



University of Virginia

JCOTS Nanosatellites Advisory Committee: Consortium on Space Science Education

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Recommendations

- 1. Recent launch vehicle failure at MARS should not discourage formation of a new consortium, historically 1 in 10 space launch attempts have failed**

- 2. UVa supports a new consortium**
 - a. Would provide many valuable opportunities for students, staff and faculty
 - b. Existing UVa research and education would benefit: Engineering, Applied Science, Astronomy and Environmental Science

- 3. Include research as well as education**
 - a. Instructional advantages when education combined with research
 - b. Leverage existing research strengths
 - c. The scope of the consortium should include research activities aimed at advancing the state of the art of space science and engineering

Recommendations, cont.

4. Independent consortium host

- a. Structure consortium with nodes located at participant locations around the Commonwealth
- b. Nodes should be coordinated by a central host organization that is able to maintain independence from any one member institution, e.g. Commonwealth Center for Advanced Manufacturing
- c. Suitable host organization for the consortium could be the Virginia Space Grant Consortium (VSGC)
 - i. Existing network across the Commonwealth
 - ii. Existing Small Satellite Working Group
 - iii. Focuses on education and research (K-12 and higher education)

Recommendations, cont.

5. Fund students to design, build and fly spacecraft

- a. Commonwealth funding for the consortium should include support for the following:
 - i. Spacecraft design, fabrication and operations at member educational institutions
 - ii. Launch opportunities for student flight missions
 - iii. Graduate student research assistantships
 - iv. Undergraduate and community college student summer internships
 - v. Student and faculty travel
 - vi. Faculty summer time

6. Higher education students teach STEM to K-12 students

- a. Under the guidance of faculty, the space flight missions should be led by graduate and undergraduate students at member institutions of higher education and include K-12 STEM instruction by the students

Recommendations, cont.

7. Serve societal needs

- a. Space flight missions should serve societal needs, preferably needs of citizens of Commonwealth of Virginia, through contributions to advancement of both science and engineering

8. Contributions from members

- a. Participation by consortium members should include
 - i. Annual fee
 - ii. Cost matching or in-kind contributions for space flight missions
- b. Commonwealth of Virginia funding should serve as seed funding for external support. However, external funding should not be required for member participation