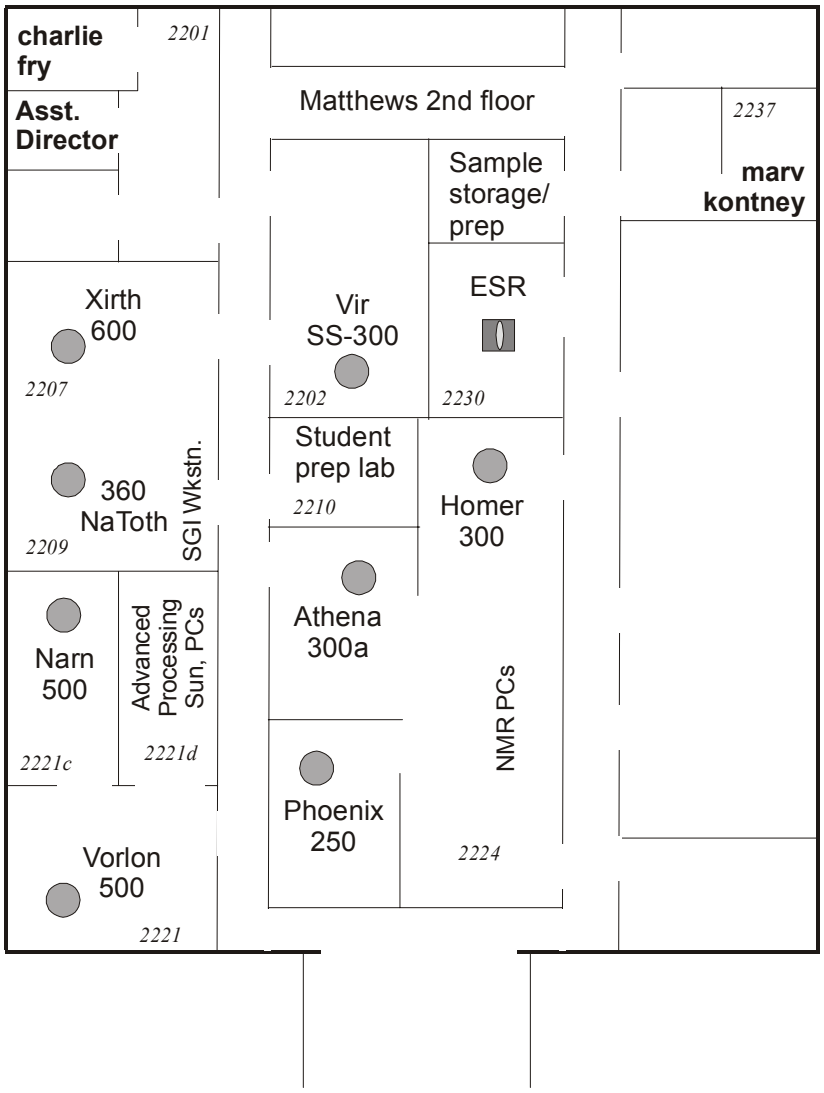
Introduction to the Chemistry Department Magnetic Resonance Facility at UW–Madison

For Postdoctoral Appointees and Visiting Faculty

by Charles G. Fry (updated 09.07.00)

A. The UWChemMRF Layout (2nd floor Matthews)



B. Facility Personnel

See the on-line website: organization link.

C. Reference Materials Useful for Routine NMR Operation

See the *Bruker NMR User's Guide* (BUG) for details about all aspects of Bruker AC NMR spectrometer use in the ***UWChemMRF***. BUG is in PDF format, can be viewed and printed from the NMR web server at

//cic.chem.wisc.edu/nmr/Guides/Guides.html#bruker

Printout and use Chapters 2, 3 and the Primers on Phasing and Shimming in the Bruker Users Guide (BUG) on the facility website.

D. Checkout within the UWChemMRF

Postdoctoral students and visiting faculty wishing to use the facility should follow the procedure described below to obtain access to NMR equipment at ***UWChemMRF*:**

- Schedule an initial session with Charlie Fry to be introduced to the facility.
- Practice performing simple NMR operations—locking, shimming, data acquisition, data transfer, and data work-up—***only*** on Phoenix (AC-250). It is often crucial to have an advanced graduate student within your group help with practice. Ask for help from graduate students in your group; if they seem unwilling, talk to your major professor or see Charlie Fry.
- When you feel comfortable with the use of the instrument, schedule a checkout time with Charlie (he may assign a TA for training and checkouts). You will have to take a good quality ^{1}H spectrum of a sample in an unknown solvent within 10 minutes. Upon successful completion, you will be issued a key giving access to the low-field NMR spectrometers in room 2224 for routine ^{1}H acquisition.
- More advanced access (e.g. automated acquisition on Athena, X-nucleus and VT experiments) to the low-field spectrometers is available; some additional introduction will be necessary, along with the agreement from a graduate student within your group to help with initial work on the equipment.
- Access to the high-field NMR spectrometers and EPR spectrometer requires additional training and checkout procedures; see the Assistant Director (Avance-360, ESP-300E) or Charlie Fry (UNITY-500, INOVA-500) for details.