1116-VH-1941 **Christopher J Hanson**, **Matthew R Hayden** and **Rachel G Kaale***
(`rachel.kaale@my.simpson.edu`). *Removing ocular artifact from electroencephalogram data utilizing eye-tracking technology.* Preliminary report.

Electroencephalogram (EEG) data is often riddled with unwanted artifact including, but not limited to eye blinks and eye movements, interference from AC electrical devices, changes in skin potentials, and muscle activity. These artifacts can make it very difficult to accurately interpret EEG data. Therefore, this research has been dedicated to creating a novel approach for ocular artifact removal in EEG data that utilizes eye-tracking technology, is simpler than other widely-used methods, and requires only a small number of EEG channels. These goals were accomplished with the Simpson College Eye-Track Algorithm (SCETA) which was developed in MATLAB. This algorithm utilized matrix mathematics and statistical analysis to accurately remove artifacts created by eye blinks. During the fall of 2015, an IRB approved study was conducted to test the technique and it was found that while SCETA was not as effective as some other artifact correction techniques such as Independent Component Analysis, its speed, versatility, and applicability to data sets with small numbers of channels make it a strong option as an ocular artifact correction technique. (Received September 21, 2015)