About Statistics 416

- Statistics 416 is for graduate students outside of statistics interested in learning how to use statistical methods to design and analyze microarray experiments.
- Statistics 401 is a prerequisite for Statistics 416.
- Statistics 416 is a statistics course rather than a biology or technology course.
- However, we will necessarily spend time discussing the technology in order to better understand design and analysis issues.

Students completing STAT 416 should

- gain a sound understanding of the statistical principles important for good microarray experimental design and analysis,
- be able to design and analyze their own microarray experiments,
- become comfortable using the R statistical computing environment, and
- be able to offer an informed critique of the statistical aspects of microarray experimentation and analysis described in scientific research papers.

Instructor: Dan Nettleton

- 239C Kildee Hall
- http://www.public.iastate.edu/~dnett/
- 294-7754
- Office Hours: Monday and Friday from 10:00-10:50 and other times appointment

Computing

- We will use R (http://www.r-project.org/) extensively throughout the course.
- Students are expected to become familiar with the R statistical computing environment.
- R is free and may be downloaded at http://streaming.stat.iastate.edu/CRAN/
- We may also use SAS occasionally.
No Required Textbook

- Notes posted prior to class.
- Homework assignments will be made available on the course website.

Grading in Statistics 416

- 25% homework
- 25% midterm exam
- 15% project (written & oral presentation)
- 35% final exam

See syllabus for more detail.