

Achieving Science Goals with CubeSats

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

What I heard about Science

- ▶ Typically, the science on CubeSats has to rely on constrained instrumentation – there are less mass, power, and – most importantly – less data available from CubeSats as compared to heritage systems.
- ▶ But, CubeSats can address science that big systems cannot, if systems
 - ▶ Are responsive or require fast turn-around
 - ▶ Involve hazardous orbits
 - ▶ Require multi-point measurements/constellations
 - ▶ Enable a unique low-cost platform

What I heard about Technology

- ▶ Constraints, as expected, drive innovation
- ▶ Specifically, CubeSats are driving interesting innovation in space systems and also spacecraft components.
- ▶ Although the utility/market for many of these has not been fully established, some of them look promising to be disruptive, even for mainstream systems.
- ▶ Typically, novel components are better based on a fundamental understanding (rather than a historic development trajectories) and also closer to modern technology, which tends to get improve based on external investments.

Questions/Inputs Needed

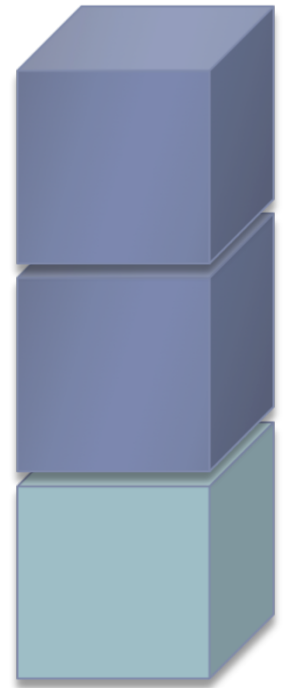
- ▶ What are science successes from CubeSats the committee should be aware of?
- ▶ What are important issues this study should not miss?
- ▶ What are traps/dead-ends we should stay away from?
- ▶ What are international aspects to CubeSats the committee should consider?

Send any/all inputs to

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

- ▶ Or by Email to

- ▶ Thomas Zurbuchen (thomasz@umich.edu)
- ▶ Abby Sheffer (ASheffer@nas.edu)





Small Satellite Pioneer Warns of Cubesat Bubble

by Peter B. de Selding — May 26, 2015



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Sir Martin Sweeting, shown speaking at the 31st Space Symposium in April, suggested May 26 that market enthusiasm for small satellites may have gone too far. Credit: Tom Kimmell

ABU DHABI — The chairman of small-satellite pioneer Surrey Satellite Technology Ltd. (SSTL) on May 26 said market enthusiasm for small satellites may have gone too far, with satellite development accelerating beyond sustainable business models.

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