



## MEAK 010 POLICY FOR MEAKINS-CHRISTIE FLOW CYTOMETRY PLATFORM

### 1. PURPOSE

The Meakins-Christie Laboratories (RESP research program) houses its own Flow Cytometry Core. The present document defines the rules governing the usage of the flow cytometers.

### 2. MANAGEMENT

The Director of the RESP Flow Cytometry Platform is Dr. Irah King.

As the manager of Flow Cytometry Platform, Victoria Zismanov is in charge of overseeing the day-to-day operations of the platform, training the users, ordering reagents and supplies as well as providing assistance to the users of the flow cytometers.

### 3. USERS & SUPER-USERS

#### 3.1 Users

All Meakins-Christie Laboratories students are eligible to use any of the flow cytometry instrument of the platform. Some restrictions may apply according to user training level and experimental design, Victoria might recommend using a specific instrument.

Non-RESP people, conducting collaborative work with a RESP program member can be eligible to use the Meakins flow cytometry platform. The request must be submitted to Dr. Basil Petrof or to Dr. Irah King for approval. Each non-RESP user must provide an agreement, signed by his/her principal investigator, on the condition of usage of the instrument (agreement form available on request).

#### 3.2 Super-Users

The super-users are experimented users, designated by the Director. Super-users receive a specific training on the maintenance of the equipment. They are allowed to perform the CST and some maintenance, in place of Victoria or Séverine, as needed. Super-users are not allowed to grant access to the instrument.

### 4. MANDATORY TRAINING

All users must be trained, on the specific instrument they intend to use, prior to being authorized to operate the instrument.

The training consists of a minimum of 3 sessions of 2 to 4h. In order to get trained, the users must take an appointment with Victoria Zismanov, for the 1st session. The 2nd and the 3rd training sessions must be completed within the following 30 days.

- **Session 1** – Basic Information on Flow Cytometry, Evaluation of flow cytometry knowledge and needs, Assistance with experimental design and sample preparation, current Standard Operational Procedures and Rules of the platform.



- **Session 2** – Theoretical training on the instrument: Equipment parts, Reagents, Cytometer Start-up, Manipulation and Shut-down, Diva Software, Data acquisition, Data Analysis
- **Session 3** (and subsequent as needed) – Practical training. For this session the user must provide his/her own samples. Under the close supervision of Victoria, the user is manipulating the cytometer and is doing data acquisition.

Once the user demonstrates sufficient confidence and autonomy with operating the flow cytometer, he/she will be granted access to his/her own Diva software account. A user must demonstrate good level of expertise prior to being authorized to use a cytometer alone after hours or during the week-end.

## **5. PERFORMANCE VERIFICATION & CALIBRATION OF THE INSTRUMENTS**

Instrument performance and calibration can have a significant impact on the performance of an assay, especially for the farther red channels.

The performance verification and calibration (CST) of each cytometer is performed on a daily basis and ONLY IF the instrument is being used. The daily CST is done from Monday to Friday, as needed, but no earlier than 8:30am. Following calibration, the cytometers are ready for usage by 9:30am at the EARLIEST.

## **6. RESERVATION OF INSTRUMENT - BOOKING SYSTEM**

A TeamUp booking calendar is accessible online to all trained users at the following link:

<http://www.meakinsmcgill.com/info/>

### **RULES FOR FLOW CYTOMETERS BOOKING**

- The booking with TeamUp electronic calendar is mandatory
- The booking must be representative of the actual usage time.
- The booking must include, at least, the full name of the user (person who will manipulate the Flow Cytometer) as well as the name of the principal investigator.
- The booking must be done no later than 5:00pm the day before use.
- Any booking before 9:30am must be authorized, in advanced, by Victoria or Séverine
- A booking cannot last for more than 4h within regular daytime hours (9:00am to 5:00pm)
- A user cannot book the flow cytometers for more than 12h/week within regular daytime hours.
- One user is not allowed booking both instruments at the same time.



## RESERVATION CHANGES & CANCELLATION

### If you cannot use the cytometer at the time you have reserved it

- you MUST cancel/change your booking in TeamUp as soon as possible but no later than 5:00pm the day before the booking.
- If, for an exceptional reason, you have to change or cancel a booking after 5:00pm the day before or on the same day of your booking, you MUST:
  - 1- Inform the technician in charge (Vicky or Séverine).
  - 2- Inform the users immediately before and after you. If you were to be the last user for the day, you remain responsible for the shutdown procedure until you delegate it to the previous user.

## 7. USAGE OF THE INSTRUMENTS - IMPORTANT RULES

The cytometers must be used in accordance with the Standard Operational Procedures. Failure in following the procedures may lead to equipment malfunctioning and damage. Remember that a cytometer is a very expensive piece of equipment with very sensitive parts.

### 7.1 Login and passwords

As each user has their own login and password, each user must strictly login with his/her own username and password. If you give your personal information to someone else, you will be responsible for everything done, including repairs and damages, under your username. As such, remember to **log off** when you are finished.

### 7.2 Tubes

To prevent damage of the Bal seal and pressure problems:

**All users must use exclusively BD/Falcon tubes**. Usage of tubes of other brands is not an option: BD technical support is conditional to the use of BD/Falcon cytometer tubes. Failure to use BD tubes may result in a break of the warranty / coverage. BD/Falcon tubes can be found under catalog number 352008 and 352235 (with filter caps). They have 2 thin lines at the top instead of one.

### 7.3 Samples

To prevent blockage of the fluidic system, it is **absolutely mandatory to filter your samples within one hour** before the acquisition. If the acquisition of your samples last more than 1h30, you must split your samples in batches to be filtered in several steps (as described here):

- On Canto II, the samples must be filtered right before each carousel loading
- On Fortessa, after 1h of acquisition, run water on the cytometer for at least 5min. Filter a new batch of sample before continuing the acquisition.



## 7.4 Start-up and Shutdown procedures

- Daily start-up

To prevent problems of connections between cytometer and computer, **the computer AND the Windows session must be turned on before the cytometer**

- On Canto II

- . Fluidic Start Up must be done daily after the instrument is turned ON
- . Priming of the fluid must be done after fluid container change

- On Fortessa

- . The instrument must remain on Standby when turned ON but not in use
- . Refill the tube of water when you finish

- Accuri C6

- . Refer to Standard Operational Procedure SOP-MEAK-2002 (copy available next to the instrument).

- Daily shutdown

- . The last user of the day is in charge of the daily shutdown
- . The Shut Down procedure MUST be run before the instrument is turned off at the end of the everyday
- . The cytometer AND the computer must be turned off at the end of everyday.

## 7.5 Data Management

**Without announcement, the clean-up of both computer memories will be done on a regular basis, every month.**

All data 1 month or older will be systematically erased from the hard drive at the time of the clean-up. To prevent any loss of data, we recommend all users to copy their data/results immediately after the acquisition. Ideally, users should immediately remove their data out of the hard drive after saving them on a portable drive.

## 8. FAILURE TO FOLLOW THE RULES

Non-authorized users that book this equipment will be immediately removed from TEAMUP without notice.

Failure to comply with the rules set out in this document may lead to the following consequences:

- After 1st offence, an email will be sent to the user to warn them. The person in charge will review the present document with the user.
- After 2nd offense, an email will be sent to the user as well as their supervisor and Dr King. The person in charge will review the present document with the user and try to find a customized solution to the problem.
- After 3rd offense, an email will be sent to the user as well as their supervisor and Dr King. The user login and password will be removed from the computers. To recover privileges, the user must undergo re-training.
- After 4th offense, access to the cytometry platform room will be denied. The user will no longer have the privilege to use the cytometers of the Meakins-Christie.

## 9. CONTACTS

- Dr. Irah King - Director of the Flow Cytometry Platform  
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**Meakins Policies and Procedures**  
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