

## Environmental Interfacial Chemistry Group Lab Facility



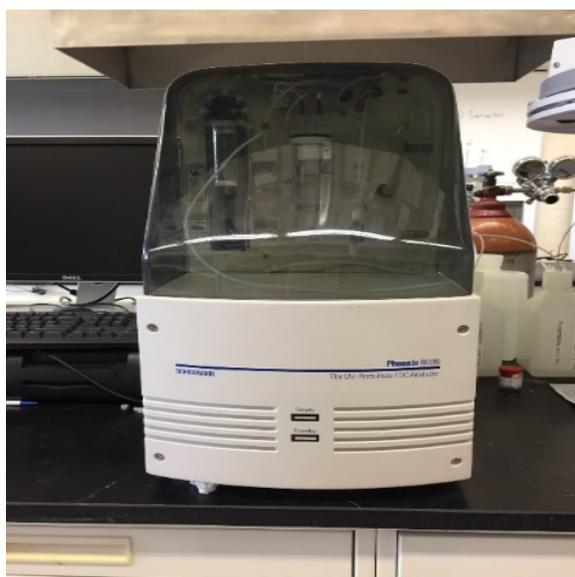
### High Performance Liquid Chromatography (HPLC)/Ion Chromatography (IC)

A customized Shimadzu High Performance Liquid Chromatography (HPLC) with a PDA detector and Ion Chromatography (IC) with a conductivity detector is available for dissolved organics and inorganics analysis.



### Gas Chromatography/Mass Spectrometry (GC-MS)

One Hewlett Packard 6890 Gas Chromatography with Mass Spectrophotometer detector (GC/MS) with electron ionization and chemical ionization capabilities is available for volatile organics analysis.



### Total Organic Carbon (TOC) analyzer

One UV-Persulfate TOC analyzer is available to quantify the concentrations of total organic carbon in water samples.



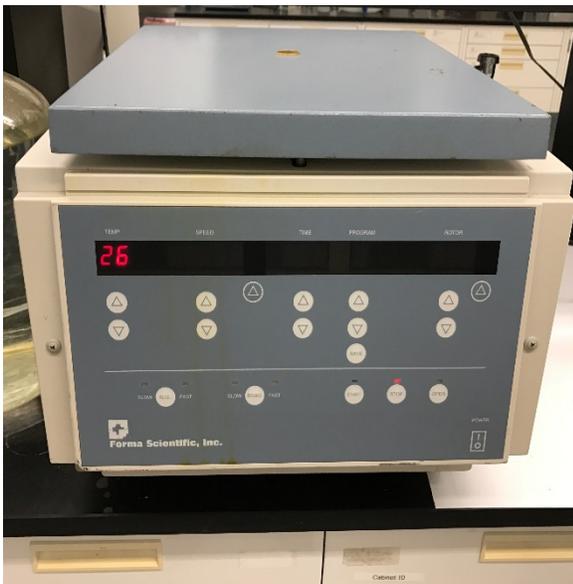
### Hach DR 600<sup>TM</sup> UV-VIS spectrophotometer

The UV-VIS spectrophotometer is available for COD measurement, ammonia and nitrite measurement.



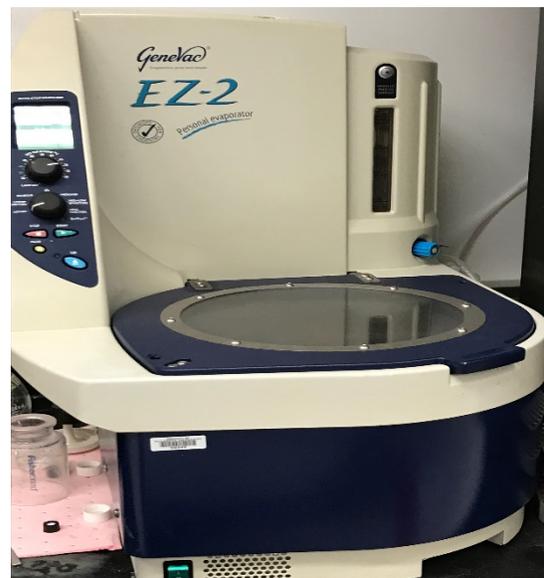
### Vinyl anaerobic chamber

The anaerobic chamber provides a strict anaerobic atmosphere of 0-5 parts per million (ppm) using a palladium catalyst and hydrogen gas mix of 5% to carry out proposed research.



### Forma Scientific Model 5678 Centrifuge

The centrifuge is available for separation of solid phase and aqueous phase.



### GeneVac EZ-2 Evaporator

The centrifuge is available for sample concentrate.



### CM 1600 Tubing Furnace with a temperature controller

The tubing furnace is available for biochar production.



### Hach COD reactor

COD reactor is available for COD reactions.



### Resprep 12Port SPE Manifolds

The manifold is used to concentrate organic contaminants in water samples. It meets the requirements of EPA Method 521.

We also have full access to a SCIEX 2000 LC/MS for trace organics analysis, a Hitachi S-4800 Scanning Electron Microscope (SEM) with an Oxford energy dispersive spectroscopy system (EDS) System, a Hitachi H-7600 transmission electron microscope (TEM) to characterize the topography, structure, and chemical composition of samples, and a Autosorb-3B (Quantachrome Instruments) for surface area measurements. Other laboratory features include fume hoods, ovens, a muffle furnace, pH and dissolved oxygen meters, bench-scale process reactors, ozone generator, Soxhlet extraction apparatus, a temperature-controlled water bath, and a centrifuge.