Guidelines
Core Laboratories Facilities
GUIDELINES FOR THE USE OF THE CORE LABORATORIES

The Core Instrumentation Laboratories, or Core Labs, consist of two laboratory rooms on the third and sixth floors of the Medical Sciences Building. These laboratories house large relatively expensive research instruments, which are shared among the faculty, students and staff on campus. Two of the labs are independently air-conditioned and available 24 hours per day, seven days a week. The remaining laboratory are the ultra-pure, water producing facility are available during normal working hours.

User training and assistance on all instruments is available for campus personnel through the Core Laboratory technician or the project director. Periodic user training on specific instruments is also provided through specialized seminars.

Description of the facility
A. Physical location:
   1. Department of Physiology,
      Room A-656, 6th Floor

   2. Department of Pathology
      Room-607-A, New Wing, 6th Floor

   3. Department of Microbiology
      Room B-326a, 3rd Floor

B. Dámaris Gavillán
   Core Labs Technical
   (787) 758-2525 Ext.1613
   e-mail address: damaris.gavillan@.upr.edu

Hours for technical assistance: 7:00am-3:00pm
I. Instrumentations (Appendix E)

1. Room A-656, Core Lab Office

2. Room 607-A, Core Lab:

   - Beckman Ultra Centrifuges, an Optima L-100 XP (100,000 rpm), rotors in a variety of configurations for centrifuge.
   - Beckman medium speed refrigerated centrifuge, Model JA-30i with rotors.
   - Sorvall refrigerated centrifuge R-6 (6,000 rpm)
   - Beckman Liquid Scintillation Counter, Model LS-6500, for multiple isotopes and dual label counting of C-14 and H-3, programmable, 200 samples.
   - A Beckman DU-650 Spectrophotometer, for spectral, timed, controlled environment visible and UV and Printer.
   - Beckman Gamma Counter, Model 5500 with IsoSet Modules for I-125, Cs-137, Co-57, Cr-51, Fe-59 and universal; 200-sample capacity.
   - VersaDoc, Imagine System, Bio Rad, Model 4000
   - Millipore Ultra-Pure Water System
   - Flaked ice, 600 lb. capacity.

3. Room B-326a, Core Lab:

   - Millipore Ultra Pure Water System
   - Ice-maker machine, 400 lb. capacity.
   - Beckman Ultra Centrifuge, Model L8-70, with rotors. (70,000 rpm)
   - Beckman medium speed refrigerated centrifuge (21,00 rpm).
   - Beckman Spectrophotometer DU-520, UV and Visible.
   - Beckman Gamma Counter, Model 5500 with IsoSet Modules for I-125, Cs-137, Co-57, Cr-51, Fe-59 and universal; 200 samples capacity
   - Beckman Scintillation Counter LS-6500, for multiple isotopes and dual label counting of C-14 and H-3
5. **Rotors Available For Core Labs**

The following rotors are available for Beckman Ultracentrifuges:

**All rotors are kept in A-658**

- 80 Ti Titanium rotor
- SW 55 Ti Swinging Bucket rotor
- SW 50.1 Swinging Bucket rotor
- SW 28 Swinging rotor
- 50 Ti rotor
- 41 rotor
- 30 rotor

The following rotors are available for the Beckman J2-21 medium speed centrifuge:

- JA 20.1 rotor
- JA 17 rotor
- JA 14 rotor
- JS 13.1 Swinging Bucket rotor
- JA-30

II. **Eligibility**

A. All investigators that justify the use of the laboratory with a research project will be eligible for the use of the facility. To facilitate this process, the Laboratory of Core Labs requires that users provide evidence of training in the use of the Ultra Pure Water System and Ultra Centrifuge.

B. Priorities for the use of the facility are as follow:

1. **1st Priority**: RCMI Active Investigator/ Technicians.
2. **2nd Priority**: Investigators of Medical Sciences Campus.
3. **3rd Priority**: Graduated student of Medical Sciences Campus and Technicians.
4. **4th Priority**: Investigators of other campuses of the University Of Puerto Rico or private institutions / laboratories.
III. Rules and Regulations

A. Generals

1. **Required user I.D. card** to access to the Core Lab. Office A-658. *(Appendix A)*

2. **Sign up the Log Book for any instruments to be used.** *(Ex. Appendix B)*

3. Individual or group training is required for using any instrument located in the facilities.

4. Transport all samples in covered racks and properly labeled, especially radioactive samples. **Radioactive Safety.** *(Appendix D)*

5. The working area must be cleaned after use.

6. **The Principal Investigator of each lab will be responsible for any problem or situation related to the use of the facility by his/her personal laboratory staff.**

7. Leaving samples and materials in the instruments of the Core Labs Facilities is prohibited.

8. If problem arise during the use of any of the instruments, fill out a Problem Report Form *(Appendix C)* and return it to the Lab. Technichian. **In Case of Emergency, please call Dâmaris at Ext. 1613 or RCMI Program Ext. 1634,1620.**

B. Ultra Pure Water System

1. Basic Training in the use of the Water System.

2. **Get the connection cable of the Millipore Water System** at the Core Lab. Office (A-658). When you finish bring it back to the office.

C. Centrifuge and Ultra Centrifuge

1. The user must have a four hours Basic Training in the use of the Ultra Centrifuge.

2. Reserve the Rotors at least 24 hours before you use the Ultra Centrifuge.

3. **This equipment cannot be used to centrifuge samples containing biohazardous or radioactive materials.**

4. When the user finish, is necessary to clean and dry the equipment.
5. The rotor must be returned clean and dry.

D. Scintillation Counter LS-6500

1. If you need the equipment more than two hours, Schedule your assay to end before 4:00pm
2. Do not touch samples of other user.
3. Do not remove the resolted printer out of other user.
4. This equipment cannot be used with samples containing biohazardous materials.
5. Please clean the equipment before leave the Core Facility.

IV. Recommended References

2. BioAnalytical Instruments Co. will provide advice related to Beckman Instruments.

V. RCMI Acknowledgment

All investigators using the Core Laboratories Facilities for their investigations should acknowledge this support by including the following sentence in their publications:

“THIS INVESTIGATION WAS SUPPORTED, IN PART, BY A RESEARCH CENTER IN MINORITY INSTITUTIONS AWARD, G12RR-03051, FROM THE NATIONAL CENTER FOR RESEARCH RESOURCES, NATIONAL INSTITUTES OF HEALTH.”

Your cooperation in this respect is vital to the success of the program and the support of this facility.

Copies of publications acknowledging support to the RCMI Program should be sent to our office to include the reference in our progress report:

RCMI PROGRAM
OFFICE 621-A
6th FLOOR
UPR MEDICAL SCIENCE CAMPUS
Tel: (787) 763-9401
Fax: (787) 758-5206
E-mail: efernandez@rcm.upr.edu
VI. Approval of Guidelines:

Approved by:  
Dr. Emma Fernández-Repollet  
Director, RCMI Program

Date:  1/10/2011
Appendices
# Appendix A

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<th>Core Labs Instrumentation to be used:</th>
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# Appendix B

## CORE LAB 607-A

Dámaris Gavillán, Technical Specialist, Ext. 1613

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Appendix C

Core Labs Facilities
Problem Report Form

Date: ______________________
Time: ______________________
Operator: ______________________

Instrument: ______________________

Description of Problem:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Send to: ______________________
Rcvd/date: ______________________

Action Taken:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Appendix D

Radioactive Safety

Department of Radiological Sciences
UPR School of Medicine
(At this moment is under revision by the Radioactive Safety Officer)

1. Wear lab coat and gloves.

2. The transportation rack of samples with isotopes must be identified with Principal Investigator's name, laboratory and isotope in use.

3. Every sample must be cover and identified as mention number 2.

4. Leaving racks of samples in the Core Labs Facilities is prohibited.

5. Pick up the samples once they are read by the instrument in use.

6. Samples that are not identified and not Muestras que no se recojan o no estén debidamente identificadas, se le informara a la Oficina de Seguridad Radiológica.
Appendix E
Available Instruments

MILLIPORE RO-90 ULTRA PURE WATER SYSTEM
MILLIPORE RIOS ULTRA PURE WATER SISTEM
BECKMAN SPECTROPHOTOMETER DU-520

BECKMAN SPECTROPHOTOMETER DU-7
BECKMAN SCINTILLATION COUNTER LS-6500

BECKMAN ULTRACENTRIFUGE L8-70
BECKMAN ULTRACENTRIFUGE OPTIMA 100

BECKMAN GAMMA COUNTER 5500
ICE MACKER

BECKMAN CENTRIFUGE J2-21
Dámaris Gavillán
Laboratory Technician
dgavillan@rcm.upr.edu

(Tel.) 787-758-2525, (ext.) 1613