SPACE POLICY INSTITUTE
ELLIOTT SCHOOL OF INTERNATIONAL AFFAIRS

USRA

THE UNIVERSITIES SPACE RESEARCH ASSOCIATION
AND
THE SPACE POLICY INSTITUTE, GWU

PRESENT A SYMPOSIUM ON

THE SMALLSAT REVOLUTION: DOING MORE WITH LESS

MARCH 26, 2020

Hilton Washington DC National Mall
480 L'Enfant Plaza SW, Washington, DC

12:00 Noon **Welcome and Introductory Remarks**

JEFF ISAACSON, USRA President and CEO
HENRY HERTZFELD, Director, Space Policy Institute, GWU

12:10 P.M. **Frederick A. Tarantino Memorial Address**

THOMAS ZURBUCHEN, Associate Administrator for the NASA Science Mission Directorate (invited)

12:50 P.M. **Coffee and Light Lunch Break**

1:20 P.M. **Nurturing the SmallSat Revolution—University Research and Entrepreneurial Ventures**

Small satellites, often built in simple univeristy laboratories by graduate students under the supervision of senior faculty were envisioned as relatively inexpensive ways to develop a hands-on educational experience. The success of these satellites and the ability to launch them inexpensively as well (using "extra" space on larger launch vehicles) demonstrated the probability of their exceptional capability being used in many ways. Combining advanced micro technologies with shorter lifetimes than traditional satellites became attractive to entrepreneurs and to venture funding sources. Today, a vast new industry and era is approaching that encompasses everything from simple university experiments to mega-constallations employing small satellites in ways never before possible. This panel will explore the history, recent develoments, and future visions of the research potential for smallsats as well as the growing university-business relationships that emerge from these experiments.

JAMES W. CUTLER, Associate Professor, Aerospace Engineering, and Associate Director, Space Institute, University of Michigan
MICHAEL KEIDAR, A. James Clark Professor of Engineering, George Washington University
JEFFREY MANBER, President, NANORACKS
THOMAS STROUP, President, Satellite Industries Assoication
BHAVYA LAL, Science and Technology Policy Institute (STPI), IDA

2:50 P.M. **Coffee Break**

3:15 P.M. **The Attraction of SmallSats—Civil, Defense, and Commercial**

Traditional large scientific, telecommunicaitons, earth observation, weather, and other satellites have all of the characteristics that make space exclusive, expensive, risky and essentially the province of government programs and missions. Smallsats, and in particular, constellations of smallsats, overcome many of the barriers to entry into space business. And, although yet not fully proven, they offer the prospect of taking the place of larger satellites and providing both complementary and competitive services. The attraction is obvious, and the industry is growing rapidly. However, they do present new issues to the space environment that include shorter lifetimes, crowded orbits, increased space debris, and other unwanted interference. This panel will explore both the new opportunities and the risks involved with the rapid and as yet somewhat uncontrolled and uncoordinated smallsat systems being proposed and placed in orbit.

JED HANCOCK, Executive Director of Programs and Operations, Space Dynamics Laboratory, Utah State University
STEVEN NIXON, President, SmallSat Alliance
DANIEL HAGEL, Director, Advanced Development, Blue Canyon Technologies, Inc.
TANYA HARRISON, Lead, Science Programs, Planet

4:45 P.M. **Invitation to the Reception**

RENU MALHOTRA, Vice Chair, USRA Council of Institutions