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**Richard T. Howard
Pejmun Motaghedi**
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Introduction

This was the second year for the Sensors and Systems for Space Applications conference, and it was the fifth year for a separate session on space sensors. The Sensors and Systems for Space Technologies conference included papers concerning spaceborne sensors, propulsion sensors, spacecraft platforms and infrastructure, and modeling, simulation, and verification of space-based systems. As part of the Space Technologies and Operations track at the 2007 Defense and Security symposium, the Sensors and Systems for Space Technologies conference covered important parts of any space operation – How do you model sensors and systems? How do you verify and test them? How well do they work on orbit? This year's conference answered those questions in a variety of ways. In addition, this year had a full day focused on various aspects of the Orbital Express mission (which was funded by DARPA, Boeing, and NASA.)

The keynote speaker this year was Lt. Col. Fred Kennedy of DARPA, final program manager for Orbital Express, a project that launched two satellites in orbit in March 2007 and operated them in a number of experiments until July 2007. He talked about the Orbital Express mission, which performed experiments testing all of the different capabilities that a satellite servicing system might need: fluid transfer, orbital replacement unit transfer (such as batteries and computers), a robot arm, a capture mechanism, and sensors for automated rendezvous and docking. These technologies have been in development and testing on the ground for many years, but this was the first United States experiment to put them all together on orbit in a completely autonomous operation.

Overall, there are 21 papers in these proceedings, covering sensors, systems, methodologies, and technologies ranging from individual components all the way up to full operational sensors and systems as well as laboratory work in sensor analysis and theoretical research.

Many of the theoretical and laboratory technologies presented in previous years were back this year with updates and improvements, and it has been very nice to see the progress of sensors, systems, and technologies over the years this conference has been in place. Several items first presented two or three years ago have now been flown in space. Space operations are a key element in the future of companies and countries, both in defense and in expanding the use of space for civil purposes. The Sensors and Systems for Space Technologies II conference contributes to the future by getting professionals together to hear one another's approaches to problems and allowing technologists to discuss innovative ideas.

We want to thank all of the authors for their time and energy in getting papers and presentations to the conference, and we want to thank the program

committee for their efforts in encouraging authors. Without your hard work, this conference would not have been a success. In addition, we would like to thank SPIE for supporting the Space Technologies track and for all their assistance in bringing everything together. Finally, thank you to all of you who attended the sessions, asked interesting questions, and prompted further discussions both during and after the sessions.

Richard T. Howard
Pejmun Motaghedi