



Mechanical and Aeronautical Engineering Department  
University of California Davis  
Davis, California 95616-5294  
[http://mae.ucdavis.edu/general/news/n\\_news07.htm](http://mae.ucdavis.edu/general/news/n_news07.htm)

## 2004-2005 Monthly Seminar Series on Space Research

21 October, 18 November, 20 January, 17 February, 21 April, 19 May  
3<sup>rd</sup> Thursday 4:00-5:00 pm

### ***SpaceShipOne's Simulator and Vehicle Management System***

***Peter Siebold***

*Scaled Composites*

Date: 19 May 2005 \_ Thursday    Time: 4:10-5:00 pm    Location: 1062 Bainer  
Refreshments will be provided at 4:00 p.m.

#### **ABSTRACT**

In June of 2004, SpaceShipOne became the world's first privately funded reusable manned space vehicle. In the span of three years, a small tightly knit group of engineers and technicians lead by visionary aircraft designer, Burt Rutan, developed a space program to compete for the \$10M Ansari X-Prize. An overview of the design, development and flight test is presented from the perspective of test pilot and design engineer. Issues relating to aerodynamics, simulation, navigation, guidance and control, and vehicle handling qualities will be presented with specific concentration on the development of a full-mission simulator and loosely coupled GPS/INS navigation/vehicle management system.

#### **ABOUT THE SPEAKER**

**Peter Siebold** is currently a Project Engineer and a Test Pilot at Scaled Composites, Mojave, CA. Over the duration of the three-year SpaceShipOne manned space program, he was responsible for the development and testing of its navigation and guidance system, mission control and telemetry systems, and vehicle/mission simulator. His other duties at Scaled Composites included being one of the Test Pilots, personally flying two unpowered glide flights and one rocket powered flight of SpaceShipOne, as well as many White Knight launch aircraft system development flights. Mr. Siebold has also performed a wide range of duties as test pilot, flight test engineer, and embedded system designer on five other manned vehicle development programs. He participated in the flight testing of the following aircraft: VisionAire Vantage Model 247 prototype, Proteus Model 281 prototype, Adam Model 309 prototype, Toyota TAA-1 prototype, Scaled Model 318 White Knight, and Scaled Model 316 SpaceShipOne. He is currently the project engineer and pilot on Scaled Model 318 White Knight, which will be the carrier aircraft for another SpaceShipOne like payload.

Prior to joining Scaled Composites eight years ago, he worked as a flight instructor. He has 17 years of flight experience, 2000 hours in 35 different fixed wing aircraft. In addition to being an Aerospace Engineer with a BS degree from California Polytechnic State University in San Louis Obispo, he holds FAA Commercial ASEL, AMEL, Commercial Glider, instrument airplane certificates; Flight Instructor ASEL, AMEL, instrument airplane certificates. He is a member of the AOPA, EAA and The Society of Experimental Test Pilots.

#### ***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](mailto: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 3<sup>rd</sup> Thursdays.

SpaceED seminars are supported in part by



*Space Systems Company*