Environmental Analytical Core Facility (EACF)

The Environmental Analytical Core Facility (EACF) at UMass Boston provides access to instrumentation and analyses to external users and UMass students, faculty, and staff in a non-commercial research setting.

Equipment

- Isotope Ratio Mass Spectrometer (IRMS)
- Gas Chromatography Mass Spectrometer (GC-MS)
- Inductively Coupled Plasma Mass Spectrometer (ICP-MS)
- ICP-MS peripherals and processing equipment
- Electron Microscopy
- Microscopy
- Elemental Analyzer (EA)
- Inductively Coupled Plasma Optical Emission
- Spectrometry (ICP-OES)
- Cold Vapour Atomic Fluorescence Spectroscopy (CVAFS)
- Fourier Transform Infrared Spectroscopy (FTIR)
- Mercury Analyzers
- Sediment Digestion Systems
- Dissolved Inorganic/Organics
- UV-Vis Spectrometers
- Fluorometer
- Digital Microbalances
- ED-XRF

Capabilities

The EACF, within the School for the Environment at UMass Boston, offers state-of-the-art environmental instrumentation for chemical and material property analysis of environmental samples, including natural waters, soils, sediments, and biological tissues.

The facility includes two inductively coupled plasma mass spectrometers (a quadrupole instrument and a high-resolution, magnetic sector instrument), an isotope ratio mass spectrometer, a GC mass spectrometer, and several peripherals (e.g., laser ablation, HPLC) for hyphenated metal analyses of solids and aqueous speciation. A class 100 (ISO 5) clean room facility and several class 100 clean benches are part of the facility.

The EACF also includes Scanning (SEM) and Field Emission (FESEM) Scanning Electron Microscopes and technical expertise for the characterization of nano-engineered materials, microelectronics, and others.

Dr. Karen Johannesson, PhD, PG
Professor of Geochemistry & EACF Director

As Director of the EACF, Dr. Johannesson and her highly skilled research staff are available for technical assistance and training to internal and external clients. Dr. Johannesson's areas of expertise include environmental geochemistry, biogeochemistry, trace element speciation, geochemical modeling, chemical hydrogeology, and reaction path and reactive transport modeling.

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UMass Boston Research Core Facilities

Contact us to find out more about our services!

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