



**ROYAL
AERONAUTICAL
SOCIETY**
AUSTRALIAN DIVISION
SYDNEY BRANCH

MAY 2018

Vol 2018-3 ABN 75 134 058 731

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NEWSLETTER



**Dr Jason Held
Chief Executive Officer**



discussing

**‘The Australian Space
Agency – What should it do’**

Date: **Wednesday 30th May, 2018**

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

Venue: **Webster Theatre A, (G15 adjacent to the Robert Webster Building)
University Mall, University of New South Wales**

To view map please click/copy and paste into your web browser the following:

[www.google.com/maps/place/Webster+Theatres,+UNSW+Sydney/@-](http://www.google.com/maps/place/Webster+Theatres,+UNSW+Sydney/@-33.9174574,151.2284814,17z/data=!3m1!4b1!4m5!3m4!1s0x6b12b18afe22058f:0x50b797c3b80b627f!8m2!3d-33.9174619!4d151.2306701)

[33.9174574,151.2284814,17z/data=!3m1!4b1!4m5!3m4!1s0x6b12b18afe22058f:0x50b797c3b80b627f!8m2!3d-33.9174619!4d151.2306701](http://www.google.com/maps/place/Webster+Theatres,+UNSW+Sydney/@-33.9174574,151.2284814,17z/data=!3m1!4b1!4m5!3m4!1s0x6b12b18afe22058f:0x50b797c3b80b627f!8m2!3d-33.9174619!4d151.2306701)

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

PROFILES: Prior to founding Saber Astronautics, Dr. Jason Held was a US Army Major and team leader for USSTRATCOM (formerly Space Command) and deployed internationally in support of military space missions. He was a lead instructor at the Interservice Space Fundamentals Course and an engineer at Army Space and Missile Command Battle Lab. He conducted flight software for the Wide Field Camera 3 of the Hubble Space Telescope and testing for the International Space Station. Jason lectured for the IRS* Space Station Design Workshop, University of New South Wales, and International Space University. He led a research expedition in the high Canadian Arctic and co-founded several NewSpace teams such as the Delta-V SpaceHub Accelerator and the University of Sydney space engineering laboratory.

The Australian government selected Dr Held as part of the government “Expert Reference Group” to design their Space Agency. He also advises international think tanks Global Access Partners, NSI, and the Economist. His current work focuses on machine learning applications to space control.

* On the 26th of October 2011, the Space Center Baden-Wuerttemberg (RZBW) was inaugurated. Since then, the Institute of Space Systems (IRS) has been located within the RZBW. This enlargement offers an adequate working environment to the growing number of about 170 employees.



The Institute's research activities have been enhanced due to the new state-of-the-art labs in the RZBW. At present, we offer a wide range of fascinating research topics in the fields of Space Technology and Astronautic Appliances, combined with accompanying lectures, practical trainings, and exercise seminars. Currently, over 60 PhD students work on these topics.

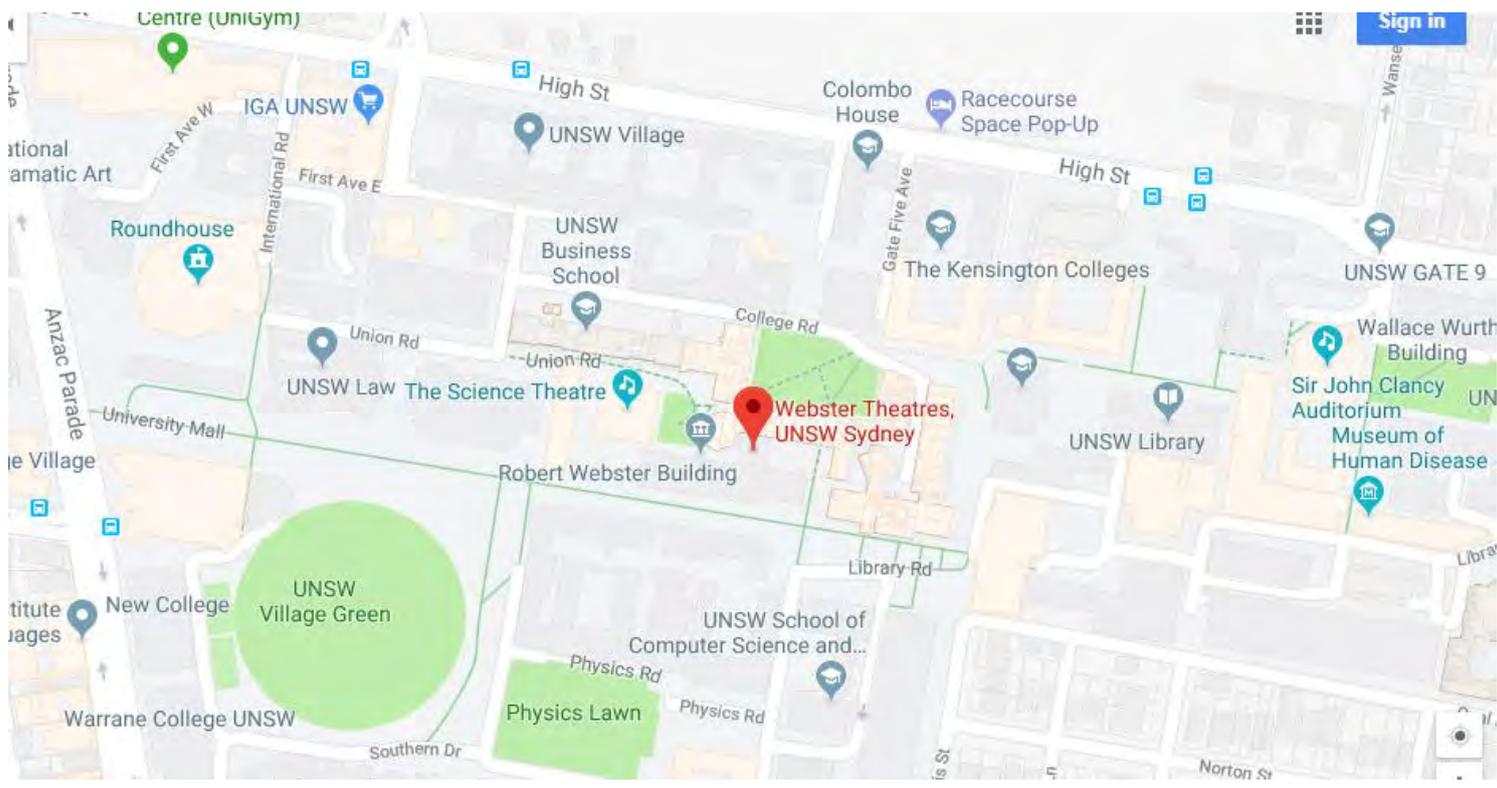
SYNOPSIS: The space industry is growing at a rapid pace, expecting to triple in size to a trillion dollar market in the next 10 years. Here in Australia, our local space community is growing rapidly as people take advantage of new technologies and miniaturisation of satellites to create 80 new space companies in only two years. In this talk, Dr Jason Held will discuss how we can use this new environment, benefits and pitfalls, to bring us from a space community to a robust commercial industry capable of export and competition internationally.

Agenda: **18:00 Hours:** Registration | Welcome tea & coffee
18:30 hours sharp: Dr Jason Held, Chief Executive Officer, SABER Astronautics discussing 'The Australian Space Agency – What should it do'
19:30 Hours: **Q & A Session**
19:45 Hours: **Light supper** (pizzas) will be provided to give the speaker and attendees the opportunity to mingle and to continue discussions.

RSVP: Whilst attendance is free - registration for the evening **is required**. Please register by clicking on/copying and pasting into your URL this link: <https://raesmay18.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.

Parking: Limited parking is available in surrounding streets with paid parking within the Uni of NSW car park tower, entry from Barker Street. Please observe parking restrictions and allow time to drive to the University of NSW, park and walk to the venue. (Refer to map and also <http://fmttoolbox.unsw.edu.au/comms/KensingtonCampus.pdf> - ref N18).

Location: Building Name: Webster Theatres Building Code: G15



Public Transport: Regular buses (391, 392, 393, 394, 396, 397, 399, M10) leave from outside Museum train station in Liverpool Street, and the 395 and M50 in Elizabeth St, opposite Central Station. Please

allow time to travel by public transport, including waiting time, and time to walk to the venue from the UNSW bus stops. There are a number of other buses such as the 400 and 370 that travel to and from suburbs on the outskirts of the CBD and stop at the UNSW. Please refer for further details: www.sydneybuses.info/routes/timetables-route-maps

Membership Information: Annual memberships commence at only \$155 or \$29 for Students (but free for the first year). Being a member helps us sustain a vibrant activities programme and opens the way to access restricted 'member-only' events. For further details refer: <https://www.raes.org.au/index.php/membership/2014-11-02-00-22-30/become-a-member>

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.

60th Sir Charles Kingsford Smith Lecture and Annual Branch Dinner: **Mark your diaries – The 60th Sir Charles Kingsford Smith Lecture will be held Wednesday 28th November at the Powerhouse Museum, 500 Harris Street, Ultimo. The speaker will be Vince Di Pietro, Chief Executive, Lockheed Martin Australia and New Zealand. This date is also very close to the in-country arrival of the F-35 (anticipated week of 10 Dec). Further details will be advised shortly.**

Australia Youth Aerospace Association (AYAA) – Aerospace Futures Annual Conference: Occurring across state capitals annually, the Aerospace Futures Conference is an important event in the Australian aerospace industry calendar and has been an immense success with a total of 1000 delegates, 80 organisations involved. 2018 will be the very first year that the Aerospace Futures conference will be coming to Canberra in its decade long history. The venue is: ADFA Adams Auditorium, Canberra – map reference: www.google.com/maps/place/Adams+Auditorium/@-35.2980438,149.1487173,14z/data=!4m5!3m4!1s0x0:0xb37ff3c514a9d259!8m2!3d-35.2938402!4d149.1655397?hl=en-US The timing and location for Aerospace Futures 2018 is impeccable with the upcoming mobilisation of a National Space Agency. The event will attract a wide variety of prestigious industry speakers to the ACT. Targeting a record 250 youth delegates and 150 invited professionals, the event is focused towards undergraduates, postgraduates and young professionals from across Australia and New Zealand. With strong support from government, industry and academia, you are warmly invited to our celebration of Australia's Aerospace Industry. For further details refer: aerospacefutures.ayaa.com.au/

Air BP fuels Qantas' 787-900 non-stop Perth to London: On 24 March 2018, Air BP fuelled Qantas' first non-stop flight between Perth airport and London Heathrow, with jet fuel produced at BP's Kwinana refinery just 52 kilometres south of the airport. Air BP has played a critical role in supporting Qantas and the Perth airport authority to prepare for the new direct flight known as 'the kangaroo route'. Wayne Harries, Air BP's Perth Airport Manager, commented: "As operators of the fuel facility at Perth, Air BP also provides design and project management for the underground hydrant piping system. We worked with Qantas and the airport to meet all requirements and refuel in the most efficient way possible." "These flights are great for our business," Harries continued. "We have been innovating and leading the aviation industry for over 90 years, working with our customers to create value together. Qantas are our number one customer in Perth and we're as proud of that relationship, as we are to be part of this ground-breaking new non-stop route to the UK."



Australia Post - 1928 Trans-Pacific Flight Prepaid Envelope: Australia Post is commemorating the 90th Anniversary of Charles Kingsford Smith and Charles Ulm's 1928 trans-pacific flight with the release of a \$1.25 Prepaid Envelope on 31st May.

On 31 May 1928 they took off from California with two American crewmen, Jim Warner (Radio Operator) and Harry Lyon (Navigator), in a three-engine [Fokker F.VIIb/3m](http://www.fokker.com/fokker-f-viiib-3m) they christened the 'Southern Cross'. The plane weighed 15,000 pounds with had a wingspan of 71 feet. It could carry 700 gallons of fuel and 45 gallons of oil,



making it well suited for a transoceanic flight. For aircraft of this era it was an immense distance, over water all the way. They flew via Hawaii and Suva to Brisbane, fighting storms and near exhaustion, completing the journey in under 84 flying hours - arriving in Brisbane on 9th June, 1928.

Notification of the passing of Brian Van de Water: The Sydney Branch has been advised of the sad news that Brian Van de Water passed away Monday 16th April, 2018. It was very sudden and he passed away peacefully with his family with him at the end, except for Christopher in London who he did see on skype and even gave Christopher the thumbs up and a wave. A private family funeral was held Friday, 20th April. A Memorial Celebration of Brian's life will be held in about three weeks' time. Further details will be advised when to hand.



Wings Awards Nominations are Open: The Wings Awards take a panoramic view of the general aviation (GA) industry by recognising the achievements of aviators, aero clubs, instructors and training organisations that form the backbone of the GA industry. Excellence will be recognised across four categories: "Col Pay Lifetime of Service to General Aviation", "Aero Club of the Year", "Flying Training Organisation of the Year" and "Flying Instructor of the Year". Nominations close on the 2nd July. For more information, or to nominate an outstanding contributor to general aviation, see the website for details at <http://www.australianflying.com.au/wings-awards> **Winners announced in Australian Flying Nov/Dec 2018. Week of 29 October: Awards to be presented in RAeS branches.**



What does the future of Mining look like?: Remote operation centres, driverless trucks and industrial drones - technology is set to transform the way 'Dirty, Dull, and Dangerous' work will be performed to a single 'D' – DIGITAL. The future is here. Armed with drones, autonomous vehicles and high-tech operations centres, the big players in the resources sector are mining digital technology for all it's worth. Since the first gold rush, the extraction of minerals and metals from the ground has been dirty, dull and dangerous. But over the past decade, Australian companies have been at the forefront of swapping mining's infamous "three Ds" for a single new one: digital.

Technology is moving human jobs up the value chain, out of mining pits and truck cabins and into air-conditioned remote operations centres. Today, mining groups boast data-gathering sensors, drones and autonomous trucks and trains – and this is just the beginning.

Industrial drones: Maintaining security, safety and inventory accuracy across the vast footprint of a mine is a logistical puzzle that can be made easier by a data-gathering drone. Resources giant South32 last year announced plans to fast-track its digital transformation. It began deploying Airobotics drones for surveying and inspection work (known as "missions") at its Worsley Alumina mine in south-west Western Australia in the second half of 2017. It will do the same at its bauxite site, near Boddington, south-east of Perth, this year. Israeli startup Airobotics claims it's the first company to develop an autonomous drone that's up to this kind of mining work. "We target routine missions and activities and we automate those missions to be done using our drone," says Yahel Nov, vice-president of business development for Airobotics. "Drones automate missions that are dull, dirty, dangerous or all three."



The Airobotics drone lifts off from an air base – which looks like a giant photocopier – and removes humans from such reporting jobs. The drone flies to its assigned position before returning to base after about 33 minutes. (It will soon be able to fly for 44 minutes and even longer as battery quality continues to improve.)

Not only is there no human physically inspecting a perimeter, pit, stockpile or pipeline, there's no human piloting the drone, either. "We do a detailed risk and aviation assessment of the site to get a deep understanding of the facility and where it's safe to fly and where it's not," says Nov.

"We invest a couple of weeks in that planning to customise the mission precisely; once that's done, you basically press play and repeat the mission as many times as you like." Numerous operations can be programmed for the drone but typically about a dozen high-value missions are customised for the site.

The scope is broad, he says: "the drone can acquire information from the mine at very high frequency with very high accuracy, rather than people getting into a light truck and going down to a pit". The drone can fly night or day and the data it picks up can be watched live. The video can be condensed into a shorter version

or combined with software that will analyse the information. For further information refer: www.airoboticsdrones.com.au/

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



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

Aerospace Websites: www.57rescuecanada.com : Follow Capt. Karl Kjarsgaard's adventures to recover Halifax bomber LW170 which is resting beneath 5000ft of water off the Irish coast;
www.adastron.com/707/updates/updates.htm : Diary of Boeing 707-138B XBA formally Qantas EBA.
www.airshow.com.au www.atsb.gov.au www.aviationmuseum.com.au - Temora Aviation Museum;
<http://boxkite2014.org/book/book.htm> - The Boxkite project.

https://en.wikipedia.org/wiki/Rolls-Royce_Trent

<http://hars.org.au/> Historical Aircraft Restoration Society

<https://herox.com/SpacePoop> The Space Poop Challenge

www.powerhousemuseum.com/whatson

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

<http://www.singaporeairshow.com/>

Diary: **April 30-May 3:** AUVSI XPONENTIAL 2018 is the largest, most comprehensive trade show for unmanned systems and robotics and will be held at the Colorado Convention Center, Denver - your opportunity to hear from industry leading experts across every domain - air, ground and maritime. Refer details at: <https://www.xponential.org/xponential2018/public/enter.aspx>



May 5-6: Wings over Illawarra – **Australia's best Annual Airshow!! Right on Sydney's doorsteps!!.** For further details refer:

<https://www.wingsoverillawarra.com.au/>



June 27: Australian Division Safety Event – Remotely Piloted Aircraft Systems (RPAS), Skill Shortages, Security - Four Seasons Hotel Sydney, 199 George Street, Sydney – further details to be advised.

July 3-6: Abstracts containing no more than 300 words are now invited for the 2018 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 13 April. For further details refer: <http://www.ageingaircraft.com.au>

July 16-19: Australian Youth Aerospace Association (AYAA) – Aerospace Futures Annual Conference – will be held for the first time in Canberra. For further details refer: aerospacefutures.ayaa.com.au/

Sept 9-14, 2018: 31st Congress of the International Council of the Aeronautical Sciences, Belo Horizonte, Brazil. Refer details: <http://icas.org/media/ICAS2018CallforPapers.pdf>

Oct 1-5, 2018: 69th Annual International Astronautical Congress will take place in Bremen, Germany. Call for Abstracts is now open and closes 28 February 2018. For further details refer: <https://iafastro.directory/iac/browse/IAC-18/catalog-technical-programme>

Oct 16-18: Call for Papers (close 1 July, 2018) for the 10th Asia-Pacific International Symposium on Aerospace Technology (APISAT 2018) to be held in Chengdu, China. APISAT is an initiative by the national aerospace societies of Japan (JSASS), Korea (KSASS), China (CSAA) and Australia (RAeS Australian Division). Founded in 2009, the conference has grown steadily over the past decade and is an important regional conference in the aerospace calendar. Refer details: www.apisat2018.com

Nov 28: Mark your diaries – The 60th Sir Charles Kingsford Smith Lecture will be held Wednesday 28th November at the Powerhouse Museum, 500 Harris Street, Ultimo. The speaker will be Vince Di Pietro, Chief Executive, Lockheed Martin Australia and New Zealand. This date is also very close to the in-country arrival of the F-35 (anticipated week of 10 Dec).

Feb 9, 2019: The fiftieth anniversary of the first Boeing 747 flight.

July 20, 2019: The fiftieth anniversary of the first men walking on the moon.

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