Good Afternoon, Colleagues

Are there any questions?
Logistics

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- Explore UT: Saturday 11–4:40
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- New resources
  - Paper on pair programming
Motivation from real insects

- Ant colonies exhibit remarkably complex behaviors
  - Food gathering
  - Burial
  - Nest building
  - Reproduction
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Model the ant, not the colony
Go to the Ant

- Complex system behavior from many simple agents
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- Complexity comes from interactions, the environment
Agent Definition

Agents tied to environment

- Agent = <State, Input, Output, Process>
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- Environment = <State, Process>
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Note: supports hierarchical agents
Examples from Nature

• Ants: path planning
• Ants: brood sorting
• Termites: nest building
• Wasps: task differentiation
• Birds and Fish: flocking
• Wolves: surrounding prey
Principles

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• Decentralized control
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- Provide an “entropy leak”
Class Discussion

John Schneider on swarms vs. hierarchical agents