Thomas F. Knight, Jr and Gerald Jay Sussman

Project Overview

- Engineer behavior into living systems
  - Applications in medicine, agriculture, environment, materials, nanofabrication
- Create components and interfaces
  - Learn ideas of pattern formation, robustness, abstraction
- Create a new engineering discipline
  - Students, texts, experimental guides

Thomas F. Knight, Jr and Gerald Jay Sussman

Progress Through December 1999

- Set up of laboratory, students, staff
- Improved ties with biology faculty
- Cloned & sequenced natural systems
  - Vibrio and Photobacterium luminescence
  - Quorum sensing
- Created artificial digital intercellular communication system

Thomas F. Knight, Jr and Gerald Jay Sussman

Research Plan for the Next Six Months

- Additional genetic components
- New experimental capability
  - Gene arrays
  - Plasmid automated construction
- Course development
- Laboratory documentation
  - Enable others to duplicate our work