

**MIT9904-10: Engineering Microbial Computational Systems** 

Thomas F. Knight, Jr





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



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Progress Through June 30, 2000

- Problems in understanding simple inverter systems
  - Further detailed transfer curve analysis using single cell measurements
- Collaboration with Whitehead on full plasmid synthesis underway
- Culturing of Mycoplasmas successful
  - Genome work begun
  - Enables work with non-pathogens



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**Research Plan for the Next Six Months** 

- Fully understand and document existing genetic components
- Start work on understanding simple cells
  - Mesoplasma florum sequence
  - 2D Protein gels
- Transfer laboratory technology
  - Caltech
- Course development