ESTRO Teaching Course on
MOLECULAR ONCOLOGY FOR THE RADIATION ONCOLOGIST
Copenhagen, 2010

Course Director: Adrian Begg (NL)
Teaching Staff: Jan Alsner (D), Kevin Harrington (UK), Martin Pruschy (CH), Marie-Catherine Vozenin (FR), Daniel Zips (DE)

SUNDAY 30 MAY

1) Molecular basis of cancer

Morning

9:00-9:15	Intro
9:15-10:00	L1 - Hallmarks of cancer – Adrian Begg
10:000-10:45	L2 - Regulation of gene expression – Jan Alsner
10:45-11:00	Coffee
11:00-11:45	L3 – Techniques and model systems in molecular biology – Jan Alsner
11:45-1:00	Tutorial 1 introduction (web based genome tools) – Adrian, Jan help

Afternoon

2:00-2:45	Tutorial 1 continued (Adrian, Jan help)
2:45-3:30	L4 – Cell death after irradiation – How when and why cells die – Martin Pruschy
3:30-4:00	Coffee break
4:00-4:45	L5 - – Cancer genes – Kevin Harrington

MONDAY 31 MAY

2) Molecular basis of radiation response

Morning

9:00-10:30	Tutorial 2 (questions: answers on hallmarks, genome, techniques, cell signaling)-Daniel, Martin help
10:30-11:00	Coffee
11:00-11:45	L6 – Cell signaling pathways – Marie-Catherine Vozenin
11:45-12:15	L7 – The DNA damage response – Sensors and Effectors – Jan Alsner
12:15-1:00	L8 – The DNA damage response – The biology of DNA Repair – Adrian Begg

Afternoon

2:00-3:30	Tutorial 3 (questions on radiation response) – Martin, Kevin help
2:30-3:15	L9 – Tumor growth, clonogens, and the cancer stem cell hypothesis – Daniel
3:15-3:30	Coffee
3:30-5:00	Tutorial 4 (Journal club) i) short lecture on critical reading ii) journal club of an important paper. Presentations and discussion by the students – Adrian, Daniel help

TUESDAY 1 JUNE

3) Tumor Biology and Molecular Targeting

Morning

9:00-9:45	L10 - Molecular responses to hypoxia – Daniel Zips
9:45-10:30	L11 – Angiogenesis and radiation effects on endothelium – Martin Pruschy
10:30-11:00	Coffee
11:00-11:45	L12 – Radiation effects at the molecular level in normal tissues – Marie-Catherine Vozenin
11:45 – 1:00	Tutorial 5 (Hypoxia, Angiogenesis, normal tissues) – Marie Catherine, Adrian Help

Free afternoon and social dinner

WEDNESDAY 2 JUNE

3) Tumor Biology and Molecular Targeting cont…

Morning

9:00-9:45	L13 – How do we target molecules – antibodies and small molecules – Martin Pruschy
9:45-10:30	L14 – Modifying the radiation response - pre-clinical approaches – Daniel Zips
10:30-11:00	Coffee
11:00-11:45	L15 – Modifying the radiation response – clinical approaches – Kevin Harrington
11:45-1:00	Tutorial 6 (Targeting) – Kevin, Marie-Catherine help

Afternoon

200:-2:45	L16 Molecular imaging - tumor biology/phenotype monitoring - Kevin Harrington
2:45-5:00	Tutorial 7 (project planning/grant writing) – Adrian/All

THURSDAY 3 JUNE

4) Molecular approaches to patient individualization

Morning

9:00-9:4 5	L17 – Stem cells and radiotherapy in normal tissues – Marie-Catherine Vozenin
9:45-10:30	L18 - Profiling techniques in genomics and transcriptomics – Adrian Begg
10:30-11:00	Coffee
11:00-11:45	L19 - Predicting normal tissue damage – Jan Alsner
11:50-12:30	Evaluation/Diplomas