1106-92-2527 **Thierno Amadou Diallo*** (daoudayaboully@yahoo.fr), 1345 Shakespeare av apt 2E, Bronx, NY 10452, and **Justine lamberg** and **Urmi Ghosh-Dastidar**. *Studying Brain Connectivity using Weighted Graph Comparison.*

Studying brain components and its connectivity is an important field in neuroscience. While concepts of weighted graphs are widely used in many areas including computer, social, biological pathways, and air traffic networks, application of weighted graphs to study brain connectivity pattern is relatively new in the field of graph theory. In this project we focus on anatomical connectivity that connects nodes representing regions of interest (ROIs) and the weighted edges associated with structural connectivity i.e. the density fibers connecting ROIs. An adjacency matrix using connectivity weights between ROIs is created and Laplacian spectrum analysis and spectral clustering method are used to study the connectivity strength between and within two cerebral hemispheres. This work is supported by MAA NREUP 2014 grant. (Received September 16, 2014)