



Institute for Bioengineering of Catalonia

# BioSpace Lab

Policies and Practices

Corefacilities Unit  
[corefacilities@ibeccbarcelona.eu](mailto:corefacilities@ibeccbarcelona.eu)

Engineering  
solutions for **health**



The **BioSpace Lab** is part of **IBEC Core Facilities** which also consists of **General Management of IBEC's Labs** and the **Nanotechnology Platform**.

It is a **shared communal space** located in the basement of Hélix building, that provides researchers who do not have **cell culture capabilities** on their laboratories with those capabilities and also offers **3D Bio-fabrication capabilities**.

The use of the **BioSpace Lab** is open to any **IBEC member**, but requires following strict rules and guidelines, which will be provided and supervised by the **Core Facilities staff**:



**Ramona Bravo** will be responsible for the maintenance and coordination among users of the cell culture capabilities of the **BioSpace Lab**.



**Mateu Pla** will be responsible for the maintenance and coordination among users of the **3D Bio-fabrication**, which is integrated in the **Nanotechnology Platform**.



## Access



- 1- Every person who wants to use the facility should first send an email to [corefacilities@ibecbarcelona.eu](mailto:corefacilities@ibecbarcelona.eu) requesting it.
- 2- To become a User of the BioSpace Lab a **registration form (BioSpace User Registration Form)**, with personal data, group leader data, as well as information about intentions of use, must be completed.
- 3- If you will perform work with cells, an additional form (**Cell List Form**) must be filled out.
- 4- Both documents have to be signed by the User and countersigned by the correspondent Group Leader.

**The BioSpace doesn't have the necessary conditions to the manipulation of infectious materials and microorganisms.**

**The room is only for Biosafety Level 2 experiments.**



## Access



4- Before start working in the BioSpace Lab, every person will be asked to do a **on-site training in biosafety and basic standard operational procedures:**

- Cell culture Users: a detailed description of aseptic techniques will be distributed and explained to new users.
- Bioprinter Users: before using the equipment, users must pass a short training course

**In addition, the User's supervisor/group leader is responsible for ensuring that each User is properly trained, and monitored to use the culture cell facility.**

5- Only Users, who have previously passed the training session, can access the BioSpace, as the entrance is controlled by an ID Card which must be activated.

6- If a User, request access to the Stereo Microscope for Fluorescent Imaging, a personal login and password will be given.



## Access



7- The User agrees to use equipment properly, following the instructions received from the Core Facilities technician in charge.

8- The User is responsible for the proper handling of the biological agents, chemical reagents and materials used, and for using the personal protective equipment (PPE) needed while undertaking his/her work.

9- If the User observes any faults or malfunction in the equipment, he/she must notify the Core Facilities staff immediately via email at [corefacilities@ibecbarcelona.eu](mailto:corefacilities@ibecbarcelona.eu).

**10- The access to BioSpace will be revoked to the Users that do not respect the rules, in particular the cleanliness and sterility procedures, and that make misuse of the facilities and/or equipment.**



11- Depending on the information given on the “**BioSpace User Registration Request**” form, space on the CO<sub>2</sub> incubators and the BioSafety Cabinets will be assigned.



# Hours of Operation



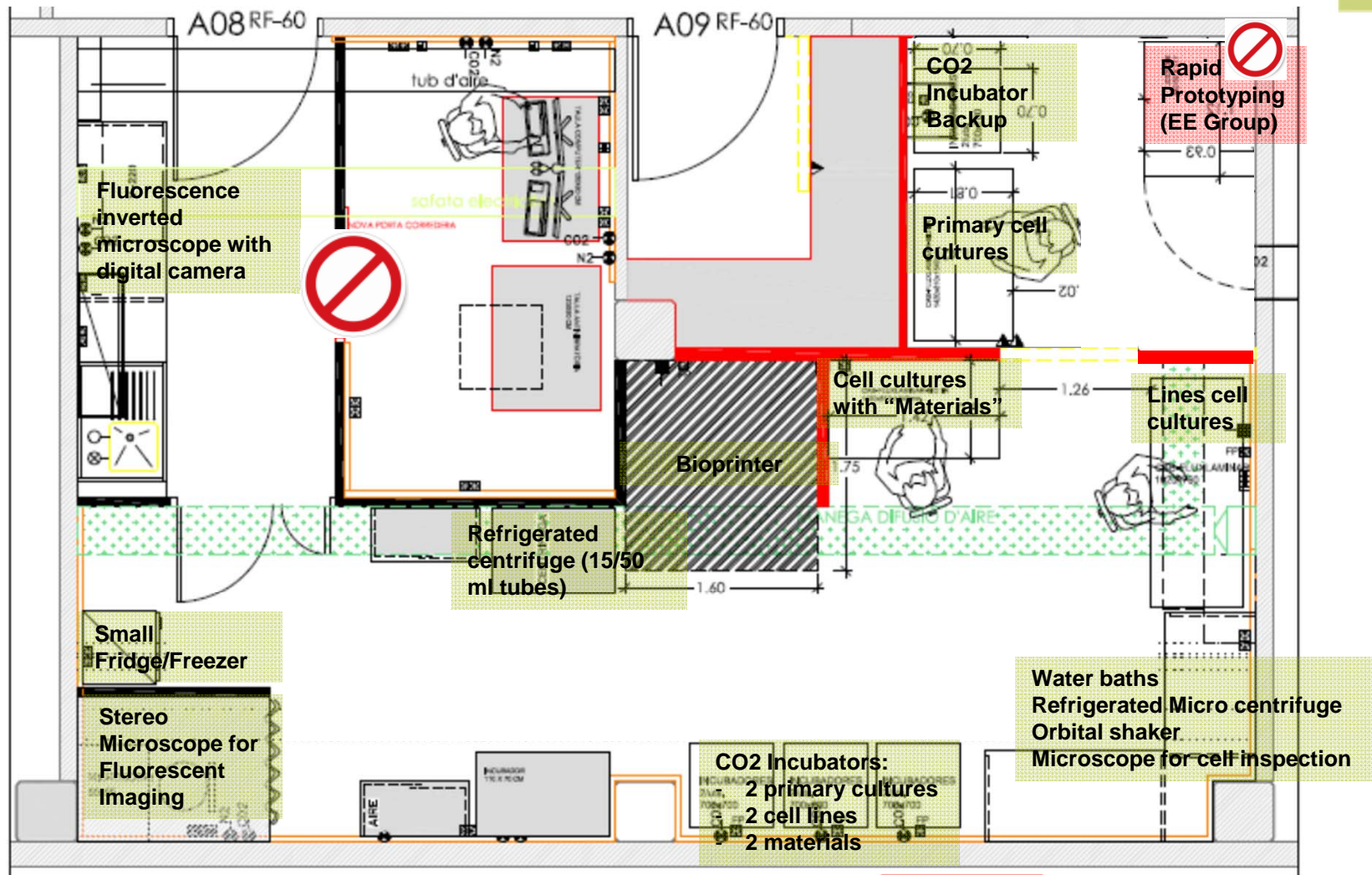
1- Users are encouraged to work during regular working hours: **Monday to Friday, 9:00 to 18:00.**

2- For security reasons, **working outside those times is not normally allowed.**

3- In case where it is absolutely necessary to work outside the usual hours or on weekends (only possible for cell culture experiments), the users should notify the Core Facilities Unit at [corefacilities@ibecbarcelona.eu](mailto:corefacilities@ibecbarcelona.eu), stating the date and time.



# BioSpace Lab Distribution



# Storage and Consumables

1- To facilitate the work, a small **storage place** will be allocated per Group:

- One plastic drawer cart
- ½ drawer and ½ shelf inside the freeze and fridge respectively
  - Rack for 15/50 ml tubes and eppendorf plastic box available -20°C



Everything brought to and stored in the BioSpace must be labelled with the colour of the group, name and date.

Fridge and freeze spaces can only be used to store those items to be used explicitly for cell culture.

Remember, that **this is not a stock room.**



2- **Core Facilities Unit** will provide laboratory **basic consumables** for Users:

- Basic supplies
  - Ethanol 70%
  - Bleach 10%
  - Hand Soap
  - Paper towels
  - Aquaclean:Water solution dispenser for incubators pan and water bath
  - Absorbent towels for spills





# Storage and Consumables



3- **IBEC Groups (Users of the facility)** will be expected to bring their own cell culture and project-specific materials.



## Personal protective equipment

- Lab Coat
- Safety Glasses
- Gloves



## Cell culture

Pipettes and pipette tips  
Serological pipettes for different volumes  
Flasks, vials, tubes, etc.  
Sterile tips and filter tips for different volumes  
Culture petri dishes, multi-well plates with different formats  
Cell scrapers  
Cell cultures, media, antibiotics, additives, etc.  
Any other miscellaneous supplies needed (e.g. polymers)



# Storage and Consumables



## 3D BioPrinter

Disposable material needed to work with the BioPrinter:

- 10 cc and 3cc syringes
- Pistons for 10 cc and 3 cc syringes
- Needles for Bio-printer
- 5 ml Eppendorf tubes

Those materials will be available for purchasing at the IBEC *in-house* store.



Depending on the use, users must buy the following parts:

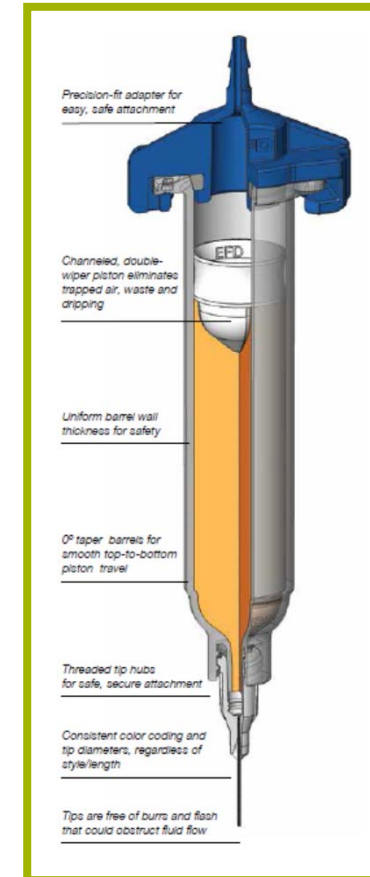
- MicroValve for jetting
- Microvalve for contact dispensing
- Luer lock adapter



Each User or Group should have their own cartridge(s) adapter(s):

- Cartridge adapter head for 10 cc syringes
- Cartridge adapter head for 3 cc syringes

**In order to help Users to select the correct materials, more details will be given in the 3D BioPrinter training session.**



# Reservation



1- A **booking service** is available on IBEC's webpage (<http://www.ibecbarcelona.eu/services/in-house-equipment/>), for the reservation of the Biosafety cabinets, the Bio-printer and the Fluorescence inverted microscope.

2- Each User has to type its own login and password to access the calendar. The calendar application allows you to register your personal email address and password. ..

3- Users, can only book the biosafety cabinet that as been allocated to their experiments.

4- Any use of the equipment must be booked in advance. Maximum fifteen (15) days in advance of the desired date and time.

5- The booking service will e-mail a reminder, to the User, with the booking information 24 hours prior to the scheduled time.

6- If the User cannot attend the booked session, he/she must cancel the booking as soon as possible.

Booking Slots of Time	
Minimum	Maximum (in case of overbooking)
Biosafety cabinets	1,5 hour / 8 hours
Fluorescence Inverted Microscope	15 min / ½ day
Bio-printer	1 day / 1 week

7- In principle, all the Users have the same priorities for the reservations. In case of overload, in order to find a solution, a meeting with the groups involved will be requested.



# General Practices



## 1- At the entrance of the room:

- Hangers were Users can hang their lab coats that are for BioSpace Lab use only, are available on the wall.
- Lab coats must be worn. Please, replace the lab coat with a clean one on a regular basis.
- A sink is present for washing hands when entering or leaving the BioSpace Lab.

## 2- Wear appropriate gloves for protection against potentially dangerous materials

- Don't use gloved hands to open the doors, answer the phones or anything else that can spread the material on the gloves to others.

3- Do not eat or drink in the laboratory. Food and drink are a potential route for exposure to hazardous materials

4- Do not work alone in the laboratory.

5- Avoid wearing headphones in the laboratories, since it could prevent you from hearing the emergency alarm.

6- The door to the facility must be kept closed. Check the door after entering and leaving the room.



# Using Biosafety Cabinets



(Primary cultures / Cell lines cultures /“Materials” cell cultures)

## 1- Before starting the work

- With the window sash closed, turn on the UV light during 15 min.
- Ethanol all surfaces inside the biosafety cabinet.
- Let the air flow for 5-10 min. to filter the hood air and allow the air flow to equilibrate.
- Connect your vacuum liquid waste bottle to the system .

## 2- During the work

- Follow the aseptic technique when working in the Biosafety Cabinet.

## 3- After finish the work

- Remove your personal belongings of the cabinet and clean it with ethanol, 70%.
- Rinse the vacuum tubes with diluted bleach (10%) for a few minutes then rinse with water and remove your vacuum liquid waste bottle from the system. Finally discard the liquid, of the liquid waste bottle, in the waste container located at the entrance of the BioSpace.
- Any media/cell spills in the hood must be cleaned immediately, by the Users, with 70% ethanol. If remove the front grille and bottom of the hood.

## 4- Maintenance that will be performed/coordinated by Core Facilities Staff

- Weekly
  - Clean and disinfect hood work surfaces
- Monthly
  - Remove the front grill and work surface to clean it with soap and water and disinfect
- Annually
  - Biosafety Cabinets inspection (includes HEPA filters and air-flow).



**More detailed information , about the proper use of the safety cabinets, will be given to each user.**



# Using CO<sub>2</sub> incubators

1- Will be kept at 37°C and 5%CO<sub>2</sub>.



You must contact Core Facilities Unit if your experiment requires a different setting.

2- All culture flasks/plates/dishes must be labelled properly including User name, cell line name, passage number and date.

3- The tray at the bottom of each incubator should be checked daily to ensure it is filled. This maintains the humidity inside the incubator.

4- Users must wipe up any media/cell spills immediately and use 70% ethanol for cleaning. If the spill is large, the tray of water from the bottom of the incubator should be removed and cleaned.

5- Maintenance that will be performed/coordinated by Core Facilities Staff

- Weekly
  - Incubator humidification pans emptied, cleaned and water replaced.
- Every 6 months (the incubator will be out of use for at least a day)
  - Incubator deep cleaning
- Annually
  - Incubator deep cleaning (the incubator will be out of use for at least a day)
  - Change incubator HEPA filters
  - Verification of CO<sub>2</sub> levels and temperature



**More detailed information , about the proper use of the CO<sub>2</sub> incubators will be given to each user.**



## Using Microscopes

1- Microscopes available:

- Stereo Microscope for Fluorescent Imaging with workstation (needs a personal user account)
- Fluorescence inverted microscope with digital camera
- Microscope for cell inspection

2- To avoid spread contaminations, is recommendable that before using the microscopes, spray a wiper (Kimwipe) with 70% ethanol and wipe down the stage.

3- The duration of data storage on the Stereo Microscope for Fluorescent Imaging Computer will be limited to 3 months. After this duration, Users will have to consider that their data might be deleted without previous warning.

4- Users will be able to access the microscope computer using the local area network for retrieving the data.

**More detailed information , about the use of the microscopes will be given to each user.**



## Using Water Bath

1- Will be kept at 37°C

2- It will be used for warming reagents and incubations.

3- The lid should be kept on, in order to slow the evaporation.

4- If the water level of the bath is under the minimum, fill it with water. A container with Aquaclean:water solution will be available at the entrance.

5- Maintenance that will be performed by Core Facilities Staff

- Weekly
  - completely emptied, cleaned and water replaced.



# Using 3D – BioPrinter



**Coming soon.**

We will give more details about the management and the operating mode.





# Room Cleaning and Maintenance



The BioSpace is equipped with overhead UV lights for whole room treatment.

- Each day, room UV lights will be functioning during minimum 15 min. (must be coordinated with PCB)
- A BLUE warning lamp in the hall area is turned on when the UV light is active.



Room Cleaning Schedule:

- 3 times a week – general cleaning
- 2 times a year – deep cleaning

The affected hours/days will be indicated in the booking calendar



The waste is picked up once a week (every Monday's)



[www.ibebarcelona.eu](http://www.ibebarcelona.eu)



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