

EUROXY course for PhD-students 7th and 8th Dec 2006, Maastricht

The first day: Thursday 7th Dec

Morning session: 0900-1200 with one coffee break:

a) Introduction

Erik Pettersen: Short general information (exam, funding, ECTS)	<10 min
Peter Ebbesen: A few words about EUROXY	10 min
Philippe Lambin: Introducing the research institute and department	15 min
Erik Pettersen: Cancer hypoxia in retrospect.	35 min

Coffee break (35 minutes: Lecturers meet the students.)

b) Technical and microenvironmental challenges related to oxygenation

Peter Ebbesen: Some real-life experience:	35 min
Gerhard Jobst: On-line control of oxygenation in vitro.	35+10 min

Afternoon session: 1300-1800 with two coffee breaks:

c) Molecular biology related to oxygenation

Thomas Gorr: Hypoxia, and how to survive it.	35+10 min
Lorenz Poellinger: Understanding HIF.	35+10 min

Coffee break (35 minutes: Lecturers meet the students.)

Patrick Maxwell: HIF and vascularization.	35+10 min
Brad Wouters: Cell growth under hypoxia.	35+10 min

Coffee break (35 minutes: Lecturers meet the students.)

Andrea Scozzafava: CAs and possible inhibitors.	35+10 min
Agnes Görlach: Hypoxia and reactive oxygen species (ROS).	35+10 min

Lecturers and students have dinner together in the evening.

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The second day: Friday 8th Dec

Morning session: 0830-1300 with one coffee break:

d) Pharmacology and clinics related to oxygenation

Einar Rofstad: Tumour hypoxia 35+10 min

Albert van der Kogel: Heterogeneity of hypoxia 35+10 min

Ian Stratford: Hypoxic sensitizers and bio-reductive drugs 35+10 min

Coffee break (35 min)

Silvia Pastorekova: CAs in cancer and hypoxia. 35+10 min

Adrian Harris: Hypoxia-related cancer prognostic factors 35+10 min

Afternoon session: 1400-? with themes:

e) Demonstration (or laboratory exercise) of oxygen measurement and non-invasive imaging in tissue.

Philip Lambin

f) Final exam:

For the course to give credits (ECTS) many universities will need us to arrange a test of the students. At the level of PhD, exam markings are usually not given as grades, just passed/not passed. Nevertheless, a student will have to pass in order to get the credits from the course.

ESTRO molecular course in Maastricht

Sunday

Molecular basis of cancer

Morning

9:00-9:10	Intro
9:10-9:40	L1 - Hallmarks of cancer - Brad Wouters
9:40-10:10	L2 - Genome organization and regulation of gene expression - Adrian Begg
10:10-10:30	Coffee
10:30-11:00	L3 - Cell signaling pathways – H. Peter Rodemann
11:00-11:30	L4 - Oncogenes/tumor suppressors - Kevin Harrington
11:30-1:00	Tutorial 1 (web based genome tools –)

Afternoon

2:00-3:30	L5 – Techniques and model systems in molecular biology – Philippe Lambin
2:30-3:0	L6 - Molecular responses to hypoxia - Brad Wouters
3:00-3:3	L7 - Angiogenesis/tissue effects – Martin Pruschy
3:30-4:0	Coffee break
4:00-5:30	Tutorial 2 (question/answers on hallmarks, gene expression, cancer genes, hypoxia, normal tissue,)

ESTRO molecular course in Maastricht

Monday

Molecular basis of radiation response

Morning

- 9:00-9:30 L8 - DNA repair - Adrian Begg
9:40-10:00 L9 – Checkpoints- Brad Wouters
10:00-10:30 L10 – Apoptosis and other forms
of cell death – Martin Pruschy
10:30-11:00 Coffee
11:00-11:30 L11 - Gene expression and Normal
tissue effects - H. Peter Rodemann
11 :30-1 :00 Tutorial 3 (questions on radiation response)

Afternoon

- 2:00-4:00 Tutorial 4 (Journal club) i) short lecture on critical reading
ii) journal club of an important
paper. Presentations and discussion by the students)

ESTRO molecular course in Maastricht

Tuesday

Molecular approaches to treatment

Morning

- 9:00-9:30 L12 - Concept - Combining radiotherapy with targeted therapies – K. Harrington
- 9:30-10:00 L13 - Targeting hypoxia/angiogenesis –
Philippe Lambin
- 10:00-10:30 L14 - Targeting proliferation –
H. Peter Rodemann
- 10:30-11:00 Coffee
- 11:00-11:30 L15 - Targeting DNA repair/apoptosis –
Adrian Begg
- 11:30-1 :00 Tutorial 5 (questions on targeted therapies)

Afternoon

free

ESTRO molecular course in Maastricht

Wednesday

3) Molecular approaches to treatment – cont...

Morning

- 9:00-9:30 L16 - Targeting approaches –
antibody examples – Martin Pruschy
- 9:30-10:00 L17 - Targeting approaches –
gene therapy examples - Kevin Harrington
- 10:00-10:30 L18 - Targeting approaches –
small molecule examples H. Peter Rodemann
- 10:30-11:00 Coffee

4) Molecular approaches to patient individualization

- 11:00-11:30 L19 - Molecular imaging - tumor
biology/therapy monitoring- Philippe Lambin
- 11:30-12:00 L20- Profiling techniques –
genotype - Adrian Begg
- 12:00-12:30 L21 - Profiling techniques –
microarrays - Brad Wouters
- 12:30-1:00 L22 - Profiling techniques –
proteomics – Martin Pruschy

Afternoon

- 2:00-4:00 Tutorial 6 (European grantvision contest)

5) Wrap-up

Thursday morning

L23- A vision for the future – a timeline for biology
integration into clinical practice – Kevin Harrington?

L24 – A vision for the future – a molecular treatment planning system? - Philippe Lambin

Exam

Coffee

Evaluation/Diplomas

Summary of lectures:

Brad Wouters

L1 - Hallmarks of cancer - Brad Wouters

L6 - Molecular responses to hypoxia - Brad Wouters

L9 – Checkpoints - Brad Wouters

L21 - Profiling techniques – microarrays - Brad Wouters

Martin Pruschy

L7 - Angiogenesis/tissue effects - Martin Pruschy

L10 – Apoptosis and other forms of cell death - Martin Pruschy (new title)

L17 - Targeting approaches – antibody examples – Martin Pruschy (prev H. Peter Rodemann)

L22 - Profiling techniques – proteomics – Martin Pruschy

Philippe Lambin

L5 – Techniques and model systems in molecular biology– Philippe Lambin (prev Adrian Begg)

L13 - Targeting hypoxia/angiogenesis - Philippe Lambin

L19 - Molecular imaging - tumor biology/treatment response - Philippe Lambin (merge of 2)

L24 – A vision for the future – molecular treatment planning? - Philippe Lambin

Adrian Begg

L2 - Genome organization and regulation of gene expression - Adrian Begg

L8 - DNA repair - Adrian Begg

L15 - Targeting DNA repair/apoptosis – Adrian Begg (prev Philippe Lambin)

L20 - Profiling techniques – genotype - Adrian Begg

Kevin Harrington

L4 - Oncogenes/tumor suppressors – Kevin Harrington

L12 - Concept - Combining radiotherapy with targeted therapies – Kevin Harrington

L17 - Targeting approaches – gene therapy examples – Kevin Harrington

L23- A vision for the future – a timeline for biology integration
into clinical practice – Kevin Harrington?

H. Peter Rodemann

L3 - Cell signaling pathways – H. Peter Rodemann (prev Martin Pruschy)

L11 - Gene expression and Normal tissue effects - H. Peter Rodemann

L14 - Targeting proliferation - H. Peter Rodemann

L18 - Targeting approaches – small molecule examples- H. Peter Rodemann

Legend

Small changes from last year

Switch with someone from last year

New lecture