

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

presents

Speaker: Brian Wilcox

Topic: Challenges in Mobility and Robotics for  
In Situ Science

Date: Friday, March 15, 2002

Time: 1:30 - 3:00 p.m.

Location: JPL Bldg. 306-302

**Abstract:**

In situ science on planetary surfaces such as Mars, Venus, Mercury and Titan poses extreme challenges for mobile robots. Mobility is needed to avoid the kind of situation that occurred with the two Viking landers in 1976: despite the rich array of rocks visible all around the landers, no rocks could be reached by either of the robotic arms, and thus no real "hard rock" science could be done. Future missions will involve surface, subsurface, and atmospheric mobility, which focuses the need for technology development on sensing, autonomy, and mobile robot architectures for solar system exploration.

**Biography:**

Brian Wilcox is the Supervisor of JPL's Robotic Vehicles Group (Sec. 3453). The group was responsible for the control and navigation of the Sojourner Rover, which explored part of Mars in the summer of 1997. Their work included design of the electronics and navigation sensors; development of the control software, including hazard detection and avoidance; and mission operations. The group is currently responsible for similar

activities for the Mars Exploration Rover planned for launch in 2003. Brian was personally responsible for conceiving and developing the stereo camera and laser ranging system used on the Sojourner rover. He holds an M.S. in Electrical Engineering from the University of Southern California and a B.S. in Physics and a B.A. in Mathematics from the University of California at Santa Barbara. Brian received the NASA Exceptional Engineering Achievement medal in 1992 and the JPL Award for Excellence in 1999 and 2001. He holds four U.S. patents in the area of robotics, with three more pending.

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