

European training course in radiobiology

Inter-individual variability of radiation-sensitivity: Mechanisms and Biomarkers

Organized by Institut Curie & CEA, France
in collaboration with the M2 and PhD School of Oncology, Paris-Sud University
Sponsored by the European NOE consortium DoReMi and the IC International
Training Program

Week 1 : Monday 8th December to Friday 12th December 2014
Lectures at Institut Curie, Paris, 75005

Monday 8th December: Lecture theatre Marie Curie

Chairman: Janet Hall

- Welcome and introduction
- Epidemiological approaches to assessing the impact of radiation exposure
- Biomarkers

Total lecture time: 4h45mins

9-10	Janet Hall (IC), Sylvie Chevillard (CEA), François Leteurre (CEA) and teaching staff	Welcome, housekeeping, outline of course and introduction of students and teaching staff*
10-10:30	Coffee break – Joliot room	
10:30-11:30	Elisabeth Cardis (CREAL, Barcelona)	Epidemiological approaches to defining risks from ionising radiation exposures
11:30-12:30	Dominique Laurier (IRSN, Paris)	Cancer vs Non cancer effects after low dose IR exposure
12:30-13:30	Lunch – Green Café	
13:30-14:30	Janet Hall (IC)	Biomarkers – definitions and uses
14:30-15:30	Eric Deutsch (IGR, Villejuif)	Individual susceptibility to IR: a clinician's point of view
15:30-16	Tea break - Joliot room	
16-16:45	Alexei Grinbaum (CEA)	Individual vs group risks: philosophical reflections
16:45-17:30	Group meetings for preparation of presentation last day	
17:30	Welcome Cocktail	Green Café

*all students and teaching staff to prepare one slide to be presented in 2 minutes explaining who they are and where they are from.

December 2014

Tuesday 9th December: Lecture theatre Marie Curie

Chairman: J-L Ravanat

Radiation exposure, interaction with DNA and the 3 Rs – repair, recombination and replication

Total lecture time: 5hr 30mins

9-9:45	Marie-Anne Penhoat (IMPMC, Paris)	Radiation quality
9:45-11:15	Évelyne Sage (IC) Jean-Luc Ravanat (CEA, Grenoble)	DNA lesions: formation and detection
11:15-11:45	Coffee break – Joliot room	
11:45-12:30	Pablo Radicella (CEA)	Overview 3Rs and inter-individual variability
12:30-13:30	Lunch – Green Café and photo (garden)	
13.30-14.30	Pablo Radicella (CEA)	Base excision repair and the impact of oxidative stress on enzyme function
14:30 – 15:30	Wim Vermeulen (DOREMI/Erasmus MC, Rotterdam)	How to measure DNA repair <i>in vivo</i>
15:30-16	Coffee break – Joliot room	
16:30-17:30	Sylvie Sauvaigo (LXRepair, Grenoble)	How to assess the inter-individual variability in DNA repair
17:30-18:00	Time for preparation of student presentations	

Wednesday 10th December: **Lecture theatre BDD**

Chairman: François Leteurtre

- Cell signalling, post-translational modifications and epigenetic changes after IR exposure and their consequences

Total lecture time: 6hrs 30 mins

9-10	Jean-Baptiste Charbonnier (CEA)	How macromolecular structure influences repair
10-11	François Leteurtre (CEA)	Signalling pathways <ul style="list-style-type: none">- Signalling pathways involving kinases and phosphatases
11-11:30	Coffee break – BDD Hall	
11:30-12:30	Valerie Schreiber (UMR 7242, Strasbourg)	<ul style="list-style-type: none">- PARP and other post-translational modifications
12:30-13:30	Lunch – Green Café	
13:30-14:30	Jean-Pierre Quivy (IC)	Epigenetic changes induced by DNA damage
14:30-16	Vincent Favaudon(IC) Carl Mann (CEA)	Death after radiation exposure <ul style="list-style-type: none">- Overview- Apoptosis and mitotic cell death- Senescence
16-16:30	Coffee break – BDD Hall	
16:30-17:30	Serge Candéias (CEA)	Effects of irradiation on inflammation
17:30-18	Time for preparation of student presentations	

Thursday 11th December: Lecture Theatre Marie Curie

Chairman: Sylvie Chevillard

- Genetic instability and epigenetic changes induced by radiation exposure

Total lecture time: 6hrs

9-9:45	Arturo Londono (IC)	The telomere and genetic instability
9:45-10:30	Sara Lambert (IC)	The links between genome instability and replication
10:30 -11	Coffee break - Joliot room	
11-12	Olivier Brison (IC)	DNA Fragile sites and genetic alterations
12-13	Lunch - Green Café	
13-13:45	Meng-Er Huang (IC)	Measuring oxidative stress: challenges, limitations and perspectives
13:45-14:45	Fatima Mechta-Grigoriou (IC)	MiRs and Ovarian cancer links to oxidative stress
14:45-15:15	Coffee break - Joliot room	
15:15-17	Jozo Delic (CEA) Sylvie Chevillard (CEA)	Radiation induced genomic instability Cytogenetic and molecular characterisation of radiation-induced thyroid tumours
	Corinne Dupuy (IGR, Villejuif)	Oxidative stress and thyroid carcinogenesis - a practical example
17-18	Time for preparation of student presentations	

Friday 12th December: Lecture Theatre Marie Curie

Chairman: Janet Hall (IC)

- Radioprotection and radiation exposure, stem cells and student presentations

Total lecture time: 4hrs 15mins

9-10	Jeannine Lallemand (EDF, Paris)	Post-accident Fukushima and worker radioprotection
10-11	Jorg Tost (CEA IG)	High through-put-analyses – what they can tell us about the consequences of radiation exposure?
11-11:30	Coffee break – Joliot room	
11:30-12:15	Nicolas Fortunel (CEA)	Stem cells: radioresistant or radiosensitive?
12:15-13	Julie Konge (CEA)	Cancer Stem cells: radioresistant or radiosensitive
13-14	Lunch – Green Café	
14 –15.30	Student presentations	5 groups
15:30-16	Discussion – what are the good biomarkers and course evaluation	

