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Advanced MRI Center: a 3 Tesla Magnetic Resonance system for preclinical, translational and clinical imaging studies.

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The Advanced MRI Center, located in the UMass Medical School building, is a research core facility providing the latest magnetic resonance imaging and spectroscopy capabilities to UMass scientists. It is equipped with a Philips Achieva 3.0T X-series whole-body scanner and radiofrequency coils for studying all organs of the human body, and small and large animals, such as mice, rats, rabbits, dogs, sheep and non-human primates. The center also includes a radiofrequency coil lab, a nurses' station, two patient holding rooms and two patient changing rooms.

The Center's specialized techniques are able to elucidate functional, physiological and biochemical information from all organs of the body.

The 3.0 Tesla system features the Quasar Dual gradient system with industry leading performance specifications, that allow high-level diffusion tensor imaging and functional MRI (fMRI) applications in humans, and high resolution imaging studies in small animal studies. A fMRI stimulus delivery system, a MRI compatible goggle set with eye tracking system, microphone and earphones are available for facilitating fMRI studies.

Small animal monitoring and gating system and an MR compatible Anesthesia system with heater and ventilator option are also available.

The 3.0T MR system is also equipped with a Multi-nuclear spectroscopy system, which provide the ability to perform ¹³C, ³¹P, ⁷Li, ²³Na and other nuclei spectroscopy and imaging.

Technical and clinical expertise for collaborative research is also provided.

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