# NMR Laboratory Policies

Laboratory Information NMR Facility Manager: Office: Office Phone: Email:

Dr. Hsiau-Wei (Jack) Lee PSB 139A 831-459-2495 jacklee@ucsc.edu

Instrument Problems

Please contact Dr. Lee by cell phone and email with details of the problem.

**UCSC NMR FACILITY** SAFETY RULES & USE POLICY FOR WORKING IN LARGE MAGNETIC FRINGE FIELDS

## All authorized NMR users must read and signed user agreement form

## SAFETY RULES:

- 1. The NMR magnet is always energized and cannot be turned off when it's not acquiring data. THE MAGNET IS **ALWAYS ON**!!!
- 2. People with medical implants should check with facility personnel before entering the NMR Facility.
- All magnetic objects should be kept outside the 5 gauss line (marked by in black on the floor) of each magnet. This includes keys, wallets, pocketknives, tools, electronics, etc. If you have any questions, get assistance from Facility Manager (Jack Lee).
- 4. Magnetic field can generate large attractive forces on ferromagnetic objects. Such objects include, but are not limited to: most tools, high-pressure gas cylinders, carts, pocketknives, key rings, and most electronics.

Magnetic objects that get too close to the magnet will be drawn towards the magnet with great force and potentially cause serious damage.

- Damage can occur to personal items such as certain types of watches, ATM/credit cards, and magnetic media.
- Small ferrous items such as tools can be drawn quickly and unexpectedly to the magnet and can even become a projectile, potentially causing personal injury and equipment damage.
- Large equipment such as gas cylinders can be particularly dangerous due to their mass. These items can cause crushing amputation injuries and even death.
- Objects drawn to the magnet can become lodged inside the central bore of the magnet or remain on the side of the magnet. These items can be difficult to impossible to remove and will impede the function of the spectrometer.

- 5. The most common danger from an object impacting a magnet is a quench. A quench can result in severe and expensive damage to the magnet. In addition, the helium exhaust as the result of quench may cause asphyxiation. If a quench occurs, EVACUATION of the NMR facility should start immediately. Once outside the NMR room, contact Facility Manger immediately. A developing quench can be detected by visible (and/or audible) emission of cryogenic gas from the magnet.
- 6. NMR magnets tend to be quite large. Steps and/or ladders are provided to facilitate putting your sample in the magnet. Take caution to avoid losing your balance and falling. Adjust the ladder position so the NMR sample can be safely inserted and removed.
- 7. All visitor and untrained personnel must stay behind the orange cones.
- 8. For visitors/students/researchers who would like to visit the NMR facility, for instant to shadow a trained NMR operator or observed data acquisition on their sample, please contact Jack Lee for NMR safety-only training.
- 9. After hours, only trained operators are allowed in the NMR facility unless accompanied by a faculty member. Visitors with safety training may enter the facility when accompanied by a trained NMR operator.
- 10. Please contact Jack Lee to schedule/host a NMR facility tour.

PLEASE NOTIFY THE FACILITY MANAGER OF ANY ISSUES OR PROBLEMS THAT ARISE DURING YOUR EXPERIMENT

The policies regarding chemicals and hazardous waste have been updated to comply with the latest Environmental Health and Safety regulations

# Chemicals:

Users who wish to store small quantities of chemicals in the NMR Facility may do so with permission from the NMR Facility Manager. Chemical storage must follow the standard chemical class segregations enforced by EH&S.

The NMR Facility Manager reserves the right to deny storage space if it is deemed the chemical is unsafe for the storage capabilities of the facility. Large quantities of chemical will not be allowed.

Chemical disposal – Please dispose of chemicals or broken sample tubes in your own laboratory. Transport your samples or chemicals with an EH&S-approved secondary container.

## **Biohazard Materials:**

Biomaterial will be cleaned up by the individual user and disposed of properly. Users who are doing experiments which generate bio-waste are expected to know and follow all EH&S regulations. Failure to clean up bio-waste may result in denial of access to the NMR Facility.