

6th ECMP 2026

European Congress of Medical Physics

23-26 September 2026 | Valencia | Spain



Physics, Technology and Biology in Clinical Proton and Ion Beam Therapy

September 23, 2026 | Valencia, Spain

Course Description

Proton and ion beam therapy are advanced modalities of radiation oncology with rapidly expanding clinical adoption. This one-day course will provide a comprehensive overview of the current state-of-the-art in proton and ion beam therapy, presenting key aspects for system commissioning and starting clinical operations, the technological evolution for efficient delivery, and current challenges in radiation biology and technology.

Learning Objectives

- Identify the key aspects in the commissioning and start of clinical operations in proton and ion beam therapy
- Understand the limitations of the current radiobiological models and their impact in patient treatments
- Know the latest technological developments for an efficient beam delivery

Expected Outcomes

- Introduce the fundamental aspects and present the state-of-the-art in proton and ion beam therapy
- Present the current challenges in this radiation oncology modality

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Faculty

- » **Juan Diego Azcona** | Clínica Universidad de Navarra, Madrid, Spain
- » **Kilian-Simon Baumann** | University of Applied Sciences Giessen, Germany
- » **Armin Lühr** | Technical University Dortmund (TU Dortmund), Germany
- » **Francesco Fracchiolla** | Protontherapy Department, ASL Trento, Italy

Timetable

	TITLE	DESCRIPTION	LECTURE
9:00	COURSE PRESENTATION		J. Seco
9:15	COMMISSIONING OF A PROTON BEAM THERAPY FACILITY		J. D. Azcona
11:00	COMMISSIONING AND CLINICAL OPERATIONS OF AN ION BEAM THERAPY FACILITY	Measurement and Monte Carlo simulations of base data Quality assurance	K.-S. Baumann
LUNCH BREAK – AVAILABLE AT PARTICIPANTS EXPENSE IN THE CONGRESS VENUE			
13:00	RADIATION BIOLOGY OF PROTON AND ION THERAPY BEAMS		A. Lühr
COFFEE BREAK – AVAILABLE AT PARTICIPANTS EXPENSE IN THE CONGRESS VENUE			
15:00	PROTON ARC IN CLINICAL PRACTICE		F. Fracchiolla

Further information

	Course language	English
	Level	MPE - Level 8
	Maximum no. of participants	80
	Duration	23 rd September 2026
	Study load	6 hours of lectures and discussions
	CPD Points	Points to be confirmed (EBAMP Accreditation)

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