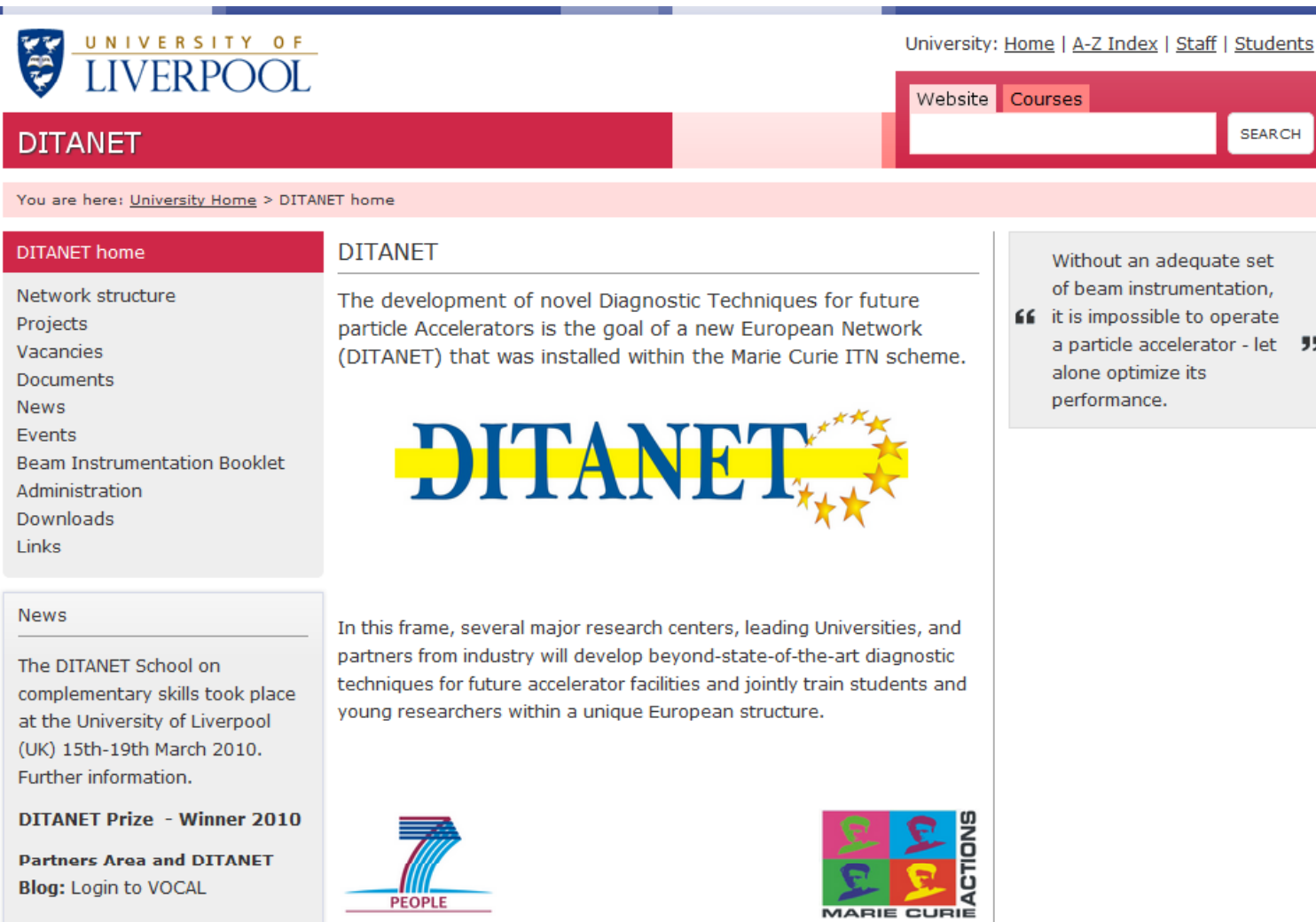


Topical Workshop
“Low energy, low intensity beam diagnostics”
Indico: 93294
~ 30 participants



Topical Workshop
“Longitudinal Beam Profile Measurements”
Indico: 93401
~ 30 participants

Dissemination: DITANET Website



The screenshot shows the DITANET website interface. At the top left is the University of Liverpool logo. To the right are navigation links: University: [Home](#) | [A-Z Index](#) | [Staff](#) | [Students](#). Below this is a search bar with tabs for 'Website' and 'Courses', and a 'SEARCH' button. A breadcrumb trail reads: You are here: [University Home](#) > DITANET home.

The main content area is titled 'DITANET'. It features a navigation menu on the left with items: DITANET home, Network structure, Projects, Vacancies, Documents, News, Events, Beam Instrumentation Booklet, Administration, Downloads, and Links. The main text describes the project: 'The development of novel Diagnostic Techniques for future particle Accelerators is the goal of a new European Network (DITANET) that was installed within the Marie Curie ITN scheme.' Below this is the DITANET logo, which consists of the word 'DITANET' in blue with a yellow horizontal bar and stars to the right.

A quote on the right side of the page reads: "Without an adequate set of beam instrumentation, it is impossible to operate a particle accelerator - let alone optimize its performance." Below the quote is a paragraph: 'In this frame, several major research centers, leading Universities, and partners from industry will develop beyond-state-of-the-art diagnostic techniques for future accelerator facilities and jointly train students and young researchers within a unique European structure.'

At the bottom of the page are two logos: 'PEOPLE' (a stylized number 7) and 'MARIE CURIE ACTIONS' (a colorful grid logo).

www.liv.ac.uk/ditanet

- Part of the dissemination strategy
 - Contribution from all network partners
 - Announcement and review of activities
 - >400 recipients, growing
- Registration by **Email.**



NEWSLETTER
October 2009
Issue 1

DITANET

Welcome to the First Newsletter of the EU Network DITANET!

Beam diagnostics systems are essential constituents of any particle accelerator; they reveal the properties of a beam and how it behaves in a machine. Without an appropriate set of diagnostic elements, it would simply be impossible to operate any accelerator complex let alone optimise its performance. Beam diagnostics is also a rich field in which a great variety of physical effects are made use of, and consequently provides a wide and solid base for the training of young researchers. Moreover, the principles that are used in any beam monitor or detector enter readily into industrial applications or the medical sector, which guarantees that training of young researchers in this field, is of relevance far beyond the pure field of particle accelerators.

The Marie Curie Initial Training Network DITANET – Diagnostic Techniques for Particle Accelerators - a European Network is the largest ever EU funded education action for PhD students and young Postdocs in beam instrumentation for accelerators with a project budget of up to 4.16 ME. The network presently consists of 27 partner institutions, including universities, research centres, and private companies. DITANET has now filled most of its position vacancies with first research results becoming visible, and already organised international meetings and schools. The network aims at strengthening the existing links in the beam diagnostics community and at building up new long-term partnerships.

With this newsletter, the network would ask you to participate in our activities and share with you our enthusiasm for this field. DITANET gives us a unique chance to further improve the performance of our research infrastructures: to push instrumentation beyond the present state of the art, and I am looking forward to exciting times!

Carsten P. Welsch
Carsten P. Welsch, Coordinator

DITANET Prize 2009

The network announces its first Prize in Beam Diagnostic Techniques. It will award a 1,000 € cash prize for an outstanding contribution to the field of beam instrumentation for particle accelerators by a researcher in the first five years of his/her professional career. The deadline for applications is 31st January 2010 and full information on how to apply can be found on the DITANET website: www.liv.ac.uk/ditanet

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The LHC pushes accelerator science and technology in many different fields, including a number of beyond state-of-the-art developments in beam instrumentation. This requires close collaboration between partners, the exploitation of synergies wherever possible, and a long term R&D planning.

Besides its contributions to optimizing existing particle accelerators, the network is also involved in central developments for future facilities, such as the Facility for Antiproton and Ion Research (FAIR) in Germany. By bringing together early stage and experienced researchers from all over the world in its first topical workshops on low energy, low intensity beam diagnostics, DITANET follows its goal of encouraging knowledge exchange between partners and driving new developments.

2010 promises to be another very exciting year for our community with many interesting events such as the BIW and IPAC in May. DITANET will organize a number of training events and I would like to use this opportunity to encourage you checking our web page on a regular basis.

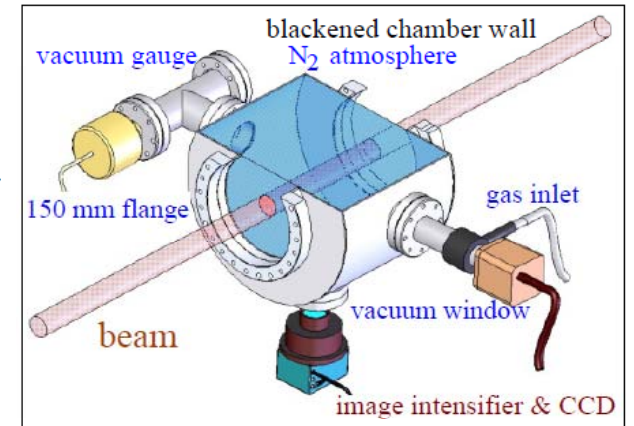
Carsten P. Welsch
Carsten P. Welsch, Coordinator

DITANET Prize 2009: Applications still open

Applications are still open for the Network's first Prize in Beam Diagnostic Techniques. A 1,000 euros cash prize is awarded for an outstanding contribution to the field of beam instrumentation for particle accelerators by a researcher in the first five years of his/her professional career. The deadline for applications is 31st January 2010 and full information on how to apply can be found on the DITANET website: www.liv.ac.uk/ditanet

Dissemination: DITANET Prize

- Dr. Frank Becker, GSI, Germany
- Beam Induced Fluorescence Monitor
- International Competition, open to external candidates



- University of Liverpool, UK
- CEA, Saclay, France
- CERN, Geneva, Switzerland
- DESY, Hamburg, Germany
- GSI, Darmstadt, Germany
- HfT GmbH, Heidelberg, Germany
- IFIN-HH, Magurele, Romania
- Royal Holloway University of London, UK
- Stockholm University, Sweden
- CNA / University of Seville, Spain



DITANET Prize in Beam Diagnostic Techniques

Beam diagnostic systems are essential constituents of any particle accelerator, they reveal the properties of a beam and how it behaves in a machine. Without an appropriate set of diagnostic elements, it would simply be impossible to operate any accelerator complex let alone optimise its performance.

The network will award a 1,000 € cash prize for an outstanding contribution to the field of beam instrumentation for particle accelerators by a researcher in the first five years of his/her professional career.

How to apply: Applications need to contain detailed information about the work and the contribution of the applicant. Two letters of recommendation need to be provided.

Deadline for applications is 31.10.2011. You will find more information about the prize and the application rules at <http://www.liv.ac.uk/ditanet>



Contact and further details:
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Next Call

Dead line: 31.10.2011



Summary

- Unique opportunity in field of beam diagnostics,
- Focus is on training of DITANET ESRs and ER,
- Mainly training-through-research,
- Manyfold overlaps across network,
- Number of network-wide training events
- Broad dissemination (newsletter, web site, etc.)

This week you are part of it !!!