Project Title: Computer Modeling of Bacteria for Energy, Environment and Health

Faculty Mentor: Prof. Matt DeJongh, Computer Science

Project Description: Students and faculty at Hope College are working with scientists and doctors to understand how bacteria can be used to produce bio-energy and clean up the environment, and how bacteria cause disease. We use genetic data to create computer models that simulate how bacteria grow and multiply. These models can predict how modifications at the genetic level will result in changes in how the bacteria behave.

This project has two components: (1) writing computer programs to create and analyze the models of bacteria; (2) using these computer programs to investigate particular bacteria of interest for energy, environment and health.

We are looking for high school students who are interested in biology and computers. No computer programming experience is necessary.