




UNIVERSITÀ
CATTOLICA
del Sacro Cuore

Gemelli



Fondazione Policlinico Universitario Agostino Gemelli IRCCS
Università Cattolica del Sacro Cuore

ART
Advanced Radiation
Therapy



MRO.ART
**MODERN RADIATION ONCOLOGY:
MULTIDISCIPLINARITY IN THE ERA
OF OMICS AND AI GUIDED ONCOLOGY**
32° RESIDENTIAL COURSE

17 - 18 - 19 October, 2022

Aula Brasca

Fondazione Policlinico Universitario A. Gemelli IRCCS

Largo A. Gemelli, 8 - Roma

Scientific Coordinators: V. Valentini, M.A. Gambacorta, L. Indovina

Honorary Presidents: C.A. Perez, N. Cellini



Associazione Italiana
Radioterapia e Oncologia clinica



Endorsed by
ESTRO

17 October 2022 ONSITE and LIVE STREAMING

08.00- 08.45	ONSITE REGISTRATION	
	COURSE OPENING	
08.45- 09.15	Authorities greetings	Preside Facoltà, G. Scambia (I), C.A. Perez (USA), N. Cellini (I)
	Greetings to the presidents of Scientific Societies: AIRO, ESTRO, AITRO, AIFM, EFOMP	
09.15- 09.30	Course tips and trick	V. Valentini, M.A. Gambacorta, L. Indovina (I)
	COURSE AIM LECTURE	
	Moderators:	D. Genovesi, M.E. Rosetto, (I)
09.30- 09.45	Multidisciplinary approach in the omics and AI era	M.A. Gambacorta (I)
	OPENING LECTURE	Moderators: A.G. Morganti, F. Valvo, (I)
09.45- 10.15	Bioprinting to modelize response to Radiation Oncology	F. Paris (F)
	SESSION 1 Metrics: omics science in modern oncology: What reliable support for clinical decisions?	
	Moderators:	L. Livi, F. Deodato, (I)
10.15 -10.30	Omics applied in modern oncology: methods and general applications	G. Tortora (I)
10.30- 10.45	Radiomics: methods and general applications	E. Sala (I)
10.45- 11.00	Dosomics: methods and general applications	L. Placidi (I)
11.00- 11.15	Omics applied to host response: methods and general applications	R. De Maria Marchiano (I)
11.15- 11.30	Q&A discussant:	G. Macchia (I)
11.30- 12.00	Break	
	SESSION 2 Metrics: AI applications in modern oncology: What reliable support for clinical decisions?	
	Moderators:	C. Aristei, S. Pergolizzi, (I)
12.00- 12.15	AI in modern Imaging	A. Jiménez Pastor (E)
12.15- 12.30	AI in modern Surgery	S. Alfieri (I)
12.30- 12.45	AI in modern Pathology	I. Nagtegaal (NL)
12.45- 13.00	Omics and AI to novel trial address	D. Lorusso (I)
13.00- 13.15	Q&A discussant:	G. Chiloiro (I)
	LECTURE 1	Moderators: S. Magrini, F. Alongi, C. Cavedon (I)
13.15- 13.45	Personalized oncology: dream or reality?	P. Lambin (NL)
13.45- 14.30	Light lunch	
	SESSION 3 Metrics: AI applications in modern oncology: What reliable support for clinical decisions?	
	Moderators:	M.F. Osti, M. Buglione di Monale e Bastia (I)
14.30- 14.45	AI in Medical Oncology	L. Licitra (I)
14.45- 15.00	AI in modern Radiation Oncology (Clinician's perspective)	J.E. Bibault (F)
15.00- 15.15	AI in modern Radiation Oncology (Physicist's perspective)	G.J. Meijer (NL)
15.15- 15.30	AI applications for Data management	A. Dekker (NL)
15.30- 15.45	Q&A discussant:	N. Dinapoli (I)
15.45- 16.15	Break	
16.15- 17.45	LABORATORY (SMALL GROUPS)	
	Lab 1 Medical Radiology Health Technicians: Patient preparation and set-up management in the era of AI: external beam radiotherapy	P. Cornacchione, M. Bianchi, G. Turco, C. Di Blasio
	Lab 2: Treatment Planning in the AI and Omics Era: The Medical Physicist point of view	L. Placidi, D. Cusumano, S. Cilla, M. Nardini, G. Stimato, G. Meffe, E. Placidi
	Lab 3 Radiation Oncologists: Omics guided radiotherapy prescription: clinical tools for external beam and interventional radiotherapy	R. Autorino, L. Boldrini, G. Chiloiro, N. Dinapoli, B. Fionda, V. Lancellotta, C. Mazzarella, C. Nero, A. Romano, L. Tagliaferri
	LECTURE 2	Moderator: M. Elefanti (I)
17.45- 18.15	AI and omics science impact on Health Systems	Y. Lievens (B)

18 October 2022 ONSITE and LIVE STREAMING

08.40- 09.00	FoCUS oN TKI inhibitors and new drugs in lung cancer: omics driven prescription and combination with radiation oncology	Moderators: S. Ramella, V. Tombolini, (I) C. Le Pechoux (F)
09.00- 09.30	LECTURE 3 How are Omics and AI changing radiotherapy practice? The ESTRO Perspective	Moderators: G Sanguineti, A. Fiorentino,(I) A. Kirby (UK)
	SESSION 4 Actions: AI and omics current applications: practice impact and next steps	
	Moderators:	M. Mangoni, G.C. Mattiucci, (I)
09.30- 09.45	AI to drive clinical trials	S. Kyriazakos (DK)
09.45- 10.00	Omics to drive clinical trials	E. Fokas (D)
10.00- 10.15	Omics and AI from trial to practice	K. Haustermans (B)
10.15- 10.30	Omics and AI what patient perceives?	L. Dinapoli (I)
10.30- 10.45	Q&A Discussant	E. Meldolesi (I)
10.45- 11.15	Break	
11.15- 12.45	LABORATORY (SMALL GROUPS)	
	Lab 1 Medical Radiology Health Technicians: Patient preparation and set-up management in the era of AI: interventional radiotherapy	P. Cornacchione, C. Lafaenza, A. Porcelli, G. Nicolini
	Lab 2: Treatment Planning in the AI and Omics Era: The Medical Physicist point of view	L. Placidi, D. Cusumano, S. Cilla, M. Nardini, G. Stimato, G. Meffe, E. Placidi
	Lab 3 Radiation Oncologists: Omics guided radiotherapy prescription: clinical tools for external beam and interventional radiotherapy	R. Autorino, L. Boldrini, G. Chiloiro, N. Dinapoli, B. Fionda, V. Lancellotta, C. Mazzarella, C. Nero, A. Romano, L. Tagliaferri
	LECTURE 4	
	Moderators:	M. Scorsetti, E. Russi, (I)
12.45-13.15	Omics and AI driven radiation oncology in Oligometastatic patients	M. Guckenberger (CH)
13.15- 14.15	FoCUS ON (with lunch box) Immunotherapy approaches in the Omics Era: focus on Genitourinary	Moderator: L. Tagliaferri (I) G. Schinzari (I)
	SESSION 5 Actions: Selection beyond the standard: practice impact and next steps	
	Moderators:	F. Paiar, L. Indovina, (I)
14.15- 14.30	Omics and AI for MRLINAC	S. Corradini (D)
14.30- 14.45	Omics and AI for PROTON	F. Hennings (D)
14.45- 15.00	Omics and AI for FLASH	J. Bourhis (CH)
15.00- 15.15	Q&A Discussant:	L. Boldrini (I)
15.15- 15.45	Break	
	SESSION 6 OMICS and AI in ENT	
	Moderators:	G.Paludetti, A. Cassano, (I)
15.45- 16.00	Omics driven radiotherapy approaches	V. Grégoire (F)
16.00- 16.15	AI planning approaches	N. Jornet Sala (E)
16.15- 16.30	Omics driven systemic treatments	P.L. Bonomo (I)
16.30- 16.45	AI driven surgery	J. Galli (I)
16.45- 17.00	Q&A Discussant:	F. Miccichè (I)
	SESSION 7 OMICS and AI in lung cancer	Moderators: S. Margaritora,R.M. D'Angelillo,(I)
17.00- 17.15	Omics driven radiotherapy approaches	E. Troost (D)
17.15- 17.30	AI planning approaches	G. Gagliardi (SW)
17.30- 17.45	Omics driven systemic treatments	E. Bria (I)
17.45- 18.00	AI driven surgery	F. Lococo (I)
18.00- 18.15	Q&A Discussant:	M. Massacesi (I)

19 October 2022 ONSITE and LIVE STREAMING

LECTURE 5

Moderators:

M.A. Gambacorta, M. Santarelli, (I)

08.30- 09.00 **Transcending Tumours: A solution to a doctor's dilemma**

A. Scafì (UK)

SESSION 8 OMICS and AI in PROSTATE CANCER

Moderators:

V. Donato S. Arcangeli (I)

09.00- 09.15 Omics driven radiotherapy approaches

P. Hoskin (UK)

09.15- 09.30 AI approaches in interventional radiotherapy

G. Kovacs (D)

09.30- 09.45 Omics driven systemic treatments

R. Iacovelli (I)

09.45- 10.00 Omics and AI driven approaches in recurrent diseases

B. Jereczek (I)

10.00- 10.15 Q&A Discussant:

F. Cellini (I)

LECTURE 6

Moderators:

M. Krengli, G. Mantello, (I)

10.15- 10.45 **How innovation in radiation oncology changes educational models**

J. Eriksen (DK)

10.45- 11.15 **Break**

SESSION 9 OMICS and AI in BREAST

Moderators:

C. Aristei, F. Marazzi (I)

11.15- 11.30 Omics driven radiotherapy approaches

E. Rodriguez Tomas (E)

11.30- 11.45 AI planning approaches

S. Cilla (I)

11.45- 12.00 Omics driven systemic treatments

L. Visani (I)

12.00- 12.15 Omics driven pathology in gynecological malignancies

G.F. Zannoni (I)

12.15- 12.30 Q&A Discussant:

V. Masiello (I)

LECTURE 7

Moderators:

C. Iotti, R. Pacelli, (I)

12.30- 13.00 AI guided olistic approach to cure by art

V. Valentini (I)

13.00- 14.00 **Light lunch**

SESSION 10 OMICS and AI in PEDIATRICS

Moderators:

F. Locatelli, U. Ricardi, (I)

14.00-14.15 Omics driven radiotherapy approaches

S. Vennarini (I)

14.15-14.30 Omics perspective for pediatric patients: physical challenges

D. Verellen (B)

14.30-14.45 Omics driven systemic treatments

A. Mastronuzzi (I)

14.45-15.00 AI driven distraction techniques in pediatric patients

E. Marconi, D. Scarponi (I)

15.00-15.15 AI and modern pediatric radiotherapy

I. Fagerström Kristensen (S)

15.15- 15.30 Q&A discussant

S. Chiesa (I)

LECTURE 8

Moderators:

P.C. Gentile, D. Musio, (I)

15.30- 16.00 **Microbiota: what reliable support for clinical decisions?**

G. Ianaro (I)

16.00- 16.15 **CLOSING REMARKS**

V. Valentini, M.A. Gambacorta, L. Indovina, (I)

16.15- 16.45 **EVALUATION & QUESTIONNAIRES**



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ART
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Provider 2463 Università Cattolica del Sacro Cuore

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The course is accredited for: Radiation Oncologists, Medical Physicists, Medical Radiology Health Technicians.

Information: www.gemelliart.it - Phone +39 0630155226

CME Training Objective no. 18: Technical professional contents (knowledge and skills) specific to each profession, each specialisation and each ultra-specialist activity, including rare diseases and gender medicine

The exhibition hall is open from 17 -19 October 2022, all day, with the exception of lesson time.

The course is aimed at specialists and doctors in training in radiotherapy, oncology, medical physics and radiotherapy technicians. There are 20 ECM credits for those who will attend the course in person but remember that the requirement to receive the credits is the possession of a degree and specialization, otherwise you can follow the course via the web.

For those interested, it is possible to **register by 24 July 2022** on the website of the Catholic University of the Sacred Heart: www.unicatt.it, or, directly at this link:

https://fopecom-rm.unicatt.it/fopecomonline/default_eng.aspx?Edizione=1&IdEvento=9034

The registration fee for the course is € 250.00.

For members AIRO, ESTRO, AITRO, AIFM, EFOMP members it is € 150.00.

We have also provided free registration for students of the last year of Medical Physics, for students in the final year of the RTTs/RTs bachelor's degree and for graduates in Radiotherapy Oncology and Medical Oncology of the last two years (to be written in the Enrollment Notes) . Due to the limited capacity of the classroom, face-to-face registrations will be accepted on a first-come, first-served basis.

Scientific Advisory Board 2022: M. Balducci, F. Cellini, F. Deodato, G.C. Mattiucci, A.G. Morganti, G. Macchia, A. Fiorentino

Scientific Secretariat 2022: L. Boldrini, F. Miccichè, L. Tagliaferri



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