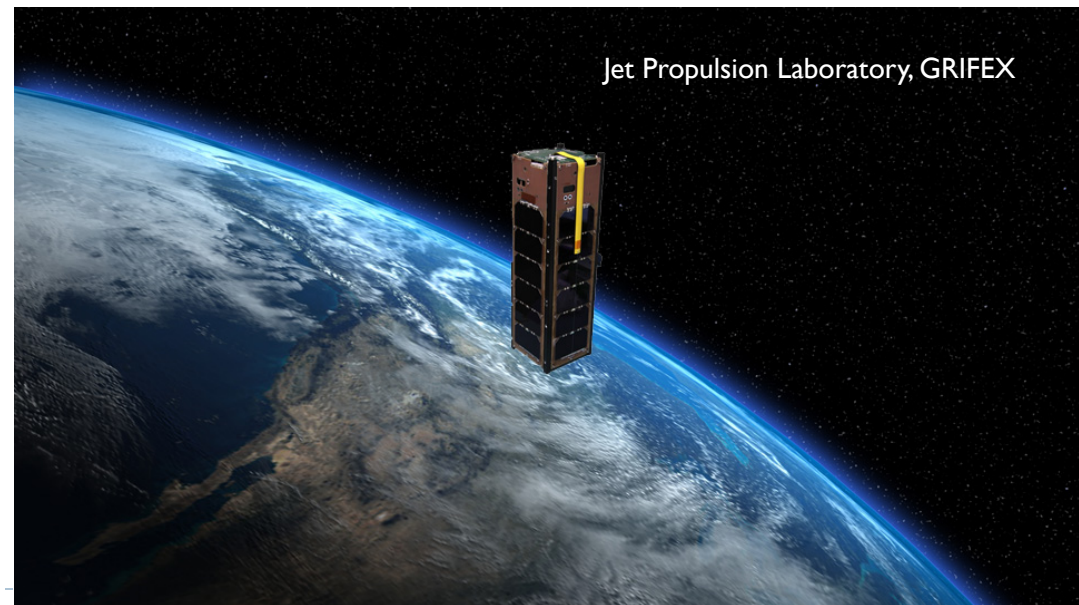


Achieving Science Goals with CubeSats

NRC Ad Hoc Committee
Chair: Thomas H Zurbuchen, University of Michigan
Study director: Abigail Sheffer, Associate Program Officer, NRC

CubeSats

- ▶ Applications can be 1U, 2U, 3U, etc.
- ▶ A number of technology-focused, or education-focused CubeSats have flown
- ▶ Some have science focus



Key Elements of Charge

- ▶ Review the current state of scientific potential and technological promise of CubeSats
- ▶ Review the potential of CubeSats as platforms for obtaining high-priority science data
 - ▶ From recent decadal reviews
 - ▶ Science priorities in 2014 NASA Science plan
- ▶ Provide a set of recommendations on how to assure scientific return on future federal agency support of CubeSat programs

Committee Actions

- ▶ Develop summary of status, capability, availability and accomplishments in government, academic and industrial sectors
- ▶ Recommend any potential near-term investments that could be made to
 - ▶ A) improve the capabilities that have a high impact and return
 - ▶ B) enable the science communities' use of CubeSats
- ▶ Identify a set of sample priority science goals that describe near-term science opportunities

Work Plan

- ▶ Ad Hoc Committee has ~ 15 scientists and engineers
- ▶ Initial information gathering symposium of 1-3 days, and other input processes such as town hall meetings at conferences
- ▶ Meet as committee to further gather input and synthesize what is learned about
 - ▶ Status quo of CubeSats in research, innovation, education
 - ▶ Funding sources, programs, etc.
 - ▶ Enabling technologies, etc.
 - ▶ Evolutionary path of CubeSats, etc.
 - ▶ Limitations, barriers of this technology, etc.
 - ▶ Many more
- ▶ Anticipated completion Spring of 2016

Name	Address	Expertise
Thomas H. Zurbuchen	U of Michigan, Chair	Helio
Abigail Sheffer	NRC, Study Director	
Stuart D. Bale	UC Berkeley	Helio
Andrew Clegg	Google	Spectrum
Pascale Ehrenfreund	George Washington U	Planetary
Bhavya Lal	IDA	Policy
Paulo Lozano	MIT	Tech
Malcolm Macdonald	University of Strathclyde	Tech, International
Robyn Millan	Dartmouth	Helio
Charles Norton	JPL	Tech
Gerald Schubert	UC Los Angeles	Planetary, Earth
William H. Swartz	APL	Astro
Alan Title	Lockheed Martin	Tech, Helio
Thomas Woods	U Colorado	Helio, Earth
Edward L. Wright	UC Los Angeles	Astro
A. Thomas Young	Retired LMCO	Tech

Questions/Inputs Needed

- ▶ What are science successes from CubeSats the committee should be aware of?
- ▶ What are important issues this study should not miss?
- ▶ What are traps/dead-ends we should stay away from?
- ▶ What are international aspects to CubeSats the committee should consider?

Send any/all inputs to

- ▶ Send Input on Google Form:
<http://goo.gl/forms/DzJndegu9H>

- ▶ Or by Email to

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