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Institute for  
**Applied Life Sciences***Advancing Life Sciences Research to Improve Human Health*

# Overview of the Human Magnetic Resonance Center (HMRC)



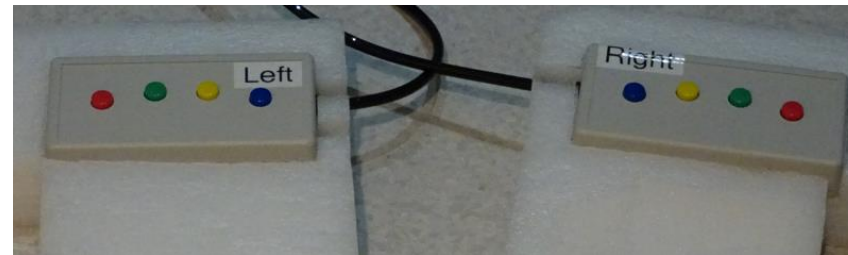
- Siemens 3T Magnetom Skyra
- Only research dedicated scanner in Western Massachusetts.
- 70-cm bore MRI/MRS
- Structural Neuroimaging
- Functional Neuroimaging
- Ancillary Equipment
  - Aid in data collection
- 3 Head Coils
  - (20, 32 and 64 channels)
- Mock Scanner System
  - Participant interfaces, stimuli/task presentation and scanner simulation.



# fMRI Ancillary Equipment



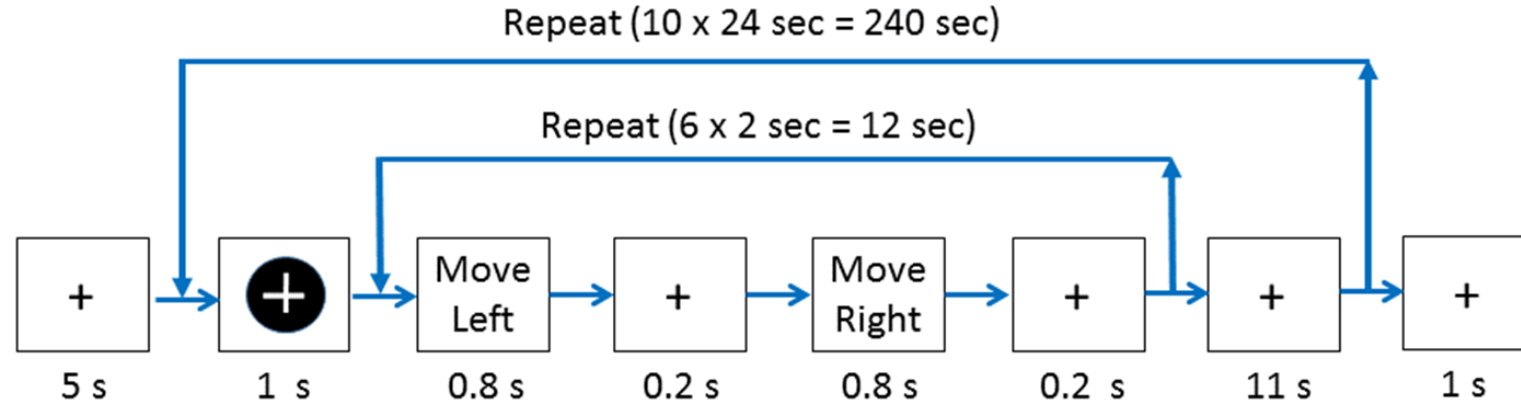
BOLD Screen (HDTV, 32", 120Hz)



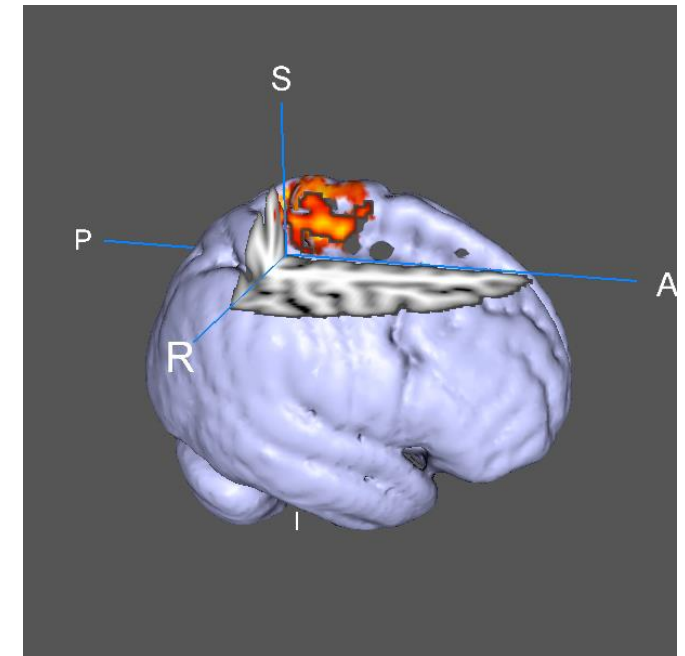
Current Design, 932 console,  
Bimanual 4 buttons



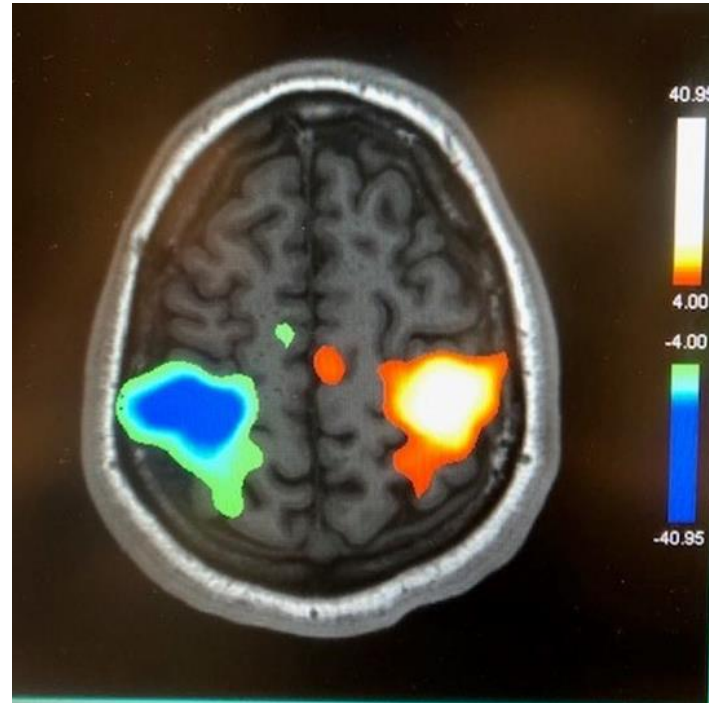
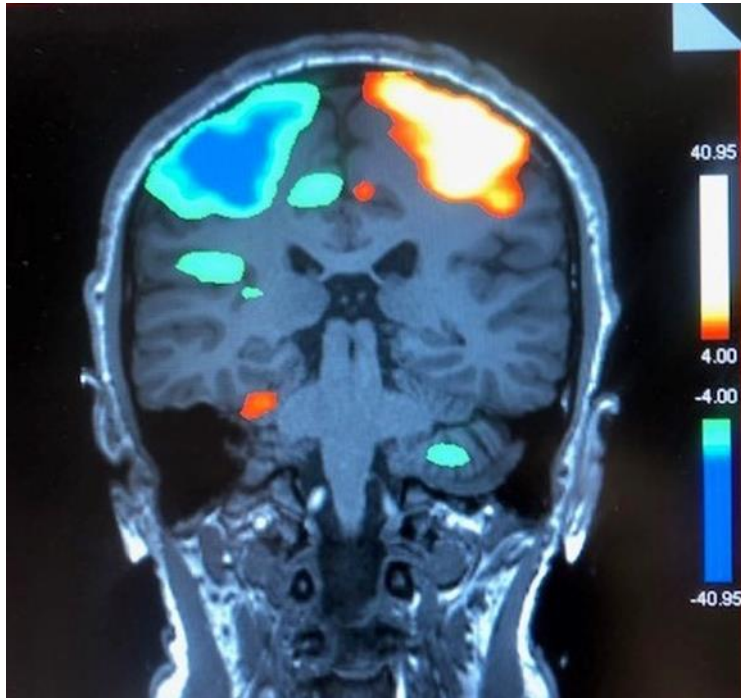
Optoacoustic,  
Active noise cancelling  
headphone/microphone



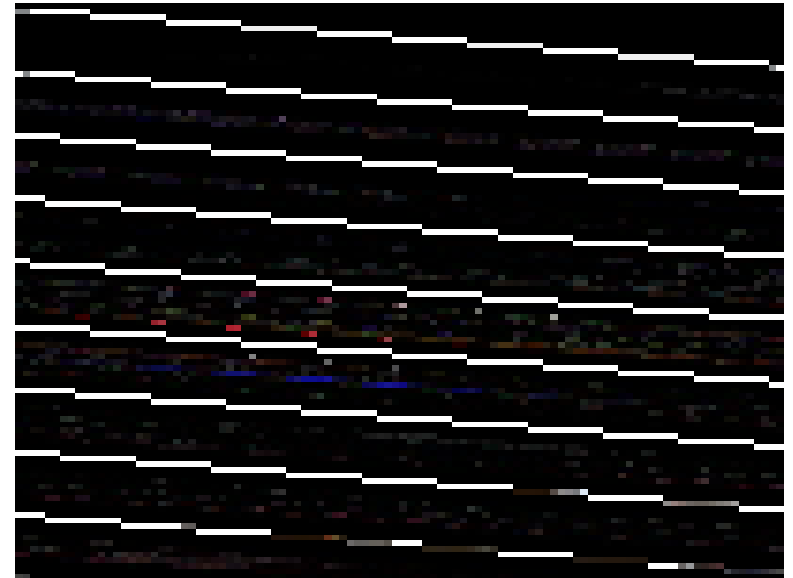
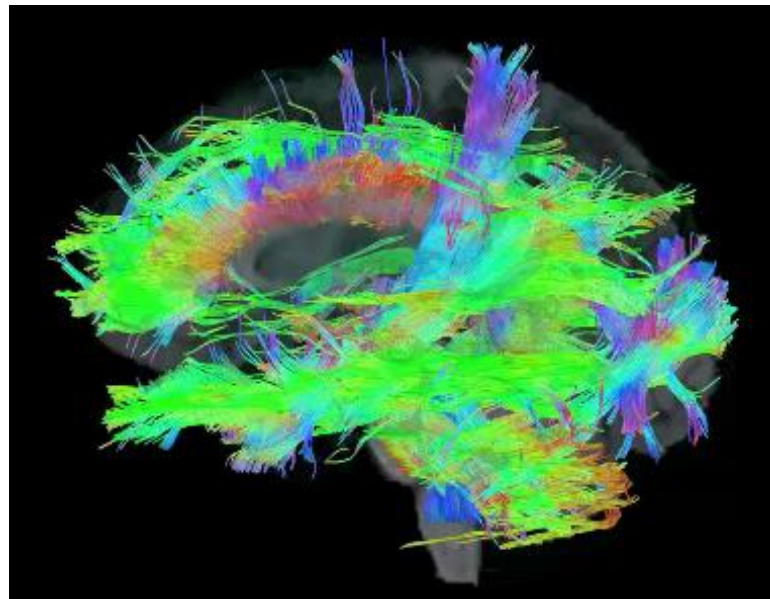
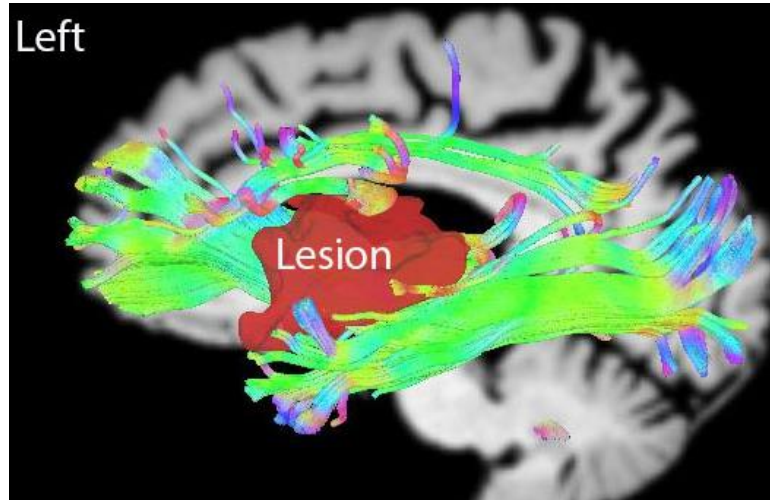
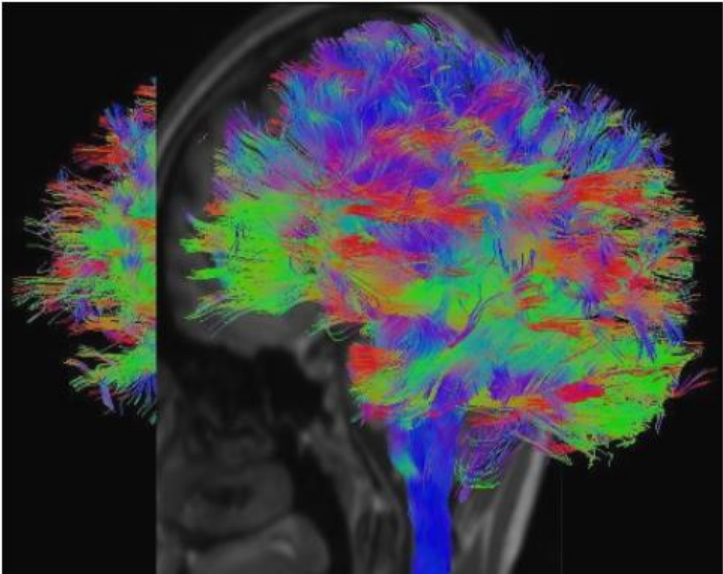
Scan time: 246 sec



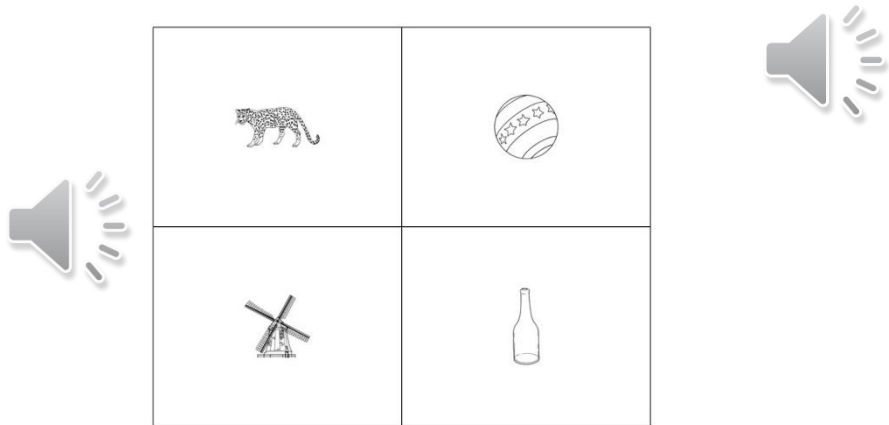
# Bilateral Motor Cortex Activation



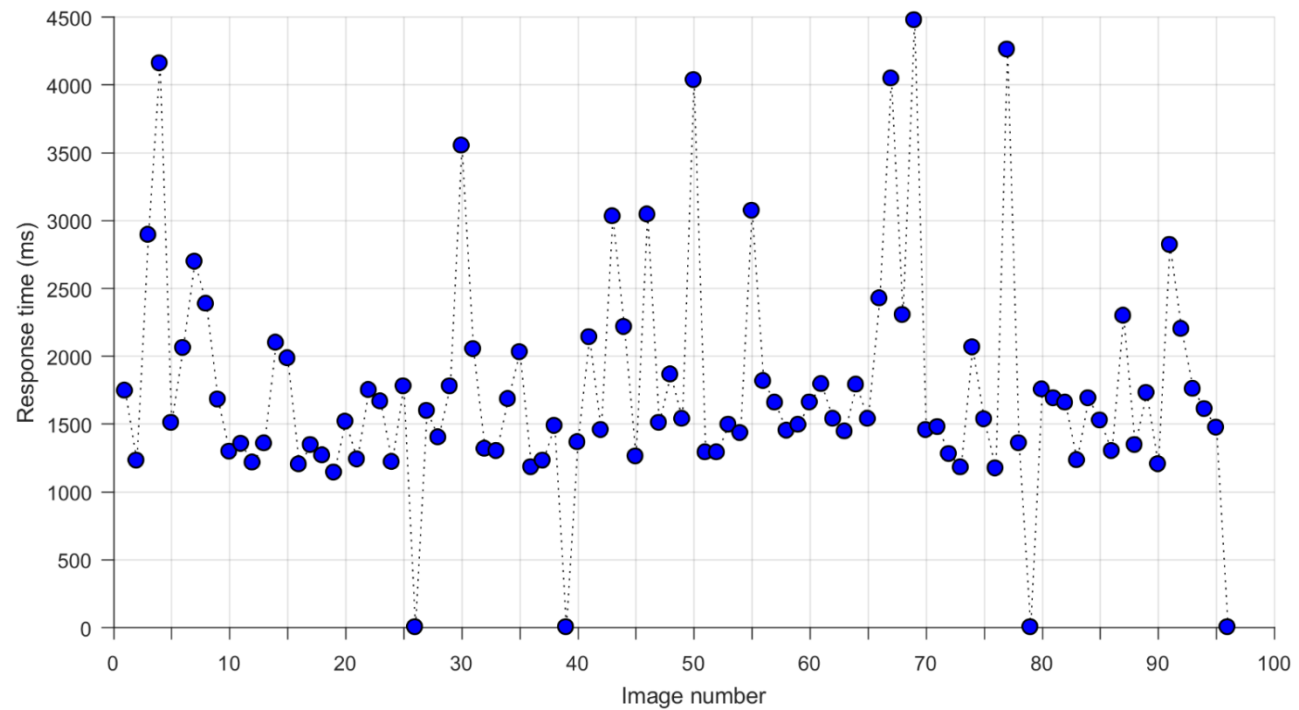
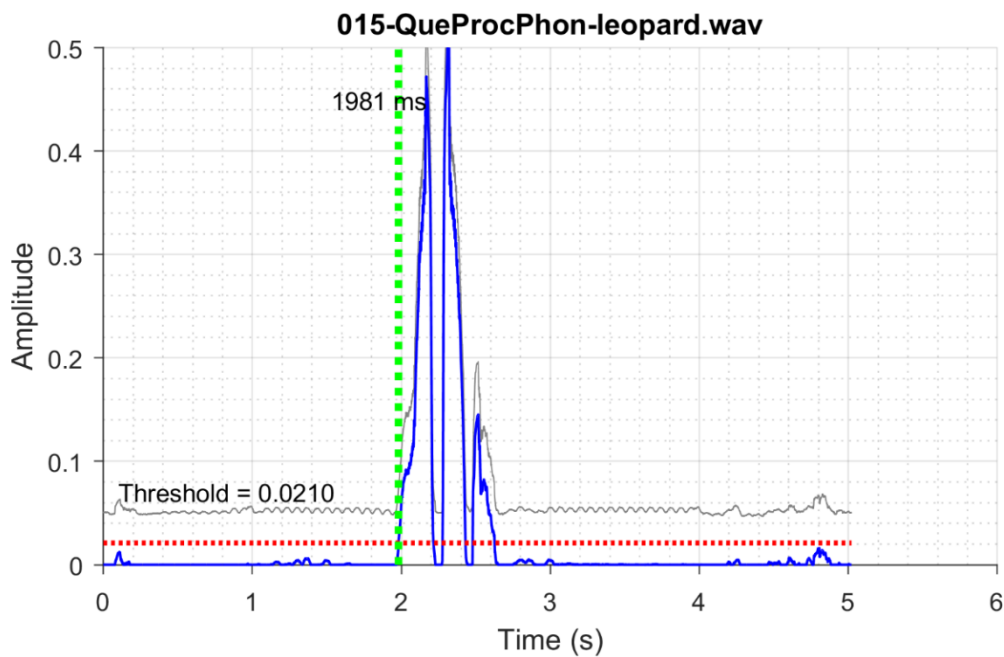
# DTI Fiber Tracts



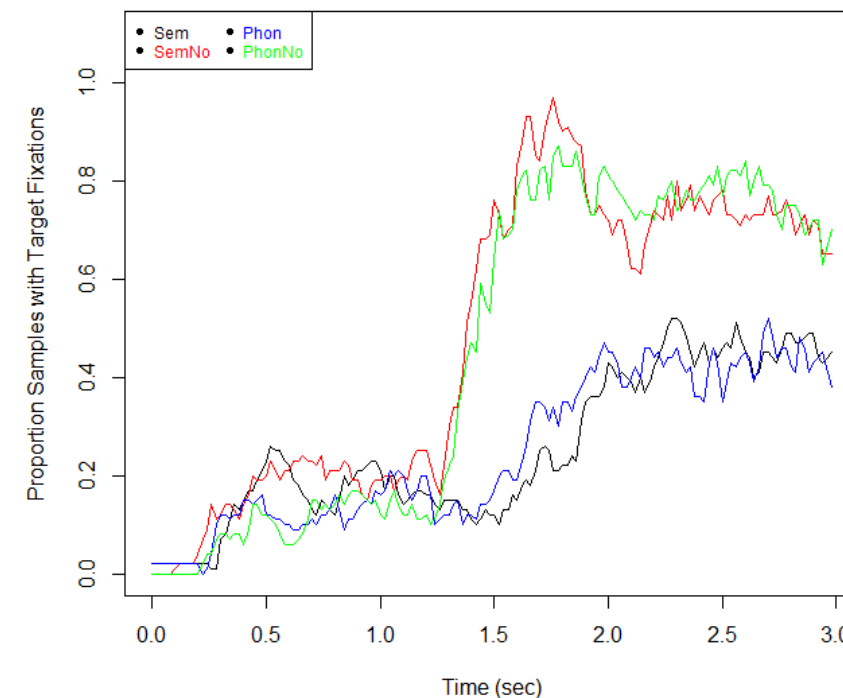
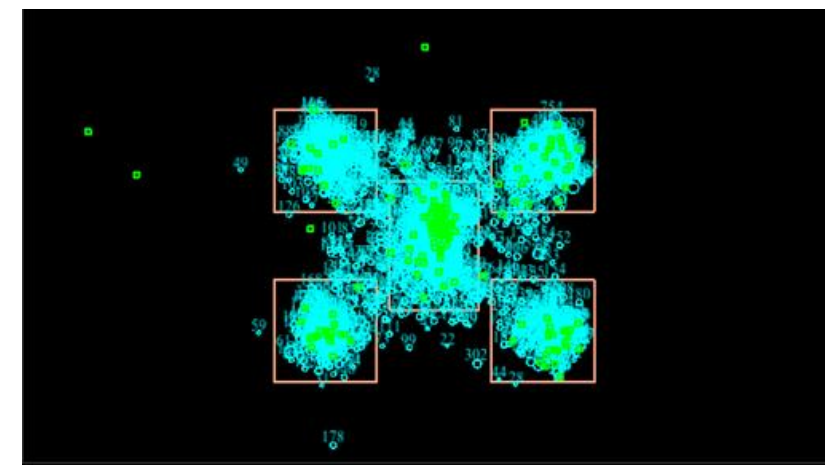
# Voice Recording and Extraction



— original — filtered ..... threshold - - - - resp time



# Eye Tracking during fMRI





# EEG during fMRI



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**Thank you,  
HMRC Staff**