

Personal view of the historical perspective and founding of ENLIGHT

Ugo Amaldi

University of Milano Bicocca and TERA Foundation

The beginnings

6 Oct 2001: VERY URGENT message from Germaine Heeren

From: Germaine Heeren <Germaine.Heeren@astro.be>
To: ugo.amaldi@cern.ch <ugo.amaldi@cern.ch>; rorecchia@leo.cilea.it
<rorecchia@leo.cilea.it>; hans.hoffmann@cern.ch <hans.hoffmann@cern.ch>;
j.remillieux@ipnl.in2p3.fr <j.remillieux@ipnl.in2p3.fr>; j.charnay@ipnl.in2p3.fr
<j.charnay@ipnl.in2p3.fr>; doblado@cica.es <doblado@cica.es>
Cc: Richard.Poetter@univie.ac.at <Richard.Poetter@univie.ac.at>; jean-
pierre.gerard@cal.nice.fnclcc.fr <jean-pierre.gerard@cal.nice.fnclcc.fr>;
veronique.guillaud@cal.nice.fnclcc.fr <veronique.guillaud@cal.nice.fnclcc.fr>;
hans.svensson@radfys.umu.se <hans.svensson@radfys.umu.se>;
G.Kraft@gsi.de <G.Kraft@gsi.de>; j.debus@dkfz-heidelberg.de <j.debus@dkfz-
heidelberg.de>; j.remillieux@ipnl.in2p3.fr <j.remillieux@ipnl.in2p3.fr>;
j.charnay@ipnl.in2p3.fr <j.charnay@ipnl.in2p3.fr>;
katrien.kesteloot@uz.kuleuven.ac.be <katrien.kesteloot@uz.kuleuven.ac.be>;
Brahme@radfys.ks.se <Brahme@radfys.ks.se>; G.Hartmann@dkfz-
heidelberg.de <G.Hartmann@dkfz-heidelberg.de>; jean-
jacques.mazeron@psl.ap-hop-paris.fr <jean-jacques.mazeron@psl.ap-hop-
paris.fr>; wambersie@rbnt.ucl.ac.be <wambersie@rbnt.ucl.ac.be>;
arrans@cica.es <arrans@cica.es>
Date: samedi, 6. octobre 2001 01:49
Subject: ESTRO Hadrons Project-VERY URGENT

6 Oct 2001: VERY URGENT message from Germaine Heeren

Referring to the meeting organised by R.Poetter in Vienna on 3 December 2000 and to previous correspondence, I would like to let you know that the Board of ESTRO has decided to make of the promotion of light ion hadrontherapy one of its strategic priorities for future developments in radiotherapy. Main promoter within the Board: ESTRO President: Jean-Pierre Gérard.

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Hans Svensson who was appointed as co-ordinator of the Stockholm group, accepted to co-ordinate the physics aspects, Jean-Pierre Gérard will coach the Clinical tasks and Ugo Amaldi was suggested as co-ordinator of the theoretical physics and engineering part. We hope he will accept this responsibility.

6 Oct 2001: VERY URGENT message from Germaine Heeren

The application we will be submitting (deadline 18 October) is for a thematic network. Proposed time frame for the project: 3 years

Besides the partners well known to you:
Stockholm Karolinska (Svensson)
Rhône-Alpes (Gérard)
Med Austron (Poetter)
Heidelberg-Darmstadt (?)
Thera (Amaldi/Orecchia?)
Sevilla has expressed the wish to participate.

From: Germaine Heeren <Germaine.Heeren@estro.be>
To: ugo.amaldi@cern.ch <ugo.amaldi@cern.ch>
Date: dimanche, 7. octobre 2001 19:55
Subject: : ESTRO Hadrons Project

> Delighted to learn that you will participate. Did you receive the 5
> attachments to my E-mail? It would be very helpful if you could find some
> time to read them.

6 Oct 2001: VERY URGENT message from Germaine Heeren

Walter Henning was GSI Director

Subject: Status of ENLIGHT

Date: Thu, 18 Oct 2001 11:38:45 +0200

From: "Ugo Amaldi" <ugo.amaldi@cern.ch>

To: "Hans Falk Hoffmann" <hans.falk.hoffmann@cern.ch>

CC: "David Williams" <David.O.Williams@cern.ch>, "Manjit Dosanjh" <Manjit.Dosanjh@cern.ch>, "Germaine Heeren" <Germaine.Heeren@estro.be>, "Horst Wenninger" <Horst.Wenninger@cern.ch>

Dear Hans,

just to inform all of you that the new text with Henning's preface and the WP 4 (Radiobiology) written by Kraft was introduced by me with some minor modifications yesterday evening. I send it around 8 pm and few minutes ago I just finished to talk to Walter Henning and Thomas Haberer (Gerhard Kraft is busy this morning) and they have agreed on the formulation.

Thus Germaine Heeren is submitting today our proposal with your signature for CERN and the signature of J. Debus for the GSI-Heidelberg project. (This was agreed also by Henning.)

As I wrote yesterday, I am satisfied to the level of 70-75% but, I think, it is now our duty to do all what we can to get the proposal through.

Very sincerely yours

Ugo

The backgrounds

Text written by Jean-Piere Gérard for the ENLIGHT site

The EULIMA project in collaboration with CERN was in the 1980s the first european attempt to design a cyclotron to produce Carbon 12 ions.

In 1997, Ugo Amaldi was given the Honoraris Causa award by the Lyon University

This was the origin of the Etoile project for a Carbon facility in Lyon included today in "France Hadron"

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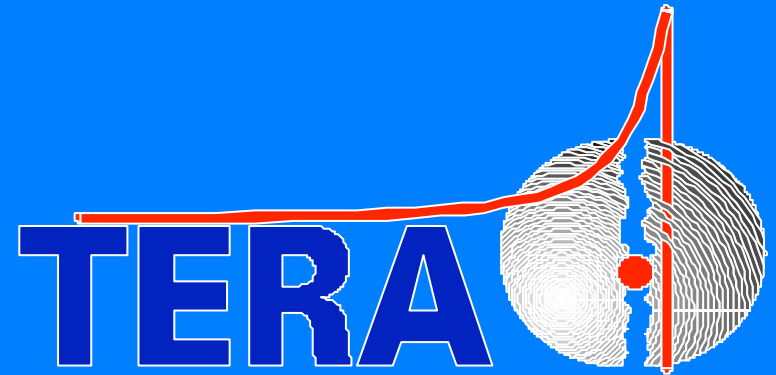
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During my presidency of ESTRO between 1991-2001, the European frame work program was a good opportunity

It was thanks to the energy and vision of Germaine Heeren - the general secretary of ESTRO at that time - that it was possible to overcome reluctance of some influential northern opinion leaders

and to create within ESTRO the ENLIGHT group.

TODAY: 20 YEARS OF TERA!!!



Founded in Novara on September 15, 1992

Board:

UA

President

Elio Borgonovi

Vicepresident

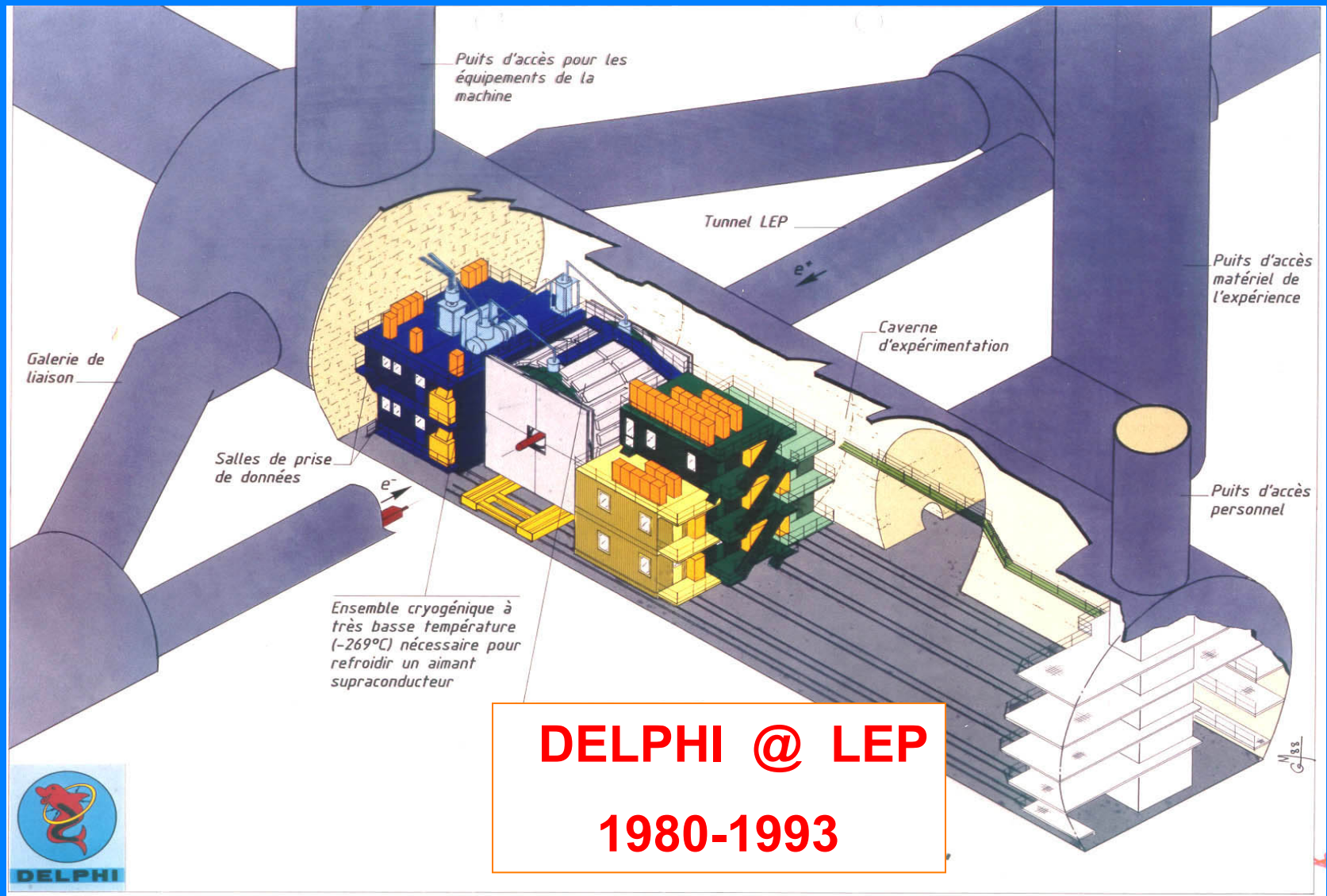
Jacques Bernier

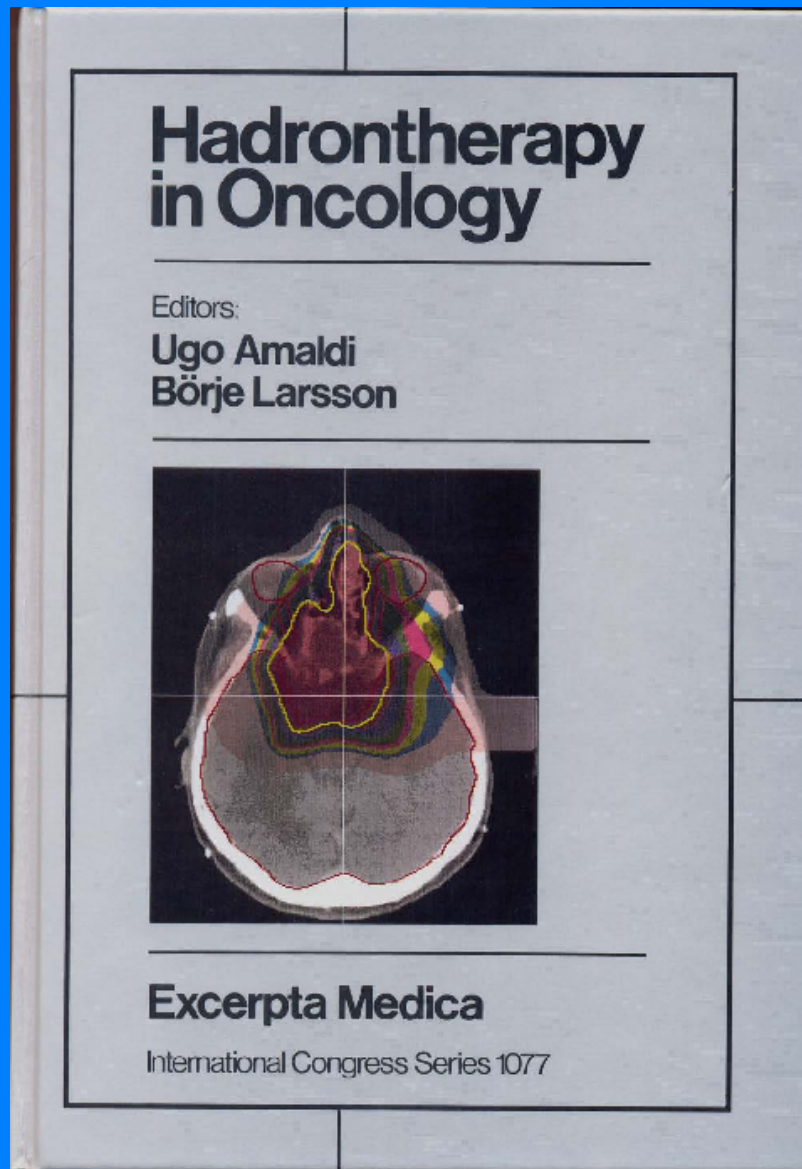
Roberto Orecchia

Gaudenzio Vanolo

Secretary General

The TERA background





Como, Italy

1993

**All the actors presented their
work and their ideas**

The TERA background

THE TERA PROJECT AND THE CENTRE FOR ONCOLOGICAL HADRONTHERAPY

IL PROGETTO TERA E
IL CENTRO DI ADROTERAPIA ONCOLOGICA
Vol. I

Second Edition

THE TERA COLLABORATION
U. AMALDI and M. SILARI editors



1995

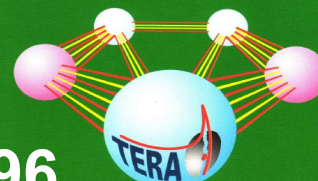
PROGETTO ADROTERAPIA

INFN - ISTITUTO NAZIONALE DI FISICA NUCLEARE
AIFB - ASSOCIAZIONE ITALIANA DI FISICA BIOMEDICA
AIRO - ASSOCIAZIONE ITALIANA DI RADIOTERAPIA ONCOLOGICA
CERN - EUROPEAN LABORATORY FOR PARTICLE PHYSICS
CNR - CONSIGLIO NAZIONALE DELLE RICERCHE
ENEA - ENTE PER LE NUOVE TECNOLOGIE, L'ENERGIA E L'AMBIENTE
ISS - ISTITUTO SUPERIORE DI SANITÀ
SIIR - SOCIETÀ ITALIANA PER LE RICERCHE SULLE RADIAZIONI
TERA - FONDAZIONE PER ADROTERAPIA ONCOLOGICA

THE RITA NETWORK AND THE DESIGN OF COMPACT PROTON ACCELERATORS

LA RETE ITALIANA TRATTAMENTI ADROTERAPICI E
IL PROGETTO DI ACCELERATORI COMPATTI DI PROTONI

THE TERA COLLABORATION
U. AMALDI, M. GRANDOLFO and L. PICARDI editors



1996

PROGRAMMA ADROTERAPIA

INFN - ISTITUTO NAZIONALE DI FISICA NUCLEARE
AIFB - ASSOCIAZIONE ITALIANA DI FISICA BIOMEDICA
AIFS - ASSOCIAZIONE ITALIANA DI FISICA SANITARIA
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IL CENTRO NAZIONALE DI ADROTERAPIA ONCOLOGICA A MIRASOLE

THE NATIONAL CENTRE FOR
ONCOLOGICAL HADRONTHERAPY AT MIRASOLE

FONDAZIONE TERA

A cura di Ugo Amaldi

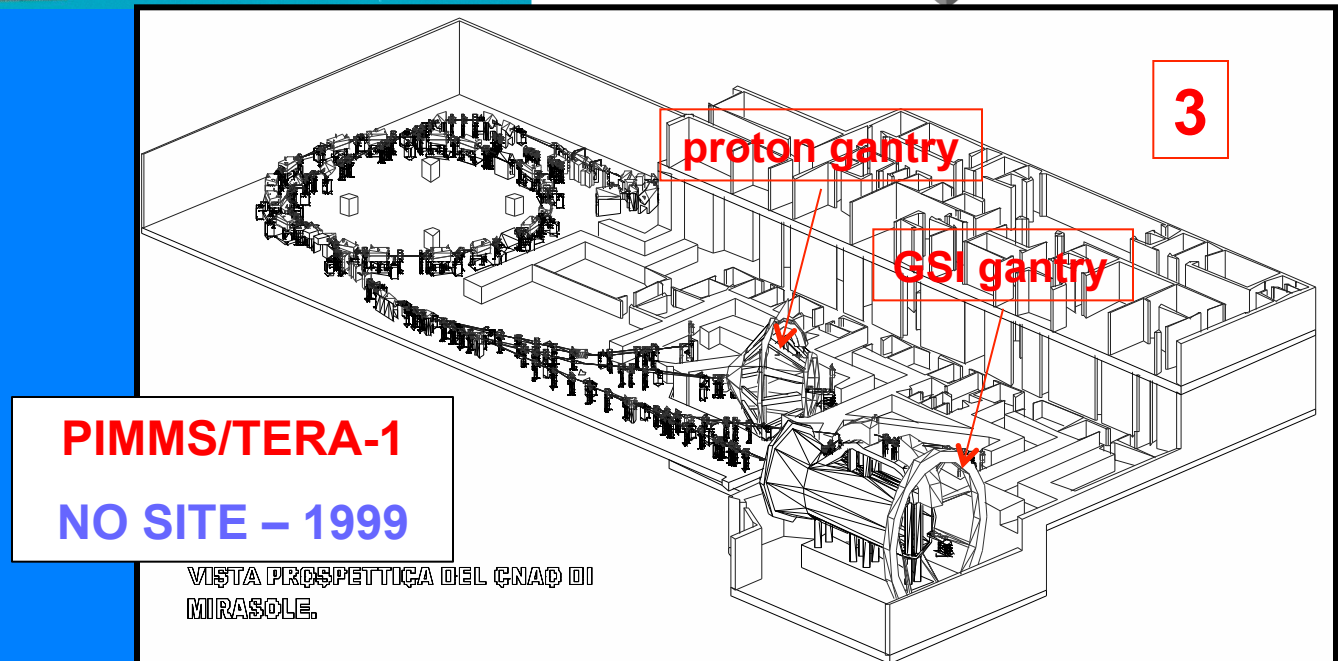
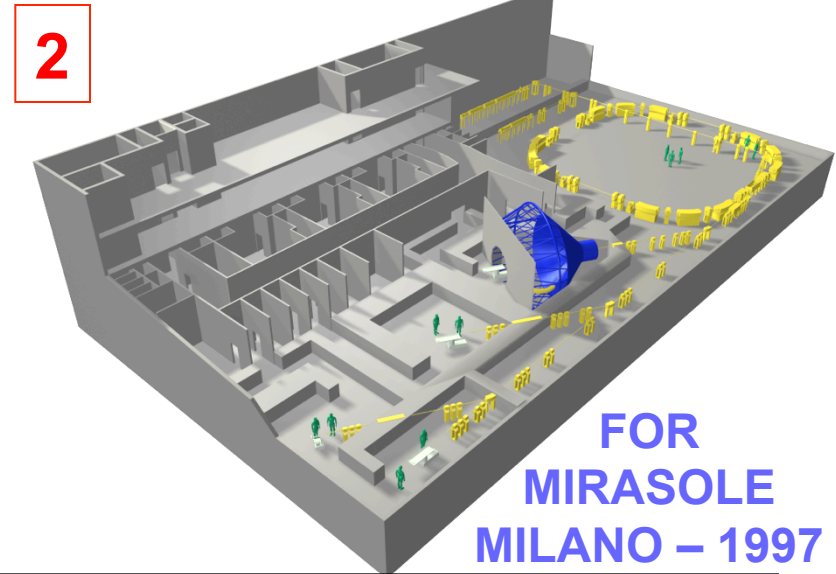
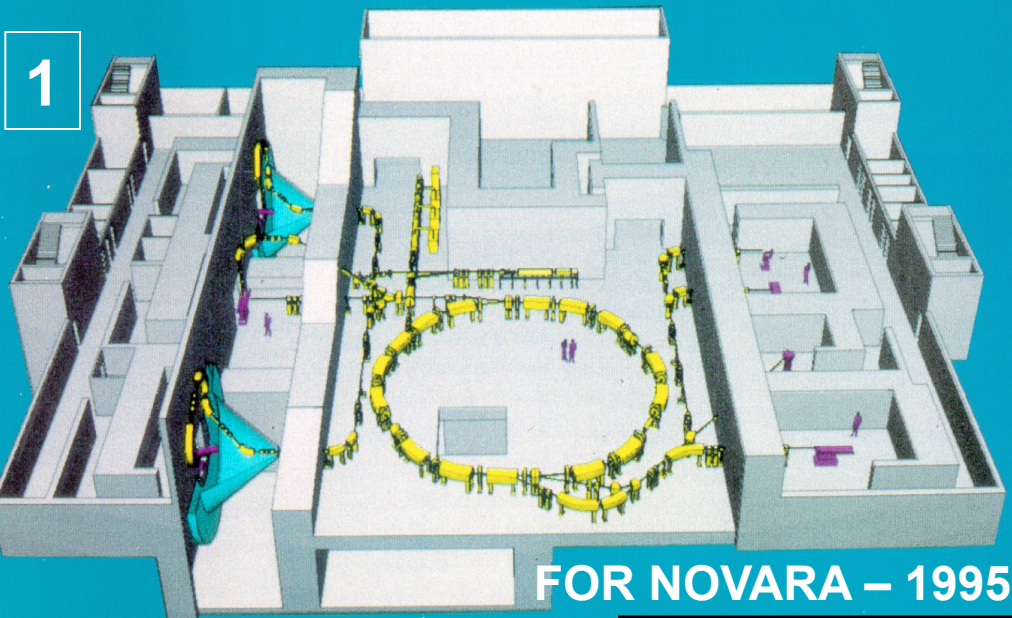


1997

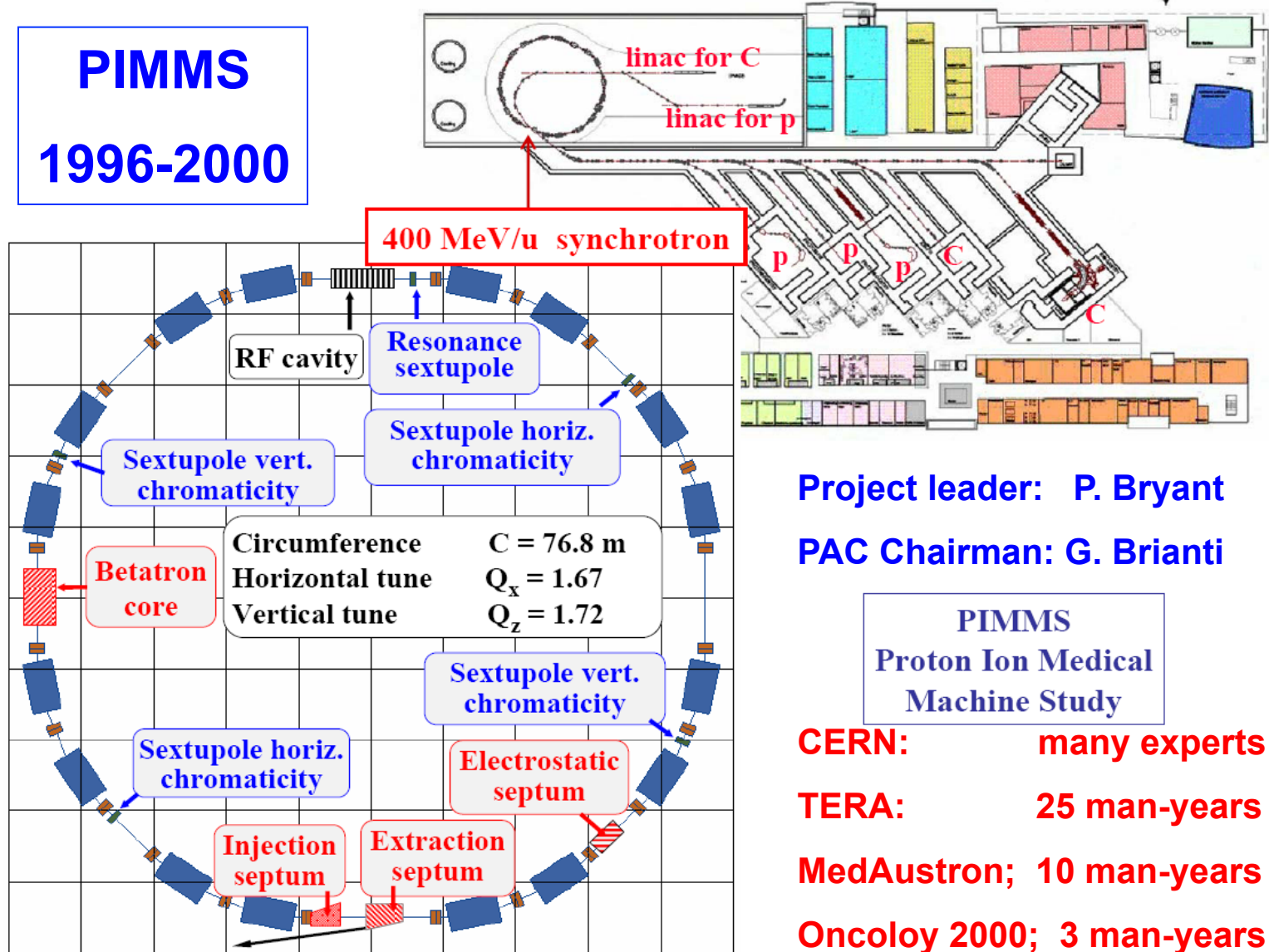
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The TERA background: 4 projects



PIMMS
1996-2000



Project leader: P. Bryant

PAC Chairman: G. Brianti

PIMMS
Proton Ion Medical
Machine Study

CERN: many experts

TERA: 25 man-years

MedAustron; 10 man-years

Oncoloy 2000; 3 man-years

IN OCTOBER 2001:

The Italian Parliament was discussing a bill proposed by the Health Minister Umberto Veronesi:

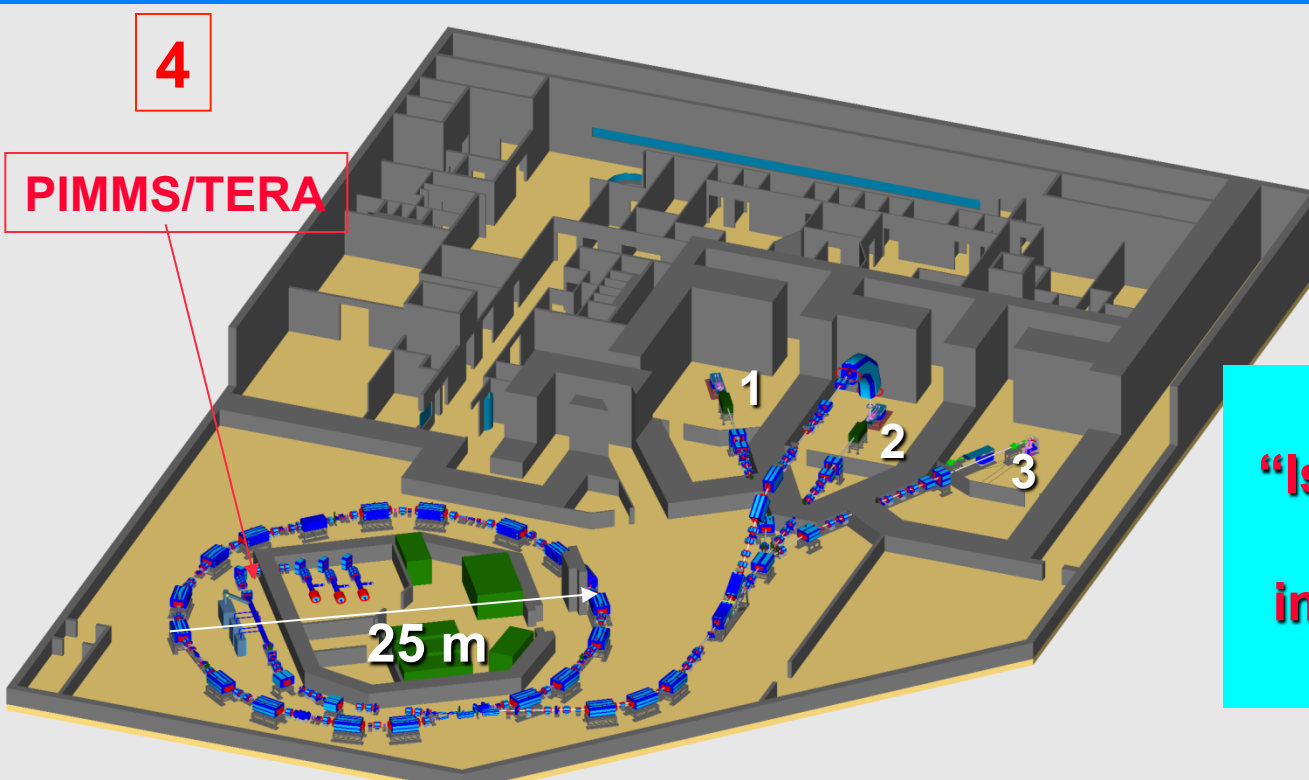
CNAO approved with 20 Meuro initial construction money

Yes of both Chambers in December 2001

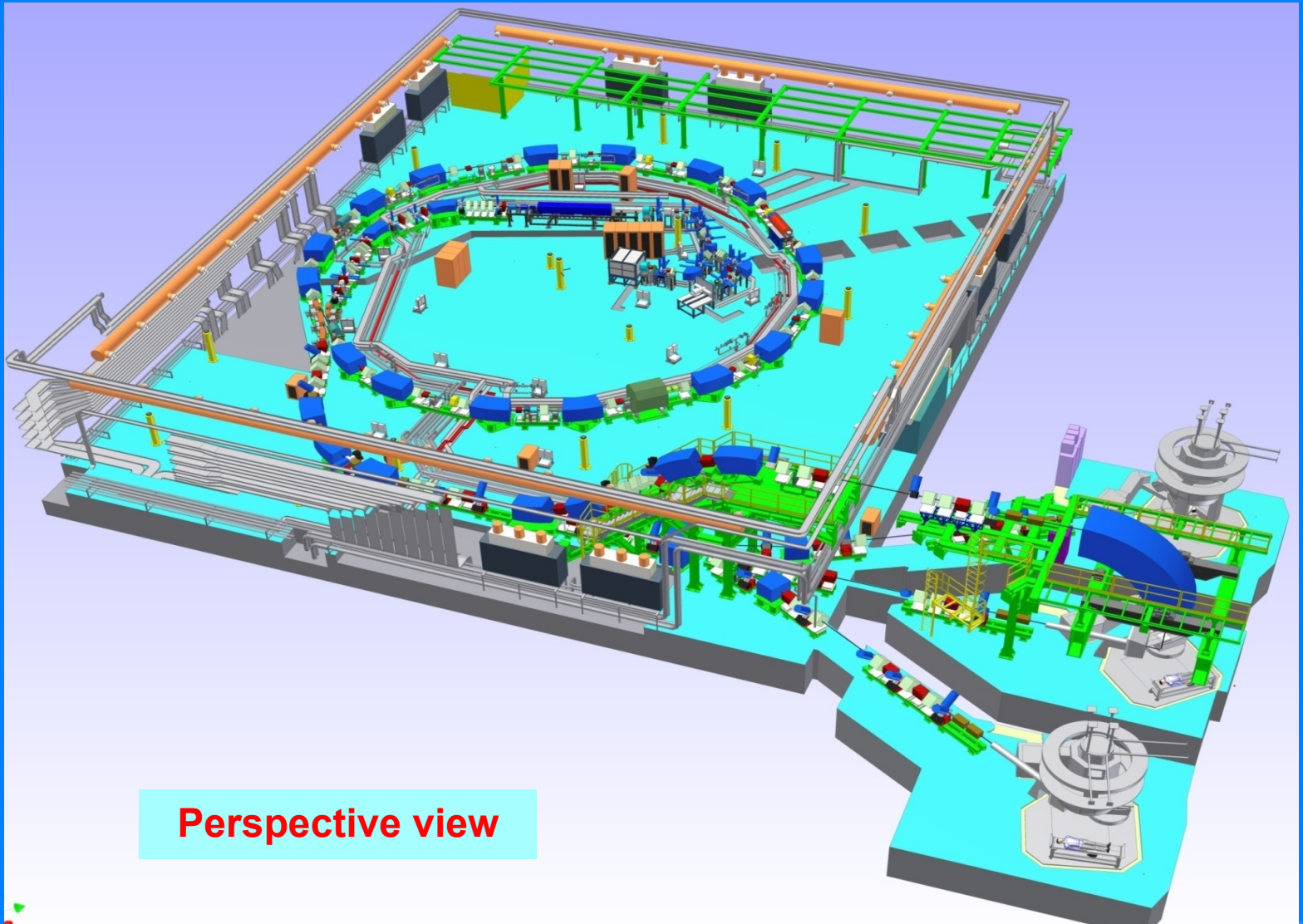
The TERA background: 4 projects

CNAO Foundation created by the Italian Government in 2002:
4 Hospitals in Milan, 1 Hospital in Pavia and TERA

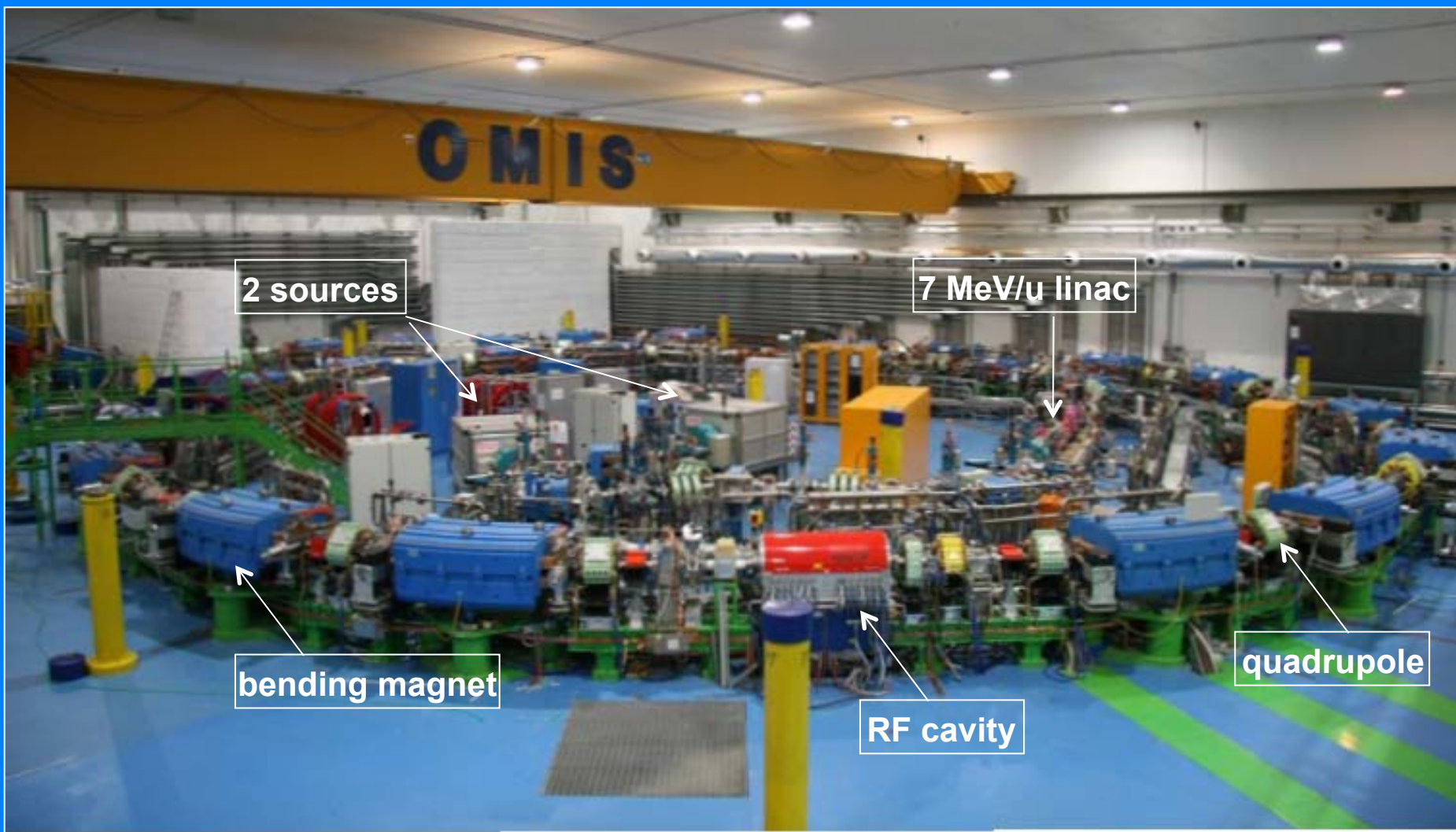
In October 2003 TERA passed to CNAO
the design of CNAO (2000 pages) and 25 people



**Since 2004 INFN is
“Istituzional Participant”
with people and
important construction
responsabilities**



Perspective view



First ENLIGHT Meeting @ CERN – February 2002

Organization: Hans Hofmann

Manjit Dosanjh



Hans Hoffmann

DG Luciano Maiani

First ENLIGHT Meeting @ CERN – February 2002

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What was ENLIGHT?

It was originally composed of:

Centres in Heidelberg, Lyon, and Pavia - CERN, EORTC,
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Main achievements:

- **Creation of a European Hadrontherapy Community which collaborates with the spirit of the CERN collaborations**
- **Common multidisciplinary platform with a shared vision**
- **Catalyser of the transition from research to the clinical environment**
- **Vehicle for education and dissemination**

Last ENLIGHT Meeting @ Oropa – June 2005

16-19th June, 2005 - Oropa:

Fourth General Meeting of ENLIGHT and Final Coordination Committee Meeting of ENLIGHT

Organized by TERA

TERA
Fondazione per Adroterapia Oncologica
Via Puccini, 11 - 28100 Novara
Tel +39 0321 32000 fax +39 0321 32090
Email: segreteria@tera.it
www.tera.it

For registration please visit ISE website at
www.iseonline.it

For information please contact
ISE, Istituto Scientifico Europeo,
Piazza S. Carlo, 1 28041 Arona (NO), Italy
Phone: +39 0322 249 700
Fax: +39 0322 240 800
email: ise@tera.it

HCPBM
10th Workshop on
**HEAVY CHARGED PARTICLES
IN BIOLOGY AND MEDICINE**
and
ENLIGHT
4th Meeting of the
**EUROPEAN NETWORK
FOR LIGHT ION HADRON THERAPY**
OROPA (Biella) 15 - 19 June 2005

SCIENTIFIC BOARD
Ugo AMALDI, Università di Milano Bicocca, Milan
and TERA Foundation
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Richard POTTER, Universitätsklinik für Strahlentherapie
Und Strahlenbiologie, Vienna
Joseph REMILLEUX, Université Claude Bernard, Lyon
Hirohiko TSUJII, National Institute of Radiological Sciences, Chiba
André WAMBERSIE, UCL-Cliniques St Luc, Brussels

The TERA Foundation announces the tenth workshop HCPBM-2005, which will be followed by the fourth (and last) Meeting of the European network ENLIGHT. In line with the pattern used in Baden and Lyon, the meeting will begin in the evening of Wednesday 15 June, 2005, and will close at lunchtime on Sunday 19.

The invited presentations will focus on radiobiology for hadrontherapy on the first day, physics and treatment planning on the second day, clinical results and new projects on the third day to be followed by the final meeting of ENLIGHT. The posters presented will be discussed during dedicated sections.

For more information on the site you can visit: www.santuariodioropa.it

Last ENLIGHT Meeting @ Oropa – June 2005



Last ENLIGHT Meeting @ Oropa – June 2005

UA chaired the closing meeting :

ENLIGHT++:

- + one “plus” for more hadrons (specially protons),**
- ++ the second “plus” refers to more Countries (17 countries, with 60 Institutions)**

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ENLIGHT++ goes beyond being a network:

Main Objective: become a **common European research platform** on which to build dedicated ‘towers’ of activity:

**PARTNER, ULICE, ENVISION,
ENTERVISION...**

TOTALFUNDING: 24 MEuro

Thanks from ENLIGHT partners to:

Germaine Heeren

Manjit Dosanjh

The End