**Facilities: Center for Human Neuroscience MRI Facility**

The UW Center for Human Neuroscience has a state of the art imaging facility located on the main UW campus in Kincaid Hall. The center currently operates a recently installed Siemens 3T Prisma MRI system.

**Space:** The newly constructed 1544sq/ft center in Kincaid Hall features a testing room with computer station and meeting table (96sq/ft), a combined mock scanner and testing room with computer station (234sq/ft), a large waiting room suitable for families (295sq/ft), a second testing room with computer station as well as couch and rocking chair to aid in infant sleep studies (96sq/ft), a screening room with ferromagnetic detector (55sq/ft), private restroom, and large MRI control room (238sq/ft) and magnet room (602sq/ft). There are also two dedicated parking spots immediately outside for participants, making for a walk of less than 10 yards to the MRI facility with no stairs or elevators.

**Equipment:** The Siemens Prisma 3T MRI system is equipped with Connectome level gradients operating at 80mT/m, and features state of the art electronics including GPU based image reconstruction, 128 input channels, and optical digital-in/digital-out Direct RF. This scanner has become the standard for high quality MRI research with exceptional performance, stability, and data quality. A variety of coils are available including 20, 32, and 64 channel head and neck receive only coils, and a variety of standard RF coils for imaging of the spine and body. The CHN Prisma is also equipped with the Spectroshim option for enhanced MRI spectroscopy protocols.

Peripheral equipment for fMRI includes a response system with a variety of response devices (Current Designs), a BOLDscreen 32 ultra high-definition LCD display (Cambridge Research Systems), a high performance eye-tracker (Eyelink 1000), two high fidelity audio presentation systems (Optoacoustics and Sensimetrics S14), noise cancelling MRI microphone (Optoacoustics), and physiological monitoring capabilities (heart-rate, respiration, and EKG by Siemens, EMC by BIOPAC). A variety of PearlTec Multipads are available for head stabilization, as well as a weighted blanket. The FIRMM system of near real-time monitoring of participant motion is also available.

A custom mock scanner (Psychology Software Tools, Inc.) is available providing a highly realistic MRI training environment including simulated scanner sounds, motorized table, laser alignment, and replica head coil. The mock scanner system has an exact replica of the visual display system and supporting computer of the CHN Prisma, as well as mock versions of Current Designs response devices and a simulated MRI trigger. A PST motion tracking system is also available to train participants for the real MRI environment.

For data support, the center utilizes a Flywheel server running on a cloud platform. This system automatically retrieves data from the Siemens console during scanning and is capable of automatic BIDS data conversion (for organization and data sharing) and running state of the art BIDS apps in the Flywheel cloud environment (including MRIQC, FMRIPrep, Freesurfer Recon-all, & defacing/anonymizing routines).

A rigorous facility quality assurance program is maintained with daily and weekly QA scans using a standardized phantoms, and automatic processing routines.

**Staff:** The center has an MR technologist and administrator, and a full-time Associate Director with 15 years of experience conducting MRI studies. The center staff are available to consult with researchers regarding sequence and protocol choice and optimization, data quality, experimental design, analysis, safety, and other aspects of conducting MRI research studies.