

## CONCERT joint Training course

### *ADORE*

#### *Application of cytogenetic and EPR/OSL techniques for biological dosimetry and physical retrospective dosimetry*

27.03. – 07.04.2017

Munich – Oberschleissheim, Germany

Day	General Topic	Content	Time
<b>Week 1 Cytogenetic assays (BfS)</b>			
<i>Monday 27.03.17</i>	<b>Welcome &amp; Organisation</b>	Organisation details, introduction to the course, introduction of the participants	<b>9.00- 09.30</b>
	<b>Introduction</b> <i>(Ulrike Kulka)</i>	Radiation Protection Research in Europe	<b>09.30- 10.30</b>
	<b>Key lecture</b> <b>Biological Dosimetry</b> <i>(Andrzej Wojcik)</i>	What is biological dosimetry, why do we need it, overview of techniques, application in emergency preparedness, application in research	<b>10.30- 11.30</b>
	<b>Laboratory: Practical</b> <i>(Ursula Oestreicher)</i>  <i>(Georgia Terzoudi)</i>	Blood taking, handling/shipment of blood samples, irradiation of blood samples.  Cultivation of lymphocytes for Dicentric assay, Micronucleus assay, Fluorescence in situ hybridisation assay.  Preparing for cell fusion for premature chromosome condensation assay (PCC)	<b>12.30- 16.00 +</b>
	<b>Tutorial</b>	Questionnaire to deepen the days topics	<b>-17.00+</b>
<i>Tuesday 28.03.17</i>	<b>Key Lecture</b> <b>QA &amp; QM</b> <i>(Laurence Roy)</i>	Introduction to Quality Assurance and Quality Management	<b>9.00- 10.00</b>
	<b>Lecture:</b> <b>PCC</b> <i>(Georgia Terzoudi)</i>	Introduction to premature chromosome condensation assay (PCC)	<b>10.00- 12.00</b>
	<b>Laboratory:</b> <b>PCC Assay</b> <i>(Georgia Terzoudi)</i>	Performance of the PCC technique: forced premature chromosome condensation with the help of mitotic hamster cells (cell fusion)  Training in PCC technique: counting of access chromosome fragments from irradiated lymphocytes;  Analysis of PCC slides for dose reconstruction;	<b>13.00- 16.00 +</b>
	<b>Tutorial</b>	Questionnaire to deepen the days topics	<b>-17.00+</b>

<i>Wednesday 29.03.17</i>	<b>Key lecture: Uncertainties</b> <i>(Liz Ainsbury)</i>	Lecture how to face uncertainties	<b>9.00- 10.30</b>
	<b>Lecture: DIC assay</b> <i>(U. Oestreicher)</i>	Introduction to dicentric assay (DCA)	<b>10.30- 12.00</b>
	<b>Laboratory: Dic assay I</b> <i>(U. Oestreicher)</i>	Performance of the dicentric technique: metaphase preparation on slides, staining of slides	
	<b>Laboratory: Dic assay II</b> <i>(Martina Denk, U. Kulka)</i>	Training in dic technique: identification of metaphases, counting of chromosome number, identification of dicentric chromosomes/acentric fragments, scoring of of dicentric chromosomes for dose reconstruction (manual and automatic)	<b>13.00- 16.00</b>
	<b>Tutorial</b>	Questionnaire to deepen the days topics	<b>-17.00 +</b>
<i>Thursday 30.03.17</i>	<b>Lecture: MN assay</b> <i>(Anne Vral)</i>	Introduction to micronucleus assay (MN)	<b>9.00- 10.00</b>
	<b>Laboratory: MN assay I</b> <i>(Anne Vral)</i>	Performance of the micronucleus technique: micronucleus preparation on slides, staining of slides	<b>10.00- 12.00</b>
	<b>Laboratory: MN assay II</b> <i>(U. Oestreicher)</i>	Training in MN technique: identification of micronuclei, scoring of micronuclei for dose reconstruction (automatic)	<b>13.00- 16.00</b>
	<b>Tutorial</b>	Questionnaire to deepen the days topics	<b>-17.00 +</b>
<i>Friday 31.03.17</i>	<b>Lecture: FISH assay</b> <i>(Leonard Barrios)</i>	Introduction to Fluorescence in vitro assay (FISH)	<b>9.00- 10.30</b>
	<b>Laboratory: FISH assay I</b> <i>(Leonard Barrios)</i>	Performance of the FISH technique: fluorescence in situ hybridisation of selected chromosomes on slides, counter staining	<b>10.30- 12.00</b>

	<b>Laboratory:</b> <b>FISH assay II</b> <i>(U. Oestreicher)</i>	Training in FISH technique: identification of symmetrical translocations, nomenclature, scoring of symmetrical translocations for dose reconstruction (automatic)	<b>13.00-16.00</b>
	<b>Tutorial</b>	Questionnaire to deepen the days topics	<b>-17.00 +</b>
<b>Week 2 Physical assays (HMGU)</b>			
<i>Monday</i> <i>03.04.17</i>	<b>Lecture:</b> <b>OSL/EPR</b> <i>(Clemens Woda, Albrecht Wieser)</i>	Introduction to TL/OSL and EPR dosimetry (all groups)	<b>9.00-10.30</b>
	<b>Lecture:</b> <b>OSL/EPR</b> <i>(Clemens Woda, Albrecht Wieser)</i>	Introduction to lab security (all groups)	<b>10.30 – 11.30</b>
	<b>Laboratory:</b> <b>OSL/EPR I</b> <i>(Clemens Woda, Albrecht Wieser)</i>	Sample collection/preparation of electric components, chip cards and touch screen glass samples (group A OSL, B EPR)	<b>12.30-16.30</b>
	<b>Tutorial</b>	Questionnaire to deepen the days topics (all groups)	<b>-17.00 +</b>
<i>Tuesday</i> <i>04.04.17</i>	<b>Laboratory:</b> <b>OSL/EPR I</b> <i>(Clemens Woda, Albrecht Wieser)</i>	Introduction to instrumentation (TL/OSL/EPR) and data analysis (group: A OSL, B EPR)	<b>9.00-11.30</b>
	<b>Laboratory:</b> <b>OSL/EPR I</b> <i>(Clemens Woda, Albrecht Wieser)</i>	Measurement and analysis of samples (group: A OSL, B EPR)	<b>12.30-16.30</b>
	<b>Tutorial</b>	Questionnaire to deepen the days topics (all groups)	<b>-17.00 +</b>

<i>Wednesday</i> <i>05.04.17</i>	Scientific excursion		<b>9.00- 17.00</b>
<i>Thursday</i> <i>06.04.17</i>	<b>Laboratory:</b> <b>OSL/EPR II</b> <i>(Clemens Woda, Albrecht Wieser)</i>	Sample collection/preparation of electric components, chip cards and touch screen glass samples (group B OSL, A EPR)	<b>9.00- 11.30</b>
	<b>Laboratory:</b> <b>OSL/EPR II</b> <i>(Clemens Woda, Albrecht Wieser)</i>	Introduction into instrumentation, measurement and analysis of samples (group: B OSL, A EPR)	<b>12.30- 18.00</b>
<i>Friday</i> <i>07.04.17</i>	<b>Summary results</b> <i>(Clemens Woda, Albrecht Wieser, Ursula Oestreicher, U. Kulka))</i>	Participants will present and discuss the results, obtained within the course	<b>9.00- 11.00</b>
	<b>Feedback</b>		<b>11.00- 13.00</b>