ESTRO 2021 - Physics Pre-meeting course
The evolving role of medical physicists in clinical trials
ESTRO2021, 27 - 31 August 2021, Madrid, Spain

Friday, 27 August 2021 from 09:00-17:00

Course Directors:

David Fuller, Radiation Oncologist, MD Anderson Cancer Center (US)
Marianne Aznar, Medical Physicist, The University of Manchester (UK)

Course aim

To review the life cycle of radiotherapy clinical trials and to encourage medical physicists to participate actively at all stages of clinical trial design, management and analysis.

Learning objectives

By the end of this course participants should be able to:

- Discuss and contribute to the different steps in the process of clinical trial design
- Understand the basic elements of radiotherapy trial QA and be able to construct a basic QA programme for a radiotherapy trial
- Conduct sample size calculations for simple randomised trial designs
- Learn where and how to access data from completed clinical trials
- Understand how physicists can contribute to current clinical trials (ongoing or in development) inside and outside your own institution.
- Assess the directions of future medical physics research / development related to, e.g. QA and imaging Biomarkers

Who should attend?

This course is designed for medical physicists, but other specialties are welcome. Participants do NOT need to have experience with *or* work in an institution involved in clinical trials. Participants be given the basics to get started and discuss other ways to be involved, e.g. how to build projects based on publicly available data sources or contribute to national trials groups.

Speakers & Panelists

- David Fuller, Radiation Oncologist, MD Anderson Cancer Center (US)
- Marianne Aznar, Medical Physicist, The University of Manchester (UK)
- Ane Appelt , Medical Physicist, University of Leeds & St James University Hospital (UK)
- Robert Jeraj, Medical Physicist, University of Ljubljana (SL)
- Coen Hurkmans, Medical Physicist, Catharina Hospital (NL)
- Stine Korreman, Medical Physicist, Aarhus University (DK)
- Anne Gasnier , Medical Physicist, Gustave Roussy (FR)
- Enrico Clementel, Quality Manager, EORTC (BE)
- Ditte Møller, Medical Physicist, Aarhus University (DK)
- Lenny Verkooijen, UMC Utrecht (NL)

Programme

Time slot	Title	Teacher
09:00	Pre-meeting starts	
09:00-09:30	An introduction to trial design & concepts - e.g. phase I/II/III, power, principles of sample size calculation, stratification, etc	*Ane Appelt*
09:30-10:00	Endpoint selection and alternative designs	*Dave Fuller*
10:00-10:30	Imaging in clinical trials	*Robert Jeraj*
10:30-11:00	COFFEE BREAK	
11:00-11:30	Radiotherapy trial QA and quality improvement	*Coen Hurkmans*
11:30-12:00	What goes into a trial protocol?" and "What is a clinical trial unit?" (with a head of a trial unit / a senior trial manager)	*TBC*
12:00-12:30	Round table discussion: " designing a clinical trial: the example of proton vs photon clinical trials"	*Panellists –* *Stine Korreman* *Anne Gasnier* *TBC*
12:30-14:00	LUNCH	
14:00-14:30	Round table discussion: " designing a clinical trial: the example of proton vs photon clinical trials"	*Panellists –* *Stine Korreman* *Anne Gasnier* *TBC*
14:30-15:00	Data analysis: how to build a research project/ secondary analysis from clinical trial data (including external, publicly available datasets)	*Enrico Clementel*
15:00-15:30	From clinical trial to radiotherapy treatment guideline design	*Ditte Møller*
15:30-16:00	COFFEE BREAK	
16:00-16:30	Beyond Randomized Trials: Observational and randomized trial designs for physics applications	*Lenny Verkooijen*
16:30-17:00	Closing remarks	*Marianne Aznar and Dave Fuller*
17:00	Close of pre-meeting	