

Overview of Laboratories at the SNS, HFIR, and Shull Wollan Center

Jaimie Werner

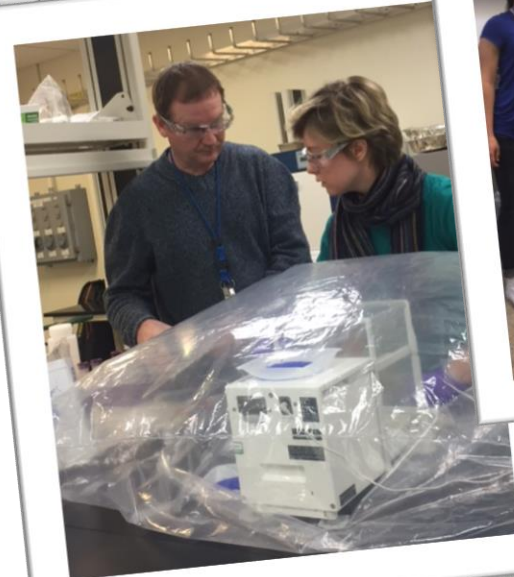
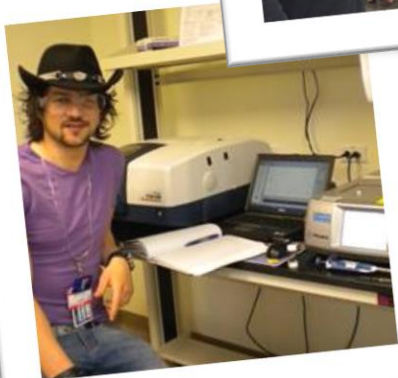
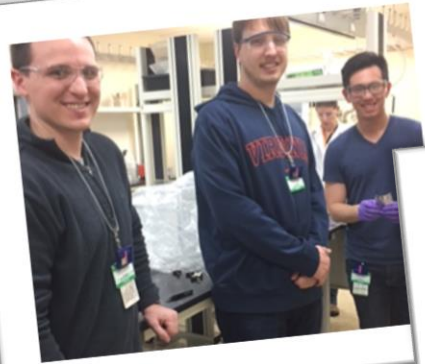
Scientific Laboratories Team Lead



Purpose

We supply user labs that offer a convenient and safe location for experiment preparation. These labs offer a variety of characterization tools that complement neutron scattering.

Most of our labs have been designed to provide a flexible, mobile environment where users can work efficiently. These labs were built to optimize the available space for researchers' ever-changing scientific needs. Most labs have overhead utilities and mobile furniture, allowing for easy layout reconfiguration for equipment and for quickly changing an experiment's setup as needed.



Available Laboratories

- Biology/Bio-Deuteration Laboratory, 8600, C-261 & H-201
- Biophysical Characterization Laboratories, 8630, A110, B107, & B111
- Chemistry & Materials Characterization Laboratory, 8600, H-203
- HFIR Biology Laboratory, 7972, Rm 106
- HFIR General Chemistry Laboratory, 7972, Rm 105
- HFIR Post Beam Sample Handling Laboratory, 7900, 114E
- High Pressure Raman Laboratory, 8600, G-203
- Long-Term Chemistry & Nanomaterials Laboratory, 8600, G-202A
- Protein Characterization & Crystallization Laboratory, 8600, D-214
- Protein X-Ray Crystallography Laboratory, 8600, F-203
- SNS General Chemistry Laboratory, 8600, G-202
- SNS Post Beam Sample Handling Laboratory, 8700, TA-B106-B
- Soft Matter Laboratories, 8600, C-241 & F-201
- South Side User Laboratory, 8700, TA-2062
- X-Ray Laboratory, 8600, J-201

Lab Capabilities:



Biology / Bio-Deuteration Laboratory

SNS CLO Rooms C-261 & H-201

Primary Activities: cloning / cell growth/ protein expression / fermentation / protein purification / D-labeling

Key Capabilities: biological safety cabinet / centrifugation / cold room / chromatography / Nanodrop

Contact: Kevin Weiss



Biophysical Characterization Laboratories

Shull Wollan Center Rooms A110, B107, & B111

Primary Activities: model membrane preparation / chemical deuteration / characterization

Key Capabilities: calorimetry/ light scattering / UV-Vis-NIR / densitometry / fluorescence / GC-MS / Langmuir trough

Contact: Bob Standaert



Chemistry & Materials Characterization Laboratory

SNS CLO Room H-203

Primary Activities: organic & inorganic chemical synthesis / materials characterization (physical & chemical)

Key Capabilities: XRF / electrochemistry / UV-Vis / wire saw / surface area & porosity measurements / furnaces

Contact: Luke Daemen



General & Long-Term Chemistry / Nanomaterials Laboratories

SNS CLO Rooms G-202 & G-202A

Primary Activities: sample preparation / air- & water-sensitive work / nanomaterial handling / characterization

Key Capabilities: glove box / FTIR / UV-Vis / light scattering / lyophilization

Contact: Rhonda Moody



HFIR General Chemistry & Biology Laboratories

Cold Guide Hall Rooms 105 & 106

Primary Activities: sample preparation / air- & water-sensitive work / nanomaterial handling / BSL2-capable

Key Capabilities: glove box / biological safety cabinet / Nanodrop

Contact: Qiu Zhang



HFIR Post Beam Sample Handling Laboratory

HFIR 7900 Room 114E

Primary Activities: irradiated sample preparation & transfer / air- & water-sensitive work

Key Capabilities: glove box

Contact: Qiu Zhang



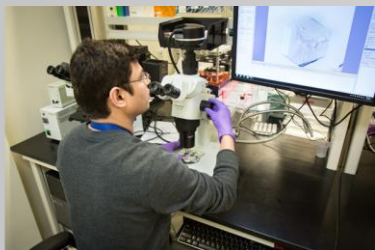
High Pressure Raman Laboratory

SNS CLO Room G-203

Primary Activities: characterization / Raman spectroscopy

Key Capabilities: laser table / temperature (10-3,000 K) & pressure extremes (1 Mbar) / cryosystem / IR laser

Contact: Chris Tulk



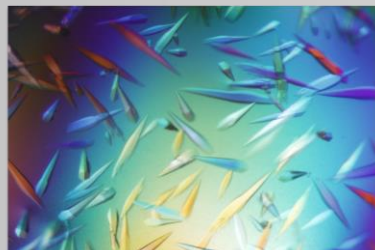
Protein Characterization & Crystallization Laboratory

SNS CLO Room D-214

Primary Activities: cloning / electrophoresis / high-throughput liquid handling / crystallization / characterization

Key Capabilities: liquid-handling robots / incubators / microscopy / UV-Vis / CD / microplate reader

Contact: Kevin Weiss



Protein X-Ray Crystallography Laboratory

SNS CLO Room F-203

Primary Activities: X-ray diffraction (RT & cryo) & small angle X-ray scattering (SAXS)

Key Capabilities: X-ray diffractometer / cryosystem / incubators / stereo microscope

Contact: Andrey Kovalevsky



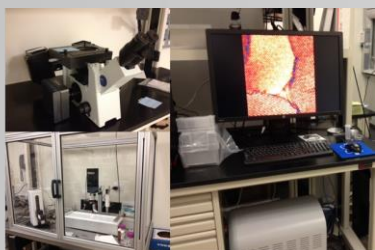
SNS Post Beam Sample Handling Laboratory

SNS 8700 TA-B106B

Primary Activities: irradiated sample preparation, transfer, and storage / air- & water-sensitive work

Key Capabilities: glove box, vacuum oven, high temperature furnace, centrifugation, cold storage, nitrogen dry box

Contact: Nathan Helton



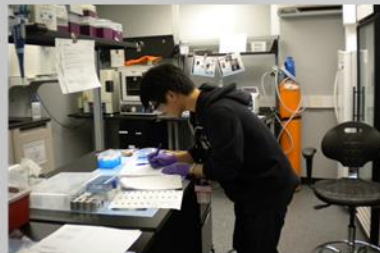
Soft Matter Laboratories

SNS CLO Rooms C-241 & F-201

Primary Activities: sample preparation / characterization

Key Capabilities: Langmuir trough / spin coating / clean bench / sonicators / rheometry / lyophilization / AFM

Contact: Changwoo Do



South Side Laboratory

SNS Target Building Room TA-2062

Primary Activities: sample preparation / air- & water-sensitive work / nanomaterial handling

Key Capabilities: glove box / UV-Vis / high temperature furnace

Contact: Rhonda Moody



X-Ray Laboratory

SNS CLO Room J-201

Primary Activities: X-ray diffraction

Key Capabilities: Laue, single crystal, 2- & 4-circle X-ray diffractometers / small-angle X-ray scattering (SAXS)

Contact: Jong Keum

Access to Laboratories

With the exception of labs located in the Shull Wollan Facility, access to these labs can be obtained by taking the online training “Scientific Laboratory Access Training for Neutron Sciences Users”

Certain laboratories have additional training requirements and the responsible Laboratory Space Manager must be consulted before conducting work in any laboratory space.



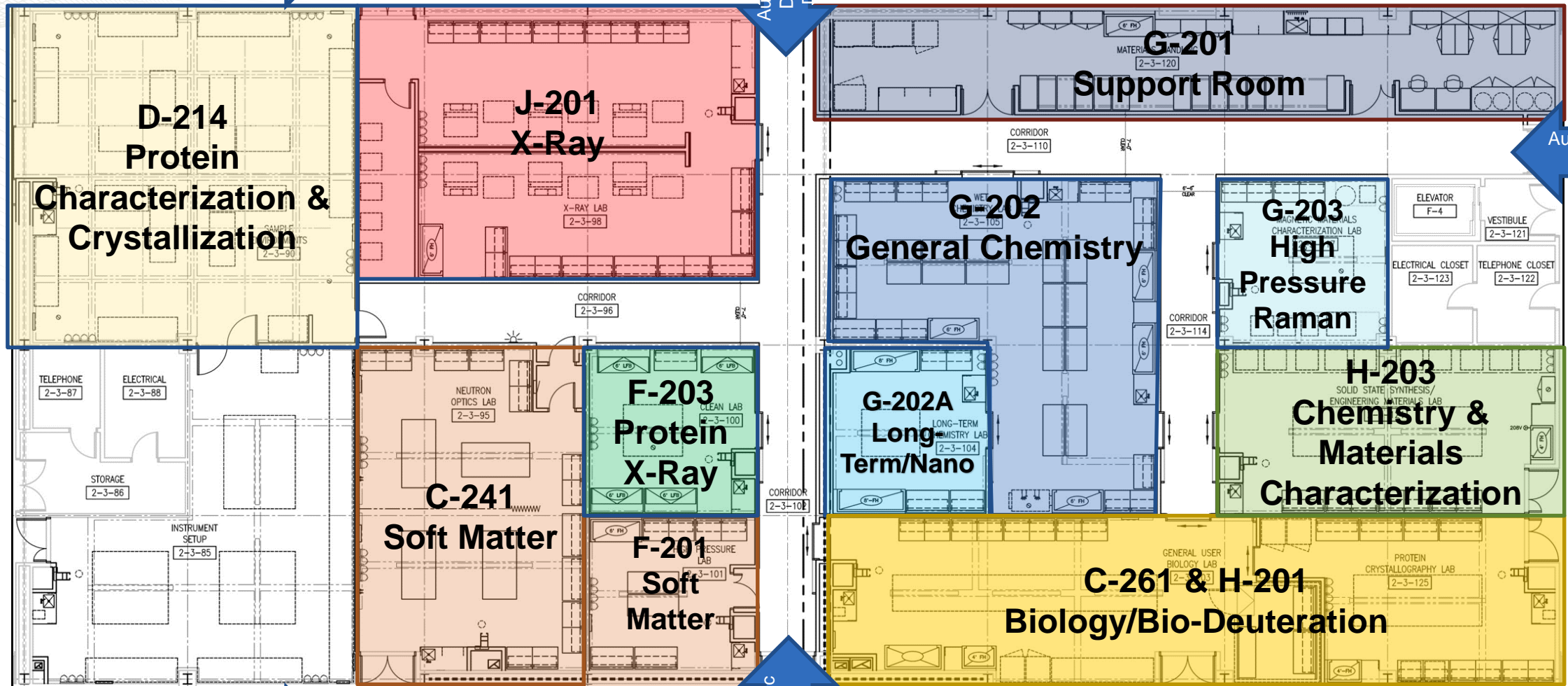
Lab Websites

You can find more information about the labs at
<https://neutrons.ornl.gov> - Instruments & Support - User Laboratories



Second Floor CLO Laboratories Tour Map

From Stairs
J-Corridor



Automatic Double Doors

Automatic Door

Automatic Double Doors

From Elevator (Lobby)
C-Corridor