



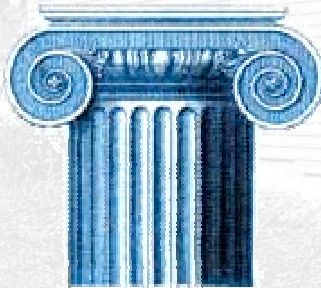
**Research Center  
Magnetic Resonance Bavaria**



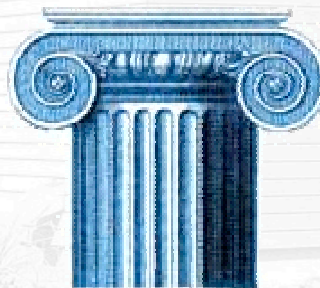
The MRB Research Center is a spin-off  
of the University of Würzburg (Physics)  
Chairmen: Prof. Dr. P. Jakob, Prof. Dr. A. Haase.

It was founded in 2005 as a registered  
non-profit association and is dedicated to:

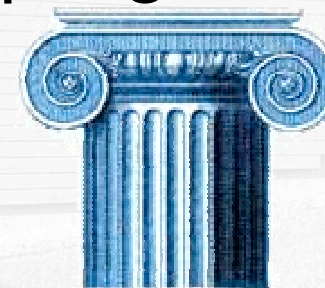
**basic  
research**



**customized  
research**



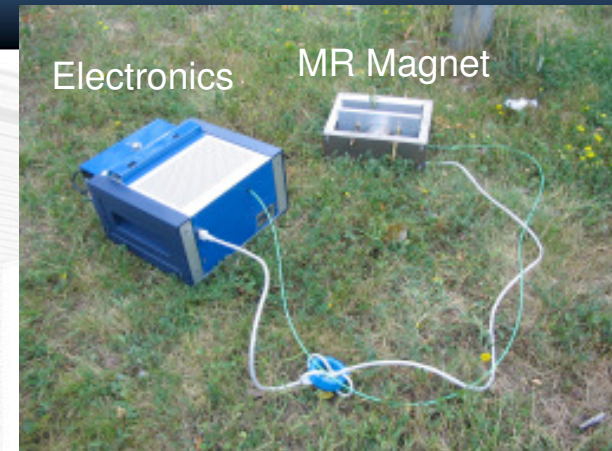
**teaching  
programs**



# “Low-Budget” & Mobile MRI



- Portable MR scanner
- MR imaging and spectroscopy
- Hardware and magnet development @ the MRB



## Field Studies

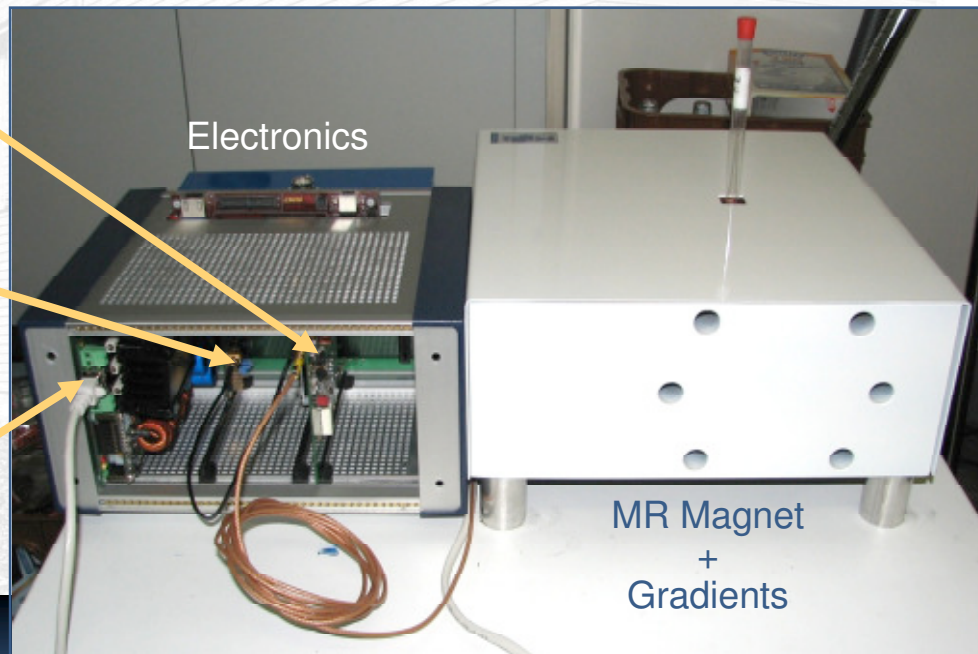


MR Magnet + Gradients

ADC  
Data Acquisition

DAC  
Transmit Pulse

Gradient amplifier  
with DA-Converter



# “Low-Budget” & Mobile MRI



## Example 1

Sequence: spin echo experiment

Sample: gardenbean

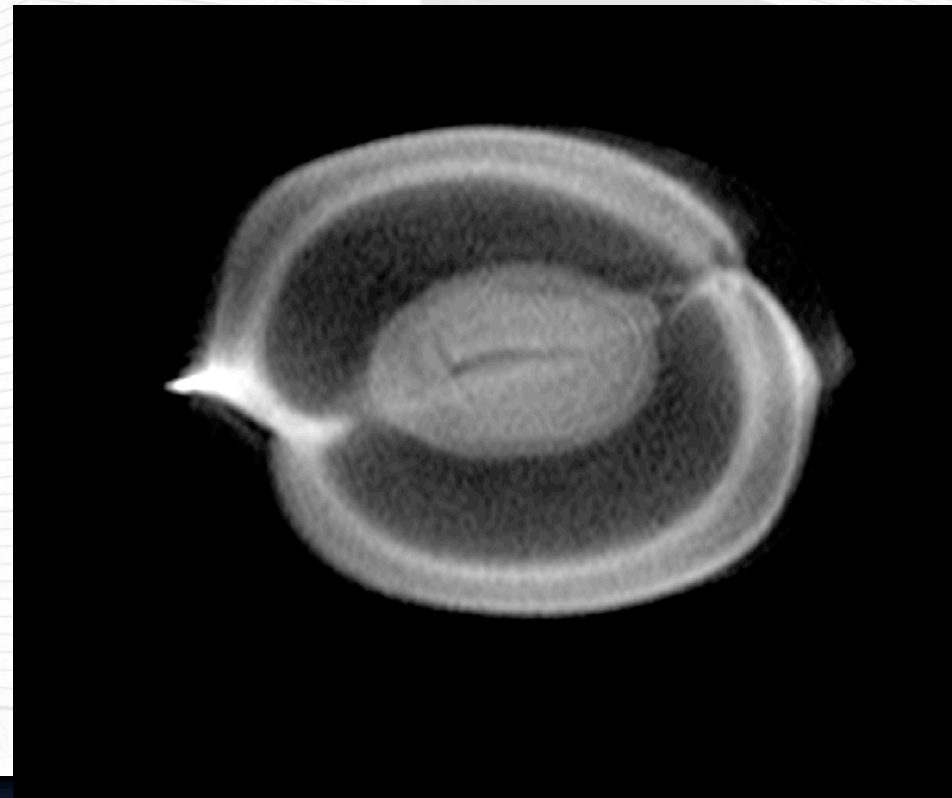
B-Field: 0.5 T

Matrix: 256 x 256

$T_R$  : 100 ms

$T_E$  : 5 ms

Averages: 32



## Example 2

Sequence: spin echo experiment

Sample: water tubes

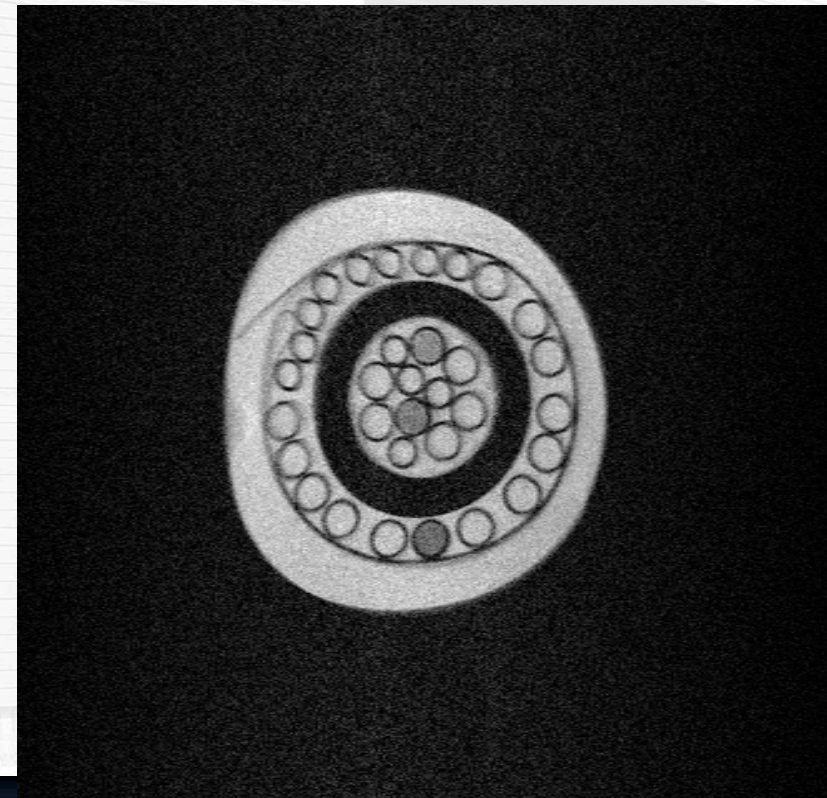
B-Field: 0.5 T

Matrix: 512 x 512

$T_R$  : 100 ms

$T_E$  : 5 ms

Averages: 9



# Input for the consortium



- Portable-low-budget, low-field (0.2-1T) animal MR system
- Can be used in the environment of a nuclear-medicine department
- Low magnetic field strength = less interference with PET-unit
- Application of multimodal (PET-MR) contrast agents
- Open Question:  
How to combine this system efficiently with a PET-unit???