We wish you a very safe and happy holiday season, and a prosperous New Year. VSSEC will close on Friday 18th December and re-open on Thursday 21st January.

**NORAD TRACKS SANTA**

You can track Santa’s progress on Christmas Eve with NORAD [www.noradsanta.org](http://www.noradsanta.org). NORAD uses radar, satellites and Santa Cams to track Santa’s progress. On Christmas Eve, NORAD monitors the radar systems continuously for indications that Santa Claus has left the North Pole. The moment that radar indicates Santa has lifted off, NORAD uses satellites equipped with infrared sensors, which enable them to detect heat. Amazingly, Rudolph’s bright red nose gives off an infrared signature, which allows them to detect him. The third tracking system is the Santa Cam network. Santa Cams are ultra-cool, high-tech, high-speed digital cameras that are pre-positioned at many locations around the world. NORAD only uses these cameras once a year on Christmas Eve. The cameras capture images and videos of Santa and his reindeer as they make their journey around the world. This year you can also track Santa’s flight path in Google Earth.

**APPLICATIONS FOR SPACEWARD BOUND 2010 CLOSE 16TH DEC**

If you are a Secondary School Educator with an interest in earth, planetary and space science, then the Spaceward Bound Mojave 2010 expedition might be just the thing for you.

To be held in the Californian Mojave Desert from 28th March to 2nd April, this event links scientists, engineers and teachers in real field science, studying areas such as desert soils, microbiology, geomicrobiology, astrobiology, hypolithic algae, infra-red thermography and engineering. Educators are responsible for their own travel to and from the US but NASA is covering all expedition related costs while in the US. For further information and application form visit [www.marssociety.org.au](http://www.marssociety.org.au) or email education@marssociety.org.au. Applications must be received by Wednesday 16th of December.

**ENGINEERING STUDENTS@WORK**

**Green Building Design – How Low Can You Go?**

Five students from Santa Maria College, Maria Wu, Nhung Tran, Anne Aggarwal, Sneha Bhattachan and Salome Hallock participated in the first Akorn Engineering Students @ Work Program hosted by the Engineering firm Norman Disney & Young. The girls were given a design brief to develop concepts for an energy efficient green office building and spent five days working with NDY engineers to formulate their proposal.
“I’ve never learned so much in one week – not just about engineering, but working together as a team, learning and using organizational skills – I would definitely do it again!” Nhung Tran, student participant.

This program provides:
- A realistic engineering experience for teams of secondary students
- Students with a chance to learn about the diversity & vitality of engineering
- Allows students to work with professional engineers
- Promotes experiential learning
- Understanding and adopting sustainable engineering design solutions

For information about how your school or organisation can participate in the Engineering Students @ Work program, please contact Georgene Bridgeman on 0412 339 553 or email georgene.b@AKORN.com.au.

HONEYWELL EDUCATORS AT SPACE ACADEMY

The Honeywell Educators @ Space Academy scholarship program has sponsored more than 1,100 teachers from 34 countries to the Space Academy for Educators program at the U.S. Space and Rocket Center in Huntsville, Alabama.

During the program, teachers participate in astronaut-style training and simulations, along with activities designed to promote life-long learning in a classroom setting. All lessons and activities are ready to use in the classroom. Honeywell and the U.S. Space & Rocket Center are now accepting applications for the 2010 Academy program from middle school science and math teachers from around the world www.surveymonkey.com/s.aspx?sm=RZpN1Nx3quWqUvroqmlrA_3d_3d The deadline for all submissions is December 31, 2009.

The scholarships include:
- Tuition for the 5-day Space Academy program at U.S. Space Camp in Alabama
- Round-trip airfare
- Meals and double occupancy accommodations
- Workbooks and program materials for participating teachers

CONGRATULATIONS TO VSSEC EDUCATOR DANIELLE SHEAN

We would like to congratulate Danielle Shean for completing her Master of Science. Danielle completed her research at Monash University where she examined a range of skull and post cranial fossil material found within the Buchan Caves, Victoria. Her investigation uncovered and described the well preserved skull of a giant marsupial called Palorchestes azael, a leg bone from a giant wombat, a hipbone from a new species of kangaroo and jawbones from previously unknown small mammals to the region. Danielle’s knowledge of fossils and geology add a richness to the VSSEC Mission to Mars and student in the Primary School Outreach program have enjoyed Danielle’s explanation of coprolites (dinosaur poo).

EARLY WARNING – MORE INFORMATION TO FOLLOW

It IS Rocket Science: Japan (June/July 2010)
Thanks to the Australia Japan Foundation, VSSEC, JAXA, ASTA Engineers Australia and Questacon, one teacher from each state and territory will travel to Japan, visit Tanegashima Space Center, participate in the JAXA Cosmic College Educators Course and work with Japanese scientists and Engineers.

Volcanoes, Telescopes and Evolution: Hawaii (Sept 2010)
Ten days of intense professional learning. Visit the Gemini North Observatory, view the most active volcanoes in the world with the University of Hawaii and trek through the unique Hawaiian landscape.

To register your interest for either trip email information@vssec.vic.edu.au

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