Southern Hemisphere Space Studies Program

MEDIA BRIEF - Project Space Balloon

This Sunday 22 January 36 participants in the Southern Hemisphere Space Studies Program will be launching two helium balloons with special student built satellite payloads into the stratosphere over the Adelaide region.

The students from 11 nations will simultaneously send helium balloons to an altitude of 35 kilometres (115,000 ft) above both McLaren Vale and Mount Barker, live stream vision from the flights and then recover the satellite payloads to analyse the data.

The Southern Hemisphere Space Studies Program (SH-SSP) was launched in January 2011 by the University of South Australia in partnership with the International Space University and the "satellite" payloads have been designed, built and tested by this year's program participants.

The launch event on Sunday is co-hosted by the International Space University, the University of South Australia and Defence SA.

Chair of the Space Industry Association of Australia and the SH-SSP Management Committee, Michael Davis, says small satellites have opened up unprecedented opportunities in space research and business, allowing the emergence of new and dynamic economies of scale possible on small, rather than large, budgets.

"The payloads will capture and downlink images of surrounding areas that will be viewed live from the McLaren Vale launch site," Michael says.

"In addition, a packet of Serafino grape seeds will be carried on each balloon for the flight and these "Space Seeds" after exposure to extremely low pressure and very low temperatures will then be planted at the Serafino Winery.

"A competition to name the payloads is also being run, with the winner receiving a mission patch flown into space on the balloon."

Adjunct Professor at UniSA and ISU, Associate Professor David Bruce, says the two high altitude balloon payloads will simulate a small constellation of Earth observation satellites.

"The payloads will collect visible and infrared images that will be transmitted to ground stations with new tele-communications technology called WENET, developed by the Amateur Radio Experimenters Group (AREG) and staff from UniSA," Prof Bruce says.

"The participants will then process the imagery from both payloads to enhance agriculture crops, particularly vines, and display the results in near real time."

Program details:

0930 At McLaren Vale – pre-launch commentary on the assembly of the payloads and balloon prior to launch

1000 (or thereabouts) simultaneous balloon launches from Mount Barker High School and Serafino Winery at McLaren Vale

1030 Mount Barker team and guests travel to McLaren Vale

1100 Participants and invited guests move to reception room at Serafino for presentations and tracking the flights on a video screen

Details for Live Web Streaming:

Images will be broadcast live from the balloons to the following Facebook link

Websites:

www.shssp.education
www.unisa.edu/spaceprogram
www.isunet.edu

Social Media Handles

#ISU
#SHSSP17

Background information

This is the sixth program held at the University of South Australia's Mawson Lakes campus. It is matter of considerable prestige that a South Australian university has been chosen as ISU's partner in this international space education venture – UniSA is the only university in the world to have a continuing partnership with ISU to conduct an annual program.

The SH-SSP is an intensive, five week, live-in experience in the southern hemisphere summer, involving the international, intercultural, and interdisciplinary educational philosophy for which ISU is renowned. The program is open to participants from all nations with graduate qualifications or who have completed the first two years of their undergraduate studies. The program focuses on space applications, space policy and space services, while giving a well-rounded overview of the principles and concepts involved in space science, space systems engineering and technology, space business and management and space legal and regulatory issues.

As in other ISU programs, students benefit from the experience of an international, interactive working environment shared with other professionals, graduate researchers and senior undergraduate students. Program graduates will become part of the international network of ISU alumni, faculty members and visiting lecturers (numbering more than 4,000 to date).

This year there are 39 participants from a wide range countries - Australia, China, India, Austria, Germany, the Philippines, France, Oman, Nigeria, Mexico and Columbia. Approximately 40 visiting lecturers and staff will come from Australia, Belgium, the Netherlands, Malaysia, New Zealand, and the USA.

The principal theme and focus of the 2017 program to be explored by the participants in their capstone team research project, revolves around small satellites. Small satellites have opened up unprecedented opportunities in space research and business, allowing the emergence of new and dynamic economies of scale possible on small, rather than large, budgets. This makes space accessible to virtually all countries on Earth. UniSA is at the forefront of this development in Australia and the participants of SH-SSP17 will be interacting closely with the university's scientists and engineers and with their interstate and international colleagues. To complement the capstone project a stratospheric balloon experiment (scheduled for January 22) will involve launches from two separate sites – McLaren Vale and Mount Barker. The participants will develop payloads to be deployed for the acquisition of telemetry and environmental data in a demonstration of small payload utilisation for the acquisition of significant Earth Observation data sets.

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