# The Melbourne Branch of the

# Royal Aeronautical Society, Australian division

July 2009

## Inside This Issue



## From the Editor

Hello All,

July's calendar is full of events! We welcome everyone to all our events, entry is free, hope to see you all there ☺

Students must mark August in their diaries for the annual Careers Expo, a must for job seekers.

Meanwhile, any feedback on areas of special interest, ideas for future lectures or improvements is encouraged – as we aim to provide something of interest to all our members.

Best Regards,

*Karen Trezise,*

Newsletter Editor

## July Event #1

### The signs were there but…

**Presenter:** Alan Stray
Director International,
Australian Transport Safety Bureau
**Date:** Monday 13th July 2009
**Time:** 6.00 for a 6.30pm start
**Cost/Registration:** Free– Everyone welcome!
No registration required
**Venue:** Engineers Australia
21 Bedford St, North Melbourne.

In aviation as a protection to minimise error we have design drawings, maintenance and operations manuals, placards, warning and alarm systems to name a few, and dual inspections or cross checks in multi-crew cockpits. This presentation will discuss incidents and accidents that could have been avoided because the signs were there, but ...

Alan Stray is Director International of the Australian Transport Safety Bureau, with responsibility for international engagement/liaison with government and industry. He has been an Aviation Safety Investigator since January 1987. In 1992/93, Alan developed Reflexions, a multimodal Canadian safety magazine modelled on the successful BASI Journal, which he had produced in Australia. Between July 1997 and March 2006, as Deputy Director Aviation Safety Investigation, Alan was responsible for the oversight of aviation safety investigations in Australia.

Alan has been the Australian Accredited Representative on a number of overseas major airline accidents, including the Garuda and Adam Air Boeing 737 tragedies in Indonesia. He currently has the lead in-country role in the ATSB's cooperation with the Indonesian National Transportation Safety Committee, as part of the Australian Government's Indonesia Transport Safety Assistance Package. He has been a guest speaker at conferences and lecturer at training courses for investigators in the Region.

In January 2005 he was awarded the Government's Australia Day Council Achievement Medallion for his contribution to aviation safety. In January 2008 he was again awarded a Medallion, this time for the support provided to the Indonesian Government in the investigation of the crash of Garuda 737 at Jogyakarta in March 2007. On 26 January 2009, Alan was honoured in the Australia Day Honours with the award of a Public Service Medal. The citation: For outstanding Public Service improving aviation safety in Australia and Indonesia.

Alan holds management qualifications and as a licensed aircraft maintenance engineer and pilot with an ATPL, Alan has flown in Papua New Guinea, Canada, the USA and Australia.

Australian Government
Australian Transport Safety Bureau

## *Strange…but interesting!*

The competition to build a successful aeroplane produced some interesting, and often strange results. Clement Ader's "Eole" and Hiram Maxim's "triple biplane" were failed early efforts at powered flight. They were followed by Trajan Vuia's fanciful "aeroplane care" monoplane. Santos-Dumont gained popuar fame with his huge tail-first "14-bis". The "multiplane" of Horatio Phillips featured no fewer than 200 separate wings!

## July Event #2

### First flight in Australia

**Presenter:** Ian Debenham
Aviation Historical Society of Victoria
**Date:** Wednesday 22nd July 2009
**Time:** 7.30pm
**Cost/Registration:** Free – Everyone welcome! No registration required
**Venue:** East Malvern RSL, Stanley Gross Ave. (just off Winton Road)

An illustrated lecture providing an explanation of why the history of the first flight in Australia has been wrong for so long. Since its first publication in 1925, and until 1965, the Australian Encyclopedia informed its readers that the first powered flight in Australia was made by the famous American escapologist Harry Houdini (real name Ehrich Weiss) on March 18th 1910 at Diggers Rest, Victoria. In 1965 the encyclopedia was revised crediting Adelaide resident Fred Custance with the first flight, on March 17th 1910 at Bolivar, near Adelaide.

Research has recently shown that neither of these two gentlemen can continue to be credited with this achievement. The first controlled, powered free flight in an aircraft in Australia took place at Victoria Park racecourse in Sydney on December 9th 1909 piloted by a young Englishman by the name of Colin Defries.

For the past four decades Ian Debenham has been involved with aviation initially as a Licenced Aircraft Maintenance Engineer, Electrical and Instrument categories with Qantas Airways and, for the last twenty eight years of those forty, as the Curator of Transport at the Powerhouse Museum, located in Sydney, New South Wales. During his years at Qantas he was involved with the maintenance of a variety of aircraft ranging from the Douglas DC3 to the Boeing 747. At the Powerhouse Museum he is responsible for the development and management of the aviation collection and assisted in the development of the transport exhibitions currently in the Museum. Ian has an honours degree in History from Macquarie University and a post-graduate diploma in Museum Studies from the University of Sydney. Ian is an advisor on aviation heritage matters to the New South Wales State and the Australian Federal Governments.

Ian's current research projects include further work on the aviation activities of Lawrence Hargrave and on the development of trans-Pacific aviation.

Ian is also the current President of the Aviation Historical Society of Australia (NSW).

## July Event #3

### The new moon race

**Presenter:** Dr Morris Jones
**Date:** Tuesday 7th July 2009
**Time:** 5.30pm for a 6.00pm start
**Cost/Registration:** RSVP: 02 6270 6548 or online at http://www.engineersaustralia.org.au/eminentspeaker/
**Venue:** Flagstaff 1, Radisson on Flagstaff Gardens Hotel, 380 William St, Melbourne.

A new Moon race has broken out among a group of newly emerging space powers. China, India and Japan have all launched probes to the Moon, and are preparing more. China and India have both embarked on ambitious human spaceflight programs, and have laid plans for sending their astronauts to the Moon. Against this backdrop, America's space program is floundering. The nation that first landed humans on the Moon is in danger of becoming a second-tier space power.

2009 marks the 40th anniversary of the landing of Apollo 11 on the Moon. Decades after NASA's finest hour, America's space program is rapidly losing support in Washington.

What is driving Asia's tiger economies to invest so heavily in lunar exploration? How has politics and the search for energy influenced these developments? Who will be the next nation to land astronauts on the Moon?

Dr Morris Jones is the author of The New Moon Race (Rosenberg Publishing) and an internationally known space analyst. He has reported on the Chinese space program for a decade, and has been published in SpaceDaily.com, The Bulletin and other media outlets. Dr Jones has appeared regularly on international radio and television broadcasts, including Radio Australia, Radio Television Hong Kong, Al Jazeera, China Central Television, Phoenix TV and Hunan Television.

### Fusionman!

In 2008, Yves Rossy, a Swiss adventurer known as "Fusionman", made a remarkable flight in a jet-powered wing. He jumped from a plane, flew for 10 minutes, then landed by parachute.

# Avro Lancaster

The Avro Lancaster bomber played a major role in the Allied strategic bombing campaign against Nazi Germany in World War II. Standing 5.8metres tall of the tarmac, the Lancaster was the Royal Air Force's most effective heavy bomber. Lancaster crews flew more than 150,000 operational sorties against the enemy. The first generation of powerful Lancaster bombers, the MK-1 series, were introduced in 1941. The four-engined bomber had eight .303 Browning machine guns and could carry a payload of up to 10,000 kg in the bomb bay.

While operating at night, and travelling to and from their targets, Lancaster bombers faced enemy anti-aircraft guns and night fighters making such operations extremely hazardous. Lancasters were camouflaged with dark green and brown painted upper surfaces and black underneath the airframe. However, this was no defence against Luftwaffe night fighters which used radar to detect bombers which were then attacked and often shot down.

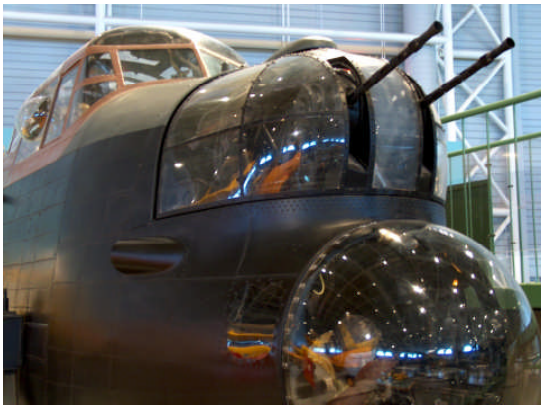
Lancasters carried a seven-man crew comprising a pilot, a flight engineer, a bomb aimer, a navigator, a wireless operator and mid-upper and tail gunners.

The twin machine guns in the nose turret were operated by the bomb aimer whenever an enemy fighter came into range. The bomb aimer also guided the pilot during the bombing run, lying prone in the nose position aiming at the target with the bomb sight and giving course corrections before pressing the bomb release.

Conditions inside the Lancaster bomber were cold, cramped and noisy. Often flying at high altitude, the crew required oxygen and special flying clothing as the temperature could often be -40°C.

The navigator and wireless operator sat behind the pilot with a blackout curtain separating them to protect the pilot's night vision and to prevent light being visible from outside the aircraft.

The mid-upper turret was a key defensive position, where the gunner was equipped with two machine guns. The rear turret was heavily armed where the tail gunner operated four machine guns to combat enemy fighters which often attacked Lancaster bombers from behind and below.



## July Event #4

### Current Market Outlook
### The Boeing Perspective

**Presenter:** Randy Tinseth
Vice President Marketing,
Boeing Commercial Aeroplanes
**Date:** Friday 31st July 2009
**Time:** 10.30am til 12 noon
**Cost/Registration:** Free – Everyone welcome! Please check http://www.rmit.edu.au/AEROMECHENG for registration details
**Venue:** RMIT University, Bundoora East Campus 251.3.34

The Boeing Current Market Outlook describes the long-term forecast for air transport, reviewed on an annual basis. This year, for example, started from the basis of economic downturn, volatile fuel prices and financial concerns and look ahead at how airline strategies are being adjusted to account for these issues. The incredible resilience of air transport is reflected in forecasts that have been published over the past 45 years. Over the past 20 years, the industry experienced several economic downturns, yet grew by an average of around 5 percent per year. We expect that the continued dependence of people and businesses around the world on timely, reliable and efficient air transport will result in a similar growth trend over the next 20 years.

Randy Tinseth began his career at Boeing in June 1981, as a flight test engineer on the certification of the Boeing 757 and 767. He joined the Marketing team in 1989, in the Airplane Economics Group. He worked as part of the team that implemented new versions of Boeing's aircraft maintenance and operating cost models. Randy later moved on to the aircraft Sales team, travelling to Europe, Africa, and Asia. From1997 - 2001, he served as a Boeing sales director in North America, leading BCA efforts at United Airlines, Northwest Airlines, UPS, and Spirit Airlines. Just prior to takingon his role as V.P., marketing, Randy was Customers Leader for the 747-8 Program, developing marketing and in-service support strategies for the new 747-8 program, and helping to prepare the market and refine the focus on the -8 family.

BOEING

***The annual Aerospace Careers Night is on again!***

**When?** Tuesday 4th August 2009, 6.00pm
**Where?** RMIT University, Storey Hall,
342 Swanston St, Melbourne

Participating companies this year include Boeing Aerostructures Australia, GKN Aerospace, DMO, BAE Systems, Aeronautical Engineers Australia, Airservices Australia, Macro Recruitment, Thales Group, CRC-ACS and Sir Lawrence Wackett Centre.

The evening will begin with a presentation on the current & future aerospace marketplace. After this, each of the attending companies will briefly outline their operations and opportunities. Following this, there will be time for students to talk with company representatives in an informal expo setting.

The event is highly recommended to all people, including students and graduates, seeking a career in the industry.

## Branch Committee

**Chairman:** Ass. Prof. Cees Bil

**Hon. Secretary:** Air Cdre Noel Schmidt

**Hon. Treasurer:** Shayne Powell

**Events Manager:** Anthony Patti

**Ass. Events Manager:** TBA

**Webmaster:** TBA

**Newsletter Editor:** Karen Trezise

**Membership Secretary:** Sherman Ting

**Committee Member:** Richard Yates

**Student Member:**

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(Aust. Division)
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http://www.aerosociety.com




## F-117A Nighthawk

Difficult to detect or track by radar, the F-117A Nighthawk first demonstrated modern stealth aircraft technology in the Gulf War in 1991. In 1998, the Nighthawk was used in the Kosovo war. The futuristic design of the aircraft came from the top-secret "black" weapons program of the United States in the Cold War. On night missions, the F-117A flew as a ghostly and deadly presence over enemy territory. It could strike targets suddenly with laser-guided bombs. A single-seat aircraft, the Nighthawk is equipped with advanced navigation and weapons systems, including the latest fly-by-wire flight controls. Now retired from operational service, the F-117A is remembered as a pathfinder in stealth technology.

Jet nozzles were wide and flat to reduce and disperse exhausts. This function is essential to avoid infrared missiles. The outer skin is coated with radar absorbing materials to avoid enemy radar and infrared sensors. The first operational F-117A was armed with two GBU-27 laser guided smart bombs, a load of 1,800 kg in weight! The windows of the cockpit are flat and framed by heavy metal partitions. They sit on a pyramid-style dome. The window edges are serrated and deflect radar.

The F-117A is a "low-observable" aircraft. It is hard to detect because of its stealth properties. These are its computer-generated wing and fuselage design, angular shape and outer skin coated with radar-absorbing materials. The F-117A is fitted with an internal weapons store. Newer versions of the aircraft use satellite guidance to strike the enemy through bad weather and smoke to trick and avoid enemy missiles.

## Forthcoming Events

Planned future events to make a note of include:

- Gippsland Aeronautics
- Hargrave Lecture
- Hargrave Recipient Lecture

Details of the program for 2009 will be provided once events are finalised. Visit our website for up to the minute details at http://www.raes.org.au/~raesorga/melbourne-branch/

The branch welcomes any suggestions or ideas for future events/lectures.

## Websites of interest…

Qantas cancels 787 Dreamliner orders:
http://www.news.com.au/heraldsun/story/0,21985,25692913-664,00.html

Recipe for a telescope mirror:
http://www.nasa.gov/topics/technology/features/jwst_mirror.html

ScanEagle UAV:
http://www.boeing.com/defense-space/military/scaneagle/index.html

Types of satellites:
http://www.satellites.spacesim.org/english/engineer/copy/index.html

## VALE

RAeS Aust Div has been advised by his daughter that Mr. Gordan Day Bennett CEng MRAeS passed away on 12th May aged 85. He had been a member of the Society for 59 years.


If undeliverable return to:
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