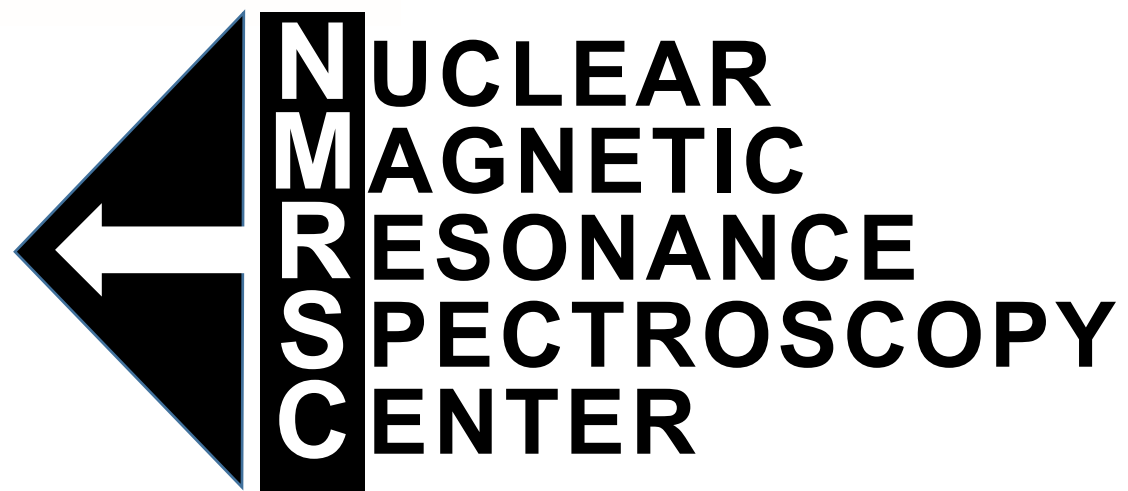


April 7, 2021

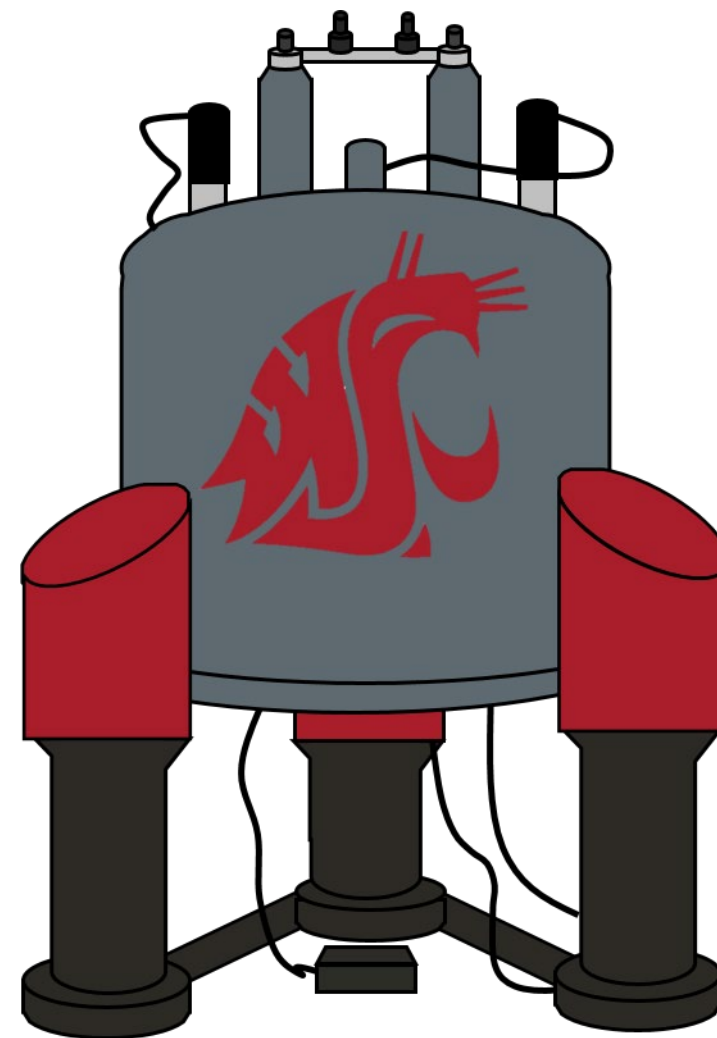


*Mission: to provide full access to state-of-the-art
NMR instrumentation*

(24 hrs/day, 7 days/wk, 365 days/yr)

*To provide training, assistance, and service in
NMR Spectroscopy, safely and expeditiously.*

<https://nmr.wsu.edu/>

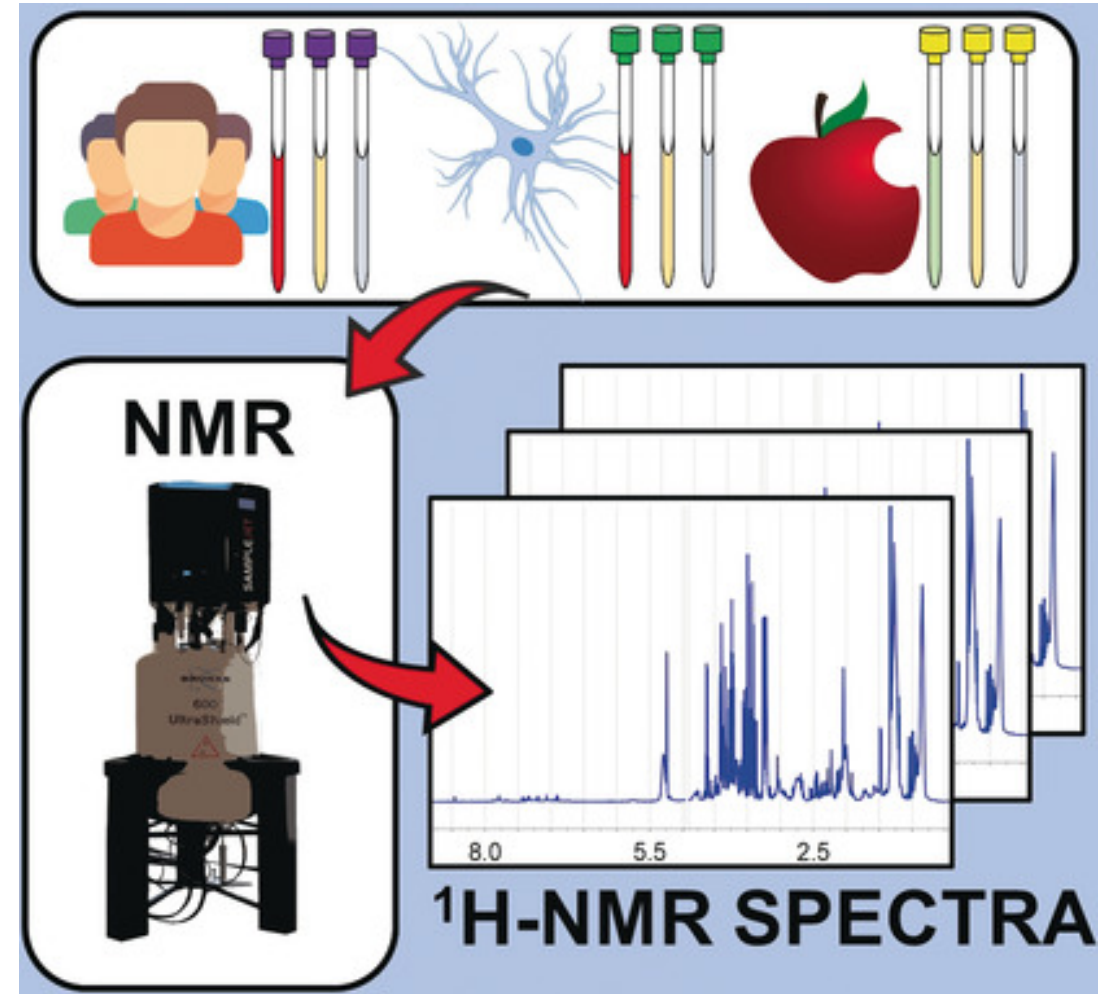
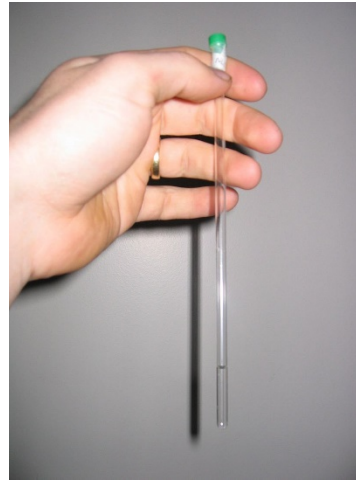
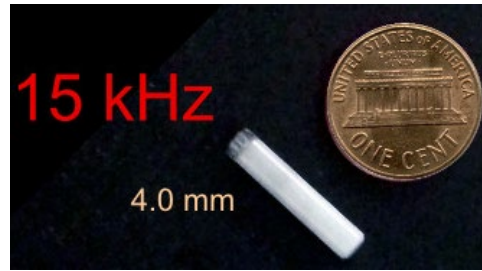


Major Advantages of NMR Spectroscopy

- NMR experiments can obtain direct structural information on solution, semiliquid, gel, crystalline, and amorphous samples (non-destructive)
- The technique is multinuclear and nuclide-selective; no resonances from other nuclides appear in a selected nuclide's spectra
- Structure, topology, and tertiary structure (in the case of protein folding, in particular) can be obtained directly from NMR multinuclear correlation spectra
- Topology of the exchange and reaction pathways of the NMR active parts of the molecules can be obtained from the spectra
- Diffusion coefficients, dispersion, and flow hydrodynamics of materials (even within materials) can be measured

Samples

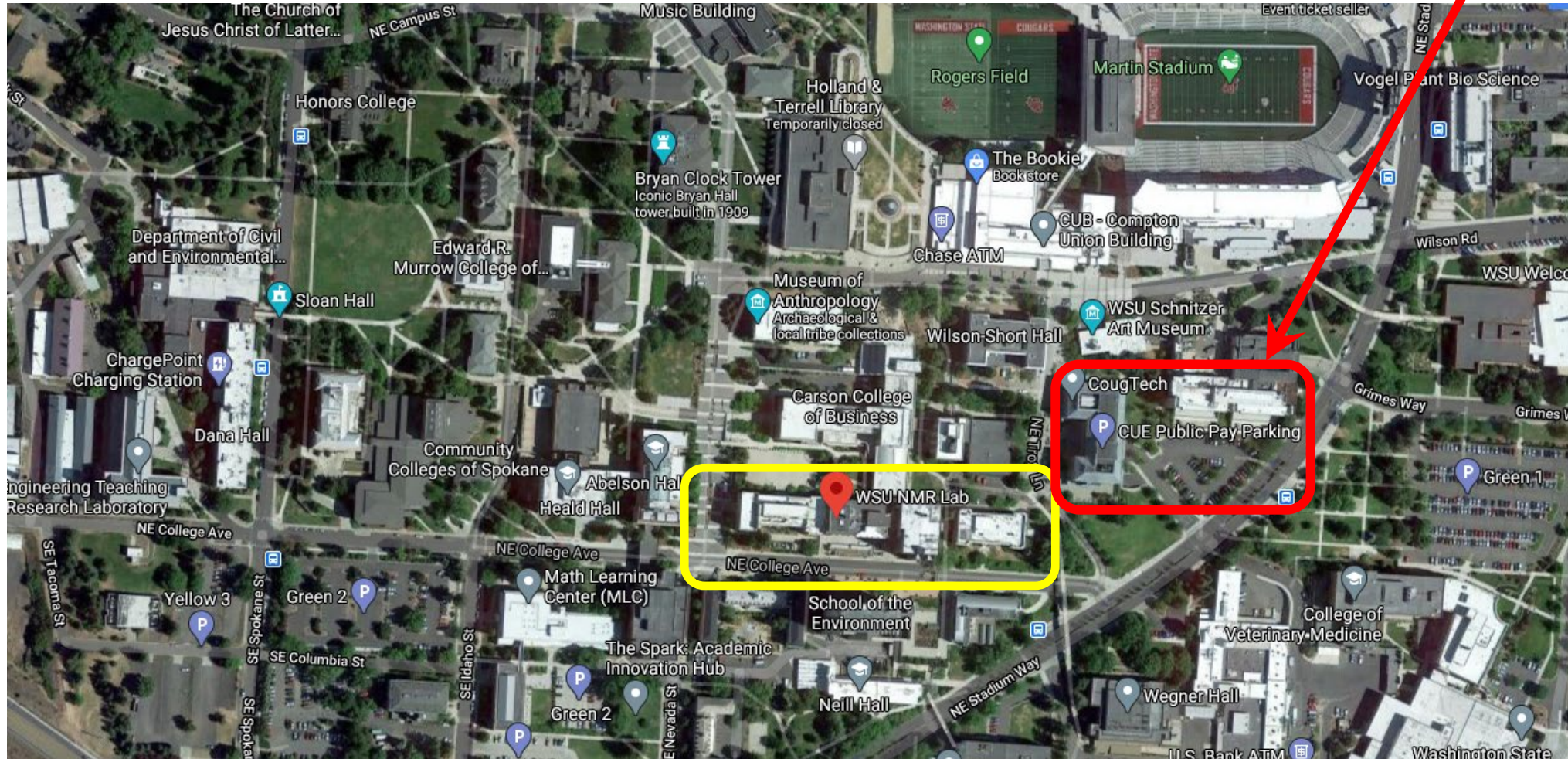
- Chemical
- Biological
- Agricultural
- Industrial
- If it can fit in an NMR tube or rotor, we can run it!
- How much do you need?
 - Liquid Samples: concentration of ~ 10 mg/mL (as little as 1 mg and 0.5 mL can be used)
 - Solid Samples: at least 100 mg (prefer more than 200 mg)



Where are we?

We are located on the Pullman campus

Can park at CUE parking garage



We reside in the 2nd basement of Fulmer Hall, room B-3

Upon entering Fulmer Hall from College Ave, take the main elevator down to B2

What Services do we Provide?

- Drop-off sample analysis of solid and liquid samples
 - Turn around depends on the desired data collection (1 day to 1 week)
- 1-on-1 New and Advanced user training
- New and current user support
 - Remote screen sharing and direct, online experimental support (in person when pandemic is over)
 - Troubleshooting
 - Data interpretation
- Education (class tours and visitations)



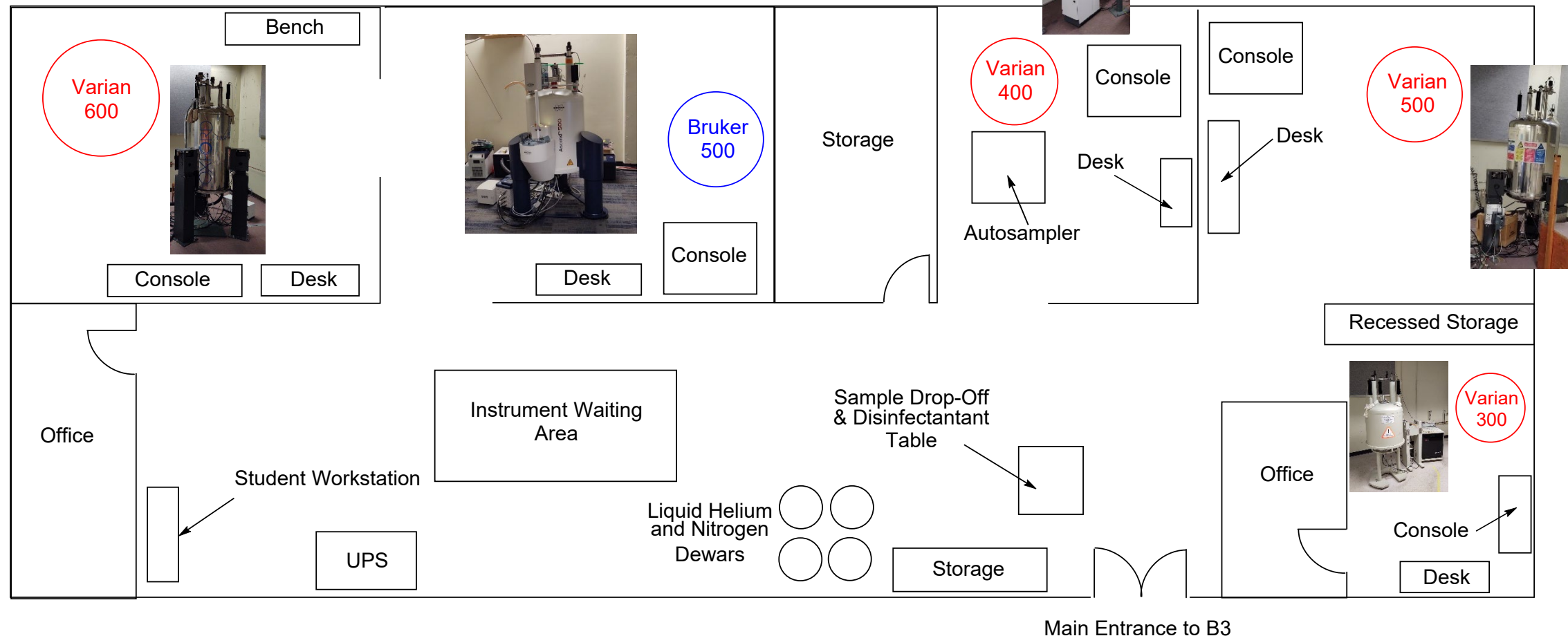
MatS 571
Microscopic Analysis of Solid Surfaces

NMR Spectroscopy

Zachariah Heiden (zachariah.heid@wsu.edu)

February 27, 2020

Map of WSU NMR Center



Each instrument is isolated to its own instrument bay allowing for social distancing between users and safe data collection and processing.

WSU NMR Center Webpage providing ...

- Current instrument status and facility location
- Forms for Training Requests, Sample Submission, Problem Reporting
- Instrument information for inexperienced users
- Event calendar listing upcoming long term experiments/cryogen fills
- Safety information
- Citation instructions and a form for submission of publications
- Virtual tour

CENTER FOR NMR SPECTROSCOPY | WASHINGTON STATE UNIVERSITY

WELCOME TO THE WSU CENTER FOR NMR SPECTROSCOPY

To combat the spread of COVID-19, effective June 8th, there is a new procedure for using the NMR lab.

The WSU Center for NMR Spectroscopy is a central University facility that provides access to state-of-the-art NMR instrumentation. It is administered by the [College of Arts and Sciences](#) and its equipment has been funded by grants from the [National Institutes of Health](#), the [National Science Foundation](#), the [Battelle Memorial Institute](#) and the [Murdock Charitable Trust](#).

The facility is open for users from across the WSU campuses and from outside institutions. Access at very competitive rates (see [rates](#)) requires appropriate [training](#) and [sign-up](#). Questions about this world-class facility may be directed to [Zachariah Heiden](#) or [Bill Hiscox](#).

The NMR Facility ([Fulmer Hall, B3](#)) includes one 300 MHz, one 400 MHz, one 500 MHz, and one 600 MHz Varian spectrometers. The 300 and 400 MHz spectrometers are commonly used for routine NMR experiments (1D and 2D experiments), while the 500 and 600 MHz spectrometers are utilized primarily for specialty experiments (solid-state, diffusion, variable temperature, and multi-nuclear NMR experiments).

For a virtual tour of the WSU NMR Center, please view the video below:

WSU NMR Center Virtual Tour

Watch later Share

HOURS

The NMR Facility is open 24 hours a day, seven days a week, 365 days a year. Facility personnel are available Monday through Friday, 9:00 am to 5:00 pm. Access to the WSU NMR facility is limited to trained instrument users. If you do not currently have a door code, please see Dr. Bill Hiscox in Fulmer 40 or Dr. Zachariah Heiden in Troy 230 for access.

FACILITY

[Fulmer Hall, Room B3](#)
(509) 335-3005

RESERVATION SOFTWARE

Agilent CrossLab | iLab Operations Software

CURRENT INSTRUMENT STATUS

Varian Vx 300 MHz: **Not Available**

Varian 400 MHz: **Not Available**

Varian VNMR5 500 MHz: **Available**, [check reservation status before using](#)

Current Probe: Broadband probe (DBG-500) X-observe and **1H** **decoupling**. Observe channel 1 is normally tuned to 13C.

Varian DD2 600 MHz: **Available**

Current Probe: One Probe (H-X Multinuclear)

WSU NMR Center Contact Information

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 - Email: zachariah.heiden@wsu.edu
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- Dr. William Hiscox (Dr. Bill)
 - Assistant Director
 - Office: Fulmer 40
 - Email: hiscox@wsu.edu
 - Office Phone: (509)335-8259

<https://nmr.wsu.edu/>

