

Ultra and Super Centrifuges Facility

Overview

The DBS Ultra and Super Centrifuges Service is a research facility that supports researchers in scientific studies requiring high-speed or ultracentrifugation. The facility is located on the 1st, 2nd and 5th floor, north side, of the Vallisneri Building and is equipped with several ultra and super centrifuges suitable for applications such as the separation and purification of biomolecules and subcellular components.

Equipment and location

	RPM max	Location	
<u>ULTRACENTRIFUGES</u>			
Beckman L70	70000	1 st floor north	Room 62 (geotec 02 124)
Beckman Optima Max-XP	120000	2 nd floor north	Room 68 (geotec 03 135)
Beckman Optima L-90K	100000	5 th floor north	Room 71 (geotec 06 126)
<u>SUPER CENTRIFUGES</u>			
Thermo Scientific Sorvall LYNX 4000	20000	1 st floor NORTH	Room 62 (geotec 02 124)
Hitachi CR22N	20000	2 nd floor north	Room 68 (geotec 03 135)
Beckman Avanti J25	25000	4 th floor north	Room 66 (geotec 05 118)
Beckman Avanti J25	25000	5 th floor north	Room 64 (geotec 06 136)
EPPENDORF 5810R	14000	2 nd floor north	Room 68 (geotec 03 135)

User manuals are available at the following links [\[see “User support material”\]](#)

Rotors available at each floor are:

Floor	Centrifuge	Rotor	RPM max	VOLUME max
1	Beckman L70 ultracentrifuge	70.1 Ti	70000	12 x 13,5 ml
		SW40 Ti	40000	6 x 14 ml
1	Thermo Scientific Sorvall LYNX 4000	F14-6x250Y	14000	6 x 250 ml
		F20-	20000	12 X 50 ml
		12x50LEX		
2	Beckman Optima MAX-XP ultracentrifuge	TLA-120.1	120000	14 x 0,5 ml
		TLA-120.2	120000	10 x 1 ml
2	Hitachi CR22N	R12A3 41	12000	6 x 250 ml
		R20A2 46	20000	6 x 50 ml
		R10A3	10000	6 x 500 ml
5	Beckman Optima L90K ultracentrifuge	45 Ti	45000	6 x 94 ml
		70.1 Ti	70000	12 x 14 ml
		90 Ti	90000	8 x 14 ml
		100 Ti	100000	8 x 6,8 ml
		SW60 Ti	60000	6 X 4 ml
5	Beckman Avanti J25	JA25.50	25000	8 x 50 ml
4	Beckman Avanti J25	JLA9.1000	9000	4 x 1000 ml
		JA25.50	25000	8 x 50 ml
2	Eppendorf 5810R	A-2-DWP	3700	
		A-4-62	4000	
		F-34-6-38	12000	6 x 125g

Opening hours:

Monday- Sunday, h24

It is possible to reserve time slots that are at least 15 minutes long. The rate is determined by the booking time.

Please note that, according to the Safety Guidelines of University of Padua:

“Do NOT work alone outside of working hours, particularly in cold rooms and in cases of complex and dangerous operations. It is always important to check if specific procedures require special attention. The presence of undergraduate students is conditioned on the presence of at least one structured staff unit.”

Service Coordinator

Dr. Angelita Tottene

Staff

Dr. Luca Cesaro

Dr. Angela Chiavegato 1st floor

Dr. Elena Trevisan 2nd floor

Dr. Alessandra Folda 5th floor

The Facility's staff are available Monday to Friday during normal working hours (09:00-16:00).

Guidelines

Users are expected to perform experiments independently and must be adequately trained to ensure proper use of the instruments.

First use of the instrument and training

Users need to be trained before using the instruments. Prior to the first use of the instruments, please contact Dr. Luca Cesaro for the mandatory training and assistance at the first use.

Please note that plastic/glass tubes are not provided.

Booking procedures

Prior to use, it is mandatory to reserve instruments through the booking platform of the Department of Biomedical Sciences, at <https://prenotazioni.biomed.unipd.it/strumenti/week.php>, using your laboratory's account. If you don't have an account to access the booking platform, please contact our ICT service staff at 'informatica.biomed@unipd.it'.

When making your reservation, indicate the name of the user, the group leader, and lab phone number. If necessary, reservations can be cancelled no later than 24h prior to the reserved slot.

Rules

Before your session:

- Wear clean gloves to pick up the rotors and set the centrifuges.
- It's forbidden to make any intervention on machine or its electric system.
- It's forbidden to centrifuge pathogenic organism and biological material which may be hazardous.
- The system must be checked in all its parts, must be clean and without any obvious damage; if this is not the case, please contact the staff immediately.
- Tubes must be safely and firmly closed. Tubes must be filled following the volume indications in the manufacturer's manual.
- Buckets and tubes must be correctly balanced. Even if you don't need all of them, please use swinging rotors with all buckets.

During your session:

- Never exceed 80% of the maximum operating speed of the rotor.
- Please wait until the rotor reaches the set speed before leaving the room.
- If there are vibrations or anomalous noises, immediately stop the run and call Service staff.
- In case of damaged tubes and loss of material during the run, stop it and wait at least 30 minutes to allow the deposition of aerosol particulates. All damaged tubes, glasses fragments, accessories and rotor must be submerged into ethanol 70% for 24h. Throw them away as biological wastes. Please wear appropriate DPI for all operations

After your session:

- Switch the centrifuge off; remember to leave the lid open, to allow the chamber to dry. The rotors have to be cleaned and put back in the cold rooms of the corresponding floor.
- Malfunction or problems on centrifuges before, during or after use have to be notified to the Service Staff.

User support material

- OptimaL70_L90K.pdf
- Optima_l_series.pdf
- Optima_Max_XP.pdf
- Manual_avanti_j25.pdf
- JLA9100.pdf / JA25-50.pdf
- 70-1Ti.pdf / SW40Ti.pdf / 45Ti.pdf / 90Ti.pdf / 100Ti.pdf / SW_60_Ti.pdf
- TLA-120.1.pdf / TLA -120.2.pdf
- Hitachi-CR22N.pdf
- R20A2.pdf / R12A3.pdf / Centrifugation_Operating-manual_Rotor-R20A3.pdf
- Sorvall_lynx_4000_Manual.pdf
- Fiberlite F14-6x250y Rotor.pdf
- Fiberlite F20-12x50 LEX Rotor.pdf
- Manual_Eppendorf_5810R.pdf