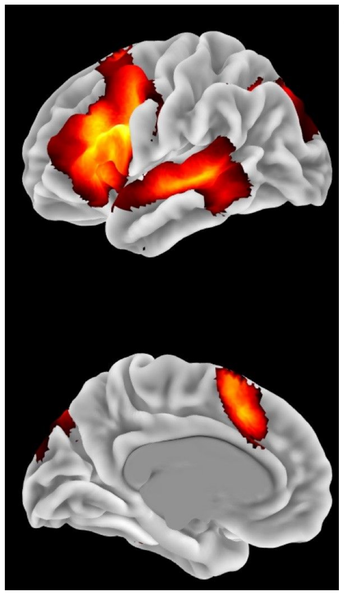
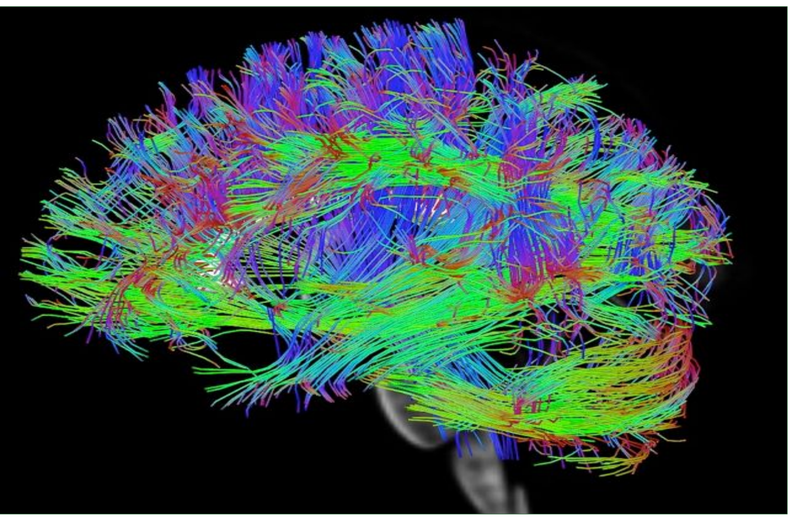
Research MRI Core and Civitan International Neuroimaging Laboratory

UAB HEERSINK SCHOOL OF MEDICINE
The University of Alabama at Birmingham



The Research MRI Core provides resources at UAB for state-of-the-art magnetic resonance imaging experiments and analyses for examining brain and body anatomy and function both in health and disease.Research ranges from basic MRI engineering and physics to multisite clinical trials. We support investigators with advanced imaging of the whole body, including the brain, spinal cord, eye, liver, skeletal muscle, heart, and kidney.

The Civitan International Neuroimaging Laboratory is located on the first floor of UAB Highlands Hospital. It features a Siemens Prisma 3T whole body scanner with multi-nuclear capability for structural imaging, spectroscopy, and functional brain imaging. Also featured are a GE Premier 3T and Siemens Freemax 0.55T scanners. The CINL has MRI preparation and interview rooms for pre and post scan participant monitoring and testing and a fully-equipped experimental suite for behavioral and physiological recording.



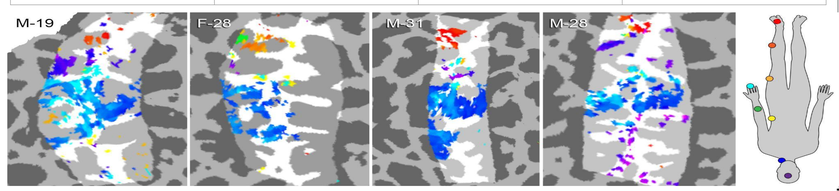
Your Research MRI Fleet

Siemens Prisma

GE Premier

Siemens Free.Max

	Siemens Prisma	GE Premier	Siemens Free.Max
Nominal field strength (B_0)	3 T	3 T	0.55 T
Bore diameter	60 cm	70 cm	80 cm
Max. gradient slew rate (absolute)	200 mT/m/ms	200 mT/m/ms	40 mT/m/ms
Max. gradient amplitude (absolute)	80 mT/m	80 mT/m	25 mT/m
RF chain	TIM 4G 64 independent channels	TDI 146 independent channels	TIM 4G 51x24 independent channels



Directors:
Virendra Mishra PhD
Jane Allendorfer, PhD
Associate Director:
Kristina Visscher, PhD
Physicists:
Ryan Willoughby, PhD
Mark Bolding, PhD
Lab Manager:
Damon Carter
Administrator:
Lexie Reeves

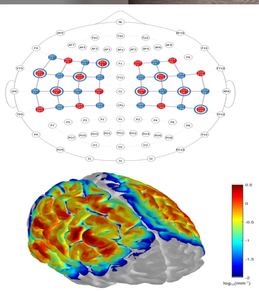
cinl@uab.edu
https://www.uab.edu/cores/ircp/rmric

Additional Technology

Polarean Xenon Hyperpolarizer: The Polarian Xe Hyperpolarizer represents an exciting advancement in imaging capabilities at the UAB Research MRI Core. This state-of-the-art system is designed to hyperpolarize xenon-129 gas, significantly enhancing its signal for magnetic resonance imaging (MRI) applications, particularly in pulmonary and other specialized physiological research.

Mock MRI: The Vera mock MRI scanner simulates a real MRI experience, including noises a scanner can create during a procedure. It has a bore size of 60 cm, exactly equal to SIEMENS PRISMA MRI scanner, and includes a mock 64-channel head coil that is like the PRISMA MRI scanner. The head coil and the bore size are usually the two most important factors in determining the participant's adherence to the procedure.

fNIRS (Functional Near Infrared Spectroscopy): A non-invasive neuroimaging technique that measures brain activity by detecting changes in blood oxygenation and volume. This allows researchers to infer neural activity based on hemodynamic responses, similar to fMRI, but with key advantages such as portability, cost-effectiveness, and tolerance to movement.



The facility has a large selection of coils to ensure optimal image quality for your particular application:

- 64 channel neuro
- 32 channel head
- 20 channel head and neck
- Head CP T/R
- Spine
- Anterior Array
- A variety of smaller special purpose coils including coils for human eye imaging and small animal imaging