

# Multiagent Dynamics Laboratory

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## Abstract

A quick overview of current projects.



## Theory

- Artificial Intelligence
- Game Theory
- Economics
- Sociology
- Organizational Theory
- Complex Systems
- Distributed Systems

## Technologies

- Agent-based modeling: NetLogo
- Web Services: SOAP, WSDL, UDDI
- Semantic Web: OWL, FOAF
- Web 2.0: Ajax, XML, JavaScript, RSS
- Workflow: BPEL4WS
- PocketPC, GPS, wireless comm.



File Edit Tools Zoom Tabs Help

Interface Information Procedures

Edit Delete Button Slider Switch Chooser Monitor Plot Output Text

number-of-goods 10  
number-of-bids 30  
max-bid-size 3  
min-bid-size 1

setup layout

spring-force 0.10  
spring-length 4.50  
mutual-repulsion 1.00

1- setup  
2- Layout until it's pretty  
3- setup-algorithm  
4- go-algorithm

algorithm local-hill-climbing Revenue 58.0

setup-algorithm  
go-algorithm  
go-algorithm

Number of Cleared Bids Pens  
4.41  
0 22.5

Revenue: Sum of Cleared Bid Amounts Pens  
63.8  
0 22.5

Command Center

observer>



## Students' Current Work

- Hrishikesh Goradia
- Benito Mendoza
- Hong Jiang
- Seang "Sky" Chan  
Ryu
- Matthew Baker
- Equal Excess theory algorithm for automated negotiation.
- Application to distributed workflow enactment.



## Students' Current Work

- Hrishikesh Goradia
- Benito Mendoza
- Hong Jiang
- Seang "Sky" Chan  
Ryu
- Matthew Baker
- Bidding algorithm for PAUSE  
auction (distributed combinatorial  
auction with aligned incentives).



## Students' Current Work

- Hrishikesh Goradia
  - Benito Mendoza
  - **Hong Jiang**
  - Seang “Sky” Chan  
Ryu
  - Matthew Baker
- Emotional Belief Desire Intention architecture for negotiation.
  - A descriptive approach.



## Students' Current Work

- Hrishikesh Goradia
- Benito Mendoza
- Hong Jiang
- Seang "Sky" Chan  
Ryu
- Matthew Baker
- Hierarchical learning.
- How agents can share learned knowledge so group learns faster.



# Students' Current Work

- Hrishikesh Goradia
- Benito Mendoza
- Hong Jiang
- Seang "Sky" Chan  
Ryu
- Matthew Baker
- Competitive learning.
- Win or Learn Fast.





## Learn More...

- CSCE 782: Multiagent Systems. **join now!**
- Multiagent Systems Reading Group: Mondays at 10am.

<http://jmvidal.cse.sc.edu>

