



IEO education  
Istituto Europeo di Oncologia

Milan, September 11<sup>th</sup> - 12<sup>th</sup>, 2025

# Proton Therapy: from theory to clinical practice

SCIENTIFIC DIRECTOR

Barbara Alicja Jereczek-Fossa

Daniela Alterio



## Introduction

The European Institute of Oncology presents a two-day theoretical and practical course on Proton Therapy. Proton Therapy represents the latest frontier in external beam radiotherapy, offering significant advantages in reducing radiation exposure to healthy tissues and, in many clinical conditions, providing improved irradiation of the target volume.

This course covers all aspects of proton therapy treatment, from clinical indications to treatment planning and patient positioning, highlighting similarities and differences compared to conventional photon-based radiotherapy. For this reason, the course is designed for various healthcare professionals, including Radiation Oncologist, Medical Physicists, and Radiation Therapist (RTTs). It features both lectures and, most importantly, hands-on practical exercises.

The goal of the course is to provide participants with the necessary tools for a proper approach to this radiotherapy technique, fostering a more efficient network among healthcare professionals and optimizing the use of Proton Therapy for patient care.

### Registration Fees

Standard Fee Euro 300 (VAT included)

Residents Fee Euro 170 (VAT included)

**Maximum Participants: 15**

To register, click on the following link:

<https://ems.mzevents.it/start/2390/eng>

Crediti: 20 - Provider: IEO ID 207 - xxx

### Areas of Interest

The course is accredited for ECM credits and is intended for: Medical Doctors (specialized in Radiotherapy and Oncology),

Medical Physicists, Radiologic Technologists

Educational Objective: Technical-professional content (knowledge and skills) specific to each profession, specialty, and ultra-specialized activity, including rare diseases and gender medicine.

### Certificate of Attendance & ECM Credits (Only for italians)

The certificate of attendance will be sent via email by the Organizing Secretariat within a few days after the course.

To be eligible for ECM credits, participants must attend at least 90% of the training hours, complete the event evaluation questionnaire, pass the practical exam at the end of the course. The ECM certificate will be sent via email a few days after the event.

### Online up-front lessons (only morning)

Online Fee Euro 50 (VAT included)

To register, click on the following link:

<https://ems.mzevents.it/start/2390/eng>

### Required information

This registration does not include ECM credits and the attendance to the afternoon hands-on sessions.

# Faculty

## Scientific Director

**Barbara Alicja Jereczek-Fossa**  
Radiotherapy Division,  
IRCCS IEO Milan  
University of Milan

**Daniela Alterio**  
Radiotherapy Division,  
IRCCS IEO Milan

## Invited Speakers

**Luca Bergamaschi**  
Radiotherapy Division,  
IRCCS IEO Milan

**Fabiana Castelluccia**  
Radiotherapy Division,  
IRCCS IEO Milan

**Federica Cattani**  
Health Physics Unit,  
IRCCS IEO Milan

**Stefania Comi**  
Health Physics Unit,  
IRCCS IEO Milan

**Stefano De Crescenzo**  
Radiation Protection Expert,  
IRCCS IEO Milan

**Samantha Dicuonzo**  
Radiotherapy Division,  
IRCCS IEO Milan

**Marianna Alessandra Gerardi**  
Radiotherapy Division,  
IRCCS IEO Milan

**Roberta Lazzari**  
Radiotherapy Division,  
IRCCS IEO Milan

**Marco Liotta**  
Health Physics Unit,  
IRCCS IEO Milan

**Chiara Lorubbio**  
Radiotherapy Division,  
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**Giulia Marvaso**  
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**Giovanni Carlo Mazzola**  
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**Floriana Pansini**  
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**Martina Persiani**  
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**Gaia Piperno**  
Radiotherapy Division,  
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**Ilaria Repetti**  
Radiotherapy Division,  
IRCCS IEO Milan

**Massimo Sarra Fiore**  
Radiotherapy Division,  
IRCCS IEO Milan

**Maria Giulia Vincini**  
Radiotherapy Division,  
IRCCS IEO Milan

**Stefania Volpe**  
Radiotherapy Division,  
IRCCS IEO Milan  
University of Milan

# Programme

Thursday, September 11<sup>th</sup>, 2025

10.00 Networking welcome coffee

*R. Orecchia, B.A. Jerezek-Fossa, D. Alterio*

10.15 Presentation of the IEO Proton Center - *B.A. Jerezek-Fossa*

10.30 Protons in radiotherapy: physical aspects - *F. Cattani*

11.00 Radiobiology (RBE, LET, and Beyond) - *M.G. Vincini*

11.20 Clinical Indications for Proton Therapy: overview - *D. Alterio*

11.40 Proton Therapy workflow - *M. Sarra Fiore*

12.00 The TSRM perspective: Proton Therapy vs. photon beam radiotherapy  
*F. Castelluccia*

12.30 Networking lunch

13.30 Tour of the IEO Proton Center with a visit to treatment rooms

14.30 Practical training - *S. Comi, C. Lorubbio, G. Piperno, I. Repetti*

**Group 1:** Proton Therapy treatment plan: brain, head & neck, sarcoma, pelvis, re-irradiation.

From contouring to treatment plan development

**Group 2:** Set-up and treatment: hands-on practice with set-up and therapy using the proteus one, with demonstrations by medical radiology technicians.

**Group 3:** Contouring challenges and re-evaluation CT assessment, dose-toxicity correlation

15.30 Group rotation

16.30 Group rotation

17.30 Closing remarks

# Programme

Friday, September 12<sup>th</sup>, 2025

8.30 Welcome coffee and reflections on day 1

## Clinical Indications

9.00 Primary tumors of the central nervous system - *G. Piperno*

9.15 Head and neck tumors - *L. Bergamaschi*

9.30 Breast cancer - *S. Dicuonzo*

9.45 Gynecological tumors - *R. Lazzari*

10.00 Gastrointestinal tumors - *M.A. Gerardi*

10.15 Genitourinary tumors - *G. Marvaso*

10.30 **Networking coffee break**

11.00 Radiation protection issues related to the Design and Operation of a Proton Therapy Center - *S. De Crescenzo*

11.30 Proton Therapy planning: the concept of robustness - *F. Pansini*

12.00 Challenges in Proton Therapy Treatment plans: Motion Management and the Presence of Metallic Implants - *M. Liotta*

12.30 **Networking lunch**

13.30 Clinical Case Discussion (Radiotherapy division meeting)

14.30 Breakout Sessions by Professional Role:

**Physicians:** clinical case discussion

from det-up to contouring, treatment planning, and re-planning  
*D. Alterio, G.C. Mazzola, S. Volpe*

**Medical Physicists:** dosimetry and quality control - *S. Comi*

**Radiology Technicians (TSRM):** immobilization systems – differences compared to photon therapy treatments  
*F. Castelluccia, M. Persiani*

17.00 ECM credits and closing remarks

17.30 End of the course



Course venue  
Aula Magna Leonardo la Pietra – IEO  
Building 1, Ground Floor  
European Institute of Oncology  
Via Ripamonti, 435 – 20141 Milan, Italy



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Endorsed by

