

MIT9904-10: Digital Control and Communication in Living Cells







- 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



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Progress Through December 2000

- Transfer curves for genetic inverters
- Initial work on minimal organism
 - "chassis and power supply"
- Long strand DNA synthesis ideas rejected
- Recursive gene construction technique designed
- Isolation and documentation of additional genetic components



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Research Plan for the Next Six Months

- Sequence Mesoplasma florum
- Genetic tools for M. florum
- Protein studies of M. florum
- Begin removal of non essential genes
- Test recursive assembly ideas on multigate logic
- Test novel binding techniques for long chain DNA synthesis