

## Evaluation of student course HUIMM307 Basic course in flow cytometry Spring 2015

### Background:

Eleven participants followed the course, 1 PhD fellow, 9 master students (4 Erasmus students), and 1 post-master student. The course was an intensive course over 5 days starting Monday March 23. The course was from 8:30 in the morning until 16 in the afternoon. The course was organized by Silke Appel and Marianne Enger with help from Richard Davies, Sonia Gavasso and Jørn Skavland (who gave lectures and practical advice). Cathy Simpson (Flow Cytometry Specialist at Imperial College London, UK) was the lecturer for two parts of the course, and Einar Kristoffersen and Tim Holmes had 1 lecture each.

The plan for the course is given in the appendix. The methods that were included in the course were cell cyclus analysis, apoptosis, surface marker staining and quantification of GFP-transfected cells.

All eleven students following the course passed.

The evaluation was performed as a written evaluation.

Eight of the students handed in a written evaluation. The questions are listed in the appendix.

### Results from the written evaluation

Question A, B, D, and E were graded from 1 to 6 with 6 being the best (very bad, bad, OK, good, very good, excellent). The average is presented. Question C is given 'as is' and question F was comments.

#### A. What is your general impression of the course?

Four graded 'excellent', four graded 'very good'.

**Mean: 5.5**

#### B. How much did you learn at the course?

Four graded 'a lot', one graded 'very much', three graded 'much'.

**Mean: 5.1**

#### C. Have your expectations been fulfilled with regard to the description of the course?

Seven graded 'very relevant', one graded 'relevant'.

#### D. How were the relevant topics communicated?

Two graded 'excellent', four graded 'very good', one graded 'very good' to 'good', one graded 'good'.

**Mean: 5.1**

#### E. How did you like the protocols?

Four students graded 'excellent', two students graded 'very good', two graded 'good'.

**Mean: 5.25**

#### F. Comments/suggestions:

Student 1

- Videos are great!
- The amount of participants is good

Student 2

- Practice back gating would have been nice, I think it will increase the understanding and critical evaluation of our data.
- The talks of Cathy were a real pleasure to listen and I learned a lot from her
- The videos provided by Silke on mi side very brilliant to learn how to deal with Flowjo
- In general everyone who was involved was very kind and very willing to support us.
- The presentation of everyone's data on friday was great to learn how to critically look at your data. Good input for the protocol.

Student 3

- For further courses one might want to include back gating
- I enjoyed all lectures and all presenters did a good effort on explaining things over and over again. Tim H. was inspiring but this lecture could maybe be moved to friday where everyone have a better understanding
- The hands-on could be a bit more organized

Student 4

- Protocols could maybe be a bit more detailed
- There was a lot of dead time in between. Maybe next time you can make fixed groups with a time delay between them to alleviate some of the time consumed
- All lectures felt really relevant, informative and interesting, except the "applications of flow" which felt a bit too advanced

Student 5

- more than one cytometer would be great to be able to increase the practical work/person
- to do one experiment using FACS would be very interesting!

## Appendix

### 1) Timetable

## HUIMM307

### Basic course in flow cytometry (HUIMM307) – week 13 (23<sup>th</sup> -27<sup>th</sup> march)

BB-building, Conference room 3<sup>rd</sup> floor opposite to Aud 2 and Aud 4 (3B109F)

### Bring your laptops every day !

#### Day 1:

08.45-09.00:	<b>Welcome, general instructions</b>	Silke Appel
09.00-11.30:	<b>Introduction to basic flow cytometry (fluorochromes, simple compensation, flow cytometers – fluidics, optics, lasers)</b>	Einar Kristoffersen
12.30-15.00:	<b>Introduction to experiment “apoptosis”</b>	Cathy Simpson/Marianne Enger
15.15-16.00:	<b>Demonstration at the flow cytometer (Accuri C6)</b>	Marianne Enger

#### Day 2:

08.30-11.30:	<b>Experiment “apoptosis”, hands-on-time at the flow cytometer</b>	Cathy Simpson/Marianne Enger/Silke Appel
12.30-14.15:	<b>Analysis of generated data “apoptosis” (hands-on)</b>	Cathy Simpson/Marianne Enger/Silke Appel
14.30-16.00:	<b>Introduction to experiment “cell cycle”</b>	Cathy Simpson

#### Day 3:

08.30-11.30:	<b>Experiment “cell-cycle”, hands-on-time at the flow cytometer</b>	Cathy Simpson /Marianne Enger/Silke Appel
12.30-14.15:	<b>Analysis of generated data “cell-cycle”</b>	Cathy Simpson/ Marianne Enger/Silke Appel
14.30-15.15:	<b>TBA</b>	Yenan Bryceson
15.15-16.00:	<b>How to present flow cytometry data</b>	Yenan Bryceson

#### Day 4:

08.30-09.45:	<b>Introduction to experiment “surface marker staining”</b>	Richard Davies
10.00-10.45:	<b>Lecture: Antibody titration and compensation</b>	Sonia Gavasso
11.00-15.15:	<b>Experiment “surface marker staining”, hands-on-time at the flow cytometer</b>	Sonia Gavasso /Jørn Skavland/Richard Davies
14.30-16.00:	<b>Analysis of generated data “surface marker staining”</b>	Sonia Gavasso/Jørn Skavland/Richard Davies

#### Day 5:

08.30-09.00:	<b>Introduction to experiment “transfected cells”</b>	Marianne Enger
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09.00-11.30:	<b>Experiment “transfected cells”, hands-on-time at the flow cytometer</b>	Marianne Enger/Jørn Skavland
12.30-14.15:	<b>Analysis of generated data “transfected cells”</b>	Marianne Enger/Jørn Skavland
14.30-16.00:	<b>Results presentation, general discussion, sum up</b>	Silke Appel+++

2) The evaluation form

## **Basic course in flow cytometry – HUIMM307**

*This is the second time we had this course, so we would greatly appreciate your feedback so we can improve it.*

### **A. What is your general impression of the course?**

very bad --- bad --- OK --- good --- very good --- excellent

### **B. How much did you learn at the course?**

very little --- little --- some --- much --- very much --- a lot

### **C. Have your expectations been fulfilled with regard to the description of the course?**

irrelevant --- relevant --- very relevant

### **D. How were the relevant topics communicated?**

very bad --- bad --- OK --- good --- very good --- excellent

### **E. How did you like the protocols?**

very bad --- bad --- OK --- good --- very good --- excellent

### **F. Comments/suggestions: (use backside if necessary)**