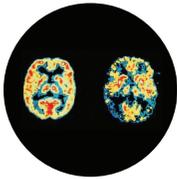


# UCI Biomedical Research Facilities

The University of California, Irvine supports numerous core facilities that offer state-of-the-art instruments, resources, and in-house expertise to researchers, clinicians, and educators. Additional units also provide access to equipment and services, as well as the opportunity to collaborate.

Facilities and resources often used by UCI researchers are described below. For arrangements for use by researchers outside UCI, contact the individual facility regarding quotations for scope of work, and Sales and Service Agreements.



**Alzheimer's Disease Research Center (ADRC)**  
[mind.uci.edu/adrc/about/](http://mind.uci.edu/adrc/about/)  
2642 Biological Sciences III  
Director: Frank LaFerla, PhD  
Associate Director: Joshua Grill, PhD

The UCI ADRC functions in collaborative cores that include investigators from a variety of disciplines (e.g., neurology, neurobiology, nursing, geriatric medicine, social work, pathology, statistics). These include:

- Data Management and Statistics Core- Provides efficient, comprehensive, and secure data management and analytic support for the UCI ADRC.
- Neuropathology Core- Maintains ADRC tissue repository and is responsible for distributing tissue and other biological specimens to researchers and promoting cross-center collaborations to maximize use of these precious samples.
- Induced Pluripotent Stem (iPS) Cell Core- Maintains the National Alzheimer's Disease iPS Cell Bank which is a valuable resource for the entire Alzheimer's research community.

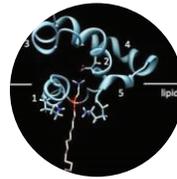
## Biobehavioral Shared Resource (BBSR)

[cancer.uci.edu/resources/Biobehavioral.asp](http://cancer.uci.edu/resources/Biobehavioral.asp)

Director: Lari Wenzel, PhD

Facility Manager: Chelsea McKinney, PhD, MPH

The BBSR provides a consultative service to assist researchers as they incorporate patient/participant reported outcomes into their projects. This support includes expertise on patient-reported outcome (PRO) instrument selection, PRO instrument development, and consideration for data collection assessment intervals and strategies to obtain valid and reliable PRO data. The BBSR has expanded service to include focus group design and conduct, offered in English and Spanish.



**BioMolecular Spectroscopy-NMR**  
[bio.uci.edu/NMR](http://bio.uci.edu/NMR)  
1218 Natural Sciences I  
Director: Melanie Cocco, PhD

This facility provides collaborative access to 18.8T 63mm Bore Oxford Superconducting Magnet operating at 2.2 K and Varian UnityInova 800 MHz High-Resolution NMR Console.



**Center for Artificial Intelligence in Diagnostic Medicine (CAIDM)**  
[caidm.som.uci.edu](http://caidm.som.uci.edu)  
201 Edward Shanbrom Hall, #55  
UCI Medical Center  
Co-Directors: Peter D. Chang, MD  
and Daniel S. Chow, MD

The CAIDM provides an environment to develop and deploy artificial intelligence-based healthcare applications. In addition, the CAIDM also supports healthcare imaging research, including an enterprise level infrastructure to query, download, anonymize, store, and transmit data for optimal efficiency across high bandwidth data center networks.

## Computing- High Performance Computing Cluster (HPC) Research Cyberinfrastructure Center (RCIC)

[hpc.oit.uci.edu](http://hpc.oit.uci.edu)

Director: Philip Michael Papadopoulos

The HPC facility is available to all researchers at UCI that allows them to store and analyze data of a size that would not otherwise be possible locally, and personal assistance in resolving specific computational problems. This unit provides classes and tutorials in using Linux and the HPC cluster as well as Bioinformatics (in conjunction with the Genomic High Throughput Facility) and classes in Big Data processing (with Dr. Padhraic Smyth, Information & Computer Sciences).

## Experimental Tissue Resource (ETR) Pathology Research Services Core

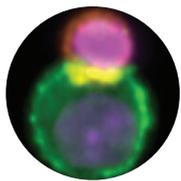
[pathology.uci.edu/research-services-core-facility.asp](http://pathology.uci.edu/research-services-core-facility.asp)

D426A Medical Sciences I

Director: Robert Edwards, MD, PhD

Biorepository Manager: Delia Tifrea, PhD

The ETR provides basic, translational and clinical cancer center researchers access to, and analysis of, human and animal tissues. ETR leverages the technical and professional expertise of the Department of Pathology and Laboratory Medicine, offering four component services: routine tissue histology/immunohistochemistry (IHC), tissue analysis including laser capture microscopy (LCM), mouse pathology services, and genotyping services.



### Flow Cytometry Facility (FCF)

[immunology.uci.edu/flow-core.asp](http://immunology.uci.edu/flow-core.asp)

3101 Hewitt Hall, Institute  
of Immunology

Director: Eric Pearlman, PhD

Manager: Jennifer Atwood, PhD

FCF provides multi-parameter flow cytometers equipped for fluorescence-activated cell sorting (FACS) and emerging flow cytometry assays, as well as the technology and professional technical assistance for cell analysis and sorting.

See the Stem Cell Research Center regarding other options for Flow Cytometry support.



### Genomics High-Throughput Facility (GHTF)

[ghtf.biochem.uci.edu](http://ghtf.biochem.uci.edu)

340 Sprague Hall

Director: Suzanne Sandmeyer, PhD

Manager: Melanie L. Oakes, PhD

The GHTF provides emerging genomics technologies to UCI investigators. GHTF technologies span DNA sequencing applications from genome mapping to single-cell gene expression and epigenetic modifications. Specific services include preparation of mRNA, single-cell RNA, small RNA, genomic, ChIP, methyl, and exome sequencing libraries, and long- and short-range DNA sequencing.

## Institute for Clinical & Translational Science (ICTS)

[icts.uci.edu](http://icts.uci.edu)

1385 Hewitt Hall

Director: Daniel Cooper, MD

Research Development Manager: Lisa Hinojosa, MPH

The ICTS offers investigators the support they need to conduct clinical research. These services include

specially trained research nursing, technical and support staff, and large selection of procedural support. The ICTS is uniquely trained to carry out the research protocols with an emphasis on patient safety and research quality. Support is provided via the following:

- Center for Biomedical Informatics (CBMI)
- Special Population Navigators
- Team Science Consult Service
- Clinical Research Services (Nursing) -Specimen collection and Biobanking
- Biostatistics, Epidemiology and Research Design (BERD)
- Accrual and Retention Consult Service (ARCS)
- Clinical Research Ethics Consult Service

## Laboratory for Fluorescence Dynamics (LFD)

[lfd.uci.edu](http://lfd.uci.edu)

3208 Natural Sciences II

Principle Investigator: Enrico Gratton, PhD

Co-investigator: Michelle A. Digman, PhD

User Coordinator: Rachel Cinco-Hedde, PhD

The LFD is a national research resource center for biomedical fluorescence spectroscopy that provides a state-of-the-art laboratory for fluorescence measurements, microscopy and spectroscopy, with technical assistance to visiting scientists. The LFD designs, tests, and implements advances in the technology of hardware, software, and biomedical applications. In addition, it disseminates knowledge of fluorescence spectroscopic principles, instrumentation, and applications to the scientific community.

## Laser Spectroscopy Labs

[chem.uci.edu/~dmitryf/index.html](http://chem.uci.edu/~dmitryf/index.html)

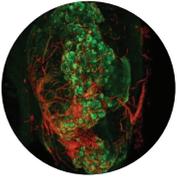
Roland Hall 315 - Linear Lab

Roland Hall 316 - Microscopy Lab

Roland Hall 307 - Ultrafast Lab

Director: Dmitry A. Fishman, PhD

Laser Spectroscopy Labs (LSL) are modern laboratories dedicated to research and education in areas of linear and nonlinear spectroscopy and microscopy, ultrafast phenomena and unequilibrated systems. The laboratory is also known for introducing advanced optical experiments to a broad scientific community. It has a long history and reputation working in collaboration with various groups and research units at UCI, and collaborates with groups at other universities and national labs.



## Optical Biology Core Facility (OBC)

[obc.bio.uci.edu/](http://obc.bio.uci.edu/)

4443 McGaugh Hall  
Director: Rahul Warrior, PhD  
Manager of Self Use Facility:  
Adeela Syed, PhD

The OBC facility self-use facility provides researchers access to state-of-the-art optical microscopy instrumentation and technical support. Note the OBC is comprised of two additional components: the Flow Cytometry Facility (CFC) in the Institute of Immunology (described above) and the Laser Microbeam and Medical Program facility (LAMMP) housed in the Beckman Laser Institute which provides access to select microscopes and imaging equipment.

## Sue & Bill Gross Stem Cell Research Center (SCRC)

**Center of Regenerative Medicine Institute**  
[stemcell.uci.edu/](http://stemcell.uci.edu/)

Gross Hall  
Director: Aileen Anderson, PhD

Flow Cytometry Core Manager: Vanessa Scarfone, MS  
CRISPR Core: Lisa Salazar, PhD, Jean Paul Chadareviam, MS  
Microscope Imaging Core Specialist: Allia Fawaz, MS  
Stem Cell Techniques Course Director: Christina Tu

The SCRC provides a wide array of clinical and research resources. Basic research resources include a CRISPR core providing gene editing services as well as nucleic acid analysis software. SCRC houses a Flow Cytometry Core and offers a stem cell techniques course as well as access to tissue culture rooms. A wide variety of microscopes are available; training is provided with SCRC equipment. The UCLA-UCI Alpha Stem Cell Clinic is the coordinating center for ongoing clinical trials in stem cells and regenerative medicine at UCI.



## Transgenic Mouse Facility Mouse Genome Engineering Facility (TMF)

[tinyurl.com/yda7q9yy](http://tinyurl.com/yda7q9yy)  
Scientific Director: Grant MacGregor, PhD  
Managing Director: Jon Neumann, BS

The TMF provides intellectual and technical support to researchers wishing to use genetically engineered mouse models (GEMM). TMF offers a comprehensive range of services associated with sourcing, production, cryopreservation and reanimation of GEMM, including their development by CRISPR- and ES cell -based engineering.

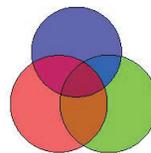
## University Laboratory Animal Resources (ULAR)

[research.uci.edu/facilities-services/ular/](http://research.uci.edu/facilities-services/ular/)

ULAR facilities are located on UCI main campus and UCIMC  
Director: Jeff Chau

The ULAR is one of the most utilized core resources on campus. It is committed to providing a top-quality animal care program that promotes integrity and excellence in research and teaching in the biological and medical sciences. UCI's animal care and use program is accredited by the Association for the Assessment and Accreditation of Laboratory Animal Care International (AAALACi).

## Biostatistics Support



### Biostatistics Shared Resource (BSSR) Chao Family Comprehensive Cancer Center

[cancer.uci.edu/biostatistics/](http://cancer.uci.edu/biostatistics/)

Interim Director: Christine McLaren, PhD

## UCI Center for Statistical Consulting Bren School of Information & Computer Science

[statconsulting.ics.uci.edu](http://statconsulting.ics.uci.edu)  
Director: Joni Ricks-Oddie, PhD

## Biostatistics, Epidemiology and Research Design (BERD)

**Institute for Clinical & Translational Science**

[icts.uci.edu/services/berd1.php](http://icts.uci.edu/services/berd1.php)  
Director: Joni Ricks-Oddie, PhD

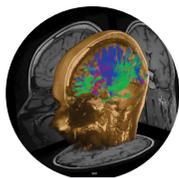
## Campus Center for Neuroimaging

### In-Vivo Functional Onco-Imaging (IVFOI)

[cancer.uci.edu/resources/in-vivo-functional-oncoimaging.asp](http://cancer.uci.edu/resources/in-vivo-functional-oncoimaging.asp)

Director: Gultekin Gulsen, PhD  
Facility Manager: Farouk Nouzi, PhD

The IVFOI shared resource supports basic and clinical cancer researchers by providing them with the necessary expertise, imaging instrumentation, and image analysis techniques. In addition to providing services with standard preclinical and clinical imaging systems, the IVFOI works to integrate multi-modality imaging technologies (MR, MR and optical tomography, and X-ray microCT and optical tomography), providing for a better understanding of the fundamental biochemical nature of cancer and for development of new contrast agents and molecular pathway-specific imaging probes.



## Facility for Imaging and Brain Research (FIBRE) Social and Behavioral Sciences Gateway

[imaging.uci.edu/fibre/](http://imaging.uci.edu/fibre/)

Ground Floor-Social and Behavioral Science Gateway

Director: Craig Stark, PhD

FIBRE, a human imaging resource, provides research dedicated MRI and PET services. FIBRE focuses on neuro- imaging, however FIBRE is equipped to scan other domains as well (e.g., cardiac, cancer) to support a range of basic and translational research programs.

## Preclinical and Translational Neuroimaging Center

[imaging.uci.edu/animal-imaging-facility/](http://imaging.uci.edu/animal-imaging-facility/)

Buildings 832 & 833

Director: Andre Obenaus, PhD

The PTIC provides magnetic resonance imaging (MRI/ MRS) services and houses a 9.4T Bruker Biopsin Avance 2 MRI with a 30cm bore. Non-invasive imaging of in vivo and ex vivo biospecimens using standard, advanced and novel emerging techniques are available. Methods to visualize, characterize and quantify normal and pathologic processes in animal models, as well as tissue samples, can be undertaken. In addition, research specific MRI sequence development are available. Data analysis training, data storage and services can be arranged.

## Electron Microscopy



### Electron Microscope Suite Gillespie Neuroscience Research Facility

[bit.ly/2URj094](http://bit.ly/2URj094)

Director: Oswald Steward, PhD

Manager: Ilse Sears-Kraxberger

Equipped with a JEOL-JEM1400 electron microscope with digital camera and an ultra-microtome, this facility provides technical services for specimen preparation, design of unbiased sampling procedures, operation of the electron microscope and interpretation of biological ultrastructure.

## Irvine Materials Research Institute

[imri.uci.edu/](http://imri.uci.edu/)

1302 Calit2, 140 Engineering Tower,

1121-51 Engineering Hall

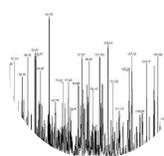
Director: Xiaoping Pan, PhD

Associate Director: Matt Law, PhD

Director of Facilities: Jian-Guo Zheng, PhD

The IMRI serves as an interdisciplinary nexus for the research and development of engineered and natural materials, systems and devices. The institute supports the highest-performance transmission electron microscopes available today for the characterization of materials, biological samples, and devices from millimeter to subatomic length scales. The institute also houses scanning electron microscopes and instruments to perform X-ray diffraction, and surface characterization and analysis. Services include user-run and staff-run experiments, user training, intellectual property protection, data analysis/interpretation and project assistance. IMRI also provides coordination with UCI cleanrooms, advanced manufacturing facilities, and other universities and national labs, as well as manuscript and proposal-preparation assistance.

## Mass Spectroscopy



### Center for Virus Research Protein Mass Spectrometry Facility

[cvr.bio.uci.edu/mass-spec-facility/](http://cvr.bio.uci.edu/mass-spec-facility/)

2652 Biological Sciences III

Director: Paul D. Gershon, PhD

This facility provides MALDI-TOF/TOF identification of proteins and modifications using LC-MS and LC-MS/MS and database searching for biological materials that may be proteomically simple or highly complex, and protein abundances extending down to the low femtomole level.

## Mass Spectrometry Facility

Department of Chemistry

[chem.uci.edu/research/facilities/mass-spectrometry](http://chem.uci.edu/research/facilities/mass-spectrometry)

1002 Reines Hall

Director: Felix Grun, PhD

Protein Mass Spectrometrist: Benjamin Katz, PhD

This facility offers analytical services on a wide variety of mass spec platforms including ESI LC-TOF, GC EI/CI MS, MS/MS, and MALDI TOF. Services include sample preparation, mass determination for small molecules and peptide sequencing.

## UCI High-End Proteomics Mass Spectrometry Facility

[webfiles.uci.edu/clintoy/MSfacility/](http://webfiles.uci.edu/clintoy/MSfacility/)

224 Medical Sciences D

Director: Lan Huang, PhD

Manager: Clinton Yu, PhD

This facility provides Lumos Tribid Mass Spectrometer technology for focused and proteome-wide protein expression research, including identification, quantification, and structural interrogation of proteins and protein complexes.