1145-65-245 **Junyuan Lin*** (junyuan.lin@tufts.edu), 22 Powderhouse blvd., apt 1, somerville, MA 02144.

An AMG Approach in Solving Graph Laplacians of Protein Networks Based on Diffusion State Distance Metrics.

In this presentation, protein networks from the Disease Module Identification DREAM Challenge are analyzed. We redefined the Protein-Protein Interaction networks on a new distance metric, "Diffusion State Distance" metric, and applied a modified Algebraic Multi-grid Method to calculate the distance between each pair of nodes. Finally, we applied spectral clustering to partition the protein network into functional modules. Consequently, we ranked No.1 out of all competing teams over the world. (Received August 24, 2018)