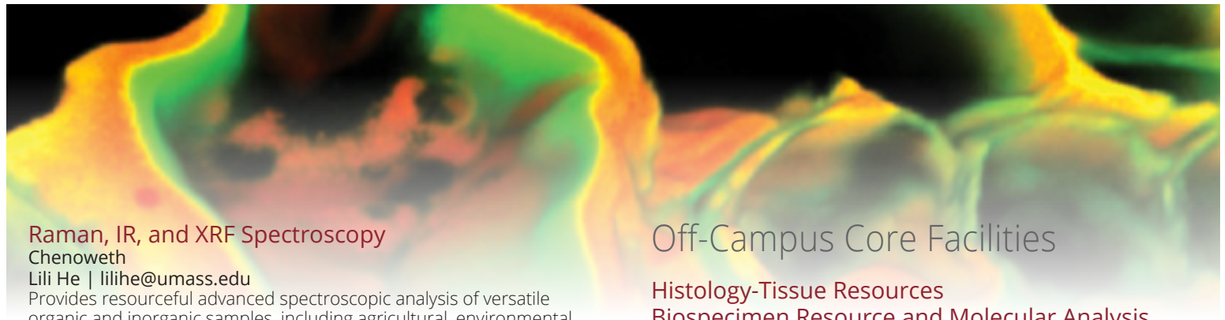


Raman, IR, and XRF Spectroscopy
Chenoweth
Lili He | lilihe@umass.edu
Provides resourceful advanced spectroscopic analysis of versatile organic and inorganic samples, including agricultural, environmental, food, and biomedical materials, as well as polymers and heavy metals.

Roll-to-Roll Fabrication and Processing Facility
LSL S440 Suite
Jeff Morse | jdmorse@research.umass.edu | (413) 545-5264
Provides a unique set of custom, moving web-based tools for the translation of advanced materials and nanomanufacturing processes to industrially relevant scalable platforms for the development of next generation life science innovations.

Sensor Integration
LSL S469
Robert Jackson | jackson@ecs.umass.edu | (413) 545-1386
Miniaturizing systems in preparation for human testing.

Sleep Monitoring Lab
LSL S360 Suite
Rebecca Spencer | rspencer@psych.umass.edu
(413) 545-5987
Equipped with partial and whole-head EEG systems for recording sleep physiology (sleep staging). A central control room will allow for on-line observation of sleep and monitoring of sleep in populations from infants to the elderly.

X-Ray Scattering Facility
Conte B341, B522
Alex Ribbe | aeribbe@polysci.umass.edu | (413) 658-7415
Instruments dedicated to the structural analysis of crystalline materials, the determination of highly periodic morphologies in self-assembled systems over a large length scale range.

Discover the Cores

Core Facilities Seminar Series
Virtual and in person, biweekly seminars to discover what great resources that the centralized UMass Amherst Core Facilities offer to our campus community and the New England region. Want to attend a seminar or missed one?

The schedule and all replays are available at www.umass.edu/ials/core-facilities-seminar-series.

Massachusetts LIFE SCIENCES CENTER
A significant portion of core equipment has been purchased through MLSC grant funding support.

Off-Campus Core Facilities

Histology-Tissue Resources Biospecimen Resource and Molecular Analysis
Sallie Schneider | sallie.schneider@baystatehealth.org
(413) 794-0941 | Pioneer Valley Life Sciences Institute
Capability to process and paraffin embed human, animal and plant tissues, section fixed or frozen tissues, as well as perform histological analyses.

Massachusetts Green High Performance Computing Center
100 Bigelow Street, Holyoke, MA 01040
hpc@it.umass.edu
University of Massachusetts Amherst
Provides world-class computational infrastructure, indispensible in the increasingly sensor and data-rich environments of modern science and engineering discovery.

Small Molecule Screening Facility (SMSF) (High Throughput Screening)
University of Massachusetts Medical School
364 Plantation Street, Worcester, MA 01655
Sangram Parelkar | Sangram.Parelkar@umassmed.edu
(508) 856-8315 | University of Massachusetts Amherst
Provides investigators with a platform for assay development and screening of unique, small drug-like molecule libraries occupying novel chemical space in a variety of readout systems for the discovery of exceptional chemical probes, potential diagnostic and therapeutic candidates of high impact, as well as research tools.

Our Sister Campuses

UMass has more than 90 Research Core Facilities across the state of Massachusetts that are available to researchers from government, academia and industry on a fee-for-service basis. These shared resources offer a wide range of services to the research community, including cutting-edge technologies, high-end instrumentation and technical support for basic, translational and clinical research.

UMass Boston
100 William T. Morrissey Blvd., Boston, MA
www.umb.edu/orsp/research_core_facilities

UMass Dartmouth
285 Old Westport Road, Dartmouth, MA
www.umassd.edu/spa/

UMass Lowell
One University Avenue, Lowell, MA
www.uml.edu/Research/CRF/

UMass Medical School
55 Lake Ave North, Worcester, MA
www.umassmed.edu/research/cores

PARTNER WITH US!

Research and Innovation to Translate Basic Science into Product Candidates

UMass Amherst Core Facilities Inquiries

Andrew Vinard
Core Facilities Director
UMassCores@umass.edu | (413) 577-4582

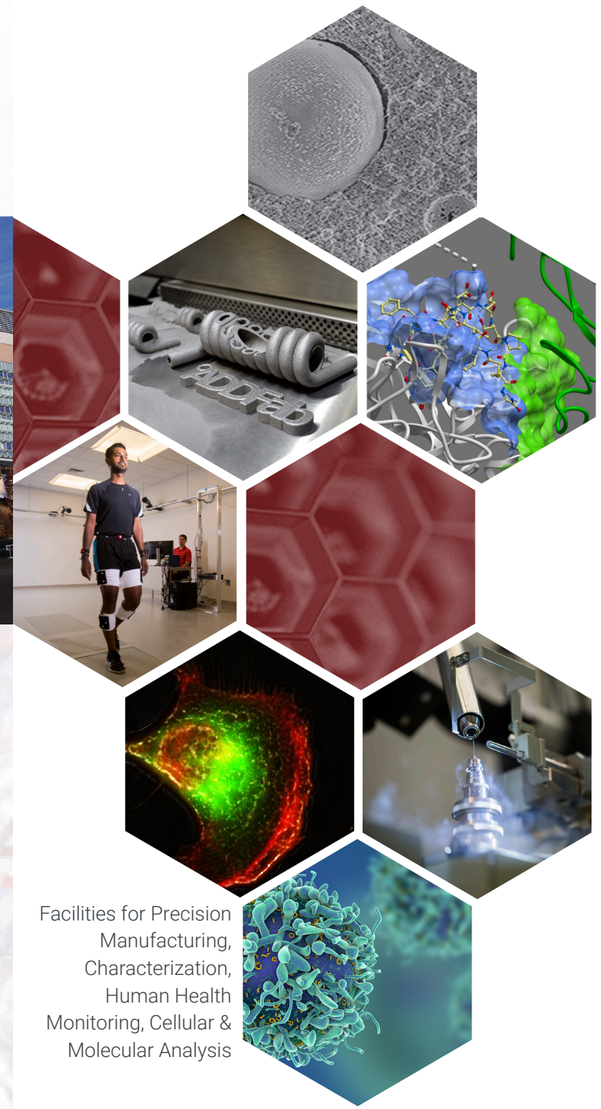
Institute for Applied Life Sciences
Life Science Laboratories
240 Thatcher Road
Amherst, MA 01003

umass.edu/ials/core-facilities

UMassAmherst | Core Facilities

Core Facilities

Institute for Applied Life Sciences
University of Massachusetts Amherst



Facilities for Precision Manufacturing, Characterization, Human Health Monitoring, Cellular & Molecular Analysis

UMASS CORE FACILITIES

We work together with researchers toward a singular goal: advancing applied science and technology to address the world's most pressing challenges. Professional staff members in a broad range of Core Facilities support hundreds of faculty labs across the UMass Amherst campus and countless industry partners throughout Massachusetts and beyond. Our state-of-the-art laboratories, instrumentation, equipment, and world-class experts are helping researchers drive discovery and pursue scientific endeavors on the front line of innovation in Life Sciences; Cellular, Molecular, and Animal Sciences; Manufacturing, Engineering, and Material Sciences; and Human Health. Our technologies and labs harness the collective experience of facility directors and technical experts, who are among the best and brightest in their fields. They serve as facilitators, consultants, and collaborators available to support researchers every step of the way, including designing experiments, analyzing data, preparing manuscripts and grant submissions, and much more. Advanced technologies and laboratories, bolstered by in-house expertise and support, expand the University's research capabilities, capacity, and opportunities defining UMass Amherst as New England's research powerhouse.

The UMass Five Campus System has over 100 Research Core Facilities across the state of Massachusetts that are available to researchers from government, academia and industry on a fee-for-service basis. Learn more about these shared resources at *massachusetts.edu/research/core-research-facilities.*

Advanced Digital Design and Fabrication (ADDFab)
LSL S470
David Follette | follette@umass.edu | (413) 577-4540
Cutting Edge 3D Printing in metals and polymers for fabrication, research, training, and education. Printing technologies include DMLS, DED, SLS, FFF and PolyJet.

Animal Imaging
ISB 068
Amy Burnside | aburnside@umass.edu | (413) 545-1385
James Chambers | jjchambe@umass.edu | (413) 577-4580
Designed to assist members of the research community on UMass and other five college campuses to conduct research using live animal imaging technologies. Equipment is capable of fluorescence and luminescence imaging independent of or concurrent with CT imaging. A new high-resolution microCT is expected Jan 2019.

Animal Models
LSL S521
Wei Cui | wcui@umass.edu | (413) 545-0673
Provides transgenic, gene targeting, and mouse surgery service and training, performs microinjections of DNA into fertilized embryos to generate transgenic mice. Uses cutting-edge technologies-CRISPR/Cas9 genome editing, to generate gene knock-out or knock-in mice or other animal models.

Atomic Force Microscopy (AFM)
Conte B343
Alex Ribbe | aeribbe@polysci.umass.edu | (413) 658-7415
Provide analytical and high resolution scanning probed based microscopy. This includes Atomic Force Microscopy (AFM) related techniques such as tapping mode, contract mode or conductive AFM as well as force measurements.

Biophysical Characterization
LSL S541
Stephen Eyles | eyles@biochem.umass.edu | (413) 577-1528
Cedric Bobst | cbobst@umass.edu
Interactions between biological macromolecules like proteins, nucleic acids, lipids and their complexes, and small molecule interactions with these macromolecules.

Bioproduction/Separation
LSL S577, S577A
umasscores@umass.edu
Equipment for expression, separation, and isolation of biomolecules allowing users to culture cells including bacterial, yeast, insect, plant, and mammalian cells, and then separate biomolecules of interest ie. proteins, nucleic acids, natural products, and metabolites.

Cell Culture
LSL S471A, S570
Mike Daley | mpdaley@umass.edu | (413) 545-2601
Two cell culture facilities for both biological and bio-engineering approaches. Biosafety cabinets, incubators and general wet lab supplies.

Center for Human Health & Performance (CH^2P)
LSL S360 Suite
Michael Busa | mbusa@umass.edu | (413) 577-0574

Exercise Intervention and Outcomes
Diagnostic testing capabilities include: exercise performance, VO2 max, exercise stress testing, strength testing, body composition (including abdominal obesity) and bone density evaluation.

Human Motion
Assessment of human movement (free living and robot assisted) and human and robotic testing of sensor technologies.

Living Science
Evaluate biosensor performance in healthy participants or participants who are at risk for chronic disease while living in a natural environment.

Room Calorimeter
Capability to measure 24 hour human energy expenditure for purposes of movement sensor calibration and validation, and to conduct studies requiring assessment of energy balance and energy metabolism.

Collaboratories
LSL S461-463, S571-573
Andrew Vinard | avinard@umass.edu | (413) 577-4582
Research laboratory spaces available for industry partners, including start-up companies emerging from faculty research projects, to partnerships with more established companies that seek space on campus to develop medical devices and healthcare/life science related product candidates, all while retaining their intellectual property (IP).

Device Characterization
LSL S465
David Follette | follette@umass.edu | (413) 577-4540
A full suite of mechanical testing capabilities, including tension, compression and torsion fatigue testing, surface roughness measurement, 3D scanning, and surface hardness measurement.

Device Fabrication (Cleanroom)
Marcus 15
Neel Mehta | nmehta@umass.edu | (413) 545-1710
Designed to have CMOS processing technologies to serve as a key enabler towards personalized healthcare and preemptive medicine. Specifically, we aim to develop smart and miniature devices, circuits and systems with biomedical applications such as biosensing, DNA sequencing and smart implanting.

Electron Microscopy
Conte B163-B172
Alex Ribbe | aeribbe@polysci.umass.edu | (413) 658-7415
Transmission (TEM) and Scanning (SEM) Electron Microscopes as well as related sample preparation equipment.

Flow Cytometry
ISB 068
Amy Burnside | aburnside@umass.edu | (413) 545-1385
Provides the latest technologies in flow cytometry to the area research community. Fluorescence based flow cytometric analysis and microscope-based high-throughput imaging instrumentation is available. Analysis equipment is accessible to trained users 24/7 and fluorescence assisted cells sorting is offered by appointment. Instrument training, experimental design, scientific consultation and sample processing are also offered.

Genomics Resource Laboratory
Morrill 1, N330
Ravi Ranjan |ranjan@umass.edu | (413) 577-4501
Provides Next-Generation DNA Sequencing services, NGS library preparation, DNA and RNA Quality assessment, DNA and RNA isolation, qPCR, Single Cell Sequencing on C1 Single-Cell Auto Prep system.

High Frequency Sensor Development
LSL S460
Robert Jackson | jackson@ecs.umass.edu | (413) 545-1386
Provides world class measurement capability for frequencies into the Terahertz range. It will be used for high frequency spectral analysis of materials and for testing high-speed communications technologies.

Human Magnetic Resonance Center
LSL S230
hmrc@umass.edu
Brain and whole body structural and functional imaging and spectroscopy for academic and industry-based research.

Light Microscopy
LSL S576A
James Chambers | jjchambe@umass.edu | (413) 577-4580
Nikon instruments that enable a broad range of light microscopy methods and applications.

Mass Spectrometry
LSL S540
Stephen Eyles | eyles@biochem.umass.edu | (413) 577-1528
Analytical mass spectrometry equipment, providing analytical services and expertise in mass spectrometry.

mHealthLab
LSL S354
Michael Busa | mbusa@umass.edu | (413) 577-0574
Erik Risinger | erisinger@umass.edu | (413) 545-2744
Develops algorithms and processes for large scale wearable sensor networks to support the development of novel hardware.

Nanofabrication Cleanroom
Conte B112
Neel Mehta | nmehta@umass.edu | (413) 545-2772
Device design, fabrication process formulation, photomask layout advice, and prototype testing utilizing traditional and novel approaches to microfabrication and nanofabrication of electronic devices, sensors, microfluidic devices, and nanomaterials test structures.

Nuclear Magnetic Resonance (NMR)
LGRT 075, 082 & Conte B342, B622
Weiguo Hu | weiguoh@polysci.umass.edu | (413) 577-1428
Jasna Fejzo | jfejzo@umass.edu | (413) 545-0081
The facility provides high field NMR instruments and expertise to elucidate molecular structure, conformation, dynamics and interactions.

Nutriceutical Formulation
Chenoweth 127
umasscores@umass.edu
Isolates bioactives by supercritical CO_2, concentrate bioactives by reverse osmosis, thermally treat by ultrahigh pasteurization and agitating retort, produce emulsion systems by homogenization and encapsulate by freeze or spray drying.