CNAO
Centro Nazionale di Adroterapia Oncologica

IAEA
International Atomic Energy Agency
Atoms for Peace and Development

HITRIplus
Heavy Ion Therapy Research Integration

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

HYBRID CME EVENTS

Hadrontherapy: status and perspectives. Development of a hadrontherapy facility: learning from the existing *and* Scientific day on BNCT

OCTOBER 11TH | 12TH | 13TH 2023

PAVIA & ONLINE

Event in conjunction with the IAEA-CNAO Regional Workshop on Hadrontherapy under the Technical Cooperation project RER6039

Directors: Ester Orlandi, Saverio Altieri, Sotirios Charisopoulos

In collaboration with

INFN Istituto Nazionale di Fisica Nucleare

POLITECNICO MILANO 1863

UNIVERSITÀ DI PAVIA

Fondazione IRCCS Policlinico San Matteo

Sistema Socio Sanitario Regione Lombardia

ACC MED
ACCADEMIA NAZIONALE DI MEDICINA

OBJECTIVES

Thanks to the participation of a panel of nationally and internationally renowned speakers, the meeting aims to:

- Expanding participants' knowledge about clinical indications and advantages of hadrontherapy in an international overview and perspectives
- Informing participants on managerial, technical and clinical aspect of an hadrontherapy facility
- Improving understanding on resource requirements, challenges, economical and social implications of hadrontherapy
- Presenting status and perspectives of a new research clinical modality, BNCT (Boron Neutron Capture Therapy)

REGISTRATION

Participation to the course is free.

It is possible to register online at the address
https://fad.accmed.org/course/info.php?id=1325.

THE EVENT IS HYBRID: IN PERSON AND ONLINE.

The meeting venue has limited seating and registration for the in-person participation will be accepted on a first-come-first-served basis. Once maximum capacity has been reached we will close the registration for the event in presence.

ONLY PERSONS ADMITTED TO PARTICIPATE IN PRESENCE WILL BE INFORMED WITH AN OFFICIAL EMAIL WITHIN THE MIDDLE OF SEPTEMBER.

ADDRESSED TO

The course is addressed to all health professions.

CME

Based on the in force regulations approved by the CNFC, Accademia Nazionale di Medicina (provider n. 31) will assign to the activity CME:

14 CME points (in-class course 11th -12th october)

21 CME points (webinar live 11th -12th october)

5 CME points (in-class course 13th october)

7,5 CME points (webinar live 13th october)

Training objective: professional and technical content (knowledge and skills) specific to each profession, specialisation and highly specialised activity. Rare disease.

The credit certification is subject to:

- Professions/specializations should correspond to those which have been accredited for CME
- attendance at the 100% of the event
- the completion of the Meeting evaluation online form;
- completion of the final test (at least 75% of correct answers). 1 attempt admitted for in-class course, 5 attempts admitted for live webinar.

The test and the meeting evaluation form must be completed within 3 days from the end of the event.

HADRONTHERAPY: STATUS AND PERSPECTIVES.
DEVELOPMENT OF A HADRONTHERAPY SERVICE: LEARNING FROM THE EXISTING

PROGRAM

WEDNESDAY, OCTOBER 11th

09.00 Participant Registration

09.15 Welcome Addresses

SESSION 1: CLINICAL ACTIVITIES
Chair: Lisa Licitra

09.45 **Keynote lecture Historical and scientific evolution of hadrontherapy**
Ugo Amaldi

10:15 **Hadrontherapy in the context of cancer care in Italy**
Marco Krengli

10:35 **Hadrontherapy vs X-ray therapy: clinical aspects, patient pathway and clinical QA considerations**
Ester Orlandi

Clinical indications:

10:55 **Chordoma and Chondrosarcoma**
Piero Fossati

11:15 *Coffee Break*

11:30 **Head and Neck cancers**
Barbara Vischioni

11:50 **Central Nervous System tumors**
Semi Harrabi

12:10 **Gastroenteric and gynaecological tumors**
Amelia Barcellini

12:30 **Pediatric cancers**
Sabina Vennarini

12:50 **Heavy ions for prostate cancer: how to manage pelvic nodes?**
Mack Roach

13:10 *Lunch*

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SESSION 2: CLINICAL ACTIVITIES

Chair: Mario Ciocca

14:30 **Clinical research and future prospective**
Roberto Orecchia

14:50 **Clinical dosimetry and quality assurance**
Markus Stock

15:10 **Patient clinical workflow including image guidance**
Guido Baroni

15:30 **Treatment planning: comparing techniques and standards**
Silvia Molinelli

15:50 *Coffee Break*

16:05 **Radiobiology: current trend and future prospective**
Michael Story

16:25 **Novel approaches in particle therapy**
Andrea Mairani

16:45 **Implementing a carbon ion facility: the Mayo Clinic Project**
Laura Vallow

17:05 *Closing remarks*

19:30 *Social Event*

THURSDAY, OCTOBER 12TH

SESSION 3: HEALTH POLICY CONTEXT AND HEALTH ECONOMICS OF HADRON THERAPY

Chair: Andrea Filippi

09.00 **ENLIGHT (European Network for Light Ion Hadron Therapy) and its role in Hadron Therapy**
Manjit Dosanjh

09:20 **Academia meets Industry: IP, communication, managing expectations**
Manuela Cirilli

09:40 **Funding and health economic**
Fabio Amatucci

10:00 **Financial toxicity: PSI experience**
Barbara Bachtiary

10:20 **Cost benefit analysis: the CNAO case**
Maria Vittoria Livraga

10:40 *Coffee Break*

SESSION 4: ORGANIZATION AND OPERATION OF MULTI PARTICLE THERAPY FACILITY

Chair: Marco Cianchetti

11.00 **The Heidelberg Ion Beam Therapy Center – Technology, Clinical Application and Research**
Thomas Haberer

11:20 **The CNAO facility: operation and maintenance**
Giuseppe Venchi

11:40 **The MedAustron facility**
Christoph Kurfuerst

12:00 **The Marburg facility**
Klemes Zink

12:20 **New accelerator design: NIMMS**
Maurizio Vretenar

12:40 **The vision of the SEEIIST project**
Leander Litov

13:00 **Carbon facilities outside Europe with focus on USA/NCI programme**
Arnold Pompos

13:20 *Lunch*

SESSION 5: RESEARCH & DEVELOPMENT IN HADRONTHERAPY

Chair: Pablo Cirrone

14:30 **Building capacity through the IAEA programs**
Sotirios Charisopoulos

14:50 **HITRI*plus* project overview**
Angelica Facoetti

15:10 **Imaging: current trend and future perspectives**
Katia Parodi

15:30 **Flash Therapy with light ions**
Emanuele Scifoni

15:50 *Coffee Break*

16:05 **Upright positioning and arc therapy**
Christian Graeff

16:25 **New Gantry for ions**
Marco Pullia

16:45 **New technologies: superconducting magnets**
Lucio Rossi

17:05 *Discussion*

17:30 **Visit of CNAO**

SCIENTIFIC DAY ON BNCT

PROGRAM

FRIDAY, OCTOBER 13th

BNCT: SESSION 1

Chair: Saverio Altieri – Paolo Pedrazzoli

09.00 **Hadron therapy in radiation oncology and why BNCT is a paradigm shift**
Wolfgang Sauerwein

09.20 **Clinical BNCT experience with accelerators**
Minoru Suzuki

09.40 **BNCT clinical trials**
Peeter Karihtala

10:00 **Progress to clinical adoption of accelerator based BNCT**
Lisa Licitra

10:20 **Development of new novel BNCT drugs**
Kendall Morrison

10:40 **Online boron dose distribution imaging**
Nicoletta Protti

11:00 *Coffee Break*

BNCT: SESSION 2

Chair: Valerio Vercesi – Barbara Croesi

11:20 **Radiobiological characterization of a BNCT beam**
Mitsuko Masutani

11:40 **Dosimetry in BNCT**
Stuart Green

12:00 **Micro-dosimetry of a neutron BNCT beam**
Valeria Conte

12:20 **Treatment planning for BNCT**
Ian Postuma

12:40 **Discussion**

13:00 *Lunch*

BNCT: SESSION 3

Chair: Stefano Agosteo – Laura Locati

14:00 **Structural basis of cancer cells uptake of boronated compounds**
Vittorio Bellotti

14:20 **Accelerator based neutron sources for BNCT**
Andres Kreiner

14:40 **Development of the IAEA publication 'Advances in Boron Neutron Capture Therapy'**
Ian Swainson

15:00 **BNCT@CNAO**
Sandro Rossi

15:20 **Discussion and closing remarks**

15:40 **Visit of LENA**

MEETING VENUE

CNAO
Via Erminio Borloni, 1
Pavia

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