



**ROYAL  
AERONAUTICAL  
SOCIETY**  
AUSTRALIAN DIVISION  
SYDNEY BRANCH

**MAY 2019**

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PO Box 573, Mascot, NSW 2020

Web: [www.raes.org.au](http://www.raes.org.au)

Email: [sydneybranch@raes.org.au](mailto:sydneybranch@raes.org.au)

<https://www.facebook.com/groups/RAeSSydney/>

## NEWSLETTER



Title: **'RAF BOMBER COMMAND'**

Speaker: **Mr Geoff Raebel**  
**Editor, Bomber Command**  
**Association in Australia Inc.**

Date: **Wednesday 22<sup>nd</sup> May, 2019**

Time: **18:30 hours (sharp)**

Venue: **Mechanical Engineering Theatre**  
**Mechanical Engineering Building**  
**University of Sydney**

Refreshments will be available prior to the commencement of the meeting. Attendance will attract 1.5 CPD hour

**Profile:** Geoff is the Editor of the Bomber Command in Australia Newsletter which is distributed to more than 1000 people worldwide. His father was an apprentice of Jimmie Woods at Maylands – Perth and went on to graduate from RMIT in 1939. Joining the RAAF in December 1939 he was on the Second Pilot-Mechanics course, building Ansons and training on Avro Cadets until the course was cancelled. After a flight to the Eastern Front in a Hampden Bomber he became the Engineering Officer of 463 RAAF Squadron.

Geoff himself after a school holiday job with Aircraft Engine Overhaul and Sales, joined de Havilland Marine at Bankstown in 1965 and worked among many of the old aircraft hands as they tried to convert an aircraft factory into a profitable "Boatshed". He started to fly at Hoxton Park on Victas on a de Havilland subsidy.

Geoff moved on to accountancy and computing, finishing his career with the Engineering Standards section of NSW Railways.

Geoff returned to flying after his Father started flying ultralights and at much the same time began research on his first book "The RAAF in Russia". In retirement Geoff is a volunteer Flying Instructor for the *Sydney Recreational Flying Club* and works with Bomber Command Veterans.

**Synopsis:** Tonight's talk, deals with the creation and achievement of RAF Bomber Command from its inception in 1936 until 1958. The incredible developments that occurred in just the 10 years around World War 2. It deals with the engines, the aircraft, the guns, the bombs, the equipment, the ground and aircrews and the tactics. It is more of a technical talk than a *Flak, Heroes and Parachutes* event. There'll be a couple of stories to keep you awake.



**2019 Committee:** David Cox (Chair), David Adkins (Vice-Chair), John Vincent (Secretary), Jeff Lock (Treasurer), Matt Coutts, Ben Flynn (Syd Uni Student Rep), Capt Brian Greeves, Timothy King, Peter Marosszeky, Bryan Stade, Muddasir Tahir, Annie Zhai UNSW Student Rep).

Editor: Jeff Lock ([jeff.lock@bigpond.com.au](mailto:jeff.lock@bigpond.com.au))

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**Agenda:** 18:30 hours sharp: **Presentation by Geoff Raebel**  
19:45 Hours: Q & A  
20:00 Hours: **Light supper** (pizzas) will be provided to give the speaker and attendees the opportunity to mingle and to continue discussions.

**RSVP:** Registration for the evening **is required**. Please register by clicking on/copying and pasting into your URL this link: <http://raesmay19.eventbrite.com.au> Your registration will be confirmed by email with an attached ticket. **Please print the ticket and present the ticket at the door. Please note:** Non members should enter the code **NM** if requested to enter a RAeS membership number. Any member who does not have access to the internet can send a letter to Mr Jeff Lock, 4 Hillcrest Place, North Manly NSW 2100 with your name (plus names of accompanying persons), membership number or state 'Friend' if you are a Friend of the Branch, and phone number.

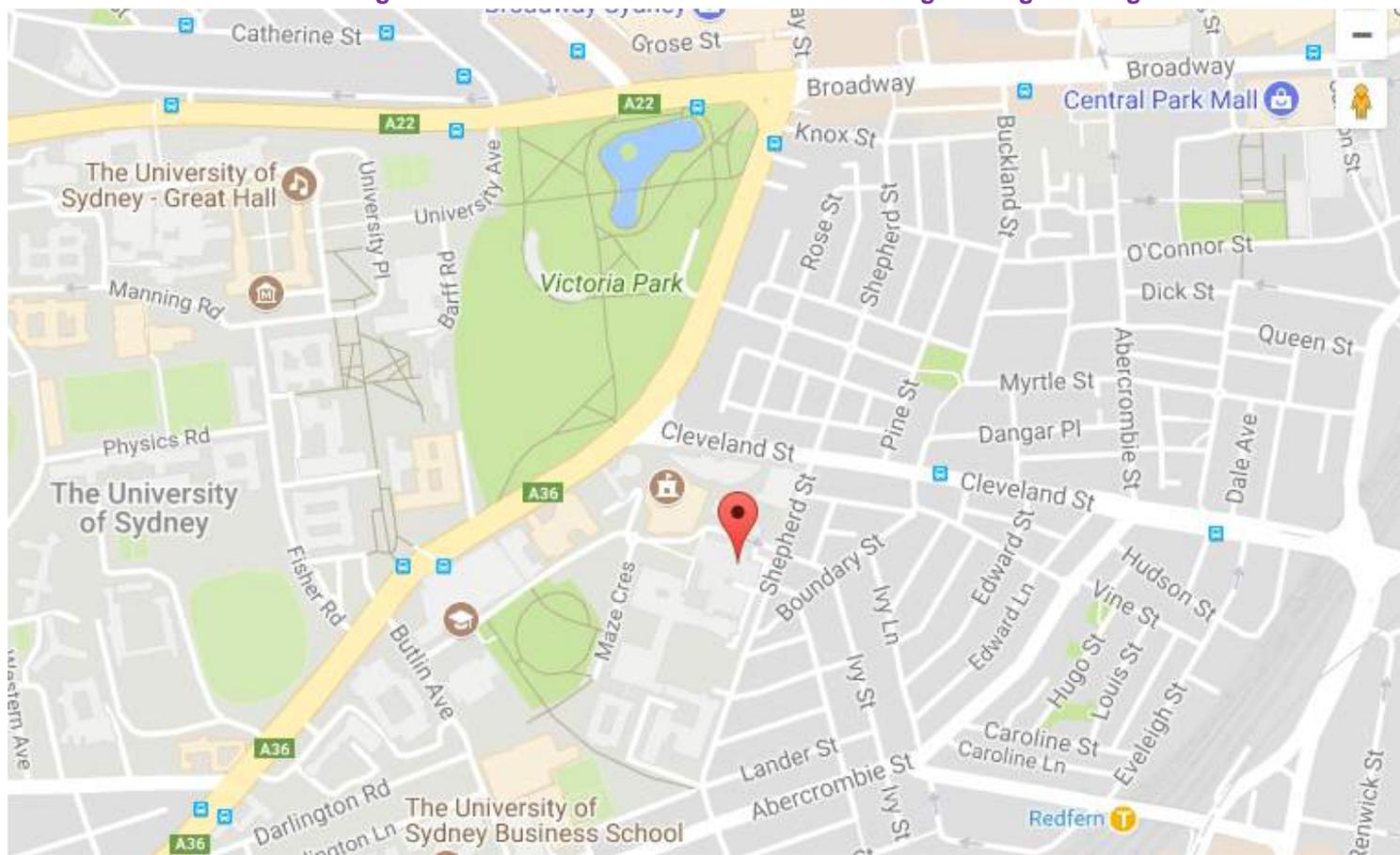
**Lecture registration includes:**

- **Attendance at the Lecture and Q & A session**
- **Networking opportunities at the welcome tea and coffee**
- **Following the presentation, light supper (pizzas) will be provided to give the speaker and attendees the opportunity to mingle and to continue discussions.**

**Introduction of a Non Members Fee to attend monthly presentations:** As previously advised, the Sydney Branch Committee has introduced a 'Non Members Fee' to attend our monthly presentations. The fee, initially set at a **Special Rate of \$10** per non-member, will increase to \$15 mid-year. The 'Non Members Fee' will not apply for all presentations. However, it will be clearly displayed when registering on the Eventbrite site – and is payable via credit cards. Should a 'Non Member' not register via Eventbrite, credit card payment facilities will be available on the evening, if a fee is payable for that evening/event.

**Join the Society immediately and enjoy free lecture attendance: Students are free in the first year; join immediately as an Affiliate with no entry restrictions; members receive the Aerospace magazine, and can nominate for and vote in Sydney Branch and Australian Division elections. Refer for further details:** <https://www.raes.org.au/membership/join-now/>

Venue map (copy and paste address into your browser): <http://sydney.edu.au/maps/campuses/?area=CAMDAR>  
Scroll down the 'Building Bar' on the left hand side to: Mechanical Engineering Building J07 and click.



**Parking:** is available in the Shepherd Street multi-story car park, located on the corner of Cleveland St and Shepherd St. The rate is \$2 per hour (up to \$6 maximum), but note that only gold coins are accepted in some machines. Parking is also available in University of Sydney On-Campus Parking for \$2 per hour (up to \$6 maximum). Additionally, free parking is available in surrounding streets. Please observe parking restrictions and allow time to drive to the University of Sydney, park, and walk to the venue.

**Public Transport:** The closest train station is Redfern station, which is a 10 minute walk away from the venue. From Railway Square near central station any 42X bus (e.g. 422, 426...) and the M30 will take you to the University of Sydney (on City Road). Please allow time to travel by public transport, including waiting time, and time to walk to the venue. Please refer for further details: <http://www.sydneybuses.info/routes/timetables-route-maps>

**Closed Member Only Group on Facebook:** Sydney branch is live video streaming our monthly branch lectures. Watch lectures live or at a later time, at the "RAeS - Sydney Branch - Members Only" group within Facebook. Please note that this service is only available to financial members of the Royal Aeronautical Society.

**Antarctic/Polar Experience:** Norton White is looking for a pilot with Antarctic/polar experience, safety systems, and provides aerospace consulting work. Should you be able to help, or know someone who can help – please contact Mr Matthew Tsai, Norton White Lawyers, Level 4, 66 Hunter Street, Sydney, NSW. Phone: +61 2 9230 9400 Email: [contact@nortonwhite.com](mailto:contact@nortonwhite.com)

**Evacuation of Sydney Airport's Air Traffic Control Tower:** The evacuation of Sydney Airport's Air Traffic Control (ATC) Tower on 29 March, 2019, saw a No. 37 Squadron (37SQN) C-130J Hercules crew directing civilian traffic at Australia's busiest airport. Smoke from a broken air-conditioning system saw 15 ATC staff evacuated from the Tower around 11.30am. At that moment, the crew of a 37SQN C-130J Hercules – callsign Trojan 55 – was completing a flypast over Martin Place Cenotaph in Sydney CBD. The flypast was part of a commemorative service for the 98th anniversary of the Air Force.

Flight Lieutenant (FLTLT) Tony Hick was the Captain of Trojan 55, and said the crew was flying back to RAAF Base Richmond when it learned Sydney Airport ATC Tower had been evacuated. "As the aircraft approached Brooklyn Bridge (36 kilometres north of Sydney), we contacted Sydney ATC to advise them we were switching frequency to Richmond Tower. The Controller asked us to remain on Frequency (135.1MHz) and attempt to relay a message for an All Nippon Airways flight, and the message was passed. We asked the Controller if we could be of further assistance and his response was that if we could help then it would be appreciated." FLTLT Hick said.

The crew flew back to Sydney, and for over an hour, Trojan 55 orbited at 5000 feet while the crew directed traffic at what is normally Australia's busiest airport. "At no time while we were on station were aircraft allowed to depart Sydney Airport," FLTLT Hick said. "Once on station we conducted a number of re-broadcast messages on 'Sydney Terminal' (135.1 MHz) and 'Guard' (121.5 MHz) for civilian traffic; both on the ground and airborne. Sydney adopted a Mandatory Broadcast Zone with aircraft conducting Common Traffic Advisory Frequency arrivals."

Flights into Sydney were delayed and diverted, and the crew of Trojan 55 directed traffic on the ground. "Most aircraft that were inbound to Sydney were maintained on Melbourne Centre, and subsequently diverted," FLTLT Hick said. "Trojan 55 was responsible for assuring aircraft – such as Qantas, Singapore Airlines, China Eastern, Jetstar, Virgin Australia - on the ground requesting 'Airways/Start Clearance' were kept updated of the situation unfolding. We also relayed taxi instructions to aircraft that had landed to ensure the runway and main taxiways were not blocked."

FLTLT Hick said it led the crew to appreciate the variety and volume of traffic managed by ATC every day. Once the Tower was back online shortly after 12.30pm, Trojan 55 returned to RAAF Base Richmond. "Following recovery to Richmond I received a call from Sydney ATC – a RAAF Reservist by chance -





thanking me for the crew's efforts. We also got positive feedback, via email, from No. 453 Squadron Flight at RAAF Base Richmond ATC."

FLTLT Hick, who is currently on exchange with 37SQN from the Royal Air Force, said it was the first time he'd done something this complex. "Aircrew get asked by ATC to relay calls on frequency every day, usually because they have gone out of range, but never on this scale. The Co-Pilot, who is fresh out of training, loved the responsibility placed on us during this task. Along with the Loadmaster on board, it was great that we could provide this service for our civilian counterparts," said FLTLT Hick.

**Airbus – The Month in Review, March 2019:** Airbus received orders for 58 jetliners in March – led by the A350 XWB widebody family in transactions that included a new customer; while delivering 74 aircraft to 40 customers from across its A220, A320, A330, A350 XWB and A380 product lines. Taking the latest orders and cancellations into account, Airbus' backlog of jetliners remaining to be delivered as of 31 March, 2019 stands at 7,357 aircraft.

**Japan's All Nippon Airways takes delivery of its first A380:** Japan's All Nippon Airways (ANA) has taken delivery of its first A380 at a special ceremony in Toulouse, becoming the 15th operator of the world's largest passenger aircraft. The delivery ceremony, held, 20 March 2019 – was attended by ANA HOLDINGS President and CEO Shinya Katanozaka and hosted by Airbus CEO Tom Enders.

ANA has ordered three A380s and will operate the aircraft on the popular route between Tokyo Narita and Honolulu from May 24. Each ANA A380 will feature a special livery depicting the Hawaiian Green Sea Turtle, also known as the Honu. The livery on the first aircraft is painted in blue, while the second will be green and the third orange.

ANA's A380 is configured in a premium layout seating 520 passengers. The upper deck features eight suites in First Class, 56 Business Class seats that convert to fully flat beds and 73 Premium Economy seats. Economy Class is located on the main deck, where ANA offers a spacious layout seating 383 passengers, including 60 Couch Seats. The aircraft features ANA's very latest in-flight entertainment systems, as well as full connectivity in all classes.



"We will commit all three of our Airbus A380 to the Tokyo Honolulu route with the goal of introducing a new level of luxury service to our passengers flying ANA on the number one resort route for Japanese travelers," said Shinya Katanozaka, President and CEO of ANA HOLDINGS INC.

"Airbus is proud to deliver this beautiful aircraft to ANA," said Airbus CEO Tom Enders. "Offering unrivalled levels of passenger comfort, the A380 will enable ANA to increase its capacity on the busy route to Hawaii with maximum efficiency. We are confident that the aircraft will be highly successful in service with ANA and are committed to providing full support to the airline all along the way."

The A380 offers airlines the most efficient option to meet demand on the world's most heavily travelled routes. It is also firmly established as the aircraft of choice by passengers worldwide, offering more personal space in all classes, a super-quiet cabin and smooth ride. Around 250 million passengers have already flown on the aircraft.

Following today's delivery to ANA, there are currently 232 A380s in service with 15 airlines worldwide, flying on 120 routes across the globe.

(Airbus Press Release 21<sup>st</sup> March 2019)

**Fifty Years After Apollo 11:** Extracts from 'Fifty Years After Apollo 11, the View of Earth from the Moon' by Emily Witt, 22<sup>nd</sup> March 2019. To view the full text click on: <https://www.newyorker.com/culture/cultural-comment/fifty-years-after-apollo-11-the-view-of-earth-from-the-moon>

I saw "Apollo 11" in the Los Angeles suburb of Alhambra, sitting in an IMAX theatre with ten or so other freelancers and retirees who could see a documentary about [NASA](#) in the middle of a Thursday. The director and editor, Todd Douglas Miller, tells the story of the moon launch using archival footage, including a trove of 70-mm. film commissioned by NASA at the time of the launch. The film has no voice-over narration. Instead its story is relayed by the newscasts of Walter Cronkite and the radio transmissions of Edwin (Buzz) Aldrin, Neil Armstrong, Michael Collins, and their interlocutors on Earth. The result is a visual

museum about America in July, 1969, in which Aldrin's famous 16-mm. footage of the lunar module approaching the surface of the moon is only a little more compelling than the thousands of picnickers who gathered at Cape Canaveral to watch the rocket launch, with their station wagons, cat-eye sunglasses, flowered bathing caps, Technicolor minidresses, and coffee percolators. I had never had any particular interest in [Apollo 11](#), and I was surprised by how much its story moved me: the earth rises through a portal window on a spacecraft, an astronaut's solar shield gleams with the reflected surface of the moon, the red and white stripes of the parachute attached to the landing module spread out against the baby blue of the sky.

The voyage of Apollo 11 was in a sense the execution of a beautifully scripted play: the protagonists had practiced so many times that after Neil Armstrong makes his one small step, his next remarks compare the reality of the moon's gravitational pull to the simulation. Most of the scripted elements of this play try to Americanise a lonely rock in space, from the planting of the "lunar flag assembly" to Armstrong's remarks that the moon "has a stark beauty of its own, much like the high desert of the United States."



Part of what I liked about the film is how it reclaims the wonder of human endeavour from the smallness of its patriotic recitations. Fifty years' worth of Tom Hanks or George Clooney in space suits, old MTV commercials, and montages where the moonwalk is sandwiched between hippies dancing and the battlefields of Vietnam are somehow swept away, replaced by the lunar module rising from the moon's surface, a tiny speck against its glowing cratered expanse. As E. B. White wrote, "It is traditional, of course, for explorers to plant the flag, but it struck us, as we watched with awe and admiration and pride, that our two fellows were universal men, not national men." No, what moved me was not national pride but a sense of comfort inherent in any narrative depicting competency and cooperation, of steps meticulously planned and then completed. There was once a room of cigarette smokers who were really good at trigonometry and aeronautics. They cheerfully sent men to the moon and got them back home without a single slide-show presentation by an ego-driven billionaire wearing a headset. The conversations over the radio are about going home for the night ("As the sun sinks slowly in the west the White Team bids you goodnight," Mission Control says at the end of the day) and Ted Kennedy's car crash at Chappaquiddick, which briefly dominates the news cycle as the astronauts are flying to the moon. One astronaut, the capsule communicator Bruce McCandless II, compares the spaceship entering into Passive Thermal Control Mode to dining in a rotating restaurant.

At the end of the Apollo 11 documentary, after Armstrong, Aldrin, and Collins have returned safely to Earth, Miller plays audio from John F. Kennedy's 12 September, 1962 speech at Rice University, in which Kennedy promises to land Americans on the moon within the next decade.

"But if I were to say, my fellow-citizens," Kennedy said, "that we shall send to the moon, two hundred and forty thousand miles away from the control station in Houston, a giant rocket more than three hundred feet tall, the length of this football field, made of new metal alloys, some of which have not yet been invented, capable of standing heat and stresses several times more than have ever been experienced, fitted together with a precision better than the finest watch, carrying all the equipment needed for propulsion, guidance, control, communications, food and survival, on an untried mission, to an unknown celestial body, and then return it safely to earth, re-entering the atmosphere at speeds of over twenty-five thousand miles per hour, causing heat about half that of the temperature of the sun—almost as hot as it is here today—and do all this, and do it right, and do it first, before this decade is out—then we must be bold."

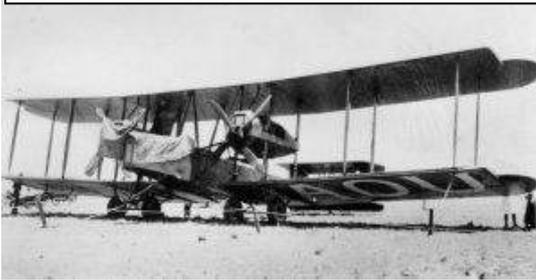


In "Apollo 11," a clip of the astronauts speaking to each other is played as they come ever closer to the moon. "There it is. It's coming up!" an astronaut says. "What?" another asks. "The Earth."

*(For completeness it was in John F Kennedy's "Urgent National Needs" speech to a Joint Session of Congress, 25 May 1961 in which JFK asked Congress ".....to provide funds which are needed.....for this nation to commit itself to achieving the goal, before the decade is out, of landing a man on the moon and returning him safely to earth." – Refer to : <https://history.nasa.gov/Apollomon/apollo5.pdf> which includes JFK's handwritten amendments to the typed version.)*

**First Flight From England to Australia - March 1919:** Australia salutes an era when air travel was for the bold. In March 1919, just four months after World War I had finished, Australia announced it would give a prize of 10,000 Australian pounds to the first aviators to fly, in under 30 days, the flight path that later became known as the Kangaroo Route. Australia's pound was pegged to the British pound and the sum is roughly AUD 1 million in today's money.

*The winning Vickers Vimy, 1919*



James Bennett and Wally Shiers, flying a Vickers Vimy biplane, a two-engined former bomber. It flew at speeds not much faster than a car on a highway. The History Trust of South Australia has designed a [website](#) to commemorate the centenary of their feat. The men were true heroes. Ross Smith had joined the Australian Light Horse and fought in Gallipoli and at the battle of Romani. He joined the fledgling Australian Flying Corps (AFC) in Egypt in 1916 and war's end was an Air Ace, one of Australia's most decorated airmen. He had even served as pilot to Lawrence of Arabia. Keith Smith had served in the Royal Flying Corps and was an expert navigator – the perfect companion for his brother Ross during the gruelling Great Air Race, a true test of endurance. Air mechanics Jim Bennett and Wally Shiers had also fought in World War I. Bennett was from Victoria and Shiers was from South Australia. The Vimy with its crew of four Australians lifted off from London's Hounslow Heath at 8am on 12 November 1919.



*On the spot they landed. 'First Flight from England to Australia by Australians' Monument in Darwin.*

The plane flew via Lyon, Rome, Cairo, Damascus, Basra, Karachi and Delhi to Calcutta (now Kolkata). It landed at Akyab (now known as Sittwe and the capital of Rakhine State in Myanmar). It landed at Rangoon (Yangon) racecourse and made an unscheduled landing in heavy rain at Singora (Songkhla) in Thailand. It pressed on to Singapore, then Batavia (now known as Jakarta) and Surabaya, where the aircraft was bogged. To take off on the last leg, the Vimy had to use a temporary airstrip made from bamboo mats. The plane lifted off, roared into the air and reached Darwin at 4.10pm on 10 December 1919. The flight distance was estimated as 17,911 kilometres and total flying time was 135 hours 55 minutes. The average speed was not much faster than a car: 131.8 km/h (81.9 mph).

With the prize won, the team split the prizemoney four ways equally. The Smith brothers each received a knighthood for their exploit. They presented their aircraft to the Australian government and it is now displayed at Adelaide Airport.



*Members of the winning crew standing in front of their Vickers Vimy biplane, a twin-engined bomber. Identified are, from left to right: Sir Keith Smith; Sir Ross Smith; Sergeant (Sgt) Jim Bennett and Sgt Wally Shiers. Australian War Memorial*

(Unfortunately, the re-enactment of this flight which was to be completed this year was cancelled about 1 month ago.)

By Peter Needham, Global Travel Media

**Election 2019 – New Division Councillors elected:** Nominations were called for election to Council for the period 2019-2023 which is the first under the new arrangements in the Constitution and Rules approved in 2017 which allow all member grades of the RAeS AD to stand for election and to vote. Five positions for Ordinary Council Members were vacant. Nine nominations were received by the closing date of 20 December 2018. On 15 January 2019 email voting material was sent to all members (800) and a reminder was sent on 12 February 2019.

By the closing date of 2 March 2019 80 election papers had been returned representing about a 10% response rate. This compares with the 2017 election that attracted a response rate of around 40% from a restricted number of voters of about 400.

Council considered that the voting response was disappointing and requested a review (to be completed by September 2019) of the election processes including requesting the Australian Branches to canvass their members to ascertain the reasons why there were so few voting returns.

The Secretary advised that the successful members elected to Council 2019-2023 were:



Capt Michael Galvin FRAeS



John Vincent FRAeS



Karen Trezise ARAeS



Wendy Wheadon  
MRAeS



Brad Wheatley  
FRAeS



AVM Mark Skidmore accepts the Presidential Medal from retiring President Andrew Neely

Andrew Neely congratulated the successful candidates present at the AGM and advised that all applicants including those who were un-successful, would receive a letter from the new President.

The outgoing President Andrew Neely (2017-2019) welcomed President Elect, AVM Mark Skidmore as the new President for 2019-2021.

Certificates of Service were presented to Andrew Drysdale, Katrin Hewitt Peter Brooks and in his absence, Ross Barkla.



Andrew Neely, Andrew Drysdale, Katrin Hewitt, Peter Brooks, and AVM Mark Skidmore

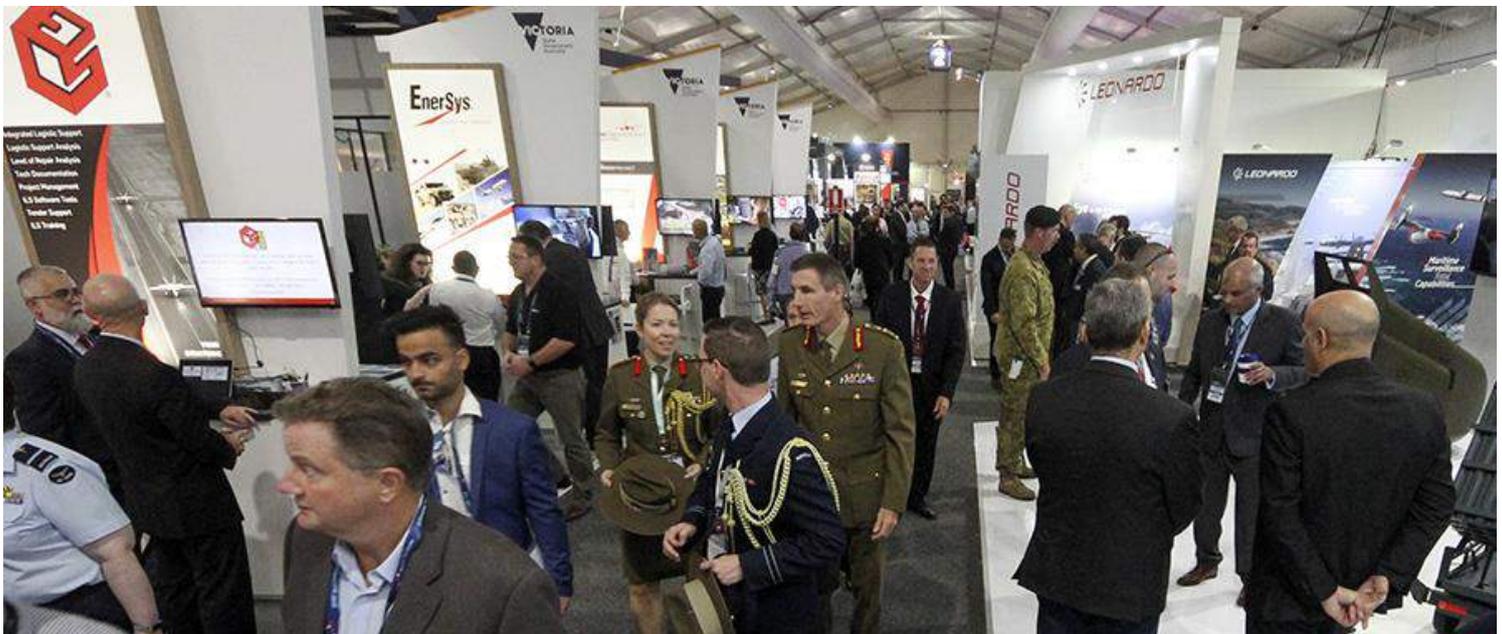
Andrew Neely and AVM Mark Skidmore thanked all outgoing Councillors for their contributions over the years

## AVALON 2019 BREAKS TRADE DAY RECORDS



The 2019 Australian International Airshow and Aerospace & Defence Expo (AVALON 2019), held from Tuesday 26 February to Sunday 3 March, broke exhibitor and trade day attendance records, with 698 participating companies, 161 official industry and government delegations and 38,952 attendances across the Tuesday to Thursday industry days. Attendances across the entire event, held at Avalon Airport near Melbourne, Australia, totalled 171,830. Whilst the weekend hot weather softened public attendance figures compared with the 2017 event, the 132,878 public day attendances in 2019 were in line with the Airshow's historical average.

Attendees came to do business, network and see the latest in aviation, aerospace and defence technology, including flying displays from Australia's first two Australian based Lockheed Martin F-35 Joint Strike Fighter aircraft, the US Air Force F-22 Raptor stealth tactical fighter, the Australian airshow debut of the Pilatus PC-24 Super Versatile Jet and the first Australian airshow display of a Japan Air Self Defense Force aircraft, the Kawasaki C2 transport.



The fleet of 371 aircraft on display in the air and on the ground was a new record, as were the 2591 attendances at 36 associated industry conferences, seminars and briefings, which covered topics from airport development to business aviation, law enforcement aerial operations, defence aviation maintenance and unmanned systems. Visiting delegations and guests included 15 service chiefs, 9 National Armament Directors and 24 Chief of Air Force representatives, from 30 countries. There were 94 military aircraft in attendance from six nations.

AVALON 2019 “firsts” included the inaugural Space Industry Association of Australia “Reaching for the Stars – Growing Australia’s Space Economy” conference and the first Australian Helicopter Industry Association “Rotortalk” conference. The event also provided a Science, Technology, Engineering and Maths (STEM) education platform for more than 1700 students throughout the week.

“As an international aerospace industry exposition, AVALON 2019 was a record-breaker in both exhibitor numbers and trade day attendances, with a host of major industry announcements and significant international participation from a total of 37 countries,” said AVALON 2019 CEO Ian Honnery. “Once again AVALON was a dynamic platform for interaction between industry, government, academia and defence. And once again it showcased Australian industry to the world, by bringing the world to Australia.”

“The Royal Australian Air Force made an enormous commitment to the airshow in aircraft and personnel, as do the Australian Navy and Army,” he said. “Together with enthusiastic support from the Victorian State Government and the City of Geelong, this has helped build AVALON as a signature international event, attracting senior civil aviation, air transport, aerospace and defence industry, military and government decision-makers from around the world.

“AVALON 2019 has also splendidly heralded the upcoming AVALON 2021 show, which is expected to break records again as a major platform for celebration of the Royal Australian Air Force’s 100th Anniversary”.



**Airpower for the Future:** The RAAF’s Chief of Air Force, AIRMSHL ‘Leo’ Davies launched the next stage of the revolutionary Plan Jericho effort to transform the RAAF and wider Australian Defence Forces (ADF) into a 5<sup>th</sup> Generation Force. Delivering the opening remarks at the Defence & Industry Aerospace Conference on the sidelines of AVALON 2019, AIRMSHL Davies said the evaluation and consolidation of existing partnerships and the development of new, was key to realising success for the RAAF. “As Chief of Airforce I have two main capability management responsibilities. Firstly, I need to deliver an Air Force today which is part of a joint force that is capable of meeting the full expectations of the government; secondly, I have to design an Air Force for the future which is capable of prevailing in a rapidly changing strategic contest. The RAAF has consistently proven our ability to generate airpower, create the require effects, and successfully contribute to all aspects of our continued security.”

AIRMSHL Davies said although the RAAF was currently mid-way through the transition to a new airpower fleet, it cannot simply expect to buy its way into the 5<sup>th</sup> generation. “The need to take a fresh look at what provides us with the opportunity to think deeply about the purpose and the nature of our partnerships, and to determine whether they also need to evolve in order to maximise our contribution” he said.

“If you ask me to explain why selected partnerships as including those organisations in research and development, in industry, other elements of the ADF, and international partner services. If you ask me to explain why selected partnerships is this year’s theme, it’s because I know the that the Air Force would not be able to realise the 5<sup>th</sup> generation potential timeline. To prevail in the future, it will be essential to make the most of what we have built with researches, industry, and our joint and international partners. He continued that the advantages of a 5<sup>th</sup> generation Air Force will not be realised by the capabilities provided by the new systems being acquired, but will only be achieved when the ADF uses and integrated system-of-systems to create decisive, debilitating, and unexpected war fighting effects.

**Avalon 2019 Opens showcasing ‘innovation in action’:** Chief of Air (CAF) Force Air Marshal Leo Davies welcomed the world to Australia for the AVALON 2019 Airshow, promising visitors the chance to see cutting-edge aircraft and offering a glimpse of how the future will be networked. Visitors will learn



Welcome to Country by Elder Edwards, at the opening ceremony

not only about the capability of the F-35 Lightning11, for example, but also the information systems that allow platforms to share data, thereby providing the wider force with an enhanced understanding of the battlespace. “Everything you will see here this week is the result of the high quality of our people”, CAF told the international audience – including 15 air force chiefs from around the world – at the opening ceremony.

Assistant Minister for Defence Senator David Fawcett said that AVALON 2019 provides the opportunity to consider the importance of history, as well as present and future activities. But equally importantly, it inspires the young men and women who come here and see the possibilities for them to have a career in aerospace.

AVALON 2019 was officially opened by Victorian State Government Minister for Veterans Robin Scott, who

highlighted the contributions made by veterans who have transitioned out of the ADF and into aerospace and defence industry.

**F-35: Australia wins huge share of MRO&U:** Australian Industry has been allocated a large proportion of the next round of F-35 JSF program Maintenance, Repair, Overhaul, and Upgrade (MRO&U) workshare awards. Of the 388 component work assignments awarded in the Asia Pacific region, Australian companies were awarded 343 of them.



“This announcement again proves that our defence industry can equal and beat the best in the world when it comes to sustaining complex aviation assets,” Minister for Defence Christopher Pyne said in a statement. “I welcome the United States Government’s further commitment to Australia as a regional hub for the maintenance of the F35-JSF.

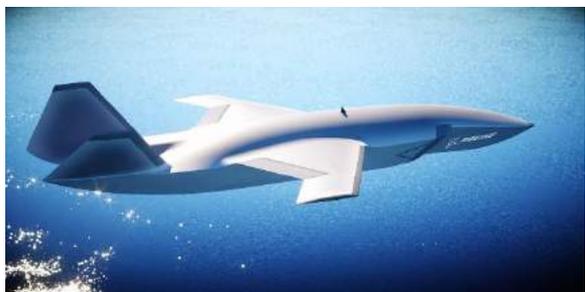


**The MQ-4C drone:** A Northrop Grumman RQ-4 Global Hawk unmanned aerial vehicle (UAV) has landed during the operational hours of an airshow for the first time. The US Air Force (USAF) high-altitude long-endurance (HALE) UAV landed at the 2019 Avalon Airshow on of 28 February t 15:30 hours before an appreciative Avalon 2019 crowd after a 13-hour flight (5700kms) from Guam.

The platform’s arrival was part of an effort to demonstrate its potential when in service with Royal Australian Air Force (RAAF). The Australian Triton is a larger and more powerful version of Global Hawk and will perform a

maritime patrol mission alongside Boeing's P-8A Poseidon maritime multi-mission aircraft. Australia, in June 2018, announced that it would enter into a \$200m agreement for the development, production, and sustainment of Triton, rather than pursuing the acquisition of six through the Foreign Military Sales Program. 'We've invested early and we're a partner', explained RAAF Group Captain Jason Lind, speaking to the media at Avalon 2019. "That means that we share the risk, but also share rewards". Australia has eight Defence personnel working on the co-operative program as part of a US-led team. The total acquisition cost of the Australian program is expected to be in the range \$3b to \$4b, with sustainment costs over 30 years expected to add more than \$2b over the lifetime of 30 years.

Global Hawk is no stranger to Australia. One aircraft visited Avalon 2015 but arrived late at night. Others have staged through Australia on route to surveillance missions over Afghanistan. The flight and landing into Avalon 2019 was controlled from Grand Forks, North Dakota. To view the landing at Avalon 2019 click: <https://www.facebook.com/watch/?v=2295536214017237>



**Boeing Airpower Teaming System:** Defence Minister Christopher Pyne has unveiled what could be the first high performance military aircraft designed and built in Australia in more than 60 years. On Wednesday morning 27<sup>th</sup> February, 2019, Minister Pyne revealed the Boeing Airpower Teaming System (ATS), an Australian-designed fighter-sized unmanned system designed to act as a 'loyal wingman' in conjunction with

high value assets such as the P-8A Poseidon or E-7A Wedgetail, or with combat aircraft like the F-35A or F/A-18F. The system has been developed in conjunction with the RAAF and the Defence Science & Technology (DST) Group. For the development, Boeing has partnered with companies such as BAE Systems Australia, Ferra Engineering, RUAG Australia, Micro Electronic Technologies, AME Systems, and Allied Data Systems.

"The partnership will produce a concept demonstrator of a low cost unmanned 'Loyal Wingman' aircraft, capable of operating in concert with Air Force's fifth generation air combat capability," Minister Pyne said in a statement.

"There is significant value investing in innovative, future leaning initiatives like this, particularly in the early conceptual stages where Defence can explore concepts and define the role such capabilities can play in our national security framework."

Initially, the ATS will employ electronic warfare or sensor payloads, but could eventually be adapted to carry weapons. At 38 feet in length, the air vehicle is about the size of an F-16, and features advanced composite construction and radar cross-section signature management in the form of shaping, materials and aligned edges.

But cost has also been a key driver of the ATS program, so the use of the expensive composite structures and low-observable shaping and materials has been offset by the substantial use of commercial and military-off-the-shelf (COTS/MOTS) components to ensure the air vehicle remains at an acceptably 'attritable' unit cost.



Sarah Henderson, Member for Corangamite, Kristin Robertson, and Defence Minister Christopher Pyne.

ATS features artificial intelligence to fly independently or in support of manned aircraft while maintaining safe distance between other aircraft. It will have a range of more than 3,000 km, giving it a four to five-hour combat endurance, well beyond that of manned fighter-sized aircraft.

"The Boeing Airpower Teaming System will provide a disruptive advantage for allied forces' manned/unmanned missions," vice president and general manager of Boeing Autonomous Systems, Kristin Robertson said.

"With its ability to reconfigure quickly and perform different types of missions in tandem with other aircraft, our newest addition to Boeing's portfolio will truly be a force multiplier as it protects and projects air power."



Designed by Boeing Phantom Works in Brisbane, the company's largest advanced concept development office outside of the US, if ATS successfully proceeds to production it will be the first high-performance combat aircraft of Australian origin built since the Jindivik drone of the 1950s.

That said, the ATS leverages 'big Boeing's' extensive experience in manned and unmanned systems development, including the X-45 of the mid 2000s and, more recently, the US Navy's MQ-25 program for which Boeing was selected last August.

"This will be Boeing's first unmanned aircraft designed and engineered in Australia and represents the company's largest investment of its kind outside of the United States," said Minister Pyne.

Phantom Works has a team of more than 200 engineers and support staff in Australia. Boeing says Australia is ideally placed to develop such a capability due to its expertise in the various engineering fields, as well as its vast airspace, government's openness to support an indigenous defence industry, and the airspace regulator's progressive view towards unmanned systems.

**Leonardo and Northrop Grumman offer C-27J to New Zealand:** Leonardo and Northrop Grumman Australia have joined forces in a bid to sell the Spartan battlefield airlifter to New Zealand as a replacement for the five C-130 H Hercules. The companies signed a MoU to partner on through-life support services for the twin-engine turboprop at AVALON 2019. The Royal New Zealand Airforce Hercules are expected to be replaced between 2021-2023. Leonardo is looking to put forward a fleet of between six and eight C-27J aircraft. The RAAF operates a fleet of ten aircraft. With this partnership, we want to make Australia our hub for the C-27J. The successful experience of the RAAF fleet is a testament



to our commitment and we are convinced that New Zealand would receive significant advantages by becoming the next Spartan customer. Northrop Grumman was awarded a through-life support contract for the RAAF Spartan fleet in November, 2017. The C-27J would enable the RNZAF to undertake a wide range of airlift missions, as well as humanitarian assistance and disaster relief tasks, search and rescue, and VIP transport. However, the New Zealand government needs to support the country's interests in Antarctica and the C-27J with a range of 1700kms at its current maximum take-off weight, the C-27J does not seem suited for this task.



**Leonardo markets commercial tiltrotor for Emergency Medical Services (EMS):** Leonardo is promoting the AW609 tiltrotor which is able to take-off and land vertically, and with its pressurised cabin is capable of flying above bad weather at higher speeds and at greater ranges than a helicopter might. Boasting a maximum cruise speed at 275 knots, the AW609 has a service ceiling of 25,000 feet and a maximum range of 1,000 nautical miles (with auxiliary fuel). The aircraft is promoted as an emergency medical services configuration, search and rescue, VIP transport, and oil and gas industry roles.

Certification for the AW609 from the Federal Aviation Administration is expected by the end of this year. The final prototype is anticipated to start ground testing May/June, 2019 whilst the first production aircraft is currently in assembly.



**Japan Air Self-Defense Force Kawasaki C-2:** The Japan Air Self-Defense Force transport aircraft, Kawasaki C-2, flew into AVALON 2019 for the first time from its home at Miho Air Base. The C-2's participation in the flying at AVALON 2019 is a world-first as the Japanese aircraft has previously only been seen at an airshow on static display. The C-2 is domestically-developed and manufactured, and employs various new aircraft systems, and its deployment by the Japan Air Self-Defense Force (JASDF) began in March 2017. Packed with the most advanced technologies, the C-2 flies faster and achieves greater

range than the other transport planes owned by the JASDF. With a cargo hold larger than those of the

others, it can accommodate heavier loads, thereby fulfilling a wide range of missions, such as international cooperative operations. Range 4500-7600kms – depending on operational requirements – a potential competitor to the Spartan battlefield airlifter to New Zealand as a replacement for the five C-130 H Hercules.

## THE SOCIETY'S PARTICIPATION IN AVALON 2019 – THE ESSENTIAL AVIATION, AEROSPACE AND DEFENCE SHOWCASE FOR AUSTRALIA AND THE ASIA PACIFIC REGION



Dr Billy Fredriksson, accompanied by the 2019 Lawrence Hargrave Award Recipient, Professor Murray Scott, and our Australian Division President, Mr Andrew Neely FRAeS.



AVALON 2019 is two concurrent events - an exhibition and trade show (Tuesday to Friday lunch time) followed by a public airshow (Friday afternoon and evening, Saturday, and Sunday). The Australian Division accepted an invitation from AVALON 2019 (Aerospace Australia Limited) to participate fully at the AVALON 2019 which was managed by our General Manager, Mr Doug Nancarrow and was supported by members from Melbourne, Sydney and Canberra branches. During the trade show days our display was visited by many senior aerospace professionals including Chief of Air Force, AIRMSHL 'Leo' Davies (pictured with Mr Doug Nancarrow and Col R Crowe FRAeS (Ret'd) and Councillor, Australian Division), the 2019 International Eminent Speaker,

The presentation of our display was changed dramatically for the public days when 'a change of guard' from Melbourne, Canberra, and Sydney branches worked together led by Assoc Prof Andrew Neely (who at the time was the Australian Division President) to re-arrange the stand with over 50 model aircraft, and other aeronautical equipment which caught the public's attention, particularly families with children. Andrew said "We had a very successful event which really showed the promise of what we can achieve nationally with Cool Aeronautics. We have lots of ideas about Cool Aeronautics going forward and how, more specifically, we can improve our impact at Avalon. I think the time is now right to look at setting up an Australian National Working Group

for Cool Aeronautics".

## Airbus secures Air Vanuatu to operate A220:



Air Vanuatu signed a firm order for four A220's (two 100 series aircraft with 108 seats and two 300 series aircraft with 133 seats) and purchase rights for an additional four aircraft at AVALON 2019. Air Vanuatu chairman, Mr Joel Lengsau said "The addition of the A220 into our fleet will give us the flexibility to increase our network and provide additional services to more destinations with a greater level of customer comfort. Today marks a wonderful beginning for Air Vanuatu and Airbus".

The A220 was formerly known as the CSeries when the program was managed by Bombardier. Following an agreement between Airbus, Bombardier, and the Quebec government's investment arm, Investissement Quebec, which was finalised in 1<sup>st</sup> July, 2018, Airbus officially rebranded the CSeries as the A220 at an event held at its Toulouse headquarters.

## Under the watchful eye of some of the brightest minds at BAE Systems Australia, Victorian school students learnt how to make rockets and code robots at the Avalon 2019:

Over the five day event, more than 1200 students had the chance to learn more about what it takes to become the Company's next generation of innovators, and the technologies they could work on if they pursue a career in Science, Technology, Engineering or Maths (STEM).

All of the activities, from learning aerodynamic principals through building and testing rocket models, coding a robot to complete challenges and taking part in virtual reality experiences, allowed students to understand the diverse career paths within BAE Systems and elsewhere in the defence industry.

BAE Systems Australia's activities were part of the broader AstroStem AIR4 tent which aimed to introduce students to career opportunities in a fun and interactive way.

BAE Systems Australia Chief Executive Gabby Costigan said: "It is important that the defence industry steps up to do more to inspire the next generation of Australian scientists, engineers and innovators. We are building capacity in the jobs of the future through partnering with programs to help Australia keep pace with growing demand for skills in STEM. STEM based roles make up 60% of our workforce in Australia. Not only are these talent pools in scarce supply globally, they are predicted to shrink further which is why we must contribute to the development of diverse STEM talent."

**2019 Southern Hemisphere Space Studies Program held at Uni of South Australia:** was held 14<sup>th</sup>

January to 15<sup>th</sup> February, 2019. It brought together about 50 participants from 11 countries - Australia, Canada, China, Denmark, France, Germany, India, Italy, Malaysia, UAE and USA. Now in its eighth year, the prestigious program is conducted by UniSA in partnership with the [International Space University](#), based in Strasbourg, France. More than 250 students have graduated from the [SHSSP](#) at UniSA. The SHSSP is part of an extensive commitment to the space industry at UniSA, which includes UniSA's [Innovation and Collaboration Centre](#) (ICC) launching Venture Catalyst Space, an incubator program to develop ideas from entrepreneurs and start-up companies in the space sector. SHSSP program co-director [Dr Ady James](#) is a Senior Research Fellow at University College London Department of Space and Climate Physics and an adjunct staff member at UniSA.



The model rocket being launched at last year's event.

"South Australia's well-established contribution to the space industry was further recognised with the recent announcement that Adelaide will be home to the [Australian Space Agency](#)," Dr James said. "With a new Space Agency and the growth in interest in space in the community – especially among young people – there are opportunities for Southern Hemisphere Space Studies Program alumni to create a critical mass of expertise in a variety of areas."

During the five weeks of the 2019 SH-SSP there were a number of [public events](#) including a joint meeting with Engineers Australia and the Adelaide Branch of the Society, 17:30 hours, 22<sup>nd</sup> January, held at Engineers Australia premises Adelaide, with international astronaut Dr Paolo Nespoli.

**Paolo Angelo Nespoli** (born 6 April 1957) is an Italian [astronaut](#) and [engineer](#) of the European Space Agency (ESA). In 2007, he first travelled into space aboard the [Space Shuttle Discovery](#) as a mission specialist of [STS-120](#). In December 2010 he again travelled into space aboard the [Soyuz TMA-20](#) spacecraft as an [Expedition 26/27 flight engineer](#).

Nespoli's third spaceflight was onboard [Soyuz MS-05](#) which launched in July 2017 for [Expedition 52/53](#). He is also the European Space Agency's oldest active astronaut. (Refer: [https://en.wikipedia.org/wiki/Paolo\\_Nespoli](https://en.wikipedia.org/wiki/Paolo_Nespoli) for further details). And Paolo made his age the centre point of his presentation. From a young

age he had the 'Dream' of being an astronaut – but was inhibited from going forward due to his 'lack of education'. He joined the Italian Army in 1977 and suffered adverse comments from his senior officers when he tried to 'make real' his dream. He 'knew the requirements' that to become an astronaut he needed to meet the European Space Agency's entrance criteria. So he went back to 'school' and received his bachelor's degree in Aerospace engineering in 1988 and his master's degree in 1989 in Aeronautics and Astronautics from [Polytechnic University](#) in New York. In July 1998, he was selected as an astronaut for [Italian Space Agency](#) (ASI) and in August 1998, Nespoli was assigned by the [European Space Agency](#) to train at NASA's [Johnson Space Center](#) in [Houston, Texas](#) – aged 41.

Paolo was part of Expedition 52/53, which started in 2017. He launched on [Soyuz MS-05](#) on July 28, 2017 15:41 UTC.<sup>[9]</sup> Paolo's mission to the ISS was called **VITA** (Vitality, Innovation, Technology and Ability. In Italian it means life, reflecting the scientific experiments and the technologies needed for life in space). Nespoli returned to Earth on December 14, 2017. The duration of the mission was 138 days, 16 hours, 56 minutes and 37 seconds. His age then being 60 years – what a 'Dream' and what stamina to implement the 'Dream'.

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*(On my way home on a crowded tram, all the seats were taken including 8 seats occupied by four young men with their feet on the four opposite seats. I asked politely if they could remove their feet so that others could sit down. After some discussion they did so and I continued to talk with them. I learnt that the eldest (aged 20 – the other three were younger) had that day been released from custodialship in Adelaide and the four of them had spent the afternoon in Glenelg to 'celebrate' his new found freedom. We continued talking and during our discussions I raised the matter of 'Implementing your Dreams'. Their response was quite startling and rather than asking what I meant they appeared to understand exactly what I had said. However, before we could discuss further the tram arrived at their stop and so left the tram. Hopefully, thank you again Paolo)*

**The second evening was entitled 'Hazards of Human Space Exploration' with Dr Gordon Cable**



FRAeS, 19:00 hours, 23 January, at UniSA Mawson Lakes Campus. Dr Gordon Cable is a specialist in aerospace medicine and a Senior Aviation Medical Officer for the Australian Defence Force. He has been a consultant to the Royal Australian Air Force since 1996 and is an aviation medical examiner for Australia's Civil Aviation Safety Authority (CASA). He is the current secretary and an honorary member of the Australasian Society of Aerospace Medicine (ASAM), as well as Chair of the Space Life Sciences Committee, and a past president. He also holds Fellowships with the Australasian College of Aerospace Medicine, the Aerospace Medical Association, the Royal Aeronautical Society and the International Academy of Aviation and Space Medicine. Additionally, Dr Cable is a Clinical Associate Professor in the School of Medicine at the University of Adelaide, and the author of many scientific publications. His professional interests include

altitude physiology of hypoxia and hypobaric decompression illness, hypoxia awareness training of military and civilian aircrew, space medicine, and postgraduate education in aerospace medicine for medical professionals.

Plans for the exploration of deep space over the coming decades will see humans travel deeper into space and for longer periods than at any time in human history. A permanent presence in cis-lunar orbit, (*Earth's gravity keeps the Moon in orbit at an average distance of 384,403 km (238,857 mi). The region outside Earth's atmosphere and extending out to just beyond the Moon's orbit, including the Lagrangian points, is sometimes referred to as cislunar space. The Lagrangian points also Lagrange points, L-points, or libration points) are the points near two large bodies in orbit where a smaller object will maintain its position relative to the large orbiting bodies.*) exploration of the lunar surface, and missions to the Mars system are all being planned. This new era of space exploration will expose humans to hazards not experienced since the Apollo program of the 1960s and 70s but magnified by greater distance and much longer exposures. This presentation used the paradigm of NASA's Human Research Program (HRP) which is responsible for the oversight and coordination of a wide range of ongoing studies, experiments, and projects.

Crew health and performance is critical to successful human exploration beyond low Earth orbit. The HRP investigates and mitigates the highest risks to human health performance, providing essential countermeasures and technologies for human space exploration. Risks include physiological and performance effects from hazards such as radiation, altered gravity, and hostile environments, as well as unique challenges in medical support, human factors, and behavioural health support. The HRP utilizes an [https://humanresearchroadmap.nasa.gov/Documents/IRP\\_Rev-Current.pdf](https://humanresearchroadmap.nasa.gov/Documents/IRP_Rev-Current.pdf) to identify the approach and research activities planned to address these risks, which are assigned to specific Elements within the program. The Human Research Roadmap is the web-based tool for communicating the IRP content, Evidence Reports, external reviews of HRP research, and general HRP organisational information. Dr Cable's presentation was video-ed and can be watched by clicking on: <https://www.youtube.com/watch?v=5sNZFXCLZfk&t=0s&list=PLXliqJhjNEZZpRA7qP3xSdqpEEvyWL9fJ&index=6>

**Review of the Australian Division voting processes:** As previously mentioned the Australian Division Council considered that the 2019 voting response was disappointing due to the small number of votes being returned and requested that the views of the Sydney Branch members be canvassed. Should you wish to provide data to this review would you please advise the editor via email: [jeff.lock@bigpond.com.au](mailto:jeff.lock@bigpond.com.au) or mail: Mr Jeff Lock, 4 Hillcrest Place, North Manly NSW 2100, who will collate the data and forward to the Australian Division review sub-committee.

**Sydney Branch AGM held 10<sup>th</sup> April, 2019:** The Chairman Mr David Cox FRAeS commenced the AGM held 18:00 hours, 10<sup>th</sup> April, 2019, in the Mechanical Engineering Theatre, Mechanical Engineering Building, University of Sydney. The Chairman presented his report which is printed below. The Treasurer presented the Audited Financial Accounts for 2018. *(A paper copy of the audited 2018 Financial Accounts has been included with this Newsletter for those members who prefer 'paper'. Should 'email' members wish to receive a soft copy please email the Treasurer requesting a soft copy: [jeff.lock@bigpond.com.au](mailto:jeff.lock@bigpond.com.au)).*

The Assistant Secretary, Mr Bryan Stade, advised that the 'Call for Nominations for the 2019 Sydney Branch Committee' resulted in the 2019 Committee as listed at the bottom of each page of this Newsletter. There are two vacant positions – a Student and an Ordinary Committee position - which the 2019 Committee will try to fill during the year. The Chairman acknowledged the work of the retiring members Ashan Karunagaran, Zoren Liu, Ying Luo, Henry Thai, and in particular Mr Ross Barkla who has been a member of the Sydney Branch for some 40 years. The Chairman said that the 2019 Committee will arrange a formal acknowledgement of Mr Barkla's contribution to the Sydney Branch, in due course. There being no further business the AGM closed at 18:20 hours.

## 2018 Sydney Branch Chairman's Report

### Lecture and Events Program 2018

<u>2018</u>	<b>Speaker/Event</b>	<b>Topic/Purpose</b>	<b>Audience</b>	<b>Venue</b>	<b>Attendance</b>	<b>Streaming</b>	<b>EA CPD (hrs)</b>
7 March	Capt Allen Dickinson, Qantas	Flight Planning – Yesterday, Today & Tomorrow + AGM	General	USyd New Law School 101	82	18	1.5
4 April	International Eminent Speaker	Dr Susan Ying President ICAS	Joint with EA	USyd New Law School 101	190	No	1.5
5 April	Senior Business Leaders Lunch	Sir Rod Eddington (ex CEO Cathay, Ansett, BA)	Business	Four Seasons Hotel	-	-	-
5/6 May	Wings over Illawarra	RAeS Stall	General	Albion Park	-	-	-
16 May	Fellows/Companions Reception	Networking & acknowledgement	Fellows & Companions	Kirribilli Club Milsons Point	21 (16xF)	-	-
30 May	Dr Jason Held Saber Astronautics	Aust Space Agency	General, Space	UNSW Webster Theatre	100	18	1.5
23 June	Control Tower Tour	Site visit, limited numbers	Members only	Sydney Tower	10	-	1.5
27 June	AD Safety Event	RPAs, Pilots & automation, Aviation Security	Invited specialists, General	Four Seasons Hotel	-	-	-
25 July	Rob Lawrie, Gary Weeks, Cameron McCartney, Geoff Shrimski	Sports Aircraft Association Aust: Hands on experience with Experimental Aircraft	General, home-build enthusiasts, Students	USyd New Law Theatre 026	57	No	1.5
26 July	GE Aviation Sth Asia Pacific: Keren Rambow, GM & Matthew Rowe Military Sales Director	Diversity in Aerospace – open discussion	General, Women	GE Office North Sydney	12	No	1.5
9 August	AVSOC Careers Fair & Info Day	Membership drive	Students, Industry Reps	UNSW Campus – Tyree Room	-	-	-
29 August	John Vincent, Chairman Qantas Founders Museum	Saving Connie – A Journey of Innovation and Determination	General, Historical	UNSW Ainsworth Building J17, Room 202.	95	Yes	1.5
12 Sept	Lea Vesic, Lee De Winton, Allison Spicer, Sharon Shields	Women in Aviation Australia Panel	Students & junior to mid-career professionals	UTS Building 11, Room 405 81 Broadway	35	Yes	
19 Sept	William E. Barrett, Senior VP Asia Pacific Aerospace Consultants (APAC)	Why Space? Why Now? The Transformation of Space in the 21st Century	General, Space	Wool Room, Intl House USyd 96 City Road,	30		
3 Oct	LtCol Keirin Joyce RAA	Army UAS	General, Students, Military	USyd Nanoscience Hub Theatre 4002	50		
7 Nov	Vince Di Pietro, CEO Lockheed Martin Aust	60th Sir Charles Kingsford Smith Dinner: Fulfilling the Altair vision: the perennial tyranny of distance and time.	General	Powerhouse Museum	100		
5 Dec	Greg Hood	ATSB Overview	General		35		

## Summary

### **1. Deliver services in accordance with the Branch Purpose that members value:**

As you can see from the preceding tables we had a bumper year in 2018 for lectures and other events. In general we have been blessed with a sequence of high quality lecturers and we are regularly getting over 150 along to the lectures. 2018's IESP was great. The lecture on Australia's space policy and new space agency also generated a terrific amount of interaction with the audience.

Significant credit for this needs to go to our lectures subcommittee chair Henry Thai who injected new blood into this area. He has also introduced a video snapshots into our marketing of events as well as using social media very effectively. This increased level of activity has placed load on the committee to support it and I would therefore like to acknowledge the continued efforts of David Adkins, Jeff Lock and all who help out with the events. David has also been instrumental in developing and implementing our Facebook streaming of lectures. The numbers of people accessing this facility can be seen from the table. I continue to believe that this innovation will only develop as a service to our members especially in Sydney and regional New South Wales where physical attendance is difficult. Bryan Stade is looking to run a pilot live stream event at Richmond to develop this. Apart from the quality and quantity of the events, it's worth noting three areas that have opened up new paths for us:

- Henry was instrumental in organising two events focusing on women and aviation. It is really pleasing to see the Branch getting on the front foot in this area.
- We have also had two events around developments in space in Australia and the new space agency. Along with UAVs, and air taxis this is an area with a surprising amount of activity going on.
- Matt Coutts is developing our Cool Aeronautics capability – more on this in 2019.

Another innovation we have introduced last year was the Fellows evening. This gave us an opportunity to honour new fellows and for all the fellows in the Sydney region to do some networking. The first outing was a success but this is the sort of thing that builds with time so I'm looking forward to seeing it in the annual calendar for the Branch in coming years. I'm also really pleased to see a careers event back in our annual calendar. We used to do this in years past and it is a great service to our student and younger members.

In 2018 we did the planning to introduce a cover charge for non-members at our lectures. We provide pizza and drinks after the meeting to facilitate networking and we regularly see the majority of people in our lectures being non-members. Accordingly, it seems reasonable and achievable to introduce a modest, cover charge which we have now done.

The Kingsford Smith Memorial lecture was also a big success this year. The lecture was the ideal style and balance of what we would like to see at this event.

### **2. Build the Branch brand to be a respected part of the Sydney aerospace community:**

During 2018 we continued to work with other organisations such as SADIG. With the assistance of the GM we also undertook a series of meetings with government staff in NSW to raise the profile of the Society in government circles.

### **3. Recruit members to ensure the ongoing health and sustainability of the Branch:**

Our close coordination with the GM continues and we have seen a steady stream of membership applications.

### **4. Build and sustain an active committee to support the Branch:**

Our 2018 committee included a refreshing amount of new blood. This gave us bandwidth to do our Fellows evening, ramp up Cool Aeronautics, mount the above ambitious lecture program, and get our mentorship program off the ground. I should also give a special mention to Bryan Stade who with John Vincent is doing the very hard yards of trying to finesse and market our chartered engineer proposition.

## **This Year:**

The Branch Committee recently held its annual strategy day. This is currently being worked up into a 2019 plan but some key initiatives discussed for 2019 are:

- Work hard on our marketing, including use of video and social media.
- Continue to reach out to New South Wales government and politicians.
- Continue to develop Facebook streaming of lectures and facilitate the creation of cells within particular companies who would meet at convenient times such as lunchtime to watch the lecture together.
- Run a vocational event in July particularly targeted at midcareer members emphasising networking and career advice.
- Continue to develop our preparedness for Cool Aeronautics.

**David Cox FRAeS**, Branch Chairman, 27/3/ 2019

**Past Newsletters are now stored on our website:** Members are advised that all Sydney Branch Newsletters since February 2012 are now stored on our website. To access this information enter our web address ( [www.raes.org.au](http://www.raes.org.au) ) into your browser, click 'About' then 'Sydney Branch' and scroll this page to the heading 'Sydney Branch Newsletters'. Newsletters are arranged by month within each year heading.

**Society Merchandise for Sale:** Sydney branch has a selection of Society Merchandise for sale at its regular monthly meetings. Items include Society Ties, Tee Shirts, Caps, Pins, Lapel Badges, Silver Kestrel Brooches, and Mugs.



Our Sales Director, David Adkins, accepts cash, cheques, and credit cards through PayPal.

**Aerospace Websites:** [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 formally 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;

<http://boxkite2014.org/book/book.htm> - The Boxkite project.

[https://en.wikipedia.org/wiki/Rolls-Royce\\_Trent](https://en.wikipedia.org/wiki/Rolls-Royce_Trent); [hars.org.au](http://hars.org.au) Historical Aircraft Restoration Society

<https://herox.com/SpacePoop> The Space Poop Challenge [www.powerhousemuseum.com/whatson](http://www.powerhousemuseum.com/whatson)

<https://qfom.com.au/> Qantas Founders Museum, Longreach, Qld <http://www.singaporeairshow.com/>

<https://www.youtube.com/watch?v=JGjmRRTThdk> How TIME created their new cover image with 958 drones

[http://www.rbogash.com/B-52/B-52\\_Disassembly.html](http://www.rbogash.com/B-52/B-52_Disassembly.html) How to move a B-52 without flying it – The Final Disassembly and Transport Update for the move scheduled 3/6/2018 - with the wings split and the fuselage in final stages of prep before hitting the freeway.

<https://airandspace.si.edu/collection-objects/assembly-bio-harness-armstrong-apollo-11>

**Diary:** April 29-May 2: AUVSI XPONENTIAL 2019 is the largest, most comprehensive trade show for unmanned systems and robotics and will be held at **MCCORMICK PLACE, CHICAGO** - your opportunity to hear from industry leading experts across every domain - air, ground and maritime. Refer details at:



<https://www.xponential.org/xponential2019/public/enter.aspx>

**May 4-5:** Wings over Illawarra – **Australia's best Annual Airshow!! Right on Sydney's doorstep!!**. The Sydney Branch will have a presence – please call in to say 'Hello'. For further details refer: <https://www.wingsoverillawarra.com.au/>



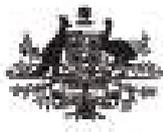
**June 26:** 2019 Australian Division Safety Forum – Following a very successful inaugural Safety Forum in 2018 the RAeS Australian Division will shine the spotlight on three more aviation safety issues – to be held at the Four Seasons Hotel, 199 George Street Sydney (08:30 -22:00 hours). To register please click on: [raes.org.au/aviation-safety-forum-2019](http://raes.org.au/aviation-safety-forum-2019)

**Saturday July 20:** The fiftieth anniversary of the first men walking on the moon. Sydney Branch is arranging a 'Special Event' on the night. Further details to be advised.

**July 23-26:** Abstracts containing no more than 300 words are now invited for the 2019 Aircraft Airworthiness and Sustainment (Australia) Conference, a non-profit event for the benefit of all those involved in sustaining our fleets, both Civil and Military, safely and economically through their lifecycle. The Conference will be held at the Brisbane Convention and Exhibition Centre. **Closing date for abstracts is 3 May, 2019.** For further details refer: <http://www.ageingaircraft.com.au>

**Dec 4-6:** Call for Abstracts - **11th Asia Pacific International Symposium on Aerospace Technology (APISAT)**, to be held at Surfers Paradise Marriott Resort, Gold Coast. Refer conference website: [www.apisat2019.com](http://www.apisat2019.com)

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