The Center for In Situ Exploration and Sample Return (CISSR) presents
Speaker Series

Speaker: Robert Hogg

Topic: Autonomous Navigation for an Urban Robot

Date: Friday, May 31, 2002
Time: 1:30-3:00 p.m.
Location: JPL Bldg. 306-302

Abstract:

Navigation in urban environments has been the subject of robotic research during the past several years, and it continues to be important for many applications. Search and rescue, exploration of collapsed buildings, fire fighting, and unmanned reconnaissance in terrorist situations are a few scenarios in which robots can be used instead of humans in dangerous environments. JPL's Urban Robot team has worked in the area of autonomous navigation and control for such robots. Visual obstacle avoidance, template tracking, autonomous stair climbing, 2-D mapping, and automatic path following are some of the behaviors that have been developed to assist a user in controlling robots in remote terrain. These behaviors allow for better on-board, closed-loop navigation control, and they let the user command the robot at a level higher than simple tele-operation. This frees the operator's attention and allows one person to direct multiple robots with a single console.

Biography:

Robert Hogg is a Member of Technical Staff in the Machine Vision Group (Sec. 3482). He is currently leading JPL's Urban Robot project and is task manager of the Micro-Robot Explorer task, which involves mobility-based research for adaptable sensor webs.
Robert was a member of the flight software team for Deep Space I, a spacecraft that tested 12 advanced high-risk technologies in space and returned priceless images from Comet Borrelly. His team received the JPL Award for Technical Excellence in 1999 and 2000. Robert graduated with honors from the University of California Los Angeles in 1998 with a B.S. in Computer Science and Engineering.

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