



*Call for Participation*

# The 1994 AAI Robot Building Laboratory (RBL-94)

*July 31, 1994 to August 4, 1994 Seattle, Washington*

If you missed the fun and excitement of participating in the Robot Building Event of AAI-93, here is your chance to participate in its formal successor: the 1994 AAI Robot Building Laboratory (RBL-94) to be held in conjunction with AAI-94 in Seattle, Washington.

Never built a robot before? No problem! RBL-94 will provide you the opportunity to build one using a variety of sensors, motors, a micro-controller board, and toy parts. By programming it yourself using C or Lisp, you will endow your robot with its own personality and smarts to compete against others in a series of contests.

So you have been working in AI or developing theories for robots? Ever wonder how fast you could build a working robot to test out your ideas? RBL-94 is your answer. It is a facility for rapid prototyping of small robots. These robots may lack the industrial strength robot precision and repeatability. They may also lack the reasoning power of larger robots. However, they make up for it by being cheaper, easier, and faster to build. They are also good replacements for computer simulations and theories by forcing you to

deal with the real world - imperfect sensors, motors, wheels, finite energy sources (viz. batteries) and, yes, things do wear out and break in the real world. See what you can do with your ideas with real working robots. See how much of your experience you can impart to your robot.

Perhaps if you had done things a little differently, you might have won the AAI-93 robot building event. Perhaps you should have built a little more aggressiveness into your robot. Maybe you should not have used that world map. Or maybe you could have replaced that wall-following behavior with something neater. Well, here is your second chance. Participate in RBL-94 and build it right; build to win.

Can your robot outwit the others? You may discover novel and neat ways to do things. Think of the excitement, the possibilities, the fun you will have at RBL-94. So do not miss it; participate in RBL-94.

## **Structure of RBL-94**

RBL-94 is composed of three major building blocks: Jump Start Session, laboratory, and contests. We strongly recommend that all participants attend

the half-day Jump Start Session given by members of the organizing committee on Sunday morning, July 31, 1994. The Jump Start Session will focus exclusively on providing the necessary background and practical advice on robot building.

RBL-94 participants must belong to a team of 4 (3 is permitted). Participants should form teams as quickly as possible. Those who are unable to form their own team will be grouped into teams by the organizing committee.

The laboratory will begin immediately following the Jump Start Session. Robot kits will be distributed to teams at that time. Laboratory work continues (round the clock as necessary), until 2pm Thursday, August 4, 1994, when the final contest starts.

Each team competes in a series of contests. These contests will take place daily with the final contest to be held the afternoon of Thursday, August 4, 1994.

Each contest is designed to require teams to build more and more capabilities into their robot. The contest-paced robot evolution is designed to help teams effectively manage their development time. It ensures early feed-

back, gives teams a chance to catch up, maximizes the number of robots ready for the final (most difficult and exciting) contest, and improves participant satisfaction. The final contest will include random elements (e.g., obstacles, doors, etc.), designed to encourage robust robot solutions and cooperative and/or adversarial robot interaction. Detailed contest formats and rules will be provided at a later date.

## **Organizing Committee**

William Lim (chair), Grumman Corporation. Phone: (516) 575-4909 (voice), (516) 346-3670 (fax). Email: wlim@grumman.com

Jeffrey S. Graham, Woodbridge, Virginia. Phone: (703) 221-3677 (voice). Email: j85@delphi.com

Henry Hexmoor, SUNY at Buffalo. Phone: (716) 645-3197 (voice), (716) 645-3464 (fax). Email: hexmoor@cs.buffalo.edu

Gerhard K. Kraetzschmar, Bavarian Research Center for Knowledge-Based Systems (FORWISS). Phone: +49-9131-691-193 (voice), +49-9131-691-185(fax). Email: gkk@forwiss.uni-erlangen.de