



University of Wisconsin–Madison

Medical Physics Seminar

Monday, December 5, 2016

1345 HSLC — 4:00 PM



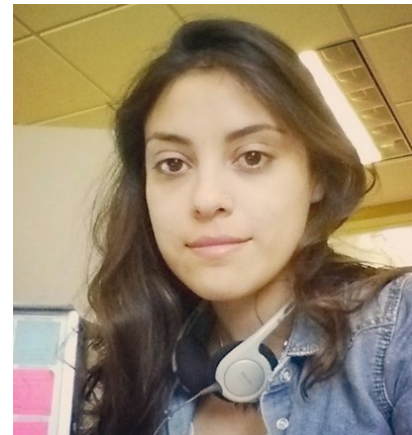
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A Task fMRI Model for Testing Resting State fcMRI Noise Correction Methods.

Estimates of functional connectivity from resting state fMRI (rs-fcMRI) can be influenced by various sources of noise. An important challenge in evaluating noise correction strategies is that the location and timing of resting state neuronal activity is unknown. Since the true (neuronal) functional connectivity between two or more brain regions is unknown, it becomes difficult to determine when noise has been effectively reduced. We propose a novel approach to evaluate the effects of noise corrections commonly applied to resting state data using task-based experiments. By controlling the relative timing of a combination of visual and motor fMRI tasks, we will be able to introduce known functional connectivity values between the motor and visual functional brain regions. With these connectivity maps, we will test which noise correction methods better maintain the now known functional connectivity values, and known modulations in functional connectivity.

1345 HEALTH SCIENCES LEARNING CENTER (HSLC) 4:00 – 5:00 P.M.