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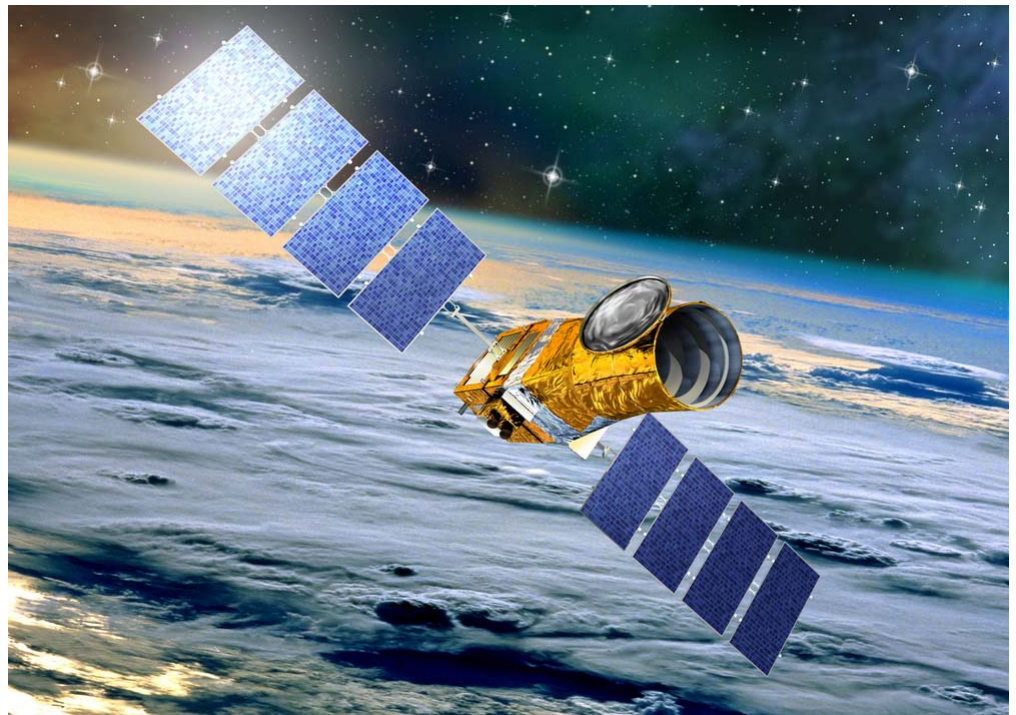
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**On 27 December 2006 the COROT space observatory launched from Baikonur Cosmodrome in southern Kazakhstan. The French-led CONvection ROTation and planetary Transits mission will begin the first search for large rocky planets around other stars. Earth is a rocky planet; all extrasolar planets discovered to date have been gas giants like Jupiter. Image: ESA**

## From the Cockpit

Ray Erikson, Editor

A series of forums at the Boston Museum of Science is examining the social and ethical implications of new technologies like RFID (radio frequency identification [tags]), database-mining, and, of course, nanotechnology. They highlight a concern every technologist should consider: "How will what I'm doing impact society?"

In aerospace it's a question not asked very often. During the 1960s there was no doubt about the positive impact the space program was having on America and the world. At the same time, there was growing concern about negative impacts supersonic transports might have on the environment. These concerns were ignored by the engineers designing SST's, who chose to focus upon technical issues, but not by Congress, which canceled the U.S. SST program in 1971.

As scientists and engineers we must always be vigilant for the "Paradigm-Shift Paradox": A technology which promises to change the world for venture capitalists, shareholders or military planners cannot simultaneously be "no big deal" for society and the environment.

## *Regional Student Conference Coming to MIT*

The MIT Department of Aeronautics and Astronautics will host the AIAA Region-I Student Conference on April 27th and 28th. Dates to remember include:

- Monday, January 29, 2007 – Registration Opens
- Friday, February 23, 2007 – Abstract Deadline
- Friday, March 23, 2007 – Paper Deadline
- Friday, April 27 & Saturday, April 28, 2007 – AIAA Region I Student Paper Conference @ MIT

Arrangements have been made with the Hyatt Regency in Cambridge for special rates on lodging for participants:

The Hyatt Regency Cambridge  
575 Memorial Drive  
Cambridge, MA 02139-4896  
Phone: (617) 492-1234  
<http://cambridge.hyatt.com/>

For more information on participation as a student, or to volunteer as a judge of written papers and/or oral presentations, please contact

Col. Peter Young  
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Cambridge, MA 02142  
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## Draper Laboratory Inertial Stellar Compass in Orbit Aboard TacSat-2

The Draper-built Inertial Stellar Compass, a low-mass, low-power instrument combining a star camera and miniaturized gyroscopes with a microprocessor, lifted-off on a Minotaur rocket December 16th from Wallops Island, on the Virginia eastern shore. The experimental navigation system flying aboard the TacSat-2 satellite was successfully activated on December 27th, clearing the way for several weeks of dedicated testing. TacSat-2 is a small remote-sensing satellite built by MicroSat Systems, of Littleton, Colorado, under a contract from the Air Force Research Laboratory.

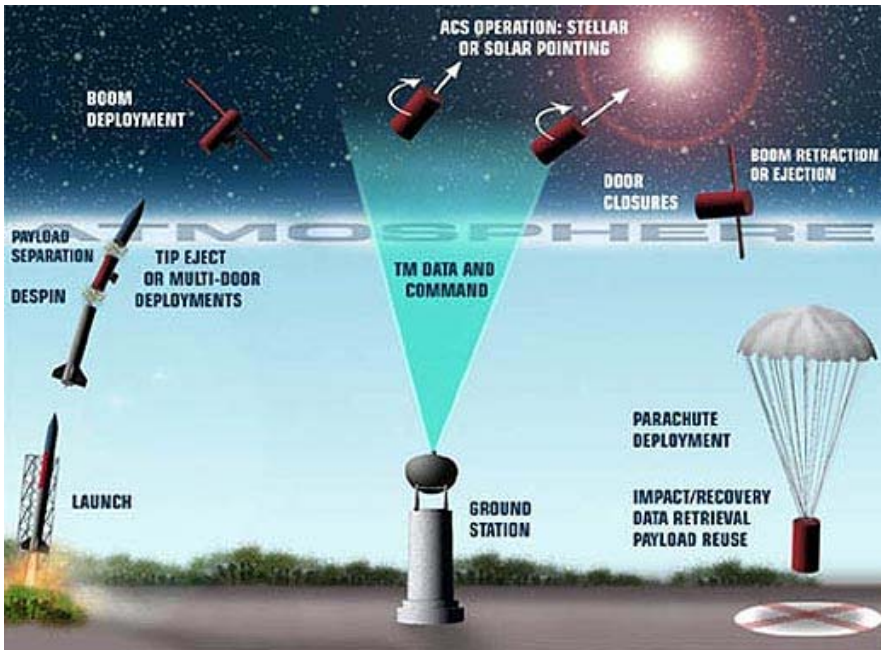
Linda Fuhrman, space science program manager at Cambridge-based Draper Laboratory, said the Inertial Stellar Compass she and her colleagues built has been working flawlessly since it was first activated.

“Within a second or so, we got telemetry back indicating it had powered on and proceeded to go into a self-initializing mode,” Fuhrman said. TacSat-2 then passed beyond range of its live telemetry downlink. By the time the spacecraft came back around about 90 minutes later, Fuhrman said, the Inertial Stellar Compass was up and running and accurately reporting the spacecraft’s position.

The ISC project is expected to aid the development of new classes of small spacecraft suitable for a range of missions from comet and asteroid encounters to lunar landings. Larger spacecraft taking advantage of the miniaturized navigation technology, according to project officials, could see mass savings of at least 10 kilograms and power savings of at least 30 watts over conventional systems.

## Calendar of Events

- Jan 26** **Abstract Deadline for Space 2007.** Details at <http://www.aiaa.org/content.cfm?pageid=230&lumeetingid=1808&viewcon=submit>
- Feb 05** **AIAA New England Council Meeting,** Dandelion Green, Burlington. Planning for section events. Contact Col. Doug Joyce if you wish to participate: [joyce@dwc.edu](mailto:joyce@dwc.edu)
- Feb 15** **AIAA New England Honors & Awards Banquet** at the Westin Hotel, Waltham, Mass. See flyer this issue or contact Elise Erikson for information: [elise707@earthlink.net](mailto:elise707@earthlink.net), 781-246-8239
- Mar 05** **AIAA New England Council Meeting,** Dandelion Green, Burlington. Planning for section events. Contact Col. Doug Joyce if you wish to participate: [joyce@dwc.edu](mailto:joyce@dwc.edu)
- Mar ??** **Silent Aircraft Project.** Presentation on work being done in Britain and the U.S. to reduce commercial aircraft acoustic footprints. Contact Col. Pete Young: [pwyoung@MIT.EDU](mailto:pwyoung@MIT.EDU)
- Apr 02** **AIAA New England Council Meeting,** Dandelion Green, Burlington. Planning for section events. Contact Col. Doug Joyce if you wish to participate: [joyce@dwc.edu](mailto:joyce@dwc.edu)
- Apr 12** **The Future of Space Exploration: Solutions to Earthly Problems.** Join us at Boston University to plan the next 50 years of space exploration. Visit event website for more details. <http://www.bu.edu/pardee/events/conferences/2007/SPACE/MASTER/index.html>
- Apr 17** **Congressional Visits Day.** Join your fellow AIAAers as we meet one-on-one with our senators and congressmen in Washington, DC. Visit the Public Policy section of [www.aiaa.org](http://www.aiaa.org) .
- Apr 27** **AIAA Northeast Regional Student Conference @ MIT.** University aerospace engineering students will be making judged presentations in undergraduate and graduate categories. Judges are needed for judging written papers and oral presentations. Very worthwhile for all participants! Contact Pete Young at [pwyoung@mit.edu](mailto:pwyoung@mit.edu) for further details.



**American Institute of  
Aeronautics & Astronautics  
New England Section**

**Honors & Awards  
Banquet**

**Thursday, 15 February 2007  
Westin Hotel-Waltham**

**Sponsored by the  
Charles Stark Draper  
Laboratory**

**Featured Speaker: Supriya Chakrabarti of Boston University**

## ***Sounding Rockets in Space Science and Technology Education: The Boston University Experience***

Sounding rocket programs provide unique opportunities to train future space scientists and engineers. Besides fitting the typical schedule of a student, they allow a small group of students to be involved in all aspects of a space project from its inception through execution to a conclusion involving scientific discovery. Sounding rocket experiments offer an opportunity to take more risks in terms of their science return. With their flexible schedule and fewer formal procedural requirements, they play an important role in maturing technology and developing new capabilities for satellite missions. This talk will describe a Student Launch Program experiment developed as a class project in the astronomy department at Boston University, with the flight hardware built through the Senior Design Project class in the College of Engineering. These sounding rocket experiments and satellite missions have spawned a culture of interdisciplinary space experimentation at Boston University. We believe that these programs are essential for the long-term vitality of the space program and a technology-savvy workforce of the 21st Century.

- PLACE:** Westin Hotel, 70 Third Avenue, Waltham, MA 02451  
**TIME:** Social hour 6:00 PM ; Dinner 7:00 PM; Program 7:45 PM  
**COST:** **Advance Payment:** \$45 per person (if received by 31 January 2007)  
**Payment at Door:** \$55 per person  
**RSVP:** Contact Elise Erikson (617) 258-3662 or eerikson@draper.com  
 Two Collins Road, Wakefield MA 01880-2513

Please make reservations by Tuesday, 31 January 2007. If leaving a message, please include contact phone number or e-mail, number attending, and meal choice(s): Chicken, Fish or Vegetarian.

**DIRECTIONS:** The Westin Hotel is located at Exit 27A (Totten Pond Road) from Rte 128/I-95 in Waltham. The glass-walled hotel is clearly visible on top of the hill. Make an immediate right turn onto Third Avenue just east of highway. Follow signs to parking garage.

**AIAA NEW ENGLAND SECTION**

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175 New Boston St. M/S KK  
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## Local Girl Makes Good

U.S. Navy Commander Sunita Williams launched aboard the Space Shuttle *Discovery* on December 7th to relieve International Space Station flight engineer Thomas Reiter. She will remain part of the ISS Expedition-14 crew and continue as flight engineer with the Expedition-15 crew when they arrive next year.

“Sunny” Williams was born in Ohio, but grew up in Needham, Massachusetts, which she considers her hometown. A Naval Academy graduate and naval aviator with over 2800 hours of flying time, she has flown military missions throughout the Mediterranean and the Persian Gulf, and relief missions over Miami in the aftermath of Hurricane Andrew.

In 1993 Williams was selected for Naval Test Pilot School, and in 1998 she joined NASA as an astronaut. Her first assignment after training was coordinating U.S. and Russian efforts to begin construction of the space station. Since the successful completion of Expedition-1, she has been working on various robotics applications for the ISS, making her a natural fit for her current assignment.

