

ESTRO 2025 – Radiobiology Pre-meeting course

Predictive molecular signatures in radiation oncology

Friday, 2 May 2025, from 08:30 to 17:00

Course directors:

- Conchita Vens, Radiobiologist, University of Glasgow, United Kingdom
- Christopher Talbot, Radiobiologist, University of Leicester, United Kingdom
- Bartek Tomasik, Radiation Oncologist/Radiobiologist, Medical University of Gdańsk, Poland

Faculty:

- Azadeh Abravan, Medical Physicist, The University of Manchester, United Kingdom
- C. Nicolaj Andreassen, Clinical Oncologist, Aarhus University Hospital, Denmark
- David Azria, Radiation Oncologist, ICM Montpellier, France
- Jan Bussink, Radiation Oncologist, Radboud University Medical Center Nijmegen, The Netherlands
- Heidi Lyng, Oslo University Hospital, Institute for Cancer Research, Norway
- Sofia Rivera, Radiation Oncologist, Gustave Roussy, France
- Jacob Scott, Radiation Oncologist, Cleveland Clinic, USA
- Kristian Unger, Computational Biologist, AI-assisted therapy decisions in oncology, LMU University Hospital, Munich, Germany
- Ivan Vogelius, Medical Physicist, Rigshospitalet, Denmark

Programme

Time slot	Title	Teacher
08:30 - 08:35	Welcome	B. Tomasik (PL)
Session I: Introduction and Basic Concepts		
08:35 - 09:05	Basic principles in normal tissue injury prediction	C. Talbot (UK)
09:05 - 09:30	Basic concepts in tumour response and RT patient outcome prediction	C. Vens (UK)
09:30 - 10:00	Relevance of RT biomarkers past and present	J. Bussink (NL)
Session II: Overview Current State-of-the-Art		

10:00 - 10:30	Normal tissue injury response prediction based on molecular biomarkers	N. Andreassen (DK)
10:30 - 11:00	<i>COFFEE BREAK</i>	
11:00 - 11:30	Normal tissue injury response prediction based on cell based biomarkers	D. Azria (FR)
11:30 - 12:00	Molecular signatures in RT tumor response prediction	J. Scott (US)
12:00 - 12:30	Imaging and molecular biomarkers integration in tumor response prediction	H. Lyng (NO)
12:30 - 14:00	<i>LUNCH BREAK</i>	
Session III: Towards improved radiation response prediction		
14:00 - 14:30	Incorporation novel cutting-edge technologies: multi-omics and multiparametric data	K. Unger (DE)
14:30 - 15:00	Context Embedment: Interplay Between Physics, Clinical Variables, and Social Determinants of Health	A. Abravan (UK)
Session IV: Towards clinical implementation		
15:00 - 15:30	Fit for purpose and future: implementation in an ever-changing technology environment	I. Vogelius (DK)
15:30 - 16:00	<i>COFFEE BREAK</i>	
16:00 - 16:30	Clinical implementation paths and applicability	S. Rivera (FR)
16:30 - 17:00	'Lessons learned'	B. Tomasik (PL)