

**University of Pittsburgh Flow Cytometry Core Laboratory  
Rangos Research Center Rms 8148 and 6148**

Tel: (412) 692-6968; (412) 692-3025; Email: [flow1core@chp.edu](mailto:flow1core@chp.edu)

**Guidelines for Use of Core Resources**

The University of Pittsburgh Flow Cytometry Core Laboratory based at Rangos Research Center Rooms 8148 and 6148 is a research resource to support the needs of Investigators for single cell morphology analysis and for sterile cell sorting.

The Rangos Flow Cytometry Core provides the following services:

- (a) Consultation for design and implementation of cytometry projects as part of Investigator-initiated research grants or of inter-/intra-institutional program grants
- (b) Analytical cytometry performed by Rangos Flow Cytometry Core Staff
- (c) Analytical cytometry performed by trained personnel of Investigators
- (d) Sterile cell sorting performed only by Rangos Flow Cytometry Core Staff, and by duly trained Super-Users (defined below)
- (e) Off-line analysis of cytometry data

**Fee structure of services:**

- (a) Project Consultation:                      To be determined by mutual agreement.
  
- (b) Core Staff-assisted cytometry
 

Rangos Faculty-subsidized:	\$ 75/hour
Non-subsidized:	\$ 100/hour
  
- (c) Self-operated cytometry
 

Rangos Faculty-subsidized:	\$ 50/hour
Non-subsidized:	\$ 75/hour
  
- (d) Cell sorting during business hours (Core Staff-Assisted only)
 

Rangos Faculty-subsidized:	\$ 100/hour
Non-subsidized:	\$ 125/hour
  
- (e) Cell sorting during off-hours by Certified Super-User
 

Rangos Faculty-subsidized:	\$ 150/hour
Non-subsidized:	\$ 175/hour
  
- (f) Cell sorting during off-hours by Core Staff (Prior arrangement only)
 

Rangos Faculty-subsidized:	\$ 175/hour
Non-subsidized:	\$ 225/hour
  
- (g) Personnel Training (Analyzers), one-time fee:
 

Rangos Faculty-subsidized:	\$ 20
Non-subsidized:	\$ 35
  
- (h) Personnel Training (Cell Sorters), per session fee:

Rangos Faculty-subsidized:	\$ 20
Non-subsidized:	\$ 35

- (i) Off-line analysis of cytometry data:
- |                            |            |
|----------------------------|------------|
| Rangos Faculty-subsidized: | \$ 25/hour |
| Non-subsidized:            | \$ 40/hour |

Charges for cytometry and cell sorting will be charged in 15-min increments.

Services for off-line data analysis will be charged according to pre-arranged man-hour(s) time at the instruction/approval/agreement of the Investigator.

**Scheduling of cytometry and cell sorting services:**

Services are provided on a first-come first-served basis.

ALL users with work requests may reserve blocks of time for cytometry. Core Staff-assisted services are available from 8:45am-5:00pm Monday thru Friday. Reservation requests for cell sorting outside of regular business hours maybe accommodated depending on the availability of Core Staff. Self-operators should schedule time for the LSRII.

For CHP and UPMC Investigators and their personnel, reservation may be made electronically through the UPMC network. The *Reservation Form* is accessible upon user login to “1UPMC-acct” network domain. The form is located in the Research (R) drive folder of labeled “Rangos Flow Cytometry I Core”.

*There are separate online scheduling calendars for the sorters and the analyzers. Contact the Core Staff (412-692-6968) if you are unsure of the instrument you require for your experiment and/or if you need access to the online scheduling system.*

For Investigators without access to the UPMC network, reservation may be made by email ([flow1core@chp.edu](mailto:flow1core@chp.edu)) or by telephone at 412-692-6968 or 412-692-3025.

*Reservations may be modified at any time, provided that the desired new time slot is available. On the day of experimentation, users may view the online reservation calendar to check on potentially available time slot. But users must contact the Core Staff by phone (412-692-6968; 412-692-3025) to confirm actual schedule for that day. The Core Staff may use any unfilled time for completion of cytometry work requests with samples already at hand in the facility, or for instrument maintenance.*

Due to high volume of cell sorting request, a maximum of one 4-hour cell sorting appointment may be made a single user within a single week. Call the Core Staff (412-692-6968; 412-692-3025) if additional sorting time may be needed within that week.

A reservation may be canceled on the day reserved for use by calling Core Staff (412-692-6968; 412-692-3025). Cancelled reservations may not be charged. *But habitual no-shows are discouraged and could incur service charge for the unused reserved time.*

**Scheduling of consultation, and personnel training:**

Requests may be made by directly contacting the Director or the Rangos Flow Cytometry Core staff either by email or by telephone.

**Training of research personnel for self-operation of cell analyzers:**

The Rangos Flow Cytometry Core recommends training of self-operators only if the projected time for self-use of the instruments be more than 8 hours a week. Cytometry instruments have hardware and software. Maintenance of the instruments is facilitated by self-operators as they become experts through regular use of the instruments.

Individual Investigators may request training of specific research personnel to gain a “self-operator” status. Training at a pre-scheduled 2-hour session will be provided by the core staff. After the training session, new self-operators are advised to perform/schedule their cytometry analyzer work during regular business hours when flow core staff are available for consultation.

Training requests may be made by email ([flow1core@chp.edu](mailto:flow1core@chp.edu)).

**Additional guidelines for cell sorting:**

*All cell sorting during regular business hours are core-staff assisted.*

With prior arrangement, requests for core staff-assisted cell sorting during off hours (evenings, weekends, holidays) may be possible depending on staff availability. Requests are considered on case-by-case basis.

To accommodate investigators who have high demand for cell sorting (>3 hours/week) however, “super-user” designation may be granted to enable *highly-experienced* cytometry users to perform self-operation of the sorters during off-hours.

A Faculty/PI may formally request to be trained personally and/or his/lab designee as a “Super-user” of the cell sorters. The request may be sent to the core staff by email to [flow1core@chp.edu](mailto:flow1core@chp.edu).

A cytometry user may be trained as a “Super-user” if he/she meets ALL of the following three criteria:

1. One year or more of hands-on Flow Cytometry experience.
2. A demonstrated history of using both analyzers (hands-on, self-operated) and cell sorters (user-provided samples sorted by Core personnel) for the past 6 months in the Rangos core, or an external equivalent facility.
3. A need for at least 3 hours/week of non-biohazardous cell sorting during the off-work hours (nights, weekends and holidays).

Training for Super-user will be provided by the flow core staff.

1. For those with prior more than 6 mos hands-on experience with cell sorting from comparable cytometry facilities, there may be 2-3 training sessions (1 hour each) to go over the use and care of the instrumentations. During one of these sessions, the user may opt to run his/her own samples.
2. For newer self-sorters, there will be multiple training sessions (1 hour each) depending on the individual. The goal is to demonstrate to the core staff that the said prospective user will be able to operate and maintain the machine.
3. *Each of the training sessions is charged a fee.*
4. Certification of Super-user designation is subject to evaluation of the flow core staff , and Core Director.

Super-user responsibility:

1. Super-user must submit a job request form to the core as usual.
2. Certified super-user is open only during off-hours, and must be scheduled ahead of time with the core staff. *No unscheduled/impromptu cell sorting will be permitted.*

3. As with any self-user of the Flow Core, a super-user must have the proper UPMC computer login credentials including badge access to the flow-core suite. *Sharing of badges/computer user login ID passwords is prohibited.*

3. Super-user may not attempt to train others to use the sorter. Only Flow Core staff has authority to train users.

4. Super-user is responsible for proper shut down of instrument.

5. Super-user is responsible for ensuring usability of instrument for the next day. In the event of an issue that requires Flow Core Staff to rectify or trouble shoot normal operations of the sorters on the next business day, the last Flow Core Super User will be held responsible for any extra time required for instrument set-up, and will be billed for normal sorting time for the time required.

6. PI and Super-user must certify, on job the request form, that samples being sorted are non-infectious / non-toxic.

7. Super-user login will be examined regularly. If the actual sorting time (minimum of 3 hours/week) is not met, then the super-user designation will be removed. In which, such user/PI must arrange for staff-assisted cell sorting during usual business hours.

#### **Assurance of access and use of the facility:**

The Rangos Flow Cytometry Core has a Statement of Trust and Assurance. Users may request a copy from the Core Staff.

Assurance is made for the availability of instruments at all times.

Users/Investigators will be duly informed about temporary unavailability of instruments, due to such events as scheduled maintenance, etc.

#### **User/Work requests and sample preparation:**

ALL work requests, either self-operated or Core Staff-assisted; REQUIRE completion of a *Work Request and Disclosure Form*.

The Rangos Flow Cytometry Core is a multi-user facility. Investigator Disclosure is a means to ensure occupational safety for all users, and to comply with Federal and University guidelines on responsible conduct of research.

Investigators assume responsibility for IRB / IACUC compliance. The Rangos Flow Cytometry Core neither keeps nor monitors IRB-/IACUC-protocols.

ALL samples for cytometry analysis MUST be fixed; the type of fixation duly disclosed on the disclosure form.

Samples for core staff-assisted cell sorting may either be fixed or alive; but disclosure is required for safety and for special handling as may be appropriate.

Samples for cell sorting by super-users MUST be certified by such user, and his/her PI, to be non-infectious.

Sample preparation is the responsibility of users.

#### **Data acquisition, transfer, and storage:**

Experimental controls are the responsibility of users and are required for the proper setup of the cytometers.

The Rangos Flow Cytometry Core recommends that controls include microbeads conjugated with the appropriate fluorochromes for instrument calibration. Please consult Core Staff for technical assistance.

Assurance of quality of acquired data pertains only to Core Staff-assisted work requests which are prepared in compliance with Flow Cytometry Core Guidelines. Users must specify special handling and/or processing procedures in the work request form.

For CHP/UPMC Investigators, data will be deposited in the Flow Core (T) drive of the UPMC network drive. This is accessible upon user login to “1UPMC-acct” network domain. In the T-drive, mouse-click the folder of labeled “Rangos Flow Cytometry Core” and then locate the sub-folder bearing the Investigator last name. An Investigator’s folder will be accessible only by their research staff.

For other Investigators, electronic storage media such as a Flash card MUST be provided at the time of the work request or at the time of self-operation.

Cytometry data will NOT be stored in hard drives of computer CPUs interfaced to the instruments.

Investigators assume responsibility for backing up and for storage of electronic data.

For CHP/UPMC Investigators, data deposited in the network T-drive are automatically backed up each day as part of the standard operation of IT department. However, data in the T-drive “Rangos Flow Cytometry Core” folder may be periodically purged in order to accommodate newly acquired data. Investigators may request retrieval of previously stored data in the UPMC network by directly contacting the IT department.

The Rangos Flow Cytometry Core does NOT monitor data storage.

**Self-user and Super-user responsibility:**

Self-operation is available outside normal business hours of the Rangos Flow Cytometry Core. Guidelines for reservations apply during off-hours.

Prospective self-users MUST undergo training for the use, care, and daily maintenance of instruments. Access to the facility instruments is granted only upon successful completion of training by the activation of CHP/UPMC-issued badges.

Actual time of usage must be reported after each use.

Aberrations, shut downs, and any untoward incident pertaining to the use of instruments must be reported immediately to Rangos Flow Cytometry Core staff. Only the Core staff is authorized to contact the manufacturer for service.

Cleanliness and order of work areas is a collective responsibility of all self-users.

Fluid lines of cytometers MUST be cleaned and purged after each self-operation. Any incident of line clogging MUST be reported immediately to Core Staff.

*Self-users MUST adhere to the reserved time for use. Late start- and end-time is discouraged.*

Extension of use time is allowed only if the schedule permits.

In case of personal emergency requiring immediate medical attention, users must call CHP security immediately at 692-5191.