Report: 30th-27th January, 2017

Alice NANYANZI (alicenanyanzi@aims.ac.za)

February 13, 2017

Week 1 (16th Jan-3rd Feb,2017):

- Identify if there is a relationship between minimum cut and the laplacian centrality of nodes around the minimum cut.

  Results:
  Since laplacian centrality is achieved with removal of a node from a network, we therefore used the line graph of the given node (where edges form nodes and edges are incident if they share a node within the original graph). research still on going.

- Read paper about Robustness in starling flock Aim was to get to understand how the flock handles robustness despite the external influences.

- The computation for robustness in this paper raised concerned that is I did not understand how the computation is carried out.

- Seven is a magic number. Each bird maintains interaction among seven other birds irrespective of the distance of separation.

Week 2 (3rd-10th Feb,2017):

a) Leverage centrality:

- The leverage centrality is a centrality measure for brain networks.The motivation behind this measure is that the relative importance of a node is based on how its immediate neighbours rely on it for information. its derived from degree centrality.

- A high degree node is not highly central in leverage if its neighbours are also high degree nodes.

- Leverage centrality does not assume that information flows following shortest path or in a serial manner as compared to other betweenness and closeness centralities.

- However, question about how the centrality is computed that is division by the degree of the node whose centrality is being calculated.

b) Relationship between laplacian energy of a graph and that of its corresponding line graph:
   So far still working on this.

c) Read about laplacian centrality for directed networks. The out degree is considered in this case. What would the computations using in degree imply?