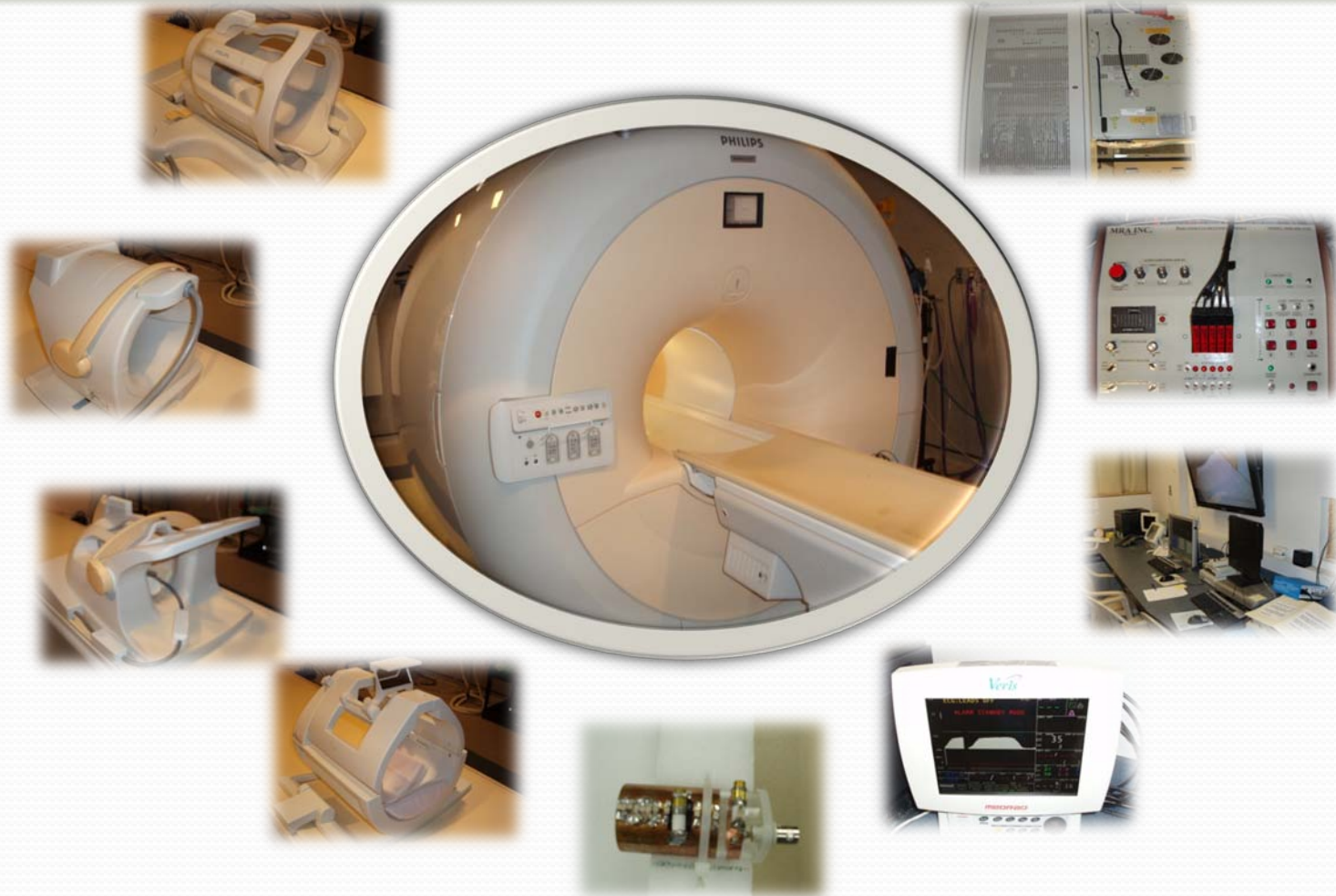


Advanced MRI Center (AMRIC)

- The Advanced MRI Center is a research core facility providing the latest magnetic resonance imaging and spectroscopy capabilities to scientists, clinicians, government and industry. Technical and clinical expertise for collaborative research is also provided.
- The Center's specialized techniques are able to elucidate functional, physiological and biochemical information from all organs of the body. This enables physicians to make better decisions regarding patient care. Additionally, researchers are better able to understand the mechanisms of diseases such as heart disease, cancer, stroke, epilepsy, multiple sclerosis, lupus, rheumatoid arthritis, osteoarthritis, osteoporosis, back pain and injuries, autism, Alzheimer's disease, bipolar disease and depression. This facilitates the development of new therapies that can be safely and continuously evaluated throughout patient treatment.

Equipment

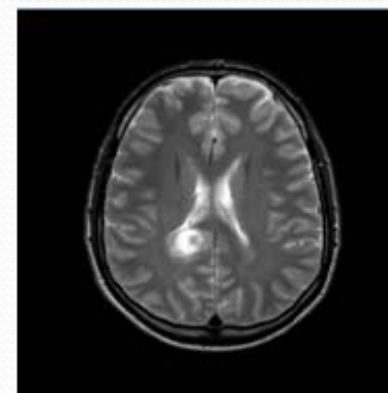


T1W & T2W

T₁W



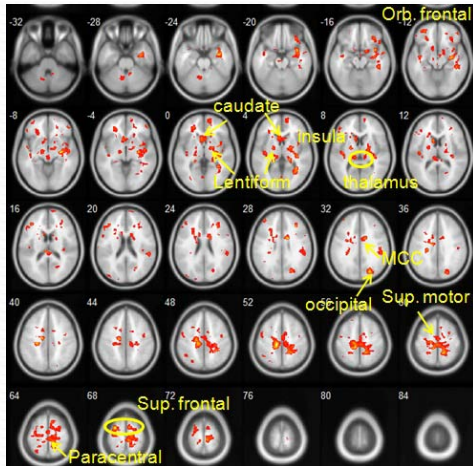
T₂W



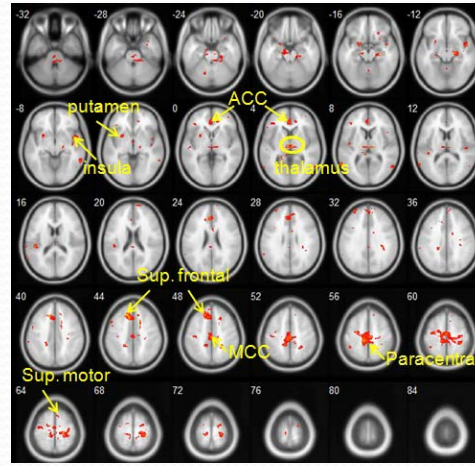
Images courtesy of Dr DiFranza

Function MRI (fMRI)

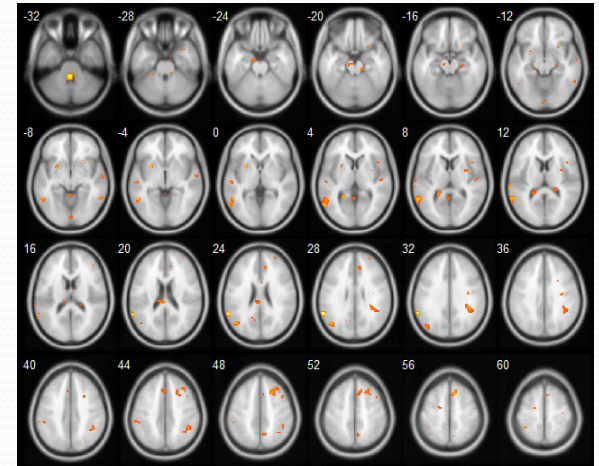
Effect of nicotine administration on light smokers



Nonsmokers

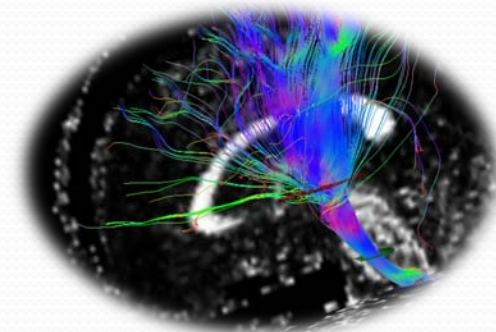
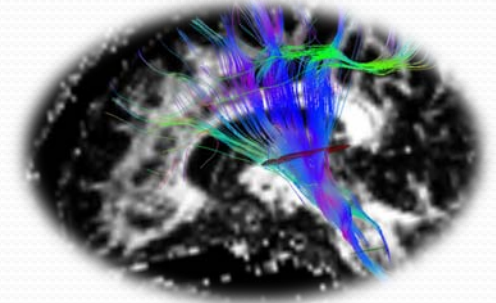
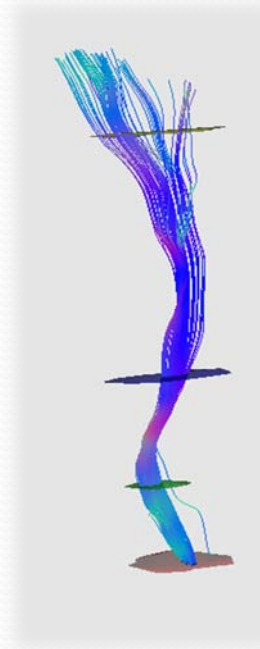
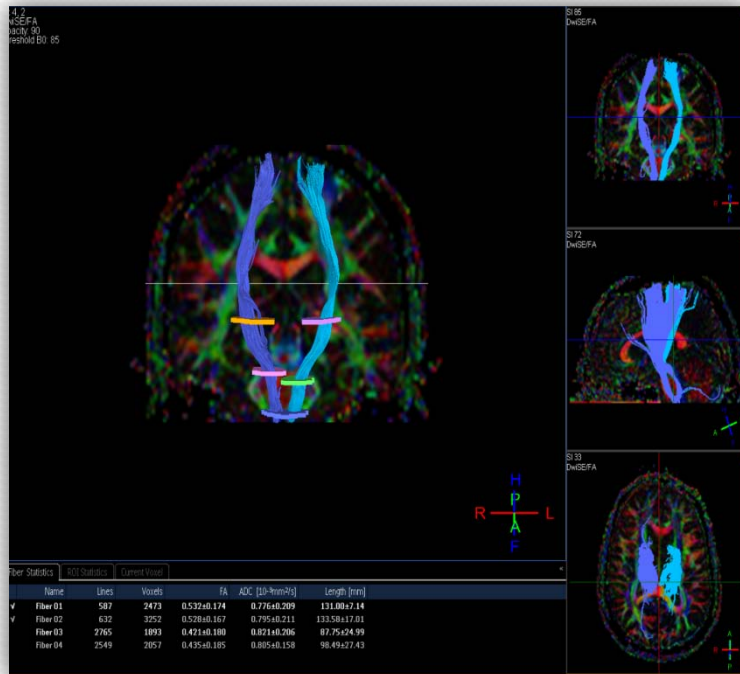


Smokers



Right brain map showing areas where activation is greater in smokers than in nonsmokers in response to nicotine administration

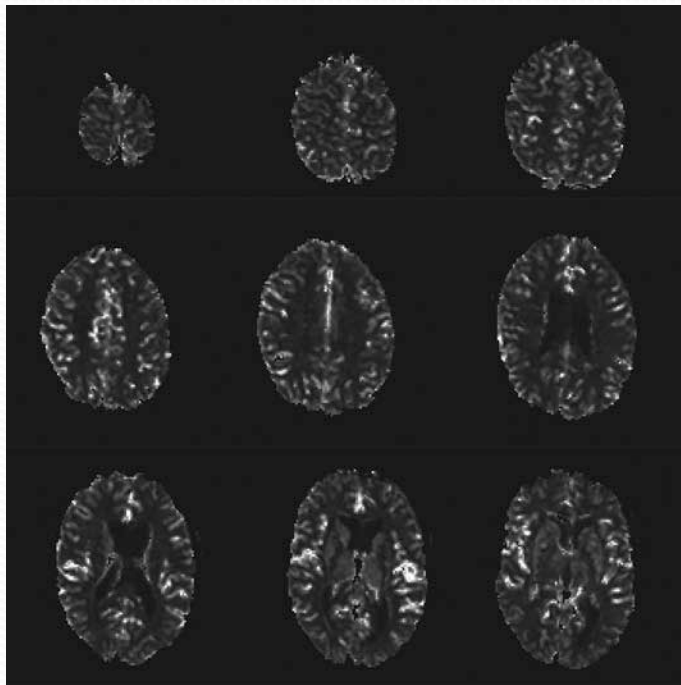
Diffusion Tensor Imaging and Tractography



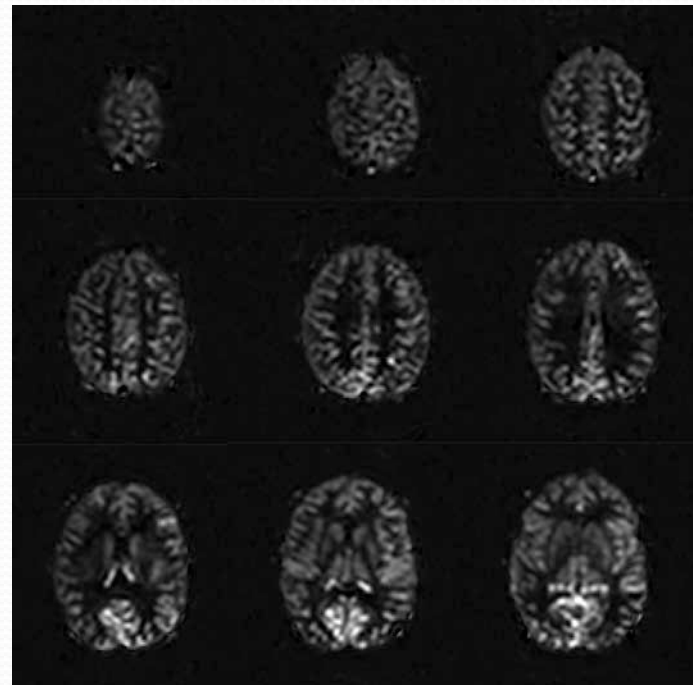
Images courtesy of Dr Cauley

Perfusion

Dynamic Susceptibility Contrast (DSC)

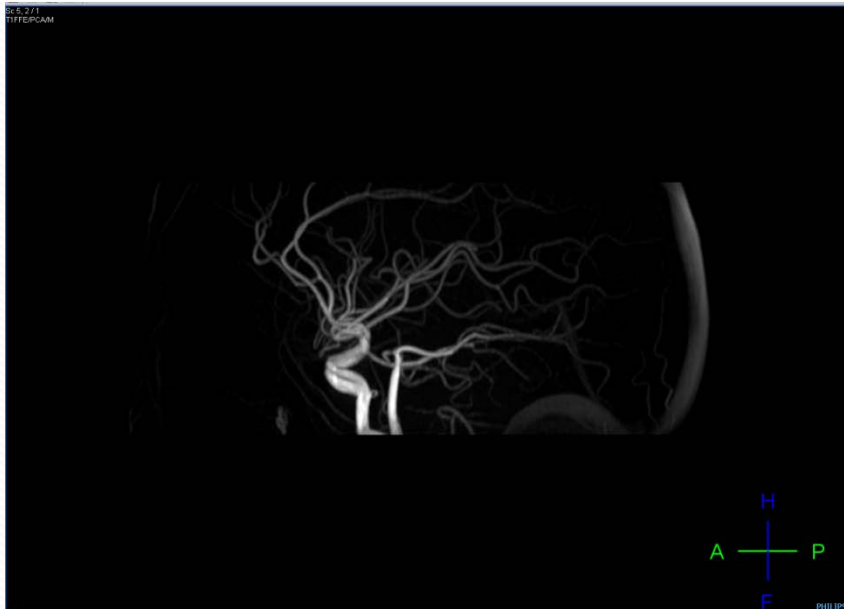


Arterial Spin Labelling (ASL)

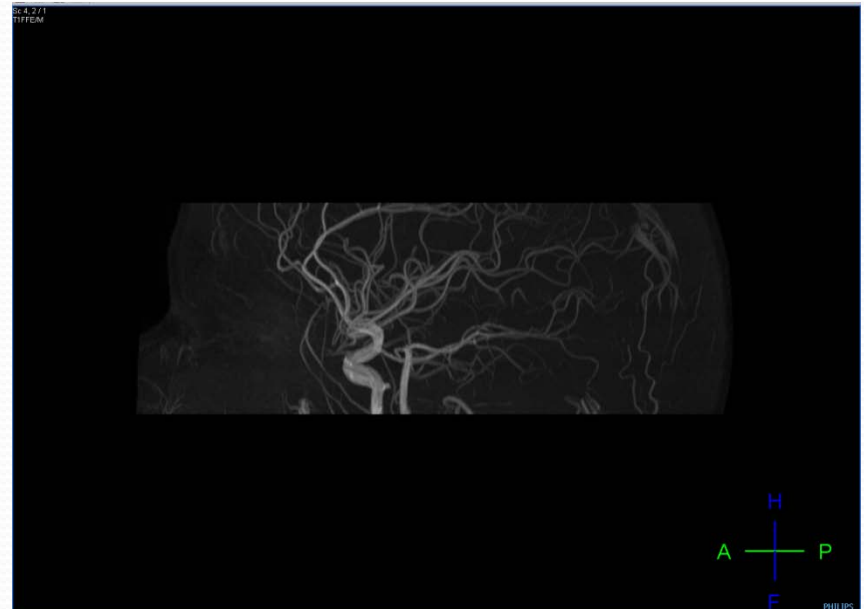


Angiography (MRA)

Time of Flight (TOF)

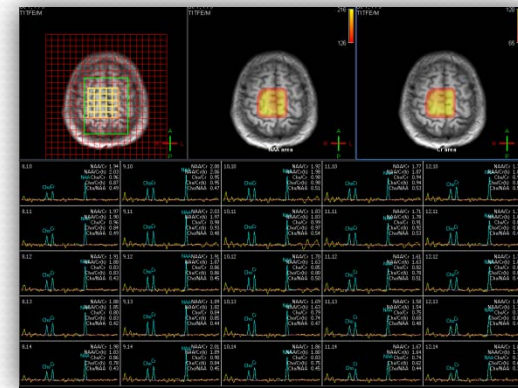
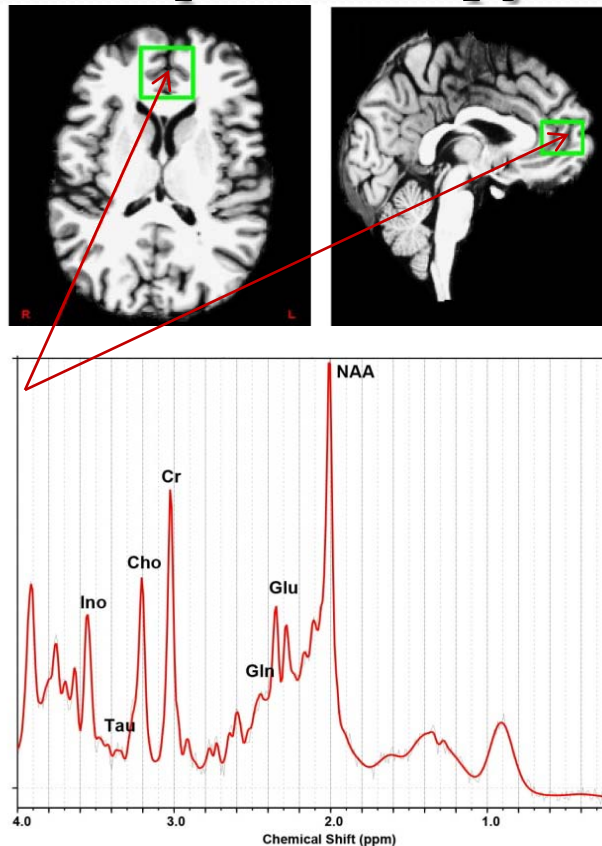


Phase Contrast (PC)

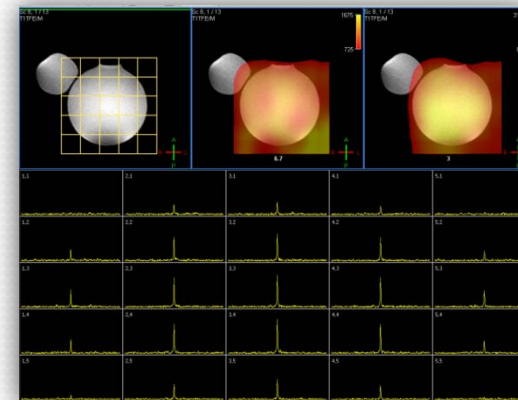


MR Spectroscopy (MRS)

^1H Spectroscopy



2D ^1H



2D ^{31}P

Images courtesy of Dr Moore and Dr Muazzez

Images courtesy of Dr Cauley

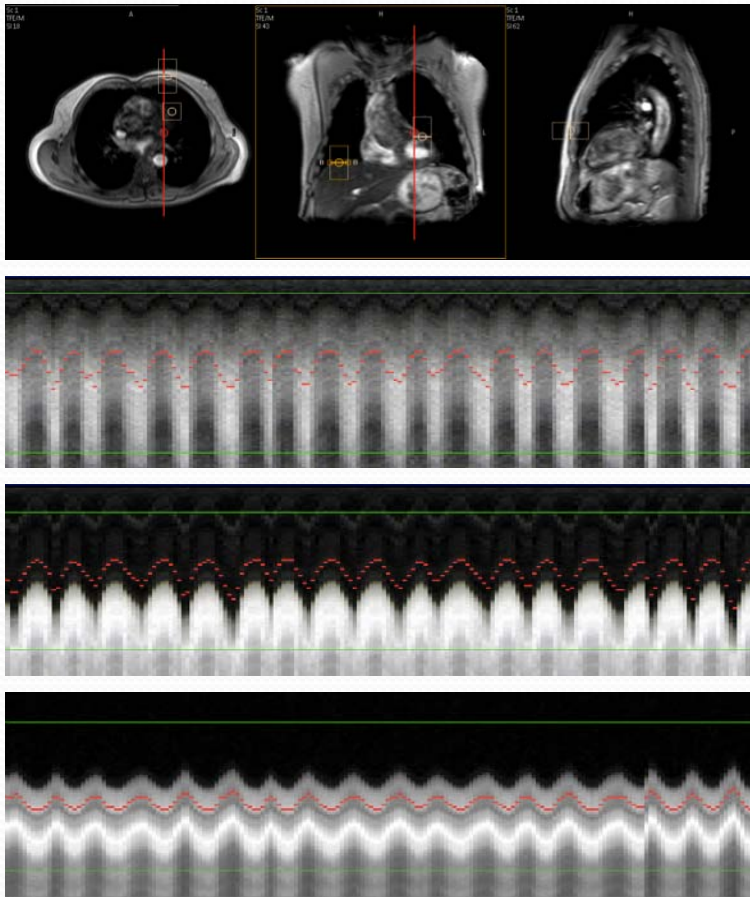
Animal Experiments



Small and large animal imaging, including mouse, rat, rabbit, dog, sheep.

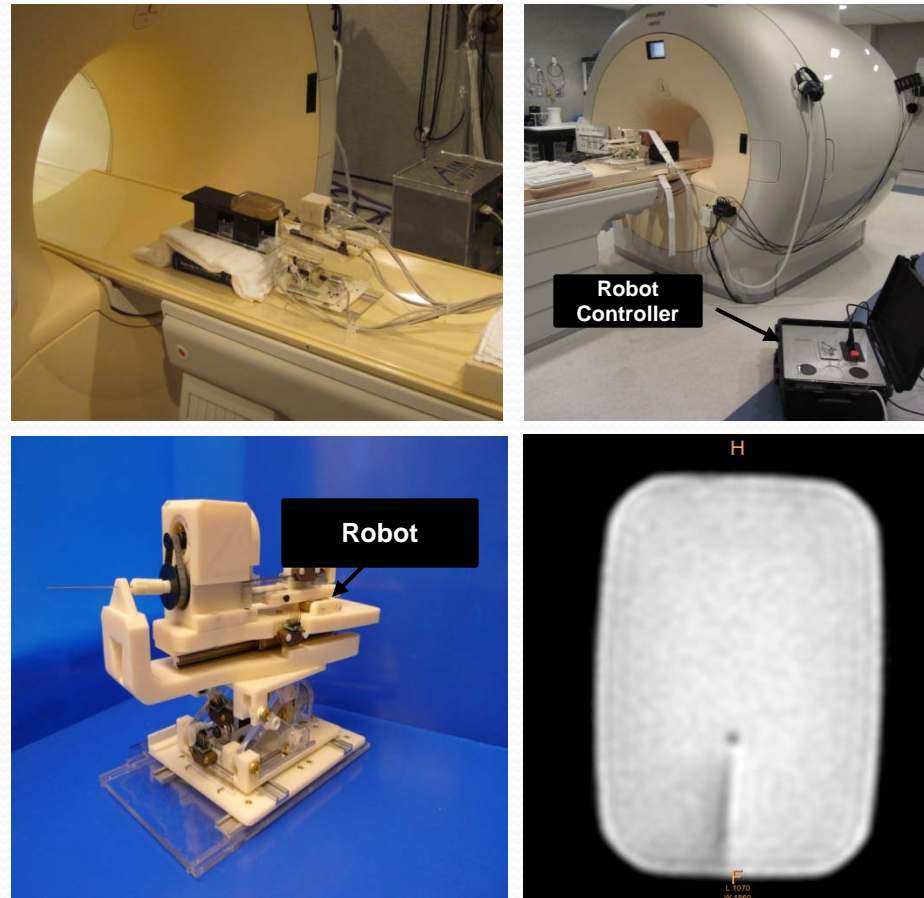
Other Studies

Real-Time Motion Track



Images courtesy of Dr King and Dr Dasari

Real-time MRI-Guided Robot



Images courtesy of Dr Fisher and Dr Su