

Sabapathy Sankar

NMR Spectrometers available for routine daily use at the Department of Chemistry at North Carolina State University

Varian Mercury 400 MHz Spectrometer with Oxford Narrow Bore superconducting Magnet (Dabney 424)

- Sun Blade 150 Host Computer with Solaris 9 as an operating system
- VNMR software 6.1C
- 20 GB System Disk, 256 RAM, CD ROM SCSI Drive
- Dual Full Band RF System
- Performa 1 Pulsed Field Gradient Module
- Variable Temperature Unit
- 5 mm PFG Gradient 4-nuclei probe (1H/19F/13C/31P)
- HP LaserJet 2100d Printer/Plotter

Varian Mercury 300 MHz Spectrometer with Oxford Narrow Bore Superconducting Magnet (Dabney 424)

- Sun Blade 150 Host Computer with Solaris 9 as an operating system
- VNMR Software 6.1C
- 20 GB System Disk, 256 RAM, CD ROM SCSI Drive
- Dual Full Band RF System
- Performa I Pulsed Field Gradient Module
- Variable Temperature Unit
- 5mm PFG Gradient 4-Nuclei Probe (1H/19F/13C/31P)
- HP LaserJet 2100d Printer/Plotter

Varian Mercury Plus 300 MHz Spectrometer with Oxford Aluminum Narrow Bore Superconducting Magnet (Dabney 638)

- Sunblade 100 Host Computer with Solaris 9 as an operating system
- VNMR Software 6.1C
- 20 GB System Disk, 256 RAM, CD ROM SCSI Drive

- Dual Full Band RF System
- 5mm PFG Gradient Probe (1H/19F/13C)
- HP LaserJet 2100d Printer/Plotter

Varian Unity 300 MHz Spectrometer with Varian Aluminum Narrow Bore superconducting Magnet (Dabney424)

- **Sun Sparc10 Host Computer with Solaris 8 as an operating system**
- **VNMR Software 6.1C**
- **20 GB System Disk, 256 RAM, CD ROM SCSI Drive**
- **Dual Full Band RF System**
- **Variable Temperature Unit**
- **5mm Probe (1H/13C)**
- **HP LaserJet 4050 Printer/Plotter**

Varian Gem2300 300 MHz Spectrometer with Oxford Wide Bore Superconducting Magnet (Partners III)

- **Sun Blade100 Host Computer with Solaris 8 as an Operating System**
- **VNMR Software 6.1C**
- **20 GB System Disk, 256 RAM, CD ROM SCSI Drive**
- **5mm BB Probe**
- **HP LaserJet 2100d Printer/Plotter**

I have recently upgraded the 400MHz Mercury and the 300 MHz Unity Plus spectrometers with new computers and solaris 9 operating system without any down time of these spectrometers.

There are 200 or more individuals using these spectrometers routinely. These individuals are very well informed about the operation procedures of these spectrometers. The following classes are offered routinely throughout the year. Some classes are offered more frequently than others according to demands. In addition to these classes, I also teach and assist students either as a group or on individual basis any experiments when there is a need.

- **Basic NMR Training**

This class is mandatory for everyone who want to use the spectrometer. This will cover the basic operation of the spectrometer including sample preparation, locking, shimming, collecting, processing, and saving 1D NMR data on ^1H , ^{13}C , ^{19}F and ^{31}P nuclei.

- **Advanced NMR class**

This class includes 9 – 10 class room lectures of 90 mins and one or two 3hrs demonstration including collecting and processing all experiments we discussed in class. This class gives a good understanding of all NMR 1D and 2D experiments including APT, DEPT, 1D NOESY, 1D TOCSY, 2D COSY, NOESY, TOCSY, HMBC, HSQC and HMBP. It informs the users to choose the appropriate experiments to solve their structural problems.

- **Variable Temperature (VT) NMR Class**

No users will be allowed to do any type of VT experiments before they take this class. This class is offered routinely and also, according to needs.

- **Data Transferring from NMR spectrometers to PCs via sftp and Accessing a third Party NMR software from the NCSU VCL site.**

This class of 90mins of class room lecture covers the basic Unix commands, sftp, Winscp (sftp for windows), PowerArchiver to transfer the data from the NMR spectrometers to PCs. The users are responsible to transfer their data to their PCs.

- Ch725, CH REU, CH402Lab, CH428Lab classes routinely use NMR spectrometers. Special training classes are offered to these students.