

CNAO
Centro Nazionale di Adroterapia Oncologica



HITRI
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

Directors: Ester Orlandi, Saverio Altieri, Sotirios Charisopoulos

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

In collaboration with



Fondazione IRCCS
Policlinico San Matteo

Sistema Socio Sanitario



Regione
Lombardia



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:

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

18 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*



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

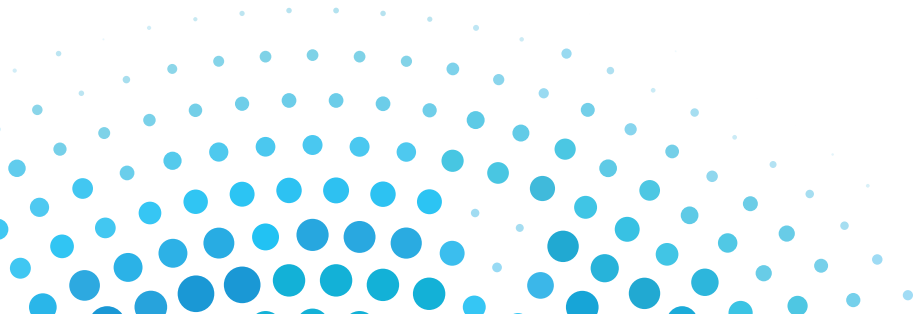
Andrea Mairani

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

Laura Vallow

17:05 *Closing remarks*

19:30 *Social Event*



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 Bachtary

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 SEEIST 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 HADRON THERAPY

Chair: Pablo Cirrone

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

Sotirios Charisopoulos

14:50 HITRIplus 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



DIRECTORS

Ester Orlandi (CNAO, Pavia, I)

Saverio Altieri (University of Pavia, I)

Sotirios Charisopoulos (IAEA, Vienna, AT)

CHAIRMEN AND SPEAKERS

Stefano Agosteo (Politecnico, Milan, I)

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MEETING VENUE

CNAO

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