



**MICROSCOPICAL RESEARCH TECHNIQUES IN BIOMEDICAL APPLICATIONS**

***ANTWERP (BELGIUM) - MARCH 8 TO 12, 2010***

***Laboratory of Cell Biology and Histology***

***University of Antwerp***

**PROGRAMME**

**Monday, March 8<sup>th</sup>**

9:00 - 9:15	Welcome and coffee	<b>Inge Brouns</b>
9:15 - 10:00	General introduction and guided tour through the lab	<b>Inge Brouns</b>
10:00 - 12:30	<b>Theoretical session</b> : Principles of fluorescence microscopy, confocal microscopy and multiphoton microscopy State of the art : advanced fluorescence microscopical techniques	<b>J. Pierre Timmermans</b>
12:30 - 13:30	<i>Lunch</i>	
13:30 - 14:30	Practical training on preparation of cryostat sections	<b>Inge Brouns</b>
14:45 - 16:15	Practical training on preparation of paraffine sections Demonstration of light microscopical staining techniques	<b>Carine Moers</b>

**Tuesday, March 9<sup>th</sup>**

9:00 - 13:15	Hands on different (multiple) immunohistochemical staining procedures	<b>Inge Brouns</b>
	Integrated <b>theoretical session</b> on advanced immunohistochemistry	<b>Inge Brouns</b>
13:15 - 13:45	<i>Lunch</i>	
13:45 - 14:45	Hands on the fluorescence microscope - looking to your immunopreparations	<b>Kathy Schnorbusch</b>
14:45 - 15:00	<i>Break</i>	



15:00 - 16:15	Hands on laser scanning confocal microscopy	<b>Robrecht Lembrechts</b>
16:15 - 16:45	Demonstration on fluorescent emission fingerprinting using the Zeiss META module	<b>Inge Brouns</b>
16:45 - 17:00	<i>Break</i>	
17:00 - 18:00	Advanced fluorescence microscopical techniques (FRET, FRAP)	<b>Dirk Adriaensen &amp; Dominique De Rijck</b>

### Wednesday, March 10<sup>th</sup>

Session organised by **Dirk Adriaensen**

9:00 - 10:00	Live Cell Imaging : background, technical requirements, applications	
10:00 - 10:45	Looking at proteins in living cells	
10:45 - 11:00	<i>Break</i>	
11:00 - 12:30	Set-up for confocal live cell imaging : a combined theoretical and demo session	
12:30 - 13:30	<i>Lunch</i>	
13:30 - 15:00	Hands on : practical training for the use of a spinning disk confocal microscope using fixed specimens	
15:00 - 15:15	<i>Break</i>	
15:15 - 17:00	Hands on confocal fluorescent imaging of physiological activities in excitable cells - Part 1 : use of functional fluorescent probes in isolated neurons and/or cells lines	<b>Robrecht Lembrechts &amp; Kathy Schnorbusch</b>

### Thursday, March 11<sup>th</sup>

9:00 - 12:30	Hands on : imaging fluorescent proteins (GFPs) and/or fluorescent probes for cell organelles in living cells	<b>Dirk Adriaensen</b>
12:30 - 13:30	<i>Lunch</i>	
13:30 - 17:30	Practical session on preparing vibratome slices Hands on confocal fluorescent imaging of physiological activities in excitable cells - Part 2 : use of fluorescent probes and calcium-imaging in lung slices	<b>Robrecht Lembrechts &amp; Kathy Schnorbusch</b>



**Friday, March 12<sup>th</sup>**

Session organised by **Francis Terloo and Lieve Svensson**

- 9:00 - 10:00    **Theoretical session** : Principles of transmission and scanning electron microscopy
- 10:00 - 10:45    Demonstration on making ultrathin sections for use in transmission electron microscopy (TEM) - Theory and demo on making scanning electron microscopy (SEM) preparations
- 10:45 - 11:00    Break*
- 11:00 - 11:45    Hands on : looking at fixed tissue samples in TEM
- 11:45 - 12:30    Hands on : looking at fixed tissue samples in SEM
- 12:30            Lunch and good bye drink...*