



**ROYAL
AERONAUTICAL
SOCIETY**

**AUSTRALIAN DIVISION
SYDNEY BRANCH INC**

Vol 2012-6

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NEWSLETTER

JULY 2012

Date: **Wednesday, 1st August 2012**

Time: **18:00 for 18:30 hours**

Speaker: **Michael Brett**

Chief Operating Officer

Aerospace Concepts

Topic: **'The broader role Australian Organisations can play in Space Activities'**

Venue: **Drawing Room #2, Level 2,
Peter Nichol Russell Building (PNR)
University of Sydney**

Refreshments will be available prior to the commencement of the meeting



PROFILE

Aerospace Concepts is one of Australia's leading systems engineering design firms. Based in Canberra, with a distributed team across Australia, the company

assists its clients in delivering some of Australia's most complex technical projects in the defence, communications and research sectors. It is a world leader in providing safety analysis for new and experimental space launch and re-entry vehicles, with recent work on the HIFIRE hypersonics research program and Hayabusa re-entry amongst a range of missile and unmanned vehicle systems. Aerospace Concepts is also the lead partner in the Antarctic Broadband program - an international collaborative effort to deliver high-bandwidth communications to Antarctica via small satellites. Antarctic Broadband was recognised with an Engineering Excellence Award in 2011 and has delivered the world's first nanosatellite-class Ka-band transponder to the market.

Michael has had a long association with the Royal Aeronautical Society, including serving for six years on the Brisbane Branch committee and working with the Australian Division Council as Webmaster since 2008. He is also very active in the international space sector through his involvement in the Space Generation Advisory Council (SGAC), recently completing a two-year term as Chairman. SGAC is a UN-affiliated organisation based in Vienna which actively promotes the interests of young professionals in the global space industry. He has a degree in Aerospace Avionics engineering from QUT and is currently completing a Master of Business in Complex Project Management also at QUT.

SYNOPSIS Michael will give an overview of the Antarctic Broadband program including a discussion of the broader role Australian organisations can play

in space activities. His talk will cover the development of Antarctic Broadband as a concept, an attempt to acquire a out-of-orbit Russian satellite in 2011 and the future of the program. Antarctic Broadband was established to develop a cost-effective solution to meet the increasing data transfer needs of Antarctica research facilities. The need for communications services to and from Antarctica is increasing rapidly and is unable to be met by traditional satellite and terrestrial solutions - access to geostationary communications satellites is intermittent and low-quality, optic fibre is too expensive and prone to damage with moving ice and snow, and bases are too remote for terrestrial microwave links. This situation has not improved, and has only increased in urgency, since the project commenced in 2009. The Antarctic Broadband consortium was awarded \$2.1 million under round one of the Australian Government's Australian Space Research Program in February 2010. This grant funded a study to define a solution and commence the capability development process. Through the creative application of small satellite technologies, unique orbit solutions and innovative new communications equipment, the solution has the ability to deliver high-quality, 24-hour coverage of the Antarctic Circle, providing over a terabyte of transfer capability per day at speeds comparable to that of ADSL. In addition to the benefit of directly supporting Australian research in Antarctica, this project provides an opportunity to build capacity and expertise in design, implementation and support of small-satellite communications systems in Australia.

PARKING: Best parking is in the Shepherd St Car park corner of Cleveland St and Shepherd St. Please observe parking restrictions and allow time to drive to



the University of Sydney, park and walk to the venue. (Refer map).

POST PRESENTATION: The Sydney Branch Committee will be providing 'Pizzas and Drinks' following the presentation to encourage attendees to mingle and interact with the speaker.

RSVP: Attendance registration for the presentation & 'Pizzas and Drinks' afterwards is essential. Please register by clicking on this link: or email by lunchtime Wednesday 1st Aug to: sydneybranch@raes.org.au

Wings over Illawarra AirShow – 6th May

The successful Wings Over Illawarra 2012 air show was held on Sunday 6 May 2012 at Illawarra Regional Airport with the Historical Aircraft Restoration Society (HARS) showcasing their restored aircrafts as well as a few projects currently being undertaken. The event was attended by a huge crowd excited to spot the aircraft collection of HARS, Royal Australian Air Force's Roulettes, and performances by helicopters of the Royal Australian Navy together with the Australian Army Red Berets. Next year in 2013 is expected to be even bigger with the events team already working on securing more RAAF aircrafts.

RAeS Special Meeting Held London 25th June, 2012

I'm sure you will be pleased to know that the results of Monday night's (25th June) vote at the Special General Meeting to approve the changes to Society's Governance were: In respect to resolution one (amendments to the Royal Charter) 54 for, 2 against, and 2 abstentions; and resolution 2 (replacement of the By-laws) 53 for, 2 against, and 3 abstentions. The debate lasted nearly 2 hrs, however the vote was overwhelmingly in favour of the modernisation of the Society's Governance. The changes will now be presented to the UK Charities Commission and Privy Council for their consideration (Reported by: Mr Andrew Drysdale, President, RAeS Australian Division.)

Boeing 787 Dreamliner Tour - Monday 18th June, 2012 at Sydney Airport Mascot.

I start my review with many thanks to the Sydney Chair, David Cox, for organising spots on the Sydney Dreamliner tour for some USyd and UNSW students and lecturers. A real treat! Hosted by Boeing, the 'access all areas' tour included the cutting edge cockpit (for a lucky few who stayed until the end) and a walk through the cabin, where we mingled with the Dreamliner's pilots and crew, and were able to get hands-on with the 787's many innovative and exciting features. The 350 seat aircraft is set to introduce a "new era of passenger comfort", and is said to reduce the effects of jet lag and dehydration. More than half of the plane is built with carbon fibre material that does not corrode or fatigue like metal, and is 15% lighter than aluminium. This allows for the cabin to be pressurised to the equivalent of 1800m instead of 2400m, creates higher humidity and allows it to have 30% larger windows than similar sized craft. The Dreamliner also has a noise footprint 60 per cent lower than similarly-sized aircraft, which means it's quieter for both passengers and those on the ground. It will also be a key part of keeping airfares low as it reduces operational costs such as maintenance and fuel. Costing

\$194 million each, Qantas has ordered 50 of the jets, to be shared with Jetstar, which will be the first Australian airline and first low-cost carrier in the world to introduce the plane in mid-2013. Most certainly a "plane of the future". Reported by Sophaelia Hofseth-Ronsen, RAeS Sydney Branch Committee Member.

Nominations Open for National Innovation Awards

Organisers of the 2013 Australian International Airshow and Aerospace & Defence Exposition are calling for nominations for the newly launched National Aerospace Innovation Awards. These National Awards recognise and reward those Australian companies and individuals who are at the forefront of both defence and commercial aerospace innovation. Six awards will be presented in total for the following categories; Defence Industry National Innovation Award, Civil Industry National Innovation Award, Defence Industry SME Innovation Grant, Civil Industry SME Innovation Grant, Scholarship for Defence Industry Innovation, Scholarship for Civil Industry Innovation. Eligible SMEs stand to win a \$10,000 Innovation Grant while individual innovators stand to win a \$10,000 innovation scholarship. The winners of the major defence and civil innovators categories will be presented with trophies. These awards have been developed by the National not-for-profit foundation, Aerospace Australia Ltd, which presents the biennial Australian International Airshow and Aerospace & Defence Exposition at Avalon Airport in Victoria. "The awards enhance the foundations mission to promote the development of Australian aviation and aerospace industries," says CEO Ian Honnery. "We want to recognise the skills and expertise that exist within Australia and reward the highly innovative work which is being undertaken by Australian companies." The awards are open to Australian Companies or the Australian subsidiaries of overseas parent companies, and the innovation could be anything from a new product or service to a new approach to business. Entries will be judged on their understanding of the user needs and the originality of the innovation. Nominations for the National Aerospace Innovation Awards will close on 30 September with a short list of candidates drawn up by 31 October. To find out further information about the eligibility criteria or to make a nomination for the National Aerospace Awards go to www.airshow.com.au/innovation-awards

Aerospace Futures 10 – 12 July, 2012 to be held at Rydges World Square Resort, 389 Pitt Street, Sydney

Registrations have now closed for the Aerospace Futures Conference. Aerospace Futures is a student conference and the keynote national event of the Australian Youth Aerospace Association (AYAA) which aims to increase Australia's capabilities in the aeronautical and astronautical industries. It aims to do so by creating a national network of leading, committed and enthusiastic undergraduate aerospace engineers and then informing them of their postgraduate research or industry future opportunities

so they can well and truly contribute to Australia's Aviation and space activities (Aerospace Futures). Aerospace Futures has been held very successfully for the past two years in Brisbane in 2010 and Melbourne in 2011. Confirmed speakers for the 2012 conference are from diverse industry sectors like: ACSER, RAeS, CSIRO, QANTAS, SpaceX, Virgin Galactic, NASA, EADS etc. This year Aerospace Futures received a strong reception with over 250 applicants for only 200 spots. During the Conference there will be an evening social event with the Sydney Branch of the Royal Aeronautical Society which strongly supports the Forum. **Royal Aeronautical Society professional members** are strongly invited to attend the Aerospace Futures 2012 Trivia Night, hosted by RAeS on Monday 9 July 2012. This will be a fantastic opportunity to engage 200 of the brightest aerospace minds in Australia who all have an incredible interest in the industry and wish to get involved with organisations such as RAeS. Details are as follows:

Venue: International Student Lounge, University of Sydney, Corner of Butlin Avenue and City Road, Chippendale.

Date: Monday 9 July 2012

Time: 6.00pm arrival for a 6.30pm start to the night

Parking: There is parking further along Butlin Avenue and inside Maze Crescent (opposite SciTech Library).

RSVP: Please RSVP to Mr. David Cox at david.cox@sydney.edu.au

Green biofuels for Australia Following recent presentations on biofuels Members may wish to view a recent article on this matter: <http://theconversation.edu.au/growing-the-grunt-developing-green-biofuels-for-australia-6954>

RAeS Ties, Coffee Mugs, and Lapel Pins: Selection of RAeS silk Ties direct from London - \$30 each; Sydney Branch coffee mugs & lapel pins available at Branch meetings for \$10 each.

DIARY 2012

1 Aug: Capt Richard de Crispegney will be speaking at the Mosman Library Book Club on the 1st August where he will be launching his book 'QF32'. Reservations which are essential will cost \$10, and may be booked online with the Library.

6-9 Aug: AUVSI'S Unmanned Systems North America 2012, Las Vegas. www.auvsi.org

22 Aug: CASA AvSafety, Airservices, ATSB, BoM, RAAF presents 'Aviation Access all information areas Sydney. Venue: Uni of NSW, School of Aviation, Old Main Bldg. Refer:

<https://reports.eventarc.com/8872/aviation-access-all-information-areas-sydney>

29 Aug: To be advised.

20 Sept: Sir Charles Kingsford Smith Lecture and Dinner to be presented by Mr. Charles Champion, Executive Vice-President Engineering, Airbus, SAS.

23-28 Sept, 2012: 28th Congress of the International Council of the Aeronautical Sciences, Brisbane, QLD.

The programme can also be downloaded from the ICAS website www.icas.org and the congress website www.icas2012.com

13-15 Nov: 2012 Asia-Pacific International Symposium on Aerospace Technology, Ramada Plaza Jeju Hotel (www.ramadajeju.co.kr), Jeju Island, Korea.

30 Nov: Fly Your Ideas' registration: 19 June 2012 – 30 November 2012. Refer www.airbus-fyi.com.

Aerospace Websites:

www.aerosocietychannel.com/aerospace-insight/2011/07/space-shuttle-the-end-of-the-begining/

www.57rescuecanada.com: Follow Capt. Karl Kjarsgaard's adventures to recover Halifax bomber LW170 which is resting beneath 5000ft of water off the Irish coast;

www.adastron.com/707/updates/updates.htm: Diary of Boeing 707-138B XBA formally Qantas EBA.

www.airshow.com.au; www.atsb.gov.au;

www.aviationmuseum.com.au - Temora Aviation Museum;

www.boxkite2014.org: The Boxkite project.

www.innovationnewsdaily.com/920-flying-robots-play-007-theme.html

www.powerhousemuseum.com/whatson;

www.singapore.com.sg

en.wikipedia.org/wiki/Rolls-Royce_Trent