

## UMSL Service Cores:

### **Microscope Imaging and Spectroscopy Technology (MIST) Laboratory**

**Contact: David Osborn, PhD**

Phone: 314-516-4761

Website: <http://www.umsl.edu/services/ora/cns/Analytical%20Facilities/Microscopy/index.html>

#### **Services Available:**

Scanning and transmission electron microscopy, atomic force microscopy, confocal microscopy, fluorescence optical microscopy, elemental analysis with EDS and ICP-AES, X-ray diffraction, surface area and pore volume measurements, materials and biological specimen preparation. Training in the use of the instruments and specimen preparation.

### **High Resolution Nuclear Magnetic Resonance Spectroscopy (NMR)**

**Contact: Rensheng Luo, PhD**

Phone: 314-516-5330

Website: <http://www.umsl.edu/services/ora/cns/Analytical%20Facilities/high-field-nmr.html>

#### **Services Available:**

High-resolution multinuclear 1D and 2D NMR spectroscopy (solution and solid state) data acquisition on 300 and 600 MHz instruments. Training in sample preparation, use of the instruments, data analysis and interpretation.

### **X-ray Diffraction Lab**

**Contact: Nigam Rath; PhD**

Phone: 314-516-5333

Website: <http://www.umsl.edu/services/ora/cns/Analytical%20Facilities/xray.html>

#### **Services Available:**

Solid-state three-dimensional single crystal and molecular structure determination and powder diffraction for bulk material determination. Training in sample preparation, data analysis and interpretation.

### **Mass Spectrometry Lab**

**Contact: Rudolph E. K. Winter, PhD**

Phone: 314-516-5337

Website: <http://www.umsl.edu/chemistry/facilities/massspect.html>

#### **Services Available:**

Electron Impact (EI) and Chemical Ionization (CI) gas chromatography mass spectrometry (GC-MS) for positive and negative ion detection; Fast Atom Bombardment (FAB), Electrospray Ionization (ESI), and Atmospheric Ion Chemical Ionization (APCI), EI and CI mass spectrometry, all with positive and negative ion detection for both low and high resolution experiments; Liquid Chromatography (LC-MS) for positive and negative ion detection.