

Midterm Report for Benedictine University

During the last semester we have worked on improving our optical trap through the addition of a more powerful laser and the addition of a flow cell. We purchased and installed a new 60 mW laser diode to replace the 10 mW He-Ne laser we were using. Due to the increase in power we constructed a new safety barrier to block any scattered light and implemented new safety protocols for the operation of the instrument. With the new laser installed we readjusted the alignment of the tweezers and tested the system by trapping microspheres.

We also worked on the construction of a sample cell that would allow fluid to flow through the system. A variety of different flow cells we constructed but our home made version proved to leak more than desired so a commercial ibidi cell was purchased.

Work was also done developing the Ecoli Culturing and sample preparation methods. The experiment will continue during the summer.