

GLASGOW

Institutions

The 7T will be housed in the Imaging Center of Excellence (ICE), which is part of the University of Glasgow (UoG) and located on the Queen Elizabeth University Hospital (QUEH) campus. It will be opened in the first part of 2017. The imaging center will be adjacent to Neurosurgery and the Institute of Neurological Sciences (INS). Other centres focusing on neuroimaging are the Center for Cognitive Neuroimaging (CCNi) and the Glasgow Experimental MRI Centre (GEMRIC) at the Institute of Neuroscience and Psychology (INP).

Principal Investigators



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7T equipment

Hardware Whole body 7T MR (Siemens Magnetom Terra)- research only (32Rx/8Tx head coil, parallel transmission)
RF-coil lab

Operational from Spring 2017

Other equipment (human imaging): 3T MR (Siemens Prisma)* / 3T MR (Siemens Trio)* (small animal imaging): 7T Bruker BioSpec 70/30 / 7T Bruker Pharmascan
(other): large detector CT / MEG / EEG-fMRI / TMS / high performance computing grid

* = research only

7T Methods (as relevant for EUFIND)

Acquisition (many still to be developed for 7T)

High resolution fMRI (laminar fMRI)
Task-based and resting state fMRI
CBF, CBV, vascular reactivity
RF-coil development
MR-safety (RF-coils, implants)

Animal imaging

High resolution task based and resting state fMRI (GE-BOLD, SE-BOLD, CBV fMRI)
CBF, DTI, MRS
Heteronuclear MR
RF-coil development

Analysis (many still to be developed for 7T)

High-resolution (laminar) fMRI
Decoding of representations (MVPA)
Predictive coding
High precision co-registration for layer-specific fMRI

Research in neurodegeneration

Clinical and basic research topics

Multi-center studies in preclinical and manifest AD, PD, stroke
Functional imaging of cognitive circuits
High resolution (laminar) fMRI
Translational research

Cohorts

Healthy young and older controls
AD, PD
Vascular dementia
CADASIL

Ethics Procedures

Approval for volunteers and patients in progress