



Date: **Tuesday, 13<sup>th</sup> March, 2012**

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

Speaker: **Mr Doug Arbuckle**

**B.S., M.S., AIAA Associate Fellow**

- **Senior Advisor for Surveillance and PNT (Positioning, Navigation, and Timing)**
- **Joint Planning & Development Office (JPDO) Chief Scientist and International Lead, Surveillance & Broadcast Services (SBS) Pgm**

Topic: **“Next Generation Air Traffic Management – Promises, Pitfalls and Progress”**

Venue: **Engineers Australia Sydney Division, Level 3**

**8 Thomas Street, Chatswood**

Hosted by: **The Joint Board for Aerospace Engineering, Engineers Australia and the Royal Aeronautical Society, Australian Division**

Refreshments will be available prior to the commencement of the meeting



**ENGINEERS  
AUSTRALIA**



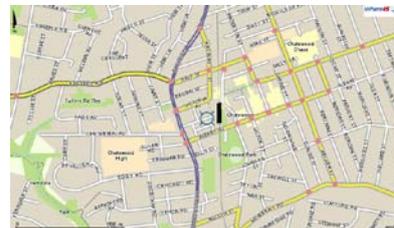
**PROFILE** Doug Arbuckle advises the JPDO Director on required PNT and Surveillance activities to meet Next Generation Air Transportation System (NextGen) objectives -- including identification of critical institutional, policy, and technology issues. Mr. Arbuckle advises SBS Program management in the development of future ADS-B applications, through the

lifecycle of operational concept development, safety and performance analysis, field test validation, and avionics standards development via RTCA and ICAO. He also leads implementation of the SBS Program's international strategy. Prior to joining FAA in March 2009, Arbuckle was a NASA employee, beginning as a researcher at Langley Research Center (LaRC) in flight controls and simulation. At LaRC, he served in multiple technical leadership and management positions including: Vehicle Operations Research Branch Head, Flight Dynamics and Control Division Chief, and Airborne Systems Competency Director. Arbuckle holds B.S./M.S. degrees in Aerospace Engineering and is an AIAA Associate Fellow. He is the Designated Federal Official for the ADS-B-In Aviation Rulemaking Committee (ARC), a member of the RTCA Program Management Committee, and US representative on the ICAO Airborne Surveillance Task Force. He also served on the ADS-B Aviation Rulemaking Committee.

**SYNOPSIS:** Both the U.S. and Europe are engaged in active, long-term programs to modernize Air Traffic Management (ATM). These programs promise a continuous roll-out of new procedures and technology that will save fuel, reduce noise, cut pollution, and maintain or improve safety. The United States has invested nearly \$3 billion in its ATM

modernization program, called NextGen. NextGen is projected to reduce delays about 35 percent in the next seven years. It will bring \$23 billion in cumulative benefits, saving about 1.4 billion gallons of jet fuel and cutting carbon dioxide emissions by 14 million tons. This presentation will describe the technologies that enable and underpin NextGen, as well as the technical challenges involved in integrating these technologies. However, good engineering alone is not enough to achieve NextGen goals. Since ATM systems must operate 24/7/365, how to transition to new operations and procedures using the new technologies is also key; major transition considerations will be described. Cultural factors in the engineering, pilot and controller workforces must also be addressed; these factors will be described, as well as the approaches which are trying to address them. The presentation will close with selected examples of progress from a U.S. and global perspective.

**PARKING:** is available at the Thomas St Car Park. Free



after 6 pm (2 minutes walk to EA Sydney Div). Alternatively 3 hours free parking is available at Chatswood Westfield (5 mins walk to EA Sydney Div). Please observe parking

restrictions and allow time to drive, park and walk to the venue. (Refer map).

**DINNER:** After the presentation, Doug has indicated that he will join us for dinner as the guest of the committee. All members and visitors are invited to attend the dinner to be held in Chatswood at a nearby Restaurant. (Approxly \$35 pp including soft drink and wine.)

**RSVP:** Attendance registration for the Presentation & Dinner afterwards is essential. Please register by clicking on this link: <http://www.raes.org.au/events/> or email by lunchtime Tues 13<sup>th</sup> March to: [sydneybranch@raes.org.au](mailto:sydneybranch@raes.org.au)

### **Boeing Employees Provide Insider's Look at Aerospace Innovation**

In a video series that will provide viewers with an insider's look at how inspiration has led to [technology breakthroughs](#) in aerospace, Boeing employees will tell their stories of the innovations that are redefining the global aerospace industry. The first three videos were recently released, as was a website that provides a timeline of Boeing's ingenuity, going back to its founding in 1916: [www.boeing.com/stories](http://www.boeing.com/stories). The videos are also available on the [Boeing YouTube channel](#). "Innovation at its core comes from the people on our team," said John Tracy, Boeing chief technology officer and senior vice president, Engineering, Operations and Technology. "It's all their great ideas, experiences, education, training, and even the places they live, coming together with their desire, enthusiasm and passion for aerospace." The videos feature Tracy discussing inspiration and innovation, Tom Cogan, director, Commercial Airplanes product development, discussing the 787 Dreamliner, the

world's first all-composite commercial jet, and Bob Liebeck, chief project scientist, on the X-48 Blended Wing Body concept. "Our employees are passionate about how our work makes a real difference for customers and communities around the world," Tracy added. "They also know that innovation is critical to us growing and prospering in the 21st Century." Additional videos will be released each month starting in March. The company expects the series to continue through the company's centennial in 2016.

### **Royal Aeronautical Society Australian Division Annual General Meeting**

Notice is hereby given that the 2011 AGM of the Royal Aeronautical Society Australian Division Inc. will be held Saturday, 24<sup>th</sup> March 2012, 16:00hrs, Ground Floor Conference Room, QANTAS Building, QCE (TNT Building), Bourke Road, Mascot, NSW.

**Note: Any member wishing to attend must advise the Honorary Secretary no later than Wednesday 21<sup>st</sup> March to permit security arrangements to be organised.**

#### **AGENDA**

1. Apologies.
2. Minutes of the Annual General Meeting held on 19<sup>th</sup> March 2011.
3. Business Arising from the Minutes.
4. Annual Report and Financial Statement for the year ending 31<sup>st</sup> December 2011.
5. Appointment of Auditor(s) for 2012.
6. Appointment of President-elect for 2012-2013.
7. Any other business accepted by the Chairman.

R.D.Barkla, Honorary Secretary.

**Aerospace Futures 2012:** In 2012 there is a fantastic opportunity for undergraduate engineering students interested in a career in the aerospace industry to take a significant step in their careers. Aerospace Futures is a 3 day conference for undergraduate aerospace engineering students that is designed to offer them information on the variety of paths that they can follow after graduating with their degree. Over the three days the 200 leading undergraduate delegates in Australian universities will hear from private and public organisations, companies and groups. The conference presents delegates with the 'state of the art' in Australian aerospace and related engineering fields. The conference answers the "who's doing what, where and how". Industry speakers provide insight and initiate discussions on current research, careers and future prospects in the industry. Aerospace Futures aims to cultivate future aerospace leaders, generate a thriving community of individuals eager to make their mark in the Australian aerospace sector, and create a workforce capability for industry.

Aerospace Futures is the keynote national event of the Australian Youth Aerospace Association (AYAA) which aims to increase Australia's capabilities in the aeronautical and astronautically industries. It aims to do so by creating a national network of leading, committed and enthusiastic undergraduate aerospace engineers (the Australian Youth Aerospace Association) 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.

Past organisations that have been represented include CSIRO, BAE Systems, DSTO Centre for Hypersonics, NASA Ames, Loktar Systems, Aerospace Concepts,

Lockheed Martin, Boeing, RAAF and the Royal Aeronautical Society amongst others. In 2012 speakers will present from SpaceX, NASA Ames, QANTAS, General Electric, CSIRO, BAE Systems and DSTO to name a few.

In 2012, (10 – 12 July) Aerospace Futures is heading to Sydney where it will greatly benefit the local students studying at the University of Sydney and University of New South Wales. Aerospace Futures also continues to expand and will be hosting an exhibition event and a cocktail function facilitating delegate-industry and industry-industry interaction in formal and informal settings. It will also be hosting a joint social event with the Sydney Branch of the Royal Aeronautical Society. The Royal Aeronautical Society Australian Division strongly supports the Forum. "I have attended both of the previous forums" said Mr. Andrew Drysdale, President of the Australian Division, "They were well attended by intelligent and enthusiastic students keen to advance their knowledge and careers in the industry. I was particularly impressed by the calibre of the questions asked and their understanding of the issues facing this industry. I would urge the industry to support this important event"

**Monthly Newsletters by EMAIL:** The Sydney Branch Committee at its Strategy Day held late 2011 agreed to develop a program to encourage our members to receive the monthly newsletter in colour by email. This also has the advantage of reducing printing costs, eliminating folding and enveloping, postage costs, and time taken to deliver the mail. Additionally, the current month's newsletter is always online and can be viewed using [www.raes.org.au/](http://www.raes.org.au/) and then clicking on 'Sydney' in the bottom right hand corner of the webpage. Should you wish to receive an electronic delivery please email the editor via [sydneybranch@raes.org.au](mailto:sydneybranch@raes.org.au). (Please note: Members without access to email will continue to receive the paper version.)

**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: 18 April:** Speaker to be advised.  
**6 May:** Historical Aircraft Restoration Society (HARS) AirShow, Illawarra Regional Airport, Albion Park Rail NSW  
**23-24 May:** Heli & UV Pacific 2012, RACV Royal Pines Resort, Surfers Paradise.  
**30 May:** Mr Andrew Dudgeon – Rolls-Royce Environmental Initiatives.  
**27 June:** Capt Val St Leon - The Lockheed L1049 Super Constellation.  
**10-12 July:** AYAA Conference at Sydney University.  
**6-9 Aug:** AUVSI'S Unmanned Systems North America 2012, Los Vegas. [www.auvsi.org](http://www.auvsi.org)  
**23-28 September, 2012:** 28<sup>th</sup> Congress of the International Council of the Aeronautical Sciences, Brisbane, QLD [www.icas.org](http://www.icas.org)

**Aerospace Websites:**  
[www.aerosocietychannel.com/aerospace-insight/2010/12/exclusive-qantas-gf32-flight-from-the-cockpit/](http://www.aerosocietychannel.com/aerospace-insight/2010/12/exclusive-qantas-gf32-flight-from-the-cockpit/)  
[www.aerosocietychannel.com/aerospace-insight/2011/07/space-shuttle-the-end-of-the-begining/](http://www.aerosocietychannel.com/aerospace-insight/2011/07/space-shuttle-the-end-of-the-begining/)  
[www.57rescuecanada.com](http://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](http://www.adastron.com/707/updates/updates.htm): Diary of Boeing 707-138B XBA formerly Qantas EBA.  
[www.airshow.com.au](http://www.airshow.com.au);  
[www.atsb.gov.au](http://www.atsb.gov.au);  
[www.aviationmuseum.com.au](http://www.aviationmuseum.com.au) - Temora Aviation Museum;  
[www.boxkite2014.org](http://www.boxkite2014.org): The Boxkite project.  
[www.powerhousemuseum.com/whatson](http://www.powerhousemuseum.com/whatson); [www.singapore.com.sg](http://www.singapore.com.sg)  
[en.wikipedia.org/wiki/Rolls-Royce\\_Trent](http://en.wikipedia.org/wiki/Rolls-Royce_Trent)