

Common Equipment, Resources and Specialized Expertise Department of Medicine

NOTE: It is expected that equipment users will participate in proper certification and/or training. Use of this list comes with the understanding that the cost is borne by the investigator.

CARDIOLOGY

- 1. PI Name:** Lu Hilenski, PhD
Area of Expertise: *Transmission electron microscopy (TEM)*: Sample processing, including fixation, embedding, and ultramicrotomy. Digital imaging of sections using Hitachi H-7500 electron microscope.
Contact Information: Lula L. Hilenski, PhD; location: Woodruff Memorial Building 329; email: lhilens@emory.edu; phone: 404-727-8116
- 2. PI Name:** Bob Taylor, MD
Instrument/device: Blood Pressure Machine
Instrument/device location: Woodruff Memorial Building, Room 309
Brief description of instrument/device capabilities: Tail cuff measurement of blood pressure
Contact person: Nikolay Patrushev, location: WMB 305; phone: 404-727-3810; email: npatrus@emory.edu
- 3. PI Name:** Ahsan Husain, PhD
Instrument/device: Vevo 770 *In Vivo* Micro-Imaging System
Instrument/device location: Woodruff Memorial Building, Room 1306
Brief description of instrument/device capabilities: The Vevo® 770 system provides an entry-level platform for the small animal researcher. The Vevo 770 system enables the visualization and quantification of small animal anatomical targets, hemodynamics and therapeutic interventions with resolution as low as 30 microns. Because it is non-invasive, longitudinal monitoring and quantification of phenotypes, therapeutic regimes can be monitored in the same animal over time. Available Imaging options for the Vevo 770 system: **B-mode** (2D) imaging for anatomical visualization and quantification (included in the base package); **M-mode** for visualization and quantification of wall motion in cardiovascular research, single line acquisition allows for the very high-temporal (1000 fps) resolution necessary for analysis of LV function.
Contact person: Ahsan Husain PhD; location: WMB 308; email: ahusai2@emory.edu; phone: 404-727-8125
- 4. PI Name:** Lu Hilenski, PhD
Instrument/device: Zeiss LSM 510 META (confocal microscope)
Instrument/device location: WMB 303
Brief description of instrument/device capabilities: Used for high resolution spatial localization of one or more fluorescently-labeled molecules within fixed single cells or tissue sections. The system is equipped with 405 nm diode (30 mW), 458/477/488/514 nm argon ion (30 mW), 543 nm HeNe (1 mW) and 633 nm HeNe (5 mW) lasers for

multicolor imaging

Contact person: Lula L. Hilenski, PhD; location: Woodruff Memorial Building 329; email: lhilens@emory.edu; phone: 404-727-8116

5. **PI Name:** Lu Hilenski, PhD

Instrument/device: Leica TCS SP5 II Confocal Microscope

Instrument/device location: WMB 1011

Brief description of instrument/device capabilities: Supports the rapid, high speed imaging of fluorescently labeled proteins/mRNA in living cells in 3D space and time, or prolonged imaging in 3D space and time, to capture dynamic events within living cells. The system is equipped with 405 nm diode (50 mW), 458, 476, 488 and 514 nm multi-line argon (65 mW), 561 nm diode (20 mW) and 633 nm HeNe (10 mW) lasers, tandem scanner (conventional at 2,800 lines-per-second for high resolution and resonant scanning at 16,000 lines-per-second for rapid acquisition of dynamic events), HyD detectors, SuperZ galvo scanning stage, adaptive focus control, and Ludin Cube2 and BoxSP5 environmental chamber to control temperature, CO₂ and humidity for live cell imaging. Software capabilities include FRAP, FRET, 3D reconstruction, colocalization and MATRIX Mosaic to capture multidimensional parameters (X, Y, Z and time) at multiple points.

Contact person: Lula L. Hilenski, PhD; location: Woodruff Memorial Building 329; email: lhilens@emory.edu; phone: 404-727-8116

6. **PI Name:** Arshed A. Quyyumi, MD

Area of Expertise: Cardiovascular Diseases: Biobank of up to 8,000 patients with coronary artery disease and controls. DNA, RNA, plasma, and serum samples. Follow-up data on subjects.

Contact Information: Arshed A. Quyyumi, MD; location: Dental School Building (1462 Clifton Road) Suite 507; email: aquyyum@emory.edu; phone: 404-727-3655

DIGESTIVE DISEASES

1. **PI Name:** Frank Anania, MD

Instrument/device: Small Animal Imaging System

Instrument/device location: WMRB Room 255

Brief description of instrument/device capabilities: designed to automate *in vivo* small animal imaging research including ability to image tumors, etc.

Contact person: Frank Anania (fanania@emory.edu), phone: 404-712-2867

2. **PI Name:** Shanthi Srinivasan, MD

Instrument/device: Laser Capture Microdissection (LCM) System (Pixcell II LCM 220)

Instrument/device location: WMRB Room 275

Brief description of instrument/device capabilities: Can be used to isolate single cells located in heterogenous solid-tissue samples (frozen or formalin-fixed) that would otherwise pose challenges in performing molecular analysis of specific cell populations. Specific cells are identified by morphology or immunostaining (DAB or fluorescein) and pure populations of cells are obtained using the LCM system while maintaining the integrity of their nucleic acid content.

Contact person: Shanthi Srinivasan (ssrini2@emory.edu), phone: 404-727-5298

ENDOCRINOLOGY

1. **PI name:** Roberto Pacifici, MD
Instrument/device: Scanco in vitro microCT scanner
Instrument/device location: WMRB 1302B
Brief description of instrument/device capabilities: Suitable for analysis of mouse organs
Contact person: Jonathan Adams (jadam12@emory.edu), phone: 404-727-1398
2. **PI name:** Roberto Pacifici, MD
Instrument/device: In vivo Scanco microCT scanner
Instrument/device location: WMRB 1302B
Brief description of instrument/device capabilities: Suitable for in vivo analysis of mice and rats
Contact person: Jonathan Adams (jadam12@emory.edu), phone: 404-727-1398

INFECTIOUS DISEASES

1. **PI Name:** Timothy Read, PhD
Area of Expertise: High throughput genomics
see http://www.corelabs.emory.edu/labs/gra_genome_center/index.html
Contact information: Room 335D Whitehead Building, (615 Michael Street), phone: 404-727-9706; email: tread@emory.edu

PULMONOLOGY

1. **PI Name:** Roy Sutliff, PhD
Area of Expertise: Cardiovascular Physiology: vasoconstriction and vasorelaxation of isolated arteries, telemetric monitoring of blood pressure and evaluations of cardiac function using echocardiography and pressure catheters.
Contact Information: Roy L. Sutliff, PhD; location: Atlanta VA Medical Center; email: rsutlif@emory.edu; phone: 404-321-6111 X17053
2. **Instrument/device:** LTQ Velos Orbitrap
Instrument/device location: Whitehead Building room 225
Brief description of instrument/device capabilities: High resolution metabolic profiling
Contact information: Dean Jones, PhD; phone: 404-727-5970; email: dpjones@emory.edu; location: Whitehead Building 205P
Note: researchers may deliver samples but may not use this instrument.
3. **PI Name:** Dean Jones, PhD
Area of Expertise: Clinical metabolomics, metabolic profiling, high resolution metabolic profiling, redox proteomics, analysis of protein samples (peptides)
Contact Information: Dean Jones, PhD; phone: 404-727-5970; email: dpjones@emory.edu; location: Whitehead Building 205P
4. **PI Name:** Dean Jones, PhD
Instrument/device: Clinical Biomarkers Laboratory

Brief description of instrument/device capabilities: Oxidative stress assays, especially glutathione and related redox measurements, cysteine/cystine redox, dROMS, protein carbonyls, etc.; ELISAs, including a broad spectrum of cytokines as well as multiplexed cytokine; ¹H-NMR spectroscopy for metabolomics; magnetic resonance spectroscopy (MRS) for measurement of GSH in vivo in humans; metabolomics in vivo using MRI/MRS methods

Contact information: Dean Jones, PhD; phone: 404-727-5970; email: dpjones@emory.edu; location: Whitehead Building 205P

5. **PI Name:** Greg S. Martin, MD, MSc

Area of Expertise: Pulmonary/Critical Care: Biobank of plasma samples from more than 1,000 patients with sepsis and/or acute lung injury, with a smaller number of samples from normal control subjects. Clinical phenotype and outcomes data available on all subjects.

Contact Information: Dr. Greg Martin; location: Grady Memorial Hospital (80 Jesse Hill Jr Drive SE); email: greg.martin@emory.edu; phone: 404-616-0148

VA

1. **PI name:** Shaojin You, PhD

Instrument/device: Arcturus Laser Capture Microscopy System

Instrument/device location: Atlanta VA Medical Center

Brief description of instrument/device capabilities: This system permits localization and isolation of cells or collections of cells from histological slides for analysis of DNA/RNA.

Contact information: Shaojin You, PhD; phone: 404-321-6111 ext 2516; email: Shaojin.you@va.gov

2. **PI name:** Mike Hart, MD (Atlanta VA Core Equipment).

Instrument: TE-10z smoking system, Teague Enterprises.

Instrument location: Atlanta VA Medical Center (4A 124)

Brief description of instrument: This instrument permits rodent models of chronic exposure to cigarette smoke. The system employs a whole-body exposure, in which the entire mouse cage is placed in the smoking chamber. A microprocessor-controlled machine produces a combination of side-stream and mainstream smoke from one to ten cigarettes at a time. Mice in regular housing cages with cage tops opened will be placed into the smoking chamber connected to the smoking machine for 5 hours/day for 5 days/week.

Contact information: Aravind T. Reddy; 404-321-6111 Ext 5063; email: atarugu@emory.edu.