Australians in Space
VSSEC Space Week
Video Conference Program

The space industry is a challenging and exciting industry to work in. It employs people from all backgrounds, and brings them together to provide essential services like Earth Observation, satellite communication and GPS, as well as explore our solar system and beyond. Talk to Australians working at NASA, the European Space Agency and in Australia. Meet an engineer designing the next Optus satellite and a scientist exploring Mars. Every one of them is inspirational and in a job you could have!

Duration: 45min
Target audience: Year 10-12
Cost: FREE
Limit 3 classes per session
Email lynnette.whitfield@polycom.com to book a session
Sessions will be recorded and loaded on VSSECs YouTube site
Visit www.vssec.vic.edu.au for full speaker biographies

9:00am Monday 17th October: Michele Clement, Manager, Australian Space Policy Unit
The Space Policy Unit co-ordinates Australia’s national and international space activities, delivers the Australian Space Research program and is developing a national space policy for Australia. Michele will talk about the role of Government in supporting space activities in Australia, identifying how space technologies are part of our everyday lives, the importance of space systems in protecting our planet and what to do when space debris is discovered in Australia.

2:00pm Monday 17th October: Members of the VSSEC - King David School CanSat Team
In August the team became the first Australians to competed in the French CanSat competition and the only team to include secondary school students. They were one of only five teams out of sixteen to qualify for the final. A CanSat has all the components of a satellite in a soda can. For the eight months prior to the Yr11&12 students and their university mentors designed, built and tested their CanSat. For the 2011 competition the team set themselves the challenge of completing three missions: Atmospheric Sounding, Deployment of an RF Antenna and Airbag Landing.

9:00am Tuesday 18th October: Dr Douglas Griffin, Systems Engineer, RAL Space
Doug is a Systems Engineer and Manager of the RAL Space Concurrent Design Facility at Rutherford Appleton Laboratory (RAL) in Oxfordshire, UK. He is responsible for the development of novel instrumentation for space science missions. His work covers the entire scope of the instrument life-cycle; from the initial proposal and feasibility assessment through to implementation and performance verification. At RAL he has worked on projects such as the ESA Highly Miniaturised Radiation Monitor and the ESA Compact Low-Noise Magnetic Gradiometer.

10:00am Monday 17th October: Meet the VSSEC rover
The VSSEC Mars Autonomous Science Laboratory (MASL) was designed and built by the Australian Centre for Field Robotics (ACFR) at the University of Sydney. Students participating in the VSSEC Robotic Mission to Mars can control the rover on the simulated Mars surface and use its instruments to collect data for analysis. Speak to Geologist, Danielle Shean, and learn more about the rover and Mars exploration.

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<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
<th>Details</th>
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<tbody>
<tr>
<td>10:00am</td>
<td>Dr Andrew Hyslop, Senior Guidance, Navigation and Control Engineer, NASA Goddard Space Flight Centre</td>
<td>Aerospace Engineer</td>
<td>Andrew is an Aerospace Engineer who currently works at the Goddard flight Centre at NASA. He began work at NASA in 2010, and is currently helping to develop a satellite with three robotic arms to refuel and repair existing weather and telecommunications satellites. Andrew’s undergraduate thesis work on Electrodynamic Tethers (long electric wires in space) won him a national prize and a chance to work in Europe, where he worked on various ESA projects, including the Young Engineers Satellite 2, a project with participants from over 40 countries, which flew in space in 2007 and successfully deployed the world’s largest man made object in space - a 32km piece of string used to try to sling something back to Earth.</td>
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<td>11:00am</td>
<td>Michael Brett, Consulting Systems Engineer, Aerospace Concepts</td>
<td>Consulting Systems Engineer</td>
<td>Michael is a consulting systems engineer and project manager on a number of aerospace projects around Australia and internationally. He leads Aerospace Concepts’ Flight Safety Analysis team which uses high fidelity simulation software to conduct risk analyses of air and space missions. Currently, Michael is the project manager of the Antarctic Broadband project, which is an international effort to deliver 24 hour, high-bandwidth communication to Antarctica. He has worked on projects such as the Japanese asteroid sampling probe, ‘Hyabusa’ and the HIFIRE Hypersonic Research program sounding rocket trials. Michael also chairs the Space Generation Advisory Council based in Vienna, a 4000-strong network of students and young professionals starting their careers in space.</td>
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<td>9:00am</td>
<td>Dr Andrew Barton, Senior Engineer, AOES &amp; Manager, Google Lunar X PRIZE Team, White Label Space</td>
<td>Senior Engineer</td>
<td>Andrew Barton is a senior engineer at AOES, a Dutch aerospace firm where he leads a variety of technology development projects for customers such as ESA, the European Commission and the Netherlands Space Office. He also manages the Google Lunar X PRIZE team White Label Space, which is an international effort with participants in Europe, Japan and Australia. From 2005 until 2009 he worked at the European Space Agency (ESA) as a structures and configuration engineer, providing technical support to projects including planetary landers, scientific missions and launch vehicles. While at ESA he also participated in over twenty Pre-Phase A design studies in ESA’s Concurrent Design Facility (CDF), and managed technology development contracts and standardization activities in the European space industry related to spacecraft and launchers.</td>
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<td>10:00am</td>
<td>Mark Blair, Optus-10 Satellite Contract Manager, Optus Satellites</td>
<td>Satellite Contract Manager</td>
<td>Mark is currently based at Space Systems Loral (CA, USA) as the Optus-10 Satellite Contract Manager overseeing the design and construction of the 10th satellite for Optus. Mark has been an Optus on-site resident at Space Systems Loral (CA, USA) for majority of the currently operating OPTUS satellites. Optus is the only telecommunications provider, in Australia to own a satellite fleet and currently operates 5 geostationary satellites. Mark will talk about the role Optus has played in the field of Space Technology in Australia.</td>
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<td>11:00am</td>
<td>Dr Ian Grant, Bureau of Meteorology</td>
<td>Bureau of Meteorology</td>
<td>Ian Grant gained BSc (Hons) and MSc degrees from the University of Melbourne, and a PhD from La Trobe University. After postdoctoral work in Canada, he joined CSIRO Atmospheric Research in 1995 to commence research in the remote sensing of radiation at the land surface. In 2003 Ian joined the Bureau of Meteorology, where he is now responsible for maintaining and developing software for terrestrial satellite applications. His recent work includes solar resource mapping to support the renewable energy industry, and a Bushfire CRC research project to develop satellite-based monitoring of grassland drying for use in bushfire management.</td>
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<td>9:00am</td>
<td>Mark Ramsey, Thales Alenia Space, France</td>
<td>Bid Manager and Systems Engineer</td>
<td>Mark is currently a Bid Manager and Systems Engineer for the Optical Observation and Science Business Unit at Thales Alenia Space in France. In this role he works on Earth Observation satellite and Science mission proposals and studies for a variety of Space Agencies worldwide, including the European Space Agency and NASA. Mark has previously worked in a variety of roles within the Aerospace and Defence industries in Australia, and speaks both French and Chinese.</td>
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10:00am Thursday 20th Oct: Elizabeth Blaber, PhD Researcher, NASA Ames Research Center / UNSW

Elizabeth is a PhD student at UNSW and NASA Ames Research Center. As the winner of the 2009 VSSEC-NASA Australian Space Prize, she participated in the 2010 NASA Ames Academy program where she established a solid collaboration with Dr Eduardo Almeida. She is currently at Ames investigating the effects of spaceflight on tissue regeneration using animal models flown on NASA’s Space Shuttle missions STS-131 and STS-133. She recently spent several months at Kennedy Space Center in Florida preparing a cell culture payload which was flown onboard Space Shuttle Atlantis on STS-135, NASA’s last ever shuttle mission, to investigate the effects of spaceflight on the ability of stem cells to differentiate into keratinocytes (skin cells), and the wound healing potential of these cells upon returning to Earth.

11:00am Thursday 20th Oct: James Chartres and Matthew Steventon, NASA Mission Design Centre

James Chartres is a researcher, engineer and project manager at Carnegie Mellon University, Silicon Valley. He leads proposal development activities for mission concepts at NASA Ames Research Center within the Mission Design Center. The mission concepts focus on small spacecraft missions including Earth Observers, Near Earth Asteroid Explorers & Landers, Exoplanet Observers and fundamental physics experiments. He has also worked on EVA technologies including the Suit Port, a novel concept to dock spacesuits to habitats and rovers reducing the need for airlocks.

Matthew recently completed his Bachelor of Aerospace Engineering and Mathematical/Computer Science. In his final year he designed the on-board computer for an experimental rocket launched from the Woomera Test Range in South Australia. As a result of his work he won the Data Processing and Electronics category of the VSSEC-NASA Australian Space Prize. Matthew is currently an intern at the Mission Design Center at NASA Ames Research Center where he is working on flight qualification mechanical and thermal testing of a satellite payload as well as the design of a thermal insulation system for a small satellite science experiment.

9:00am Friday 21st Oct: Noah Saks, Astrium, Germany

Noah Saks is a study manager and system engineer in the science programmes department at Astrium in Friedrichshafen, Germany. He carries out mission and system studies, defining the conceptual mission and system designs, as well as analysing the overall technical feasibility and cost. Noah has managed several studies, mainly for the European Space Agency (ESA), as well as undertaken the system engineering role on these and others. He is passionate about space and loves working on scientific missions. Current missions include ESA's Lunar Lander, the gravity wave detector LISA, and a mission to Jupiter and its moons. Noah has a Bachelor of Aerospace Engineering and Business Management and a Masters of Space Systems Engineering.

10:00am Friday 21st Oct: Roger Franzen, Technical Program Manager, ANU RSAA

Roger Franzen is the Technical Program Manager for Astronomy and Space programs at the ANU Research School of Astronomy and Astrophysics (RSAA). Roger specialises in space training and space systems engineering. He has been active in the European and then the Australian space engineering industries for over 30 years. A graduate of Curtin University in Western Australia, he has worked with British Aerospace, Space & Communications (UK) and was involved with the construction and launch of seven commercial communications satellites. In Australia, he worked with Auspace Limited on several national programs including the Endeavour Ultraviolet Telescope, the Southern Launch Vehicle, the ARIES commercial Hyper-spectral remote sensing satellite and the still orbiting Advance Along Track Scanning Radiometer (AATSR) instrumentation.

11:00am Friday 21st Oct: Dr Adrian Brown, NASA Ames Research Centre and the SET Institute and Elizabeth Jens Stanford University

Adrian is a Planetary Scientist working at the SETI Institute and NASA Ames Research Centre. He is currently studying seasonal changes in the surface and atmosphere in the polar regions of Mars using data from the CRISM instrument which is onboard the Mars Reconnaissance Orbiter. Adrian teaches an on-line Planetary Science course at Swinburne University of Technology and helped to establish the VSSEC-NASA Australian Space Prize.

Elizabeth is about to start a PhD at Stanford University after completing a Masters in Aeronautics and Astronautics. In 2009 she participated in the International Space University program at NASA Ames and has just completed a summer internship at the NASA Jet Propulsion Laboratory (JPL) where she worked on a propulsion system for attitude control of an Earth satellite, Soil Moisture Active Passive, that is due to be launched in 2014.