

1106-VG-1013 **Aisha Najera Chesler*** (aisha.najera@cgu.edu), Claremont Graduate University, Claremont, CA 91711, and **Ami E Radunskaya**, Pomona College, Claremont, CA 91711. *Modeling fetal heart and brain activity during labor*. Preliminary report.

During labor, continuous fetal heart rate (FHR) monitoring is not a reliable predictor for fetal distress caused by severe acidemia. To address this, we present a mathematical model which explores the monitoring of two signals, FHR and electroencephalogram (EEG). The model includes blood flow to the heart and brain and incorporates several key features, such as oxygen delivery to the brain, blood flow redistribution, blood pressure, chemo and baro-receptor mechanisms, all of which affect FHR and EEG. The model can be used to explore features of both signals that are important in detecting fetal distress during cord occlusions of variable intensity, duration and frequency. (Received September 09, 2014)