Industry Day
January 30, 2007

Corporate Affiliates Program
Thank You!

- Fourth annual Industry Day
- Corporate affiliates (sponsoring today)
  - The Aerospace Corporation
  - The Space Dynamics Laboratory
- Students and their faculty mentors
- Sloan Booth and Sonya Warner
The Center for Space Engineering is a multi-disciplinary group of faculty within the college of engineering. It promotes basic research and technology development involving faculty, students, and professionals. Visit http://cse.usu.edu/ for more information.
Affiliated Personnel

- Dr. Charles Swenson
  Professor
  Electrical and Computer
- Dr. Robert Pack
  Research Associate Professor
  Civil and Environmental
- Dr. Brent Stucker
  Assistant Professor
  Mechanical and Aerospace
- Dr. Rees Fullmer
  Associate Professor
  Mechanical and Aerospace
- Dr. Scott Budge
  Associate Professor
  Electrical and Computer
- Dr. Stephen Whitmore
  Assistant Professor
  Mechanical and Aerospace
- Dr. David Geller
  Assistant Professor
  Mechanical and Aerospace
- Mr. Paul Israelson
  Research Professor
  Electrical and Computer
- Dr. Randy Jost
  Research Professor
  Electrical and Computer
- Dr. Edmund Spencer
  Assistant Professor
  Electrical and Computer
Research Centers and Labs

Center for Advanced Imaging
Center for Advanced Satellite Manufacturing
Space Instrumentation Lab
Relationships

Utah State University
Research Foundation

Space Dynamics Laboratory
Innovative Science and Technology

Aerospace Industry
Corporate Affiliates Program

Center for Space Engineering

Department of Mechanical and Aerospace Engineering
Department of Electrical and Computer Engineering
Department of Civil and Environmental Engineering

College of Engineering

Utah State University
Corporate Affiliates Program

- Actively facilitate access to students
  - Resume collection
  - Industry give technical presentations in specific classes.
  - Support Interviews for full-time positions or co-op and internship opportunities.

- Invitation to Industry Day
  - Graduating Students
  - Current Research

- A Faculty liaison expert in field of interest to affiliate
  - Opportunities for sponsored-research
  - Other collaborations may evolve.
Agenda

Industry Day

2007
Pre-Lunch Schedule

- **8:45 AM** History of Space Engineering in Utah, **Dr. Doran Baker**
- **9:25 AM** Ground Station for TOROID, **Karl Burk**
- **9:45 AM** TOROID Hardware & Real-time Software Architecture, **Jared Crace & Paul Rodriguez**
- **10:05 AM** USUSat Attitude Control, **Scott Jensen**
- **10:25 AM** Break
- **10:45 AM** Spacecraft Charging, **Aroh Barjatya**
- **11:05 AM** Design of a Flap System for Reentry Trim Control for CEV, **Ben Andersen**
- **11:25 AM** Propulsion Systems Integration into an Aero-assist Orbital Transfer Vehicle, **Patrick Jolley**
After Lunch Schedule

- 1:15 PM  
  *Reentry Air Data System for a Sub-Orbital Spacecraft Based on X-34 Design*, Joel Ellsworth

- 1:35 PM  
  *Hand Held Texel Camera Development*, Brandon Boldt

- 1:55 PM  
  *Advance Aerospace Structures and Rapid Manufacturing*, Chris Robinson

- 2:15 PM  
  *Calibration Targets*, Denton Johnson

- 2:35 PM  
  Break

- 2:55 PM  
  *Power Self Test on Modular Spacecraft Panels*, Anand Madhusoodanan

- 3:15 PM  
  *Navigation and Guidance Analysis for Lunar Powered Descent*, Travis Moesser

- 3:35 PM  
  *Comparison of Two Navigation and Guidance Techniques for Orbital Rendezvous*, Scott Jenkins

- 3:55 PM  
  Closing Remarks, Dr. Charles Swenson

- 4:10 PM  
  Reception
Introduction

Questions?
USU Space Curriculum

**Prereq**
- **Math 2250** Linear Algebra and Differential Equations (3)
- **ECE 5230/MAE 5520** Spacecraft Systems Engineering (3)
- **ECE 5310/MAE 5310** Control Systems (3)
- **MAE 5420** Compressible Fluid Flow (3)
- **ECE 6340/MAE 6340** Spacecraft Attitude Control (3)
- **MAE 6560/ECE 6560** Space Navigation (3)
- **Phyx 6310** Plasma Physics (3)

**Fall**
- **ECE 6240** Space Environment and Engineering (3)
- **ECE 5240/MAE 5530** Space Systems Design (3)
- **MAE 6560/ECE 6560** Space Navigation (3)
- **Phyx 6330** Plasma Physics (3)

**Spring**
- **ECE 5240/MAE 5530** Space Systems Design (3)
- **MAE 6540** Advanced Astrodynamics (3)
- **MAE 7370** Space Guidance (3)

**Fall**
- **ECE 7210** Spacecraft Instrumentation (3)
- **ECE 7120** Space Power Systems (3)
- **MAE 7370** Space Guidance (3)
- **Phyx 6310** Solar Terrestrial Physics I (3)

**Spring**
- **ECE 7220** Remote Sensing (3)
- **ECE 7240** Space Communications (3)
- **Phyx 6320** Solar Terrestrial Physics II (3)
- **Phyx 6330** Plasma Physics (3)

**Proposed Space Certificate Courses**
- **New or Untaught**
- **Prerequisite**