JÜLICH
FORSCHUNGSZENTRUM

Research Activities
Institute of Neuroscience and Medicine - 4

N. Jon Shah
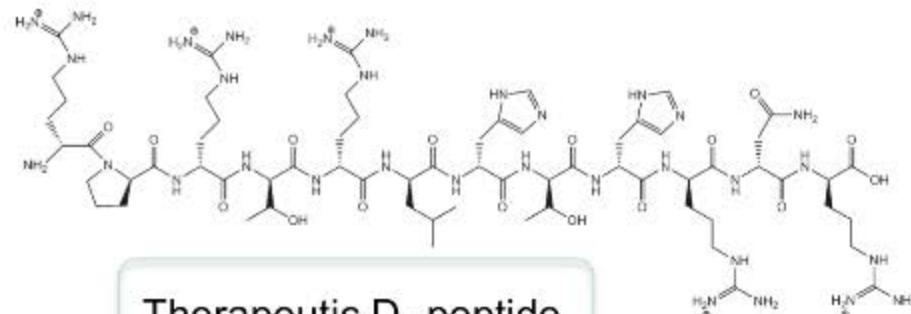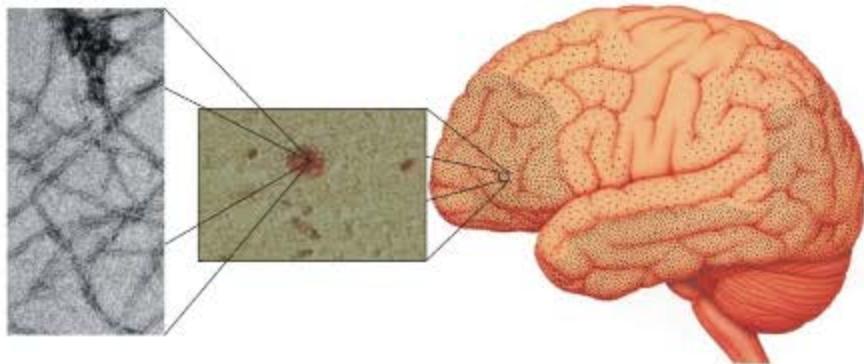
TRIMAGE
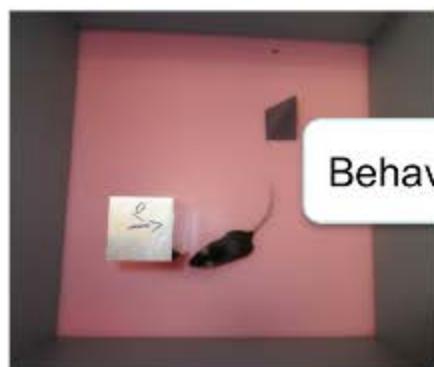
Treatment monitoring of amyloid drugs in mouse models of Alzheimer's Disease
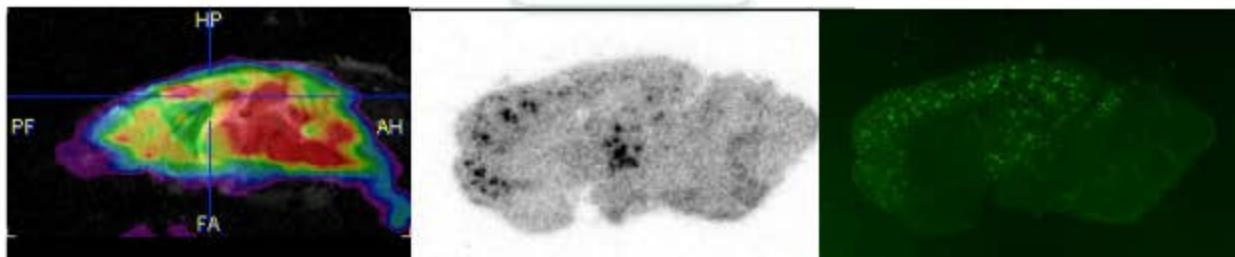
Therapeutic D- peptide

Behavioural Tests

ICS-6

INM-4   INM-5   Amyloid Tracer
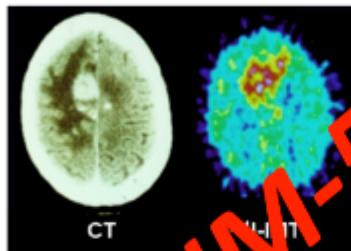
Imaging
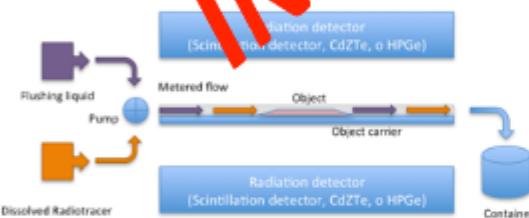
Cyclotron
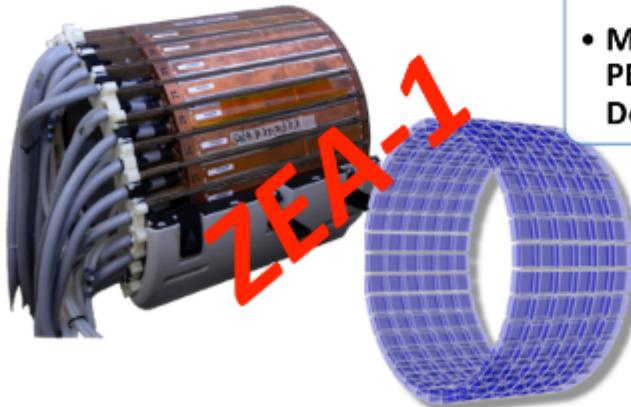
PET-MR 2.0 – Key Technology made in Jülich

Evaluation of non-standard Tracers

INM-5

PET Imager for Tissue Slices

Application development
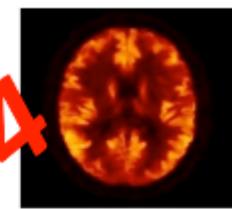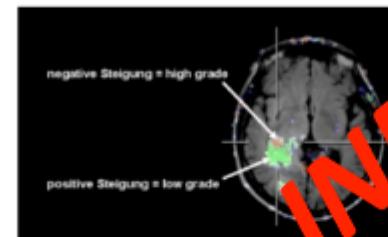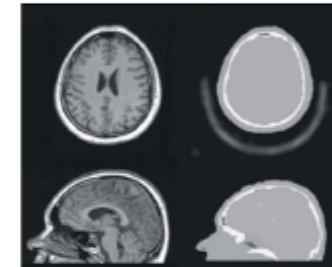
INM-4

Image de-noising

Attenuation correction

- **PET Tracer Validation and Tools for Development**

- **Methodology for Hybrid MR/PET**

INM-5 | **INM-4**

FZJ Consortium

ZEA-1 | **ZEA-2**
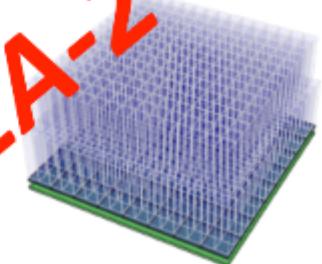
- **MR compliant PET Gantry Design**

- **Detector and System Development**
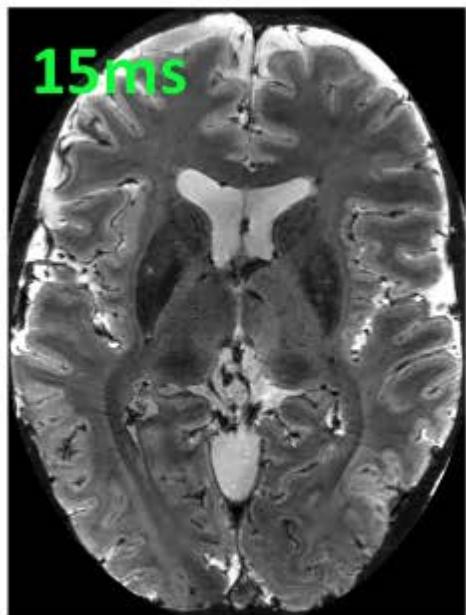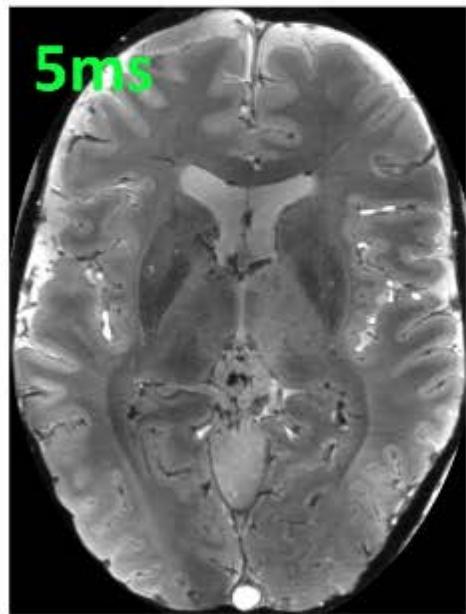
Depth-of-Interaction and TOF techniques

ZEA-1

Effective & Compact Cooling Concepts

ZEA-2

DAQ for MR compatible PET

ICEMED

5ms

15ms

In vivo GRE Imaging at 9.4T
$(500\times500\times500\mu m^3)$
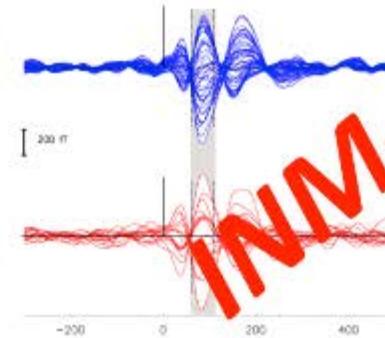
MEG 2.0 – Key Technology made in Jülich
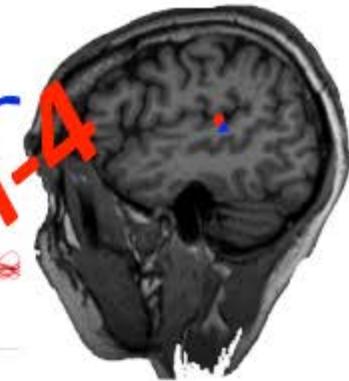

PGI-5

Faley et al., 2012, 2013, 2014
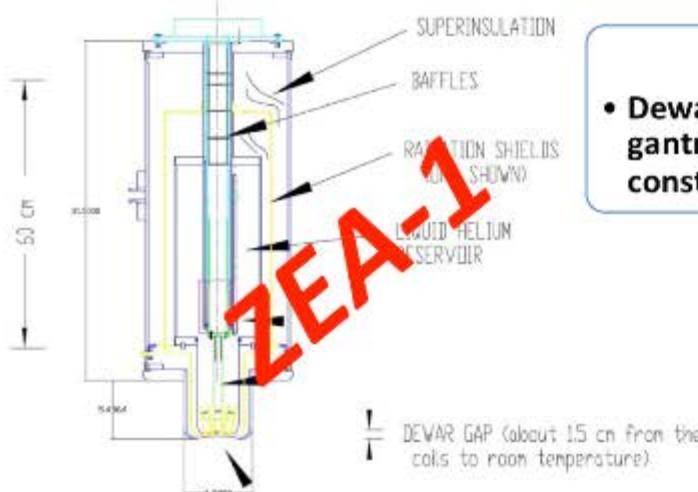
- HTc SQUIDs development and fabrication

INM-4

Dammers et al., APL, 2014

- Analysis methods and Applications

FZJ Consortium

PGI-5	INM-4
ZEA-1	ZEA-2

ZEA-1

SUPERINSULATION
BAFFLES
RADIATION SHIELDS (NOT SHOWN)
LIQUID HELIUM RESERVOIR

50 cm

DEWAR GAP (about 15 cm from the coils to room temperature)
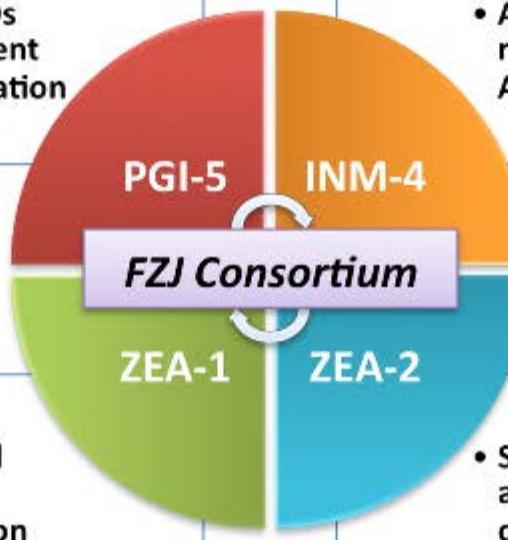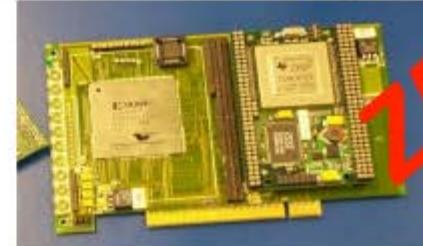
- Dewar and gantry construction
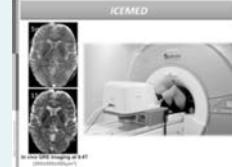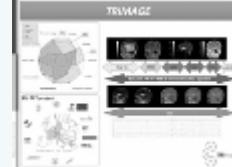
ZEA-2

- SQUID electro. and real-time components

Rongen et al., IEEE, 2006

	Major Partner	Grants	Highlights
MEG 2.0	PGI-5; ZEA-1; ZEA-2	H2020-PHC-2015: „Focal MEG" (first stage passed)	
PET-MR 2.0	ZEA-1: ZEA-2; INM-5	HGF Validierungsfond (in progress)	
ICEMED	JARA, ZEA-1	Helmholtz Alliance	
TRIMAGE	ZEA-1, ZEA-2, JARA	EU FP7	
DRUG RESEARCH INITIATIVE	INM-5, ICS-6	HGF Portfolio	