USC/ISI invites applications from qualified individuals for a postdoctoral fellow/research associate position. This position is fully funded for two years, with a possibility of an extension for another two years. We are starting collaboration with Prof. Maja Mataric of the USC Robotics Lab to study physics-based and other mathematical modeling of agent-based systems. Our interest is in understanding, designing and controlling collective behavior in a group of software and embodied agents.

Description of the project

It has long been understood by physicists and biologists that complex global behavior can arise from local interactions between many simple entities. In many cases such collective global behavior can be described mathematically and be analyzed quantitatively. We will seek to construct similar models to describe group behavior in a system of software and embodied agents. Our emphasis will be on design and analysis realistic systems, taking into account the effects of noise, agent failure, and interference from other agents.

Qualifications

- **Required:** PhD in computer science, physics, mathematics, or a related field.
- **Required:** A strong mathematical background.
- **Required:** Excellent written and spoken communications skills
- **Preferred:** Experience with solving systems of differential equations, linear stability analysis, nonlinear equations, stochastic differential equations.
- **Desired:** Experience with Mathematica and/or MatLab, work with microscopic simulations of large systems.

Applicants should send, in hardcopy

- curriculum vitae
- a cover letter summarizing previous relevant research experience
- pre-prints of relevant publications
- names and contacts of at least three references

Qualified applicants should reference "Postdoc" and send information as follows:

USC/ISI
Resumes
4676 Admiralty Way
Marina del Rey, CA 90292-6695

Application deadline

Immediate, or until the position is filled. The job is expected to start in September/October 2000.

For more information see

- PI's homepages
  - Dr. Kristina Lerman [http://www.isi.edu/~lerman/](http://www.isi.edu/~lerman/)
  - Prof. Maja Mataric [http://www-robotics.usc.edu/~maja/](http://www-robotics.usc.edu/~maja/)
• USC Robotics Lab [http://www-robotics.usc.edu/]
• DARPA's Task program [http://www.task-program.org/]
• Information Sciences Institute (http://www.isi.edu/)

**About ISI**

Information Sciences Institute is a research organization, part of the Computer Science Department of the University of Southern California. ISI is located in beautiful Marina del Rey, California, overlooking the world's largest man-made small boat harbor. This coastal location is in the midst of some of the most desirable living areas in the Los Angeles basin.

USC is an Affirmative Action / Equal Opportunity Employer.

*May 26, 2000*