Members of the physics department and the active matter group at Clark University lead a series of three outreach session to high school students from the main-south area high schools. Twenty 9th and 10th grade high students from UPCS, South High, and Claremont Academy participated. The purpose is to increase awareness of the sciences in high school students and inspire them to pursue STEM related education with a sustained and targeted activity. This series was organized by Arshad Kudrolli in collaboration with Tom Del Prete of the Hiatt Center for Urban Education, and was partially supported by funds established by Clark emeritus faculty member Roy Anderson.

First session (September 29, 2010):
The participants performed hands-on activities exploring mechanics, electricity and magnetism, light, and sound.

Discussion Leaders: Professor Les Blatt, Mr. Chris Conroy, Mr. Moataz Hannot, Professor Arshad Kudrolli, Professor Chris Landee, Professor Ranjan Mukhopadhyay.

Second session (October 13, 2010):
The students explored Liquid Nitrogen and its many uses including in observing superconductivity. The participants then made ice cream with liquid nitrogen. This experiment illustrated the influence of triglyceride concentration on water crystallization.

Discussion Leaders: Professor Sergio Garanados-Focil, and Professor Arshad Kudrolli

Third session (October 27, 2010):
Through a series of questions and answers, the participants explored how a microbe gives a person an infectious disease - Koch’s postulates.

Discussion Leaders: Professor Heather Wiatrowski

As recently as 250 years ago, diseases were blamed on anything from swamp gas to an imbalance of the “humours”. In 1890, a scientist named Robert Koch developed procedures for determining if a disease is caused by a microorganism. These steps, called Koch’s Postulates, are still used by scientists and doctors today. In this session, students learnt how to use Koch’s postulates and explore modern-day examples of their use.