

**Project 3 (Furst):** “Automatic detection of intensity spots in micro-array images”. Micro-array data analysis attempts to learn information about unknown DNA by submitting it to a substrate of RNA probes arranged in a grid of points on a glass slide. Where the RNA and DNA bind, a radioactive marker will fluoresce, signifying the binding. An image of the fluorescing probes will generate a pattern that can be used to learn about the composition of the unknown DNA. A significant problem in the analysis of micro-array data is the determination of relative intensities of active probes in images of the micro-array. This project will examine the task of reading images that contain significant noise and imaging artifacts, and generating a reliable and robust way of identifying the relative intensity of the spots with respect to the image background. Applications of microarray technologies include forensics, medical diagnosis, gene mapping, and disease tracking.

