

# Resource Summary Report

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## Center for In Vivo Microscopy

RRID:SCR\_001426

Type: Tool

### Proper Citation

Center for In Vivo Microscopy (RRID:SCR\_001426)

### Resource Information

**URL:** <http://www.civm.duhs.duke.edu/>

**Proper Citation:** Center for In Vivo Microscopy (RRID:SCR\_001426)

**Description:** Biomedical technology research center dedicated to the development of novel imaging methods for the basic scientist and the application of the methods to important biomedical questions. The CIVM has played a major role in the development of magnetic resonance microscopy with specialized MR imaging systems capable of imaging at more than 500,000x higher resolution than is common in the clinical domain. The CIVM was the first to demonstrate MR images using hyperpolarized <sup>3</sup>He which has been moved from mouse to man with recent clinical trials performed at Duke in collaboration with GE. More recently the CIVM has developed the molecular imaging workbench---a system dedicated to multimodality cardiopulmonary imaging in the rodent. Their collaborators are employing these unique imaging systems in an extraordinary range of mouse and rat models of neurologic disease, cardiopulmonary disease and cancer to illuminate the underlying biology and explore new therapies.

**Abbreviations:** CIVM

**Synonyms:** Duke Center for In Vivo Microscopy

**Resource Type:** biomedical technology research center, training resource

**Keywords:** imaging, magnetic resonance microscopy, magnetic resonance imaging, clinical, mri, ct, x-ray, ultrasound, confocal, optical, spect

**Related Condition:** Cardiopulmonary disease, Cancer, Neurological disease

**Funding:** NIBIB 4P41EB015897-27

**Availability:** Free, Freely Available

**Resource Name:** Center for In Vivo Microscopy

**Resource ID:** SCR\_001426

**Alternate IDs:** nlx\_152650

**Record Creation Time:** 20220129T080207+0000

**Record Last Update:** 20260731T042611+0000

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## Ratings and Alerts

No rating or validation information has been found for Center for In Vivo Microscopy.

No alerts have been found for Center for In Vivo Microscopy.

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## Data and Source Information

**Source:** [SciCrunch Registry](#)

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## Usage and Citation Metrics

We found 10 mentions in open access literature.

**Listed below are recent publications.** The full list is available at [PRECISE-TBI](#) .

Clark DP, et al. (2017) Hybrid spectral CT reconstruction. PloS one, 12(7), e0180324.

Constantinides C, et al. (2017) Temporal accumulation and localization of isoflurane in the C57BL/6 mouse and assessment of its potential contamination in 19 F MRI with perfluoro-crown-ether-labeled cardiac progenitor cells at 9.4 Tesla. Journal of magnetic resonance imaging : JMRI, 45(6), 1659.

Gra??a GD, et al. (2017) The organization of frequency and binaural cues in the gerbil inferior colliculus. The Journal of comparative neurology, 525(9), 2050.

Zaslavsky I, et al. (2014) Cyberinfrastructure for the digital brain: spatial standards for integrating rodent brain atlases. Frontiers in neuroinformatics, 8, 74.

Juranek JK, et al. (2013) RAGE deficiency improves postinjury sciatic nerve regeneration in type 1 diabetic mice. Diabetes, 62(3), 931.

Cleveland ZI, et al. (2012) In vivo MR imaging of pulmonary perfusion and gas exchange in rats via continuous extracorporeal infusion of hyperpolarized 129Xe. PloS one, 7(2), e31306.

Lebenberg J, et al. (2011) A combination of atlas-based and voxel-wise approaches to analyze metabolic changes in autoradiographic data from Alzheimer's mice. NeuroImage, 57(4), 1447.

Lebenberg J, et al. (2010) Validation of MRI-based 3D digital atlas registration with histological and autoradiographic volumes: an anatomofunctional transgenic mouse brain

imaging study. *NeuroImage*, 51(3), 1037.

Cleveland ZI, et al. (2010) Hyperpolarized Xe MR imaging of alveolar gas uptake in humans. *PloS one*, 5(8), e12192.

Johnson GA, et al. (2007) High-throughput morphologic phenotyping of the mouse brain with magnetic resonance histology. *NeuroImage*, 37(1), 82.