



Call for Participation

Tutorial on Decision Making in Extended Multiagent Interactions

Choosing optimally among different lines of actions is a key aspect of autonomy in agents. The process by which an agent arrives at this choice is complex, particularly in environments shared with other agents.

This **full-day** tutorial will focus on how to make optimal and approximately optimal decisions in multiagent settings. The tutorial will utilize the well-studied domain of search and human support applications to motivate and provide context for a range of multiagent interactions of increasing generality.

The focus of this tutorial will be on decision making in time-extended interactions, which are often encountered in search and human support applications. The tutorial will adopt a unique pedagogical style, utilizing classroom games to generate intuition and reinforce instruction.

The tutorial will be self-contained, introducing relevant background literature such as aspects of game theory.

REGISTER AT

[HTTP://WWW.CONFERENCES.HU/AAMAS2009/REGISTRATION.HTML](http://www.conferences.hu/aamas2009/registration.html)

Organizers:

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Topics

- Requirements for the multiagent decision model and solution
- Game theory background
- Repeated strategic and Bayesian games
- Iterative solution methods (e.g. fictitious play)
- Multiagent stochastic (Markov) games
- Decentralised Markov decision processes (DEC-MDPs)
- Model specializations
- Partially observable stochastic games (POSGs)
- Partially observable Dec-MDPs (DEC-MDPs) and approximations
- Interactive POMDPs (I-POMDPs) and approximations
- Targeted trajectory distribution MDP (TTD-MDP)
- Stigmergic solution with perceptual control (Multiagent EMT)