



STC and UMBC Launch NanoSat

PRESS RELEASE

Science and Technology Corporation (STC) and University of Maryland, Baltimore County (UMBC) announced that they have successfully launched a NanoSat into low Earth

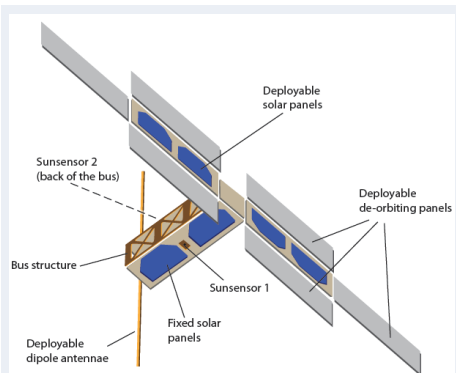
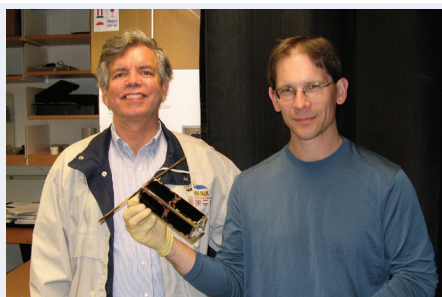


Diagram of satellite showing how it will look after it is deployed and the panels unfold following a few months of operation; initially the panels are folded onto the sides of the satellite (drawing by Mrs. Barbara Schoeberl).

orbit. The NanoSat is called Qubscout-S1 and measures 2 in x 2 in x 5 in—about the size of a tall coffee mug. This is STC's and UMBC's first



Dr. Mark Schoeberl, STC Chief Scientist (left) and Mr. Steven Buczkowski, UMBC Ph.D. Student hold the satellite before shipment.

satellite mission. Qubscout-S1 was launched from Yasny, Russia, on a Dnepr LV rocket as part of the Unisat-5 payload. The launch took place at 0710 UTC November 21, 2013. The orbit is sun-synchronous with an orbit altitude of 616 km (382 miles). UMBC students will be monitoring the satellite's performance.

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After a few months of orbit, the satellite will unfold (see figure) to increase drag and change its rotation rate.

Qubscout-S1 was built as a joint venture between STC and UMBC. Qubscout-S1 will test a UMBC designed micro sun-sensor that can be used to find and point instruments toward the sun. STC built the satellite frame

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AMS/STC Scholarship Award

The American Meteorological Society (AMS) has named **Ms. Megan R. Angstadt** as the recipient of the AMS/STC Freshman Undergraduate Scholarship for 2010. Megan has completed her junior year (2012–2013) at the University of Oklahoma where she is majoring in meteorology.

The AMS Freshman Undergraduate Scholarship is awarded on merit and is designed to encourage outstanding undergraduates to pursue careers in the fields covered by the award. Additionally, the students awards are announced from AMS in their Freshman year but are not presented at the AMS meeting until their Junior year. STC has sponsored the scholarship since 1992.□

QUALITY CORNER

The PowerPoint Training Aids—Purchasing and Terms & Conditions have been updated and are available on the STC Intranet for any employee to access who is involved in purchasing products or services under a Government task or for STC.

NASA Space Flight Awareness Program's Silver Snoopy Award

Congratulations Mr. Alton Coffey!

Alton received the Space Flight Awareness Programs Silver Snoopy award in support of testing for the new spacecraft for the NASA Multi-Purpose Crew Vehicle (MPCV), better known as Orion. Mr. Coffey, who is working on the Langley Research Center Electronic, Metal, and Composite Hardware Fabrication Support Services (EMCHFSS) contract, was awarded the prestigious Silver Snoopy Award at a ceremony on July 23, 2013. The Silver Snoopy Award is part of the NASA Space Flight Awareness (SFA) Program and is the astronauts' personal award. The award is given personally by NASA astronauts as it represents the astronauts' own recognition of excellence. The award consists of a sterling silver "Silver Snoopy" lapel pin flown during a NASA



Sterling Silver "Silver Snoopy" lapel pin.

mission, a commendation letter (stating the mission the Silver Snoopy pin was flown on) and a signed, framed Silver Snoopy certificate. To qualify for this award, eligible candidates will have made contributions toward enhancing



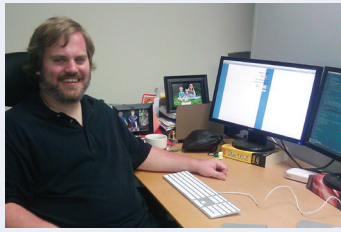
From left to right: Silver Snoopy Awardee, Mr. Alton Coffey, EMCHFSS Project Manager, Mr. Jeff Manning, Astronaut Shannon Walker, and Lead Fabrication Supervisor, Mr. Leon Council.

ing the probability of mission success, or made improvements in design, administrative/technical/production techniques, business systems,

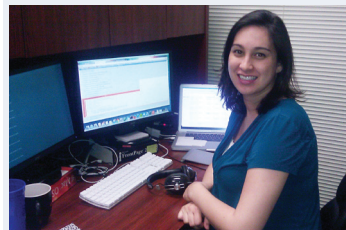
— Continued on page 2 (see **SNOOPY**)

Purchasing Requisition App

Two Programmers in the STC Management Information Systems (MIS) Department, **Mr. Tim Brinkley** and **Mrs. Terri Geisler**, have developed a Web-based application for submitting and processing purchase requisitions (PRs) in compliance with STC purchasing procedure. As many of us know, purchasing goods and services as a Government contractor can be quite complex, particularly in compliance with ISO 9001, AS 9100, and CMMI. STC has reviewed 3rd party software over the years and has not been able to find one that meets our complex needs. Therefore, when Tim first and Terri later joined STC to support and enhance our Electronic Task Order Management System (ETOMS), they were, respectively, first assigned to develop a PR App to provide us a much needed utility and provide them training in ETOMS, the STC accounting system, and the programming languages/techniques STC uses.



Mr. Tim Brinkley, STC HQ.



Mrs. Terri Geisler, STC HQ.

Tim developed the initial system which has been in use at STC Headquarters (HQ) for over a year. This initial version supported the PR and approval process and was a significant step forward. When Terri joined STC, she was given the task of adding the comparison of quotes worksheet and some additional features identified through early use. Terri, with support from Tim and the purchasing and accounting staff, worked to complete the project and added even more features to make the app more user-friendly.

The new version is in use at HQ and at our Electronics and Fabrication Facility in Hampton, Virginia for Beta testing. Beta testing and resultant fixes are nearly complete and we plan to roll-out the app to our other office locations in the coming weeks with company-wide deployment soon to follow. Kudos to Tim and Terri for completing a very useful tool and cementing a team working relationship that will serve them well as they proceed with ETOMS updates. □

SAFETY CORNER

Wireless communication devices (WCDs) are more prevalent than ever and drivers using a WCD while driving are four times more likely to cause an accident. Know your State's regulations governing use of wireless devices while driving, especially texting while driving. Many contracts are now including FAR 52.223-18, Encouraging Contractor Policies to Ban Text Messaging While Driving, for both company-owned or -leased vehicles, Government-owned vehicles and privately-owned vehicles when on official business.



"I HAVE TO HANG UP NOW. I'M CRASHING!"

– SNOOPY (Continued from page 1)

flight and/or systems safety or identification, and correction or preventive action for errors. The SFA Program is a NASA-managed motivational and recognition program with invited representation from NASA and contractors having major responsibilities for human spaceflight mission success. It is managed by NASA Headquarters Human Exploration and Operations Mission Directorate and was established by NASA in 1963. The SFA program became a formal program following the

Mercury and Gemini Programs, when NASA took steps to infuse the space program with a renewed and strengthened consciousness of quality and flight safety. As NASA human space flight programs grew, NASA centers were requested to expand their assistance to government agencies and contractors in enhancing employee motivation.

Mr. Alton Coffey received the Silver Snoopy Award for his significant contributions in support of drop tests for the Structural Passive Landing Attenuation for Survivability of Human Crew (SPLASH) project Boilerplate

and provided funding for the project. UMBC's Physics Department designed, constructed, and tested the sun sensor.

STC is a small high-tech company founded in 1979 in Hampton, Virginia. It provides science and engineering support services to the federal government and commercial customers, including NASA, NOAA, DoD, and the U.S. Coast Guard. STC has over 400 employees working at 27 locations in 17 states in the U.S. and has a vigorous STEM educational program of which the Qubescout initiative was part of. Other elements of STC's educational program include publishing and editing the peer-reviewed Journal of Small Satellites (www.jossonline.com); and Science and Technology International Education Program (www.STIEP.org). STIEP enables student research internships under co-mentors at NASA and other government labs.

"STC came to us with a launch opportunity in early September 2010 and asked if it was possible to put together a small satellite mission to test a sun-sensor. They needed it in about two months. Our students had already been working on small satellites, so we had the capability and know how. Nonetheless, putting something together this quickly has to be some kind of record. I am really pleased with our students and faculty who made this possible," said Physics **Professor J. Vanderlei Martins** who is the Principal Investigator on the mission. "We have a very innovative design that uses commercial off-the-shelf materials. That, and using students, helped keep our costs very low."

Qubescout-S1 was built in 2010, but due to changes in attached payload availability was launched this year. Qubescout-S1 was orbited

– Continued on page 3 (see NanoSat)

Test Article (BTA), a mock up of the Orion crew module at the LaRC Hydro Impact Basin. His contributions were noted by the lead engineer of the SPLASH project. A ceremony was held at the Pearl Young Theater where Alton was presented his award by **Astronaut Shannon Walker** and Center Deputy Director, **Mr. Steve Jurczyk**. A reception was held directly after the award ceremony. Alton had his family in attendance to celebrate the special occasion. We want to congratulate Alton on his well-deserved award and thank him for his outstanding service. Again, **Congratulations!** □



Alton was joined by his family (pictured above) at the award ceremony and the reception. They had the opportunity to share in Alton's achievement and meet and talk with Astronaut Shannon Walker.

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CMMI Recertification

Congratulations! STC has achieved another three years as a CMMI Level 2 certified company. STC received re-certification of its CMMI Level 2 qualification this past year following a concerted effort by the MIS team at STC Headquarters in Hampton, Virginia. The MIS team, led by **Mr. John Sullivan**, and supported by **Mr. Mike McGuire**, **Mr. Tim Brinkley**, and **Mrs. Terri Geisler**, provided an outstanding effort and support to the re-certification process. STC received its original CMMI Level 2 certification back in 2010. The certification was set to expire in the spring of 2013. In preparation for re-certification, the STC Configuration Management (CM) team began developing a plan for the re-certification process in the fall of 2012. The MIS team identified the proposed projects, and the necessary supporting documentation. As the process ramped up, the team began to gather the required artifacts, documents, processes, and tests for submission to the Lead CMMI Auditor. Weekly meetings were held with the MIS team to establish progress on current projects and the status of action items identified during the meetings. The team worked diligently on CMMI re-certification efforts, while continuing to support IT operations,

and current software development efforts. No small task, when operational issues pop up, as they always do. The MIS team always took steps to meet deadlines for the CMMI effort, while keeping necessary systems up and running. The final process for the CMMI certification required a two day assessment with the lead auditor and his team. This assessment took the CM team through all three proposed projects requiring multiple one hour sessions for each project. These sessions included verification of project management, coding, testing, software quality management, metrics, and configuration management. Each session was intense, requiring project descriptions and detailed answers to questions about our processes, procedures, and how we document them. The MIS team members all competently and professionally answered all questions thoroughly for the auditing team, leaving them satisfied with our understanding of STC's processes. Following the two day CMMI final assessment, was a short, but difficult wait, to receive the final finding presentation. On April 30th, we received our SCAMPI A Assessment letting STC know that we had passed and received our CMMI Level 2 re-certification. Again, congratulations to the CM team and the MIS team for a great job! □

SECURITY CORNER

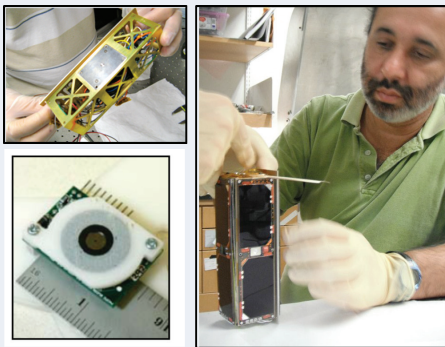
Adverse Information – NISPOM 1-301.a. requires that all cleared Government contractors report "adverse information" to the Government on any cleared employees. Adverse information is defined as "Any information that adversely reflects on the integrity or character of a cleared employee, that suggests that his or her ability to safeguard classified information may be impaired, or that his or her access to classified information clearly may not be in the interest of national security." Cleared employees should report to the FSO (Facility Security Officer) any financial difficulties including garnished wages and credit card misuse, criminal conduct, arrests, traffic violations, substance abuse, bribery, fraud, tax evasion, disloyalty to the U.S., hacking, mental disorders, foreign influence, personal conduct, sexual behavior, etc., concerning themselves or other cleared employees.



NEW CONTRACTS

- **June 2013** – STC was awarded a year-long subcontract with Texas A&M University under their NASA Cooperative Agreement. Dr. Mark Schoeberl is the lead on this subcontract that is using Trajectory Calculations to Study Mass and Trace Gas Transport into the Stratosphere.
- **September 2013** – STC was awarded a contract with Jet Propulsion Laboratory for Validation Efforts for the AIRS Project. This contract will be completed in mid-2015.
- **September 2013** – STC won their fourth SciTech task order for "Enterprise OSD/CLASS Support."
- **October 2013** – STC was awarded a subcontract with SGT under their OMES contract. We are currently working on the first task order entitled, "GSFC System Review Support."
- **STC** has transitioned from PAIS IV to PAIS V and as of this date has been awarded 12 task orders under our subcontract with Leidos (formerly SAIC).
- **STC** continues to be awarded additional delivery orders under our NOAA Ancillary and Engineering BPAs in both Boulder, Colorado and NOAA NESDIS.

– NANOSAT (Continued from page 1)



Professor J. Vanderlei Martins of UMBC with the satellite (on workbench, right) during construction. Lower left, the micro-sun sensor, upper left shows body of satellite with sun sensor aperture in the center of the silver square. The satellite has a sun sensor on both sides.

along with a cluster of 28 other small satellites (see <http://www.satelliteonthenet.co.uk/index.php/2013> [21 November]). Data from the satellite will be downlinked to radio receivers at UMBC. Students will analyze data from the two sun-sensors to check their performance.

STC President, **Dr. Adarsh Deepak**, noted that "Professor Martins' group has done an incredible job on this project. This joint venture sets the stage for more exciting collaborations between STC and UMBC in the future. It also shows how small companies working with a University team can be part of America's space future."

Acknowledgments: The following individuals and organizations contributed significantly to the timely and cost-effective development of the NanoSat system leading up to its successful launch: **Professor Bob**

Twiggs for providing the design of his twin "pocket-sat" combination, and connectivity to the Unisat-5 team at Rome, Italy; **Mr. Ravi Deepak** of Taksha University (www.taksha.org) for his support through the entire process; **Mr. Jeff Manning** of STC's Electronics & Composites Fabrication Facility in Hampton, Virginia, for getting the machining of the NanoSat chassis completed in one day; **Dr. Mark Schoeberl**, STC Chief Scientist, in managing the QubScout project; **Professor J. Vanderlie Martins** for getting the launch-ready QubScout completed with the help of his UMBC students in 10 weeks; and **Professor Benjamin Malphrus**, Morehead State University, Kentucky, for pre-launch vibration testing at the MSU facility, and then delivering it for integration in to the Unisat-5 satellite in Rome, Italy. □

HONORS and AWARDS

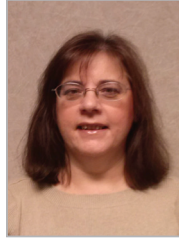
STC's Milestone Loyalty Service Appreciation Program awards full-time and part-time employees for their loyalty of service to STC on reaching 3 years, 5 years, and every 5 years of service thereafter. Awardees are given the opportunity to select an award item out of the selection of awards available for the Awardees' milestone. The Awards are presented to Awardees at a luncheon held in their honor. □

30 YEAR EMPLOYEE



Sidney Gerard
October 1984

25 YEAR EMPLOYEES



AnnaMaria Clack
March 1989



Steve Freudenberger
August 1989

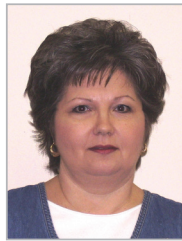


Dawn Erlich
March 1994

Not Pictured:

25 Year Employee: *Bruce Gilbert*, June 1989.

15 YEAR EMPLOYEES



Glenda Lissimore
March 1999



Kevin Knott
May 1999



Melissa Lyons
May 1999

Not Pictured:

15 Year Employee: *Eric Fausett*, July 1992.

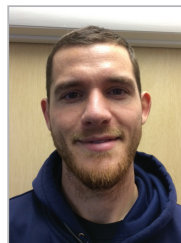
10 YEAR EMPLOYEES



Amy Stender
April 2004



Dr. Charles Davidson
February 2004



Joseph Grosso
February 2004



Dr. Scott Oblad
March 2004



Allyssa Martinez
October 2004

Not Pictured:

10 Year Employees: *Khristopher Shultz*, March 2004.

5 YEAR EMPLOYEES

Shannon Macken, April 2004; **Melaina Mansanarez**, January 2009; **Erin Patrick**, January 2009; **Tamara Pendley**, February 2009; **Kevin Stone**, February 2009; **Kelly Clement**, March 2009; **Daniel Davies**, March 2009; **Victoria Dolly**, March 2009; **Brandon Nohr**, March 2009; **Bart Sagers**, March 2009; **Lucas Bell**, May 2009; **Brooke Haynes**, May 2009; **Lance Murdoch**, May 2009; **Kimberly Bowman**, June 2009; **Joshua Langlie**, June 2009; **Eric Putnam**, June 2009; **Kelly Zaledonis**, June 2009; **Roger Thompson**, November 2009.

3 YEAR EMPLOYEES

Joshua Peters, January 2011; **Dr. Robert Melvin**, April 2011; **Sabrina Taijeron**, April 2011; **Sharon Broomall**, May 2011; **James Coogan**, May 2011; **William Girard**, May 2011; **James Rice**, May 2011; **Dr. Petrus Van Oevelen**, May 2011; **Arnold Consul**, June 2011; **Dr. David Schatzman**, July 2011; **Dr. J. Spackman**, August 2011; **Kyle James**, September 2011; **Susan Barlow**, October 2011; **Dr. Ioana Cozmata**, October 2011; **Dr. Emre Sozer**, October 2011; **John Sullivan**, October 2011; **Darren Yingling**, November 2011; **Dr. Ava Walker**, December 2011; **Gabriela Westbrook**, December 2011.