

POLICY OF USE

Leica TCS STED CW SP8

Super-resolution Microscope

Version 10
(January 2025)

Foreword

This policy document is open to improvements and suggestion, fruit of the use and experience in the common and collaborative use of this equipment. Suggestions are taken by the Facility technician (laura.escobar@achucarro.org).

Property and right to use

We purchased the base of our super-resolution confocal microscope Leica SP8 (model TCS STED CW SP8) back in October 2012. After that date, the system has been upgraded (to gated-STED) and updated annually.

This equipment is property of Achucarro Basque Center for Neuroscience and was acquired thanks to a direct subsidy of the Department of Education, Universities and Research of the Basque Government, so it is open to the Basque Science Community, according to this policy of use.

Main technical specifications

- Inverted Leica DMI 6000B microscope.
- Objectives: 10x Air, 20x Air, 40x Oil, 63x Oil, 100x Oil (STED).
- Galvanometric Z-stage and motorized XY-stage for multi-position imaging (mosaic, time lapse).
- White Light Laser (470-670 nm tuneable excitation with 1nm interval).
- Argon Laser (458, 476, 488, 496, 514 excitation lines).
- Ultraviolet Laser (405 nm excitation line, AOTF Flexible)
- STED CW unit (592 depletion laser for super-resolution and 100x objective)
- Galvanometric Scanner (up to 1400 Hz) and Resonant Scanner (8000 Hz) for fast scanning.
- High-sensitive Hybrid detectors (x2) and standard Photomultiplier tubes (PMT) (x2): 4 channel simultaneous acquisition with freely adjustable spectral detection.
- Environmental control chamber (temperature, CO2, humidity) for in vivo imaging.

Microscope reference personnel

Laura Escobar (Facility Technician) laura.escobar@achucarro.org

Basic working conditions and procedures

The checklist with all the mandatory steps to start, run and stop the microscope is available at the microscope room. Laura Escobar will supervise the use, if needed.

Acknowledgement

Users MUST mention the use of this equipment in their publications and research outcomes as:

Achucarro Basque Center for Neuroscience-Imaging Facility (UPV/EHU Scientific Park, Spain)

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Working Hours

To try to guarantee the availability of the microscope for all users/groups, each workday is divided into six computable timeslots, in term of group limitations: from 8:00 to 10:00, 10:00 to 12:00, 12:00 to 14:00, 14:00 to 16:00, 16:00 to 18:00 and 18:00 to 20:00.

The rest of the hours of the day / night are open to use by any autonomous user.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
8:00							
9:00							
10:00							
11:00							
12:00							
13:00							
14:00							
15:00							
16:00							
17:00							
18:00							
19:00							

Request of access for external people

Request access by writing to core-facilities@achucarro.org

Request of access for internal staff

The use of the confocal microscope requires a previous reservation that will be made through the “Agendo Science” reservation management software.

Access and registration: in the search bar of your browser click:

<https://achucarro.agendo.science/>

Then, go to the initial page to registrate and create an account.

The email address from which you access this system is where you will receive all notifications related to your calendars, your reservations, possible changes, etc. So, this is going to be a very active mailing account.

Remember to select the institute (Achucarro Basque Center for Neuroscience) and the lab you belong to. Once the registration requests are received, they will be approved by the administrators (mainly Aitor Palomino (aitor.palomino@achucarro.org) and Laura Escobar (laura.escobar@achucarro.org)) and you can request access to the calendars of the facilities that are of interest to you.

Group Leaders will be responsible for the use (and cost) of their group members, so you can establish your own (internal) request procedures.

Reservation Constraints

Each calendar presents a series of specific restrictions regarding the number of users per group and week, determined by the administrators according to the demand of each facility.

These restrictions are automatically applied when making a reservation.

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User Priorities:

- According to affiliation:
 - Achucarro and UPV/EHU users have the maximum priority on the use of this equipment; after them,
 - Other non-for-profit research or technological centers within the Basque Science Community (or abroad); and finally,
 - Companies and private entities.

In exceptional cases, if a user of this third group has a special -time related- need and according to their pricing policy, they could be given priority over other users.

- According to the use:
 - This is singular equipment that allows STED, so users/experiments with these needs will have priority to use it.

Penalties

Users that reserve a time slot that then do NOT use the microscope without releasing the reservation, will have a PENALTY on their next reservations.

In order to keep a good atmosphere in the use of the equipment, and in the whole center, we kindly ask all the users to observe strictly the schedules and times of use, planning adequately the experiments, being tidy and clean with the equipment, furniture and the room.

User-levels

We define 2 levels of expertise/user profiles:

- Beginner: Mainly those that never used confocal microscopy independently before.
 - The Facility Technician provides training for being an independent user and certifies the knowledge and capabilities of the user
 - Beginners can NEVER use the microscope alone and will always have to be assisted by the Facility Technician, or an independent user (Group Leader, Senior, Supervisor), depending on the technique or type of experiment.
 - The supervisor is responsible of any damage on the equipment.
- Independent:
 - People on this level are the Facility Technician, and those appointed this level by the technician.
 - Those that used confocal microscopy (Leica SP5, SP8) before, and have their experience validated by certificates of attendance to Leica official courses.
 - When training beginners, independent users will assure that new users have carefully read and understood this document (Policy of Use).

The will of the management of the center is that the maximum of the people receives and achieves a high expertise level in the use of this equipment.

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Annex 1: Service Prices 2024

These prices have been set according to the cost of maintenance of the equipment, and considering the differences that each technique produces on the wear of the resources (lasers, etc.).

STANDARD FEES (EUROS PER SLOTS OF 2-HOURS)

	Standard	W Argon	STED
Achucarro and UPV/EHU users (EUROS)	32,00	39,65	30,35
Other users	Please, ask, we will prepare a quotation, depending on the experiment and its requirements.		

These prices are valid until next 31 Dec 2025.

These prices do not include the taxes that would apply in each case.