



Champalimaud Scientific and Technological Platforms

Policies and Practices Manual

- Flow Cytometry Platform -

Policy Topics:

- Mission and Values
- General Considerations
- Platform Description
- Services Provided
- Cost Components and User Charges

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Mission and Values

The Champalimaud Foundation (CF) is committed to support state-of-the-art research aligned with strategic investment in new technologies and shared resources.

The mission of the Champalimaud Platforms is to contribute to the scientific and technological ecosystem in Portugal, by bridging the gap between academia and industry and develop scientific products and services with high impact on research.

The foremost goal of the Champalimaud Platforms is to assist the internal research community achieve their experimental objectives, by providing services and expertise in areas relevant to the research lines being pursued at the Champalimaud Centre for the Unknown (CCU).

The ultimate goal of the Scientific and Technological Platforms is to become a centralized hub for technological tools' development, by partnering up with key industry players and investing in large-scale projects that would hardly be engaged by individual research teams.

General Considerations

- A Platform is an organizational unit, which provides particular scientific and/or technological services and/or products primarily to internal users of the Champalimaud Centre for the Unknown, and whenever indicated to external or partner institutions.
- All users of the facility or Platform are billed in direct accordance with their use.
- Usage of the Platform, being in the form of instrument usage or requisition of products/services, must be adequately and accurately documented.
- Platforms operate on an annual cost recovery basis, with rates based on projected and effective operating expenses and levels of activity or demand for the services to be provided during the calendar year.

Non-discriminatory Rates

Platforms must not establish discriminatory rates against any internal group, laboratory or user. Platforms must charge equally all internal users for equivalent services or products provided. High volume rates and specific discounts can be allowed provided they are offered to all users who meet the criteria.

All users of the facility or Platform must be billed according with their use. Different rates are applied to Internal and External users.

Billing Period

The Platforms fiscal year follows the overall guidelines of the Champalimaud Foundation, January 1st through December 31st.



Requesting and Tracking Services

Researchers request Platform services through [iLab Solutions](#) system which is verifiable and auditable. It is the researchers' sole responsibility to specify the project for which the service is being requested and to which costs should be allocated. Additionally, the Principal Investigators are always required to verify the project allocation.

Platform Description

Flow Cytometry

The Flow Cytometry Platform was born in April 2017 with the mission to provide to Champalimaud Foundation community and external groups technical and scientific advice regarding the use of flow cytometric technologies, collaborating with them for the design, acquisition, data analysis and interpretation.

The platform is equipped with the state-of-the-art cell sorter: FACSAria Fusion. This cell sorter is exclusively operated by trained staff and it has a Class II Type A2 biosafety cabinet (it allows to separate human samples) and 4 lasers enabling multicolor analysis of up to 16 parameters. This cell sorter can separate up to 4 defined populations at a time, as well as single cell cloning. The platform is also equipped with two LSR analysers Fortessa X20 with 4 lasers (detection up to 16 parameters) and with a PMT option installed to detect small particles which can be operated by trained users in a self-service mode or assistance can also be required.

The Flow Cytometry Platform is one of the founders of the FLxFlow - a Portuguese network for Flow Cytometry which aims to bring together core flow facilities in the Lisbon area and enable the access of scientists to cutting edge applications.

Services Provided

Flow cytometry

Per Service:

- Assistance with experimental design, selection and setting up of the required equipment, analysis interpretation

Per Hour:

- Training on flow analyzer
- Cell analysis on Fortessa X20
- Cell separation on Aria Fusion
- Training on FlowJo software



Cost Components and User Charges

The goals of the Platforms should be aligned with the Champalimaud Center for the Unknown (CCU) mission and values; the services provided should be unique and/or represent an added value to the research developed in the CCU.

General Considerations

This section focuses on the guidelines for the various types of costs that can be allocated to a Platform, which are recovered through Service fees or User charges of the services provided by the Platform to its users. User charges are reviewed at least once a year. The costs considered for user charges include all **Direct Costs** associated with the services provided, classified in the following cost components:

- Personnel
- Supplies and Materials
- Capital Equipment

The Champalimaud Scientific & Technological Platforms 2018 Price list is included in Appendix I.

Types of User Charges

Per service: fee for some specific service rendered by a platform to a user. These services are pre-established. Customized requests are discussed on an individual basis.

Per hour: fees applied to specific resources based on the assessment of usage collected from an “honor-based” calendar booking system.

Personnel

Salaries of personnel directly associated with the activity of each Platforms should be included in the user charges. The personnel fraction of the total cost for each service provided is calculated considering the time required to deliver the service, regular business hours and working days.

Consumable supplies and materials

The cost of supplies and materials required for the Platform’s operations and delivery of services requested by users. These could include office and technical supplies, non-capital equipment, training and other materials related specifically with provisioning the Platforms services, assuring high quality standards and usage/application of state of the art technologies, protocols and methods.



Capital Equipment (Assets)

Platforms must manage and account for capital equipment used to provide services to investigators.

For a fair calculation of the cost of utilization of equipment, the guidelines of ISO 9000 were adapted to an academic research laboratory context. This allows a quantitative measure of the **utilization rate** (UR) of an instrument taking into consideration its acquisition value (AV), useful life (UL), utilization capacity (UC), and maintenance costs (MC).

1.1. Depreciation and Useful Life of Equipment

The acquisition cost of capital equipment or other capital investments should not be a direct cost of a Platform. Instead, it is appropriate to charge to a Platform the depreciated cost or lease cost of the asset.

For accounting purposes, The Champalimaud Foundation depreciates equipment in 3 years. For purposes of cost allocation to Platforms, the useful life of equipment or other capital asset is used. The following list shows the useful life of different asset categories typically required in a Platform:

<u>Asset Category</u>	<u>Useful Life</u>	<u>Rate</u>
Computer Equipment	3 years	0.34
Scientific/Technical Equipment	5 years	0.2
Major Software systems	10 years	0.1
Shop Machinery and Tools	10 years	0.1

The above described useful life rates are also in agreement with the wear and tear concept, which reflects the damage that naturally and inevitably occurs as a result of normal wear or aging of an instrument, even when an item is used competently, with care and proper maintenance.

1.2. Utilization Capacity and Wear and Tear

The utilization capacity reflects the number of possible utilizations in a year, based on its maximum capacity and the utilization unit that applies to each instrument¹.

1.3. Maintenance Costs

The maintenance costs of equipment are those incurred in the process of keeping it in good condition by regularly checking it and repairing it when necessary. These costs include

¹ The utilization unit used for the research instruments is hours (h).



maintenance contracts, preventive maintenance, corrective maintenance, improvements and replacements. These costs are calculated yearly, based on projected and effective costs, operation history and suppliers' guidelines.

1.4. Utilization Rate Calculation for users charges

Considering the principles described above, the following formula is used to calculate the Utilization Rate of equipment:

$$UR = \frac{AV * UL + MC}{UC}$$

UC

UR: Utilization Rate

AV: Acquisition value

UL: Useful life rate

UC: Utilization capacity

MC: Maintenance costs

Dealing with Operating Deficit or Surplus

The Champalimaud Scientific and technological Platforms are not-for-profit operations that aim to provide the best quality scientific and technical services to users, leveraging installed capacities, centralization and optimization of resources and expertise.

The Platforms are expected to recover, through users charges, a fraction of their direct costs that were possible to identify with the existing operating history. The remaining costs are covered by specific departments or by the Champalimaud Foundation, upon agreement between the parties.

User fees should be reasonable and competitive when compared with other institutions or commercially available equivalents. Operating deficits or surpluses in a given year should be used to adjust users charges accordingly in the following year.

External users

Users from external organizations, managed and administrated by entities other than the Champalimaud Foundation – academic, for-profit or not-for-profit organizations – can benefit from the Champalimaud Platforms' services upon payment of an external user charge that is higher than the internal user charge and reflects the internal direct cost fee and the established rate of indirect costs, according appendix I.

External researchers also request Platform services through [iLab Solutions](#) system. It is the researchers' sole responsibility to specify the project for which the service is being requested and to which costs should be allocated. Additionally, the Principal Investigators are always required to verify the project allocation. External users have to send a Purchase Order no Platform Manager



before they use the facility. This purchase order should indicate which service the research intend to use and for many hours, indicating also the total cost.

External users are allowed to do reservation through [iLab Solutions](#) one week in advance.



Appendix I

Flow Cytometry Platform User Charges List

		€/hour		
	Equipment	Internal	External	Companies
Analyzer	LSRFortessa X20 w/o assistance	15,5	20,15	23,25
	LSRFortessa X20 w/ assistance	24,5	31,85	36,75
Cell Sorter	FACSAria Fusion	50,3	65,39	75,45
Analysis Station	iMAc with FlowJo w/o assistance	2	2,6	3
	iMAc with FlowJo w/ assistance	14,4	18,72	28,08

Charge rates in effect since: 1st January 2018