



Current Perspective on System Engineering Aspects of Electric Propulsion for Orbit Transfer Dr. Edward J. "Ned" Britt of Pratt and Whitney Space Propulsion

Dr. Ned Britt of Pratt and Whitney Space Propulsion will present an update to his presentation of November, 2001 to our group.

Hall Effect Thrusters (HETs) have been in the satellite system engineer's arsenal of orbit maintenance, orbit adjust, and attitude control options for a number of years. Until now, however, the advantages of using the Hall Effect thrusters in a tailored, system engineered propulsion subsystem for orbit raising have not been demonstrated. Using the mission trade space, the rocket equation, and the recently tested 10KW HETS with special gas dynamic flow valves, engineers are now able to make the trade off of being able to boost communications satellites from GeoStationary Transfer Orbit to Operational Altitudes in 45 to 60 days at a nominal payload

weight savings of 2000 lbs per spacecraft. Dr. Britt will describe the operational characteristics of the HETS, the physics behind their operation, and the requirements and design tradeoffs. Come and hear how this exciting new propulsion technology can be part of the aerospace system engineering trade space."

Presenter: EDWARD J. "Ned" BRITT, Chief Scientist Electric Propulsion at Pratt and Whitney Space Propulsion, is a graduate of the University of Arizona in Tucson: BS in Engineering Physics and Ph.D. in Nuclear Engineering. He recently joined P&W. As an entrepreneur, he is a co-founder of 5 companies. The last of these was Space Power, Inc. He was the CEO when P&W acquired SPI. Areas of technical specialty include energy conversion, plasma physics, space power and propulsion.



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Note: No meeting on Tues, Dec. 10

<i>Tues, Feb 11:</i>	5:30 p.m. Social Half-Hour and Buffet Dinner 6:00-7:00 Talk followed by Questions. Networking and sidebars to 8 p.m.
<i>Place:</i>	Lockheed Martin Missiles & Space Operations , Bldg 107 Exhibit Center, H Street & 11 th Avenue, Sunnyvale. (Map and driving directions are attached.)
<i>Donation:</i>	Attendance at this meeting is FREE for members; \$4 for non-members
<i>Registration:</i>	Lew Lee (TRW), 408-531-2811. <i>E-mail</i> lew.lee@pacbell.net

Please Pre-Register to Facilitate Check-In

To expedite entry:

US Citizens (consultants or representatives of foreign governments, see below for additional instructions): Present a photo ID (Driver's License, etc.) at check-in.

Permanent Residents: Present a photo ID (Driver's License, etc.) and I-551 ("Green Card") at check-in.

Non-Resident Aliens, Consultants and Representatives of Foreign Governments: Submit a Foreign National Visitor form in advance, 12 working days (minimum) prior to the meeting. Contact one of the following:

Tom Jackson, (408) 742-2013, t.l.jackson@lmco.com or

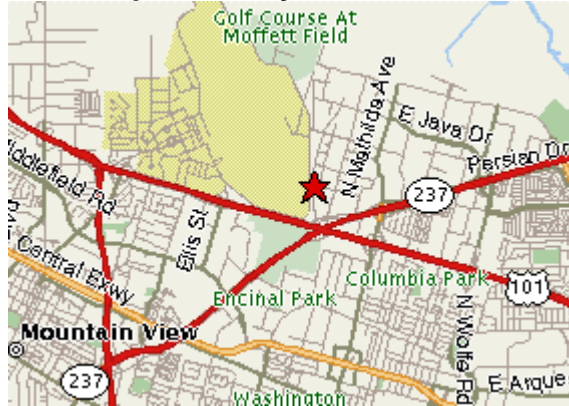
Dorothy McKinney, (408) 742-8790, dorothy.mckinney@lmco.com

DIRECTIONS:

From the North: From Highway 101 (in Mountain View): Take the Ellis Street exit and turn towards Moffett Field - East. Turn right just before reaching the Moffett Field gate on to Manila Road (the frontage road at the end of the runway). Follow that road to the signal light and turn left on 'H' Street. Turn right on 11th Avenue.

From the South: From Highway 101 (in Sunnyvale): Take the North Mathilda Avenue exit. Turn left on West Moffett Park Drive. Turn right on 'H' Street. Turn right on 11th Avenue.

Area Map to Sunnyvale, California



Bldg 107 (the "Space Exhibit Facility") is on the corner of 'H' and 11th Streets.

Lockheed Online Map:

http://lmms.external.lmco.com/lmms_images/lmms_facility.pdf

