



# Stanford University Overview

**Prof. G. Scott Hubbard,  
Department of Aeronautics and Astronautics  
Stanford University**

**Center of Excellence Technical Meeting  
November 9, 2011**



**6,900 Undergrad Students, 12,600 Graduate Students, 1,900 Faculty**

***Stanford University Department of Aeronautics and Astronautics***

# Stanford School of Engineering: “Imagine A Brighter Future”



- Our mission is to seek solutions to important global problems and to educate leaders who will turn great ideas into real changes that will make the world a better place. We measure our success by how well we:
  - Generate new knowledge and advance the progress of research.
  - Deliver world-class, research-based education to students, and broad-based training to leaders in academia, industry, and society.
  - Facilitate technology transfer, applying people and ideas to improve our society and our world.





- **At the Intersection of Disciplines**

- A multidisciplinary, broad-based approach is central to our vision. We believe boundaries are always permeable. Our close collaboration with other schools on campus and with industry strengthens our academic programs.

- **A Catalyst for Change**

- Located in the heart of Silicon Valley, Stanford Engineering has been the catalyst for many of the technologies and companies that define "The Valley," and which have in turn shaped the school.
  - Many of our faculty, students, and alumni are renowned for their entrepreneurship. They have evolved a model of academic/industrial collaboration and technology transfer that is emulated around the world.

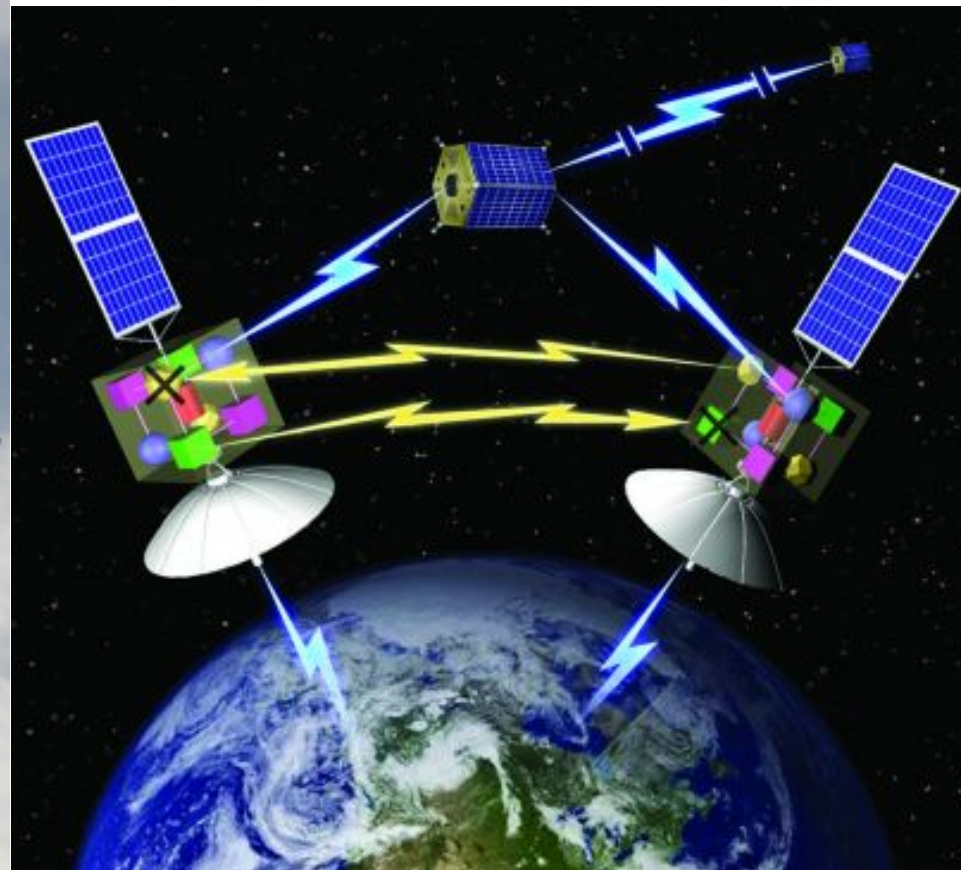




- Aeronautics and Astronautics
- Bioengineering
- Chemical Engineering
- Civil and Environmental Engineering
- Computer Science
- Electrical Engineering
- Management Science and Engineering
- Materials Science and Engineering
- Mechanical Engineering
- Architectural Design Program
- Institute for Computational and Mathematical Engineering
- Joint Program in Product Design
- Energy Resources Engineering
- Science, Technology and Society

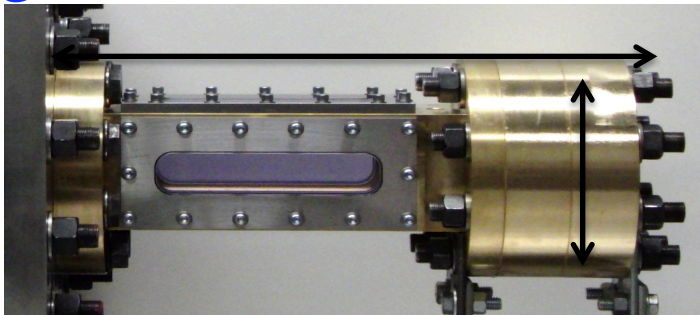


# AERONAUTICS AND ASTRONAUTICS





- When the Department of Aeronautics and Astronautics was founded in 1958, high-speed flight and access to space were recognized as two of the most important forces shaping modern civilization
- The department was founded to carry out the interdisciplinary research needed to advance the technology of complex air and space systems
- Our mission is to do research dedicated to advancing the disciplines, systems and design methods needed to further the nation's aerospace enterprise and to educate students to be lifetime learners and leaders in industry, academia and government





- **Faculty:**
  - 12 tenured and tenure-track
  - 2 new tenure-track hires next quarter
  - 3 emeriti recalled to active duty
- **Students:**
  - 30 M. S. students per graduating class
  - 15 to 20 Ph. D. students per graduating class
  - 200 graduate students at any point in time (50% M. S. 50% Ph. D)
- **Graduate department ratings in NRC 2010 review 1<sup>st</sup> – 2<sup>nd</sup> depending on method**







# RESEARCH ACTIVITIES

- \* Aeroacoustics & acoustics
- \* Aeroelasticity
- \* Aircraft design
- \* Air traffic
- \* Autonomous flight
- \* Computational aerospace engng
- \* Controls
- \* Ground-based detection of atmospheric plasma
- \* Mechanical damage to spacecraft from meteoroids
- \* Multi-disciplinary optimization
- \* Position and navigation
- \* Space propulsion
- \* Structural health monitoring
- \* Sustainable aviation

