Bacterial Development and Pathogenesis (Spring 2001)
General Outline of Topics

Model organisms

- Introduction to *Myxococcus xanthus* and intercellular signalling
- Introduction to *Anabaena* and spatially regulated differentiation
- Introduction to *Bacillus subtilis* and temporally regulated differentiation
- Introduction to *Caulobacter crescentus* and cell-cycle regulated differentiation

Initiation of differentiation

- Stringent response
- Two-component systems
- Quorum sensing
- Integration of sensory input
- Master switches

Control of progress of differentiation

- Promoter switching through alternative sigma factors
- Linkage between morphological events and the developmental program

Application of regulatory paradigms to pathogenic bacteria

General Outline of Lab Projects

Lab 1: Identification of mystery *Myxococcus* strains

Lab 2: Assessment of ability of *Anabaena* to respond to starvation for amino acids

Semester Project: To be announced

Genomics Project: To be announced