ISS Contact with South Hobart Primary School

27 August 2010.

By Justin Giles-Clark VK7TW – Amateur Radio Coordinator for School Contact.

The School

South Hobart Primary School is located in one of Hobart's oldest and most diverse suburbs. The picturesque school grounds have Mt Wellington (1270m) as a backdrop and are adjacent to the Hobart Rivulet. South Hobart Primary School was originally named the Upper Macquarie Street School and the 150th anniversary of the school's founding was celebrated in 2008.

The school currently caters for 246 students from Kindergarten to Year 6 students, from the inner-city suburb of South Hobart, as well as the communities of Fern Tree and Ridgeway. Access to the CBD and the establishment of an on-site Long Day Care Centre and After School Care, has also seen the school attract enrollments from outside the local area. Over the past eight years, the school's student population has doubled.

South Hobart Primary's key purpose is to nurture students, promote a positive attitude to life and learning and to develop the skills needed to be an active participant in the community, now and in the future.

The Preparation

The Radio and Electronics Association of Southern Tasmania Inc. supported the application for the contact that was submitted on 4th July 2009 and later in that year classes started learning about the solar system, the history of astronomy (400th Anniversary of Gallileo & Year of Astronomy), how information about outer space is gathered and the technologies that are used to overcome the difficulties that space exploration presents. A solar system walk was undertaken – whereby the solar system was scaled down to 6,000,000 kms = 1 metre. To understand the vast distances of space demonstrates further the challenges of space travel.

This is made all the more exciting during The International Year of Astronomy. It was believed that being able to have direct contact to a live space mission would have a great impact demonstrating how far

space technologies have progressed since the 1969 moon landing (2009 also being the 40th Anniversary of the Moon Landing).

This is a school-wide area of interest. To date classes have completed research projects on the planets of the solar system, kept phases of the moon diaries, written stories and poetry relating to topic. Great men and women of astronomy have also been a focus. Further work included: making model rockets, dioramas and water pressure soda bottles rockets.

The Contact

The contact took place on 27 August 2010 at 16:46 (local time) for 7.5minutes.

The contact was made via the telebridge network to Colonel Doug Wheelock on the ISS (NA1SS) under the guidance of Coordinator Tony Hutchison VK5ZAI in Kingston SE South Australia. The amateur radio ground station was K6DUE at Goddard Space Flight Centre in Maryland USA run by Dave Taylor, W8AAS with assistance from Mark Steiner K3MS and Burnie Hahn N6ZOA. Echolink streaming was handled by Graham Lawton G7EVY in Lancashire UK. Locally at the school the phone patch unit was run by the author – Justin Giles-Clark VK7TW.

The satellite tracking application SatScape was used to display on the classroom's smart board to show where the ISS was in the world and when it came into range of Maryland USA. Another screen was playing the DVD supplied by Tony VK5ZAI of Mike Finke's tour through the ISS to show people what it looks like inside the ISS as Doug Wheelock was answering each of the student's questions.

There were approximately 40-50 people present in the classroom which included the 10 students, parent, friends, teachers, media and helpers who all witnessed the contact.

Initially K6DUE contacted NA1SS at the scheduled time of 0646 UTC with good result however then contact was lost for approximately two minutes due to what is though to have been a loss of the line of sight path due to ISS infrastructure (this is yet to be confirmed).

K6DUE re-established contact and the student questions were started with Felix asking the first question. Unfortunately due to the loss of the first few minutes of the pass, three students missed out asking their questions. However, Dave Taylor and Tony Hutchison did their best to provide answers to these questions for the last three students.

Video was taken of the event and a 30 minute DVD presentation along with a 15minute YouTube summary video was created and this is soon to be uploaded to the VK7TW channel (see the VK7TW channel at: http://www.youtube.com/user/VK7TW).

The DVD presentation is being presented to each student to remember the day they asked an astronaut in space a question.

The Questions

ISS Contact Students (LtoR): Felix, Reuben, Alex, Angela, Marcus, Theo, Gabe, Johann, Beau and Joe – all ready to ask their question of Astronaut Doug Wheelock.

The students were aged between 8 and 12 years old.

1. Dexter (asked by Felix): How long and wide is the space station?
2. Reuben: What are the types of emergencies that can happen in the ISS and can fire ignite in zero gravity?
3. Alex: What are some of the experiments that you've done and what's one of your favourites?
4. Angela: How does it feel to do a space walk, is it scary and how many have you done?
5. Marcus: How many countries are involved in the ISS and what countries do the astronauts actually come from?
6. Theo: How many people can live on the space station at any one time?
7. Gabriel: Is the issue of space junk a concern and how does the ISS steer to avoid it?
8. Johann: How long does it take the mind to get used to zero gravity and when you return to Earth does it take the same amount of time to get used to normal gravity?
9. Beau: What happens to all the waste: human waste and food scraps that are created while you are on the space station?
10. Joe: What level of connection do you have with Earth in regard to receiving current affairs/news and communications with your family?

Media Coverage

A media release was developed between the local Radio club (Radio and Electronics Association of Southern Tasmania Inc.) and the South Hobart Primary School and this release can be found at: http://reast.asn.au/2010/ISS%20-SHPS-Contact-Media-Release_(Final).pdf. This media release was distributed to Local media outlets by the Tasmanian Education Department Media and Communications Unit.

The Principal Greg Turner was interviewed on air by a local commercial radio station (Southern Cross Media) a couple of days prior to the contact to raise awareness and demonstrate support from the school.

The local newspaper in Hobart is the Hobart Mercury and a report and cameraman covered the event and this resulted in a great article about the contact appearing on the following day: http://reast.asn.au/images/SHPS_ISS/Hobart_Mercury_SHPS_ISS_Contact_Article_20100827_LowRes.jpg.

Many comments were received from teachers and parents about this article along with the Principal receiving a letter from the Acting Deputy Secretary of the Department of Education praising the positive media coverage.

A few days after the event the author was interviewed on local Australian Broadcasting Corporation (ABC) radio for 7minutes on the Michael Veitch breakfast program and a recording of this can be found at: http://reast.asn.au/soundfiles/7TWMichaelVeitchInterview_ISS_SHPS.mp3

Appreciation

Thanks to Tony VK5ZAI for the mentoring, coordination, phone patch equipment used for the contact and who recorded the contact (see: http://reast.asn.au/soundfiles/VA001_032KBPS_100822_042050.MP3).

Thanks to Dave Taylor (W8AAS), Mark Steiner (K3MS) and Burnie Hahn (N6ZOA) at the Goddard Space Flight Centre who operated the amateur radio ground station (K6DUE).

Thanks you to Graham Lawton G7EVY for the Echolink streaming during the contact.

Thanks to NASA and especially Colonel Doug Wheelock for answering the Student's questions.

Thanks to the ARISS team who made this all possible.

Thanks to the Principal Greg Turner, Coordinating Teacher Dallas Honnery and the Students and Parents for enthusiastically participating in the contact.

Thanks to Steve Leeper VK7OO, Warren Nicholas VK7FEET and Thomas Karpiniec VK7NML for helping during the contact.

73, Justin, Giles-Clark, VK7TW

4 September 2010.