Mechanical and Aeronautical Engineering Department
University of California Davis
Davis, California 95616-5294

2006-2007 Monthly Seminar Series on Space Research

19 October, 16 November, 18 January, **15 February**, 19 April, 17 May
3rd Thursday 4:00-5:00 pm

Experimental Demonstration of Technologies for Autonomous On-Orbit Robotic Assembly

Dr. David Schaechter
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Palo Alto, California 94304

Date: **15 February 2007 Thursday** Time: **4:10-5:00 pm** Location: **1062 Bainer**
Refreshments will be provided at 4:00 p.m.

ABSTRACT ***Hosted by: Professor Fidelis Eke***

The Modular Reconfigurable High Energy (MRHE) program, a part of NASA's Space Exploration Initiative, aimed to develop technologies for the automated assembly and deployment of large-scale space structures and aggregate spacecraft. Part of the project involved creation of a terrestrial robotic testbed for validation and demonstration of these technologies and for the support of future development activities. This testbed was completed in 2005, and was thereafter used to demonstrate automated rendezvous, docking, and self-assembly tasks between a group of three modular robotic spacecraft emulators. This presentation addresses the rationale for the MRHE project, describes the testbed capabilities, and presents the MRHE assembly demonstration sequence.

ABOUT THE SPEAKER

Dr. Schaechter is currently a Technical Fellow and Senior Manager of the Precision Pointing and Controls Technology Department at the Lockheed Martin Advanced Technology Center (LMATC) in Palo Alto, California. During his time at the LMATC for the past 25 years, Dr. Schaechter has been active in professional society conferences and publications, is the co-developer of the dynamics program Autolev, and has been involved with many programs and testbeds over the years, including the Space Based Infrared System (SBIRS), Lockheed Launch Vehicle (LLV) Guidance, Gravity Probe-B (GPB), the Space Interferometry Mission (SIM), the precision pointing and control of a number of active and adaptive optical systems, and most recently, participation in some of NASA's Space Exploration Initiative efforts, including the Modular Reconfigurable High Energy (MRHE) Technology demonstrator.

For more information about
SpaceED (Space Engineering Research and Graduate Program) or the seminars please contact
Professor Nesrin Sarigul-Klijn at (530)-752-0682 or nsarigulklijn@ucdavis.edu
Members of the campus community and visitors from the region are welcome to attend the seminar series.
Sign-in is required at the event. SpaceED seminar will replace MAE297 seminar on 3rd Thursdays.

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