

MRI FACILITY DIRECTORY

Name of Institution: **Research Center Magnetic Resonance Bavaria (MRB)**
Institution's Address: Am Hubland
97074 Wuerzburg
Germany

Web Site Address: www.mr-bavaria.de

Can accommodate both Pre-Clinical and Clinical research projects.

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Below is a brief narrative of the institution's MRI capabilities. The following information was provided by the institution. BioPAL has compiled the MRI facility directory to aid researchers access MRI services. The listing is not an endorsement by BioPAL.

Organization description:

The research center "Magnetic Resonance Bavaria" (MRB) (Head: Prof. Dr. P. Jakob) was founded in 2005 as a non-profit association and is dedicated to basic MR research and MR applications. The MRB is a spin-off of the Department of Experimental Physics 5 (EP5, Head: Prof. Dr. A. Haase), University of Wuerzburg, one of the pioneering institutions and a center of excellence in the field of MR imaging.

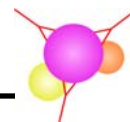
The Wuerzburg MR group EP5 was formed in 1989 to bring magnetic resonance microscopy from theory to practice. Over the last 18 years, the group has systematically addressed the challenges met in ultra-high spatial resolution MR microscopy and fast "parallel" MRI, through the development of novel radio-frequency detectors, specialized encoding and contrast strategies, the use of very high field magnets, and the use of advanced visualization techniques.

Techniques at EP5 and MRB now allow routine acquisition of anatomical and functional (perfusion, contractility, diffusion tensor, etc.) information from the murine heart (in vivo, ex vivo) in (transgenic) mouse-, rat-models to human whole body imaging in exquisite spatial resolution. Current research is also focused on monitoring and evaluation of novel cell based therapies and non invasive characterization of tissue engineering constructs.

With one of the few 17.6 Tesla MRI-microscopes available worldwide, a state-of-the-art instrument is available, rendering efficient stem cell tracking and even single cell imaging feasible. In addition 2 whole body systems (1.5T & 2.0T) and 2 high-field animal systems (7T, 11.7T) are available.

A local interdisciplinary network has been set up within different departments to provide clinical input and supply elements, e.g. for performing state-of-the-art stem cell imaging. Thus, in cooperation with partners from the University of Wuerzburg, both, pre-clinical and clinical research is possible at the MRB.

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MRB Research Center

The MRB is a customer-related research organization and is dedicated to work with and for its academic and industrial partners. The main areas of research comprise:

- MR Animal Research
- Mobile MR
- MR Safety
- Clinical MRI
- Molecular & Cellular MRI
- MR Contrast Agents
- Low & High Field MRI
- MR of Porous Media
- MR Food Sciences
- MR Data Analysis

Selection of Research Activities

MR-Technology

- Miniaturization of detection systems (mini spectrometer)
- Parallel imaging (high speed and high resolution imaging)
- Acceleration and automation of data acquisition and post processing
- Interventional MR-systems
- Development of low-field systems
- Safety (MR compatible devices)

Biomedical Research and medical application

- Serial study of (transgenic) animals, Phenotyping
- Ultrafast MR-examination without anesthesia
- Development and application of molecular MRI (MR-specific Tracers)
- Cardiac MRI (pre-clinical & clinical)
- MRI in tissue engineering & stem cell tracking
- Individual, fast and economic examination

Research on plants

- Portable MR-devices for investigations on intact plants (environmental research)
- Phenotyping of transgenic plants (economic plants)

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