

## Highlights

The **Cardiovascular Research Core (CRC)** facility, located in the basement (NMRL and BRL), is a pay-for-service RRC facility that provides advanced surgical and functional imaging and ultrasound assessment services to create and evaluate rodent models of cardiovascular and pulmonary vascular diseases. The CRC generates various animal models of pulmonary hypertension, heart failure, myocardial infarction, and other cardiovascular diseases. By providing training, project consulting, and expert surgical and experimental set-up services, the Core aims to assist scientists and principal investigators in acquiring high-quality and reproducible results for grant applications and manuscripts.

All surgical services are offered as staff-assisted, and echocardiography and electrocardiography are offered as staff conducted or self-directed. To initiate any new service (or Animal Use Protocol) please contact us. You can also see what parameters we offer for each functional assessment service by clicking its name above.

All of our services are available for UIC faculty as well as external customers. We would be happy to consult with you to plan an experiment, implement one of our rodent models of cardiovascular disease, or assist you in developing an animal use protocol or grant application.

Please note that both core-assisted and self-directed studies at the CRC are contingent upon prior approval of a PI's Animal Use Protocol by the Institutional Animal Care and Use Committee (IACUC).

Please visit our RRC website to find out more about our services, the state-of-the-art equipment we utilize, our fee structures and other policies. To initiate a core-assisted service, please fill out and return a request for service form.

## Contact Information

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# Cardiovascular Research Core

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## Meet Our Staff



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## Services

### Phenotyping services

- 1) High-frequency, high-resolution echocardiography using Vevo 2100
- 2) *in vivo* hemodynamics using Millar systems
- 3) IVIS bioluminescence imaging system
- 4) CODA blood pressure monitoring system
- 5) Rodent hypoxia and hyperoxia chambers
- 6) Morphometry; pulmonary vascular remodeling
- 7) ECG recordings
- 8) Assist in rodent instrumentation and anesthesia for MRI and PET-CT) Scanning

### Surgical services

- 1) Myocardial infarction (MI) and reperfusion
- 2) Trans Aortic Constriction (TAC) Pressure overload model
- 3) Middle cerebral artery occlusion (MCA) Ischemic stroke model
- 4) Pulmonary vascular permeability assay in mice
- 5) Isolated perfused mouse lung model to measure permeability
- 6) Bariatric surgery in mice
- 7) Mouse lung angiography/vascular casting
- 8) Cecal ligation puncture model of sepsis

### Other services

- 1) Rodent models of pulmonary hypertension (HPH, MCT, SuHx)
- 2) Bone marrow transplant
- 3) Rodent primary cell isolation (mouse PASMC, PAEC and lung fibroblasts)
- 4) Assist with generation of cell-type specific and conditional knockout mouse breeding and genotyping
- 5) Maintain BRL hypoxia and hyperoxia chambers

### Training services

- 1) Rodent echocardiography imaging and echo image analysis
- 2) IVIS
- 3) Rodent intubation, retroorbital and tail vein injections
- 4) Rodent catheter placement for injections and blood pressure measurement
- 5) Hypoxia and hyperoxia chamber calibration

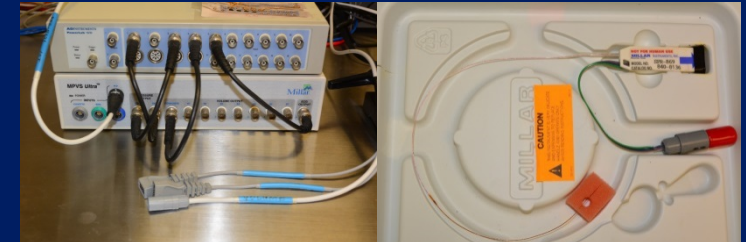
## Major Equipment



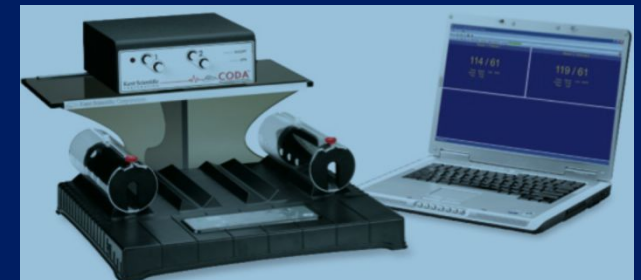
**Ultrasound: VisualSonics' Vevo 2100 (BRL 118)**



**IVIS Imaging System (BRL 118)**



**Millar system for hemodynamic measurement (NMRL B13)**



**CODA Non-Invasive Blood Pressure Monitoring System (NMRL B13)**