ROYAL AERONAUTICAL SOCIETY
2016 • CELEBRATING 150 YEARS
AUSTRALIAN DIVISION SYDNEY BRANCH INC

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NEWSLETTER

Ron Bartsch

BA, BSc, LLB, LLM, Dip Ed, ATPL

discussing

"Unmanned and Out of Control"

Date: **Wednesday 15th June, 2016**

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

Venue: **Room G02, Ainsworth Building J17**
Ground floor
University of New South Wales

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

Synopsis: The introduction of unmanned aircraft systems or Remote Piloted Aircraft Systems (RPAS) into civil aviation has been described as being as significant to this industry sector as the advent of the jet engine. One commentator goes even further and suggests that the UAS is arguably the greatest innovation in commercial aviation since the Wright brothers' Flyer.

Compared with the challenges that accompany the introduction of any new technologically advanced aircraft, the integration of UAS operations into unsegregated civilian airspace present far greater challenges. For governments and regulators it is suggested that a paradigm shift may be required to effectively achieve this goal especially considering the ambitious implementation timetable that many governments have self-imposed. And it is not only the rate of development of UAS technology that requires a recalibration of approach as to how to control this area of aviation but rather the unique characteristics, capabilities and diversity of their application. As one commentator suggests UAS are evolving faster than "our ability to understand how, legally and ethically, to use them".

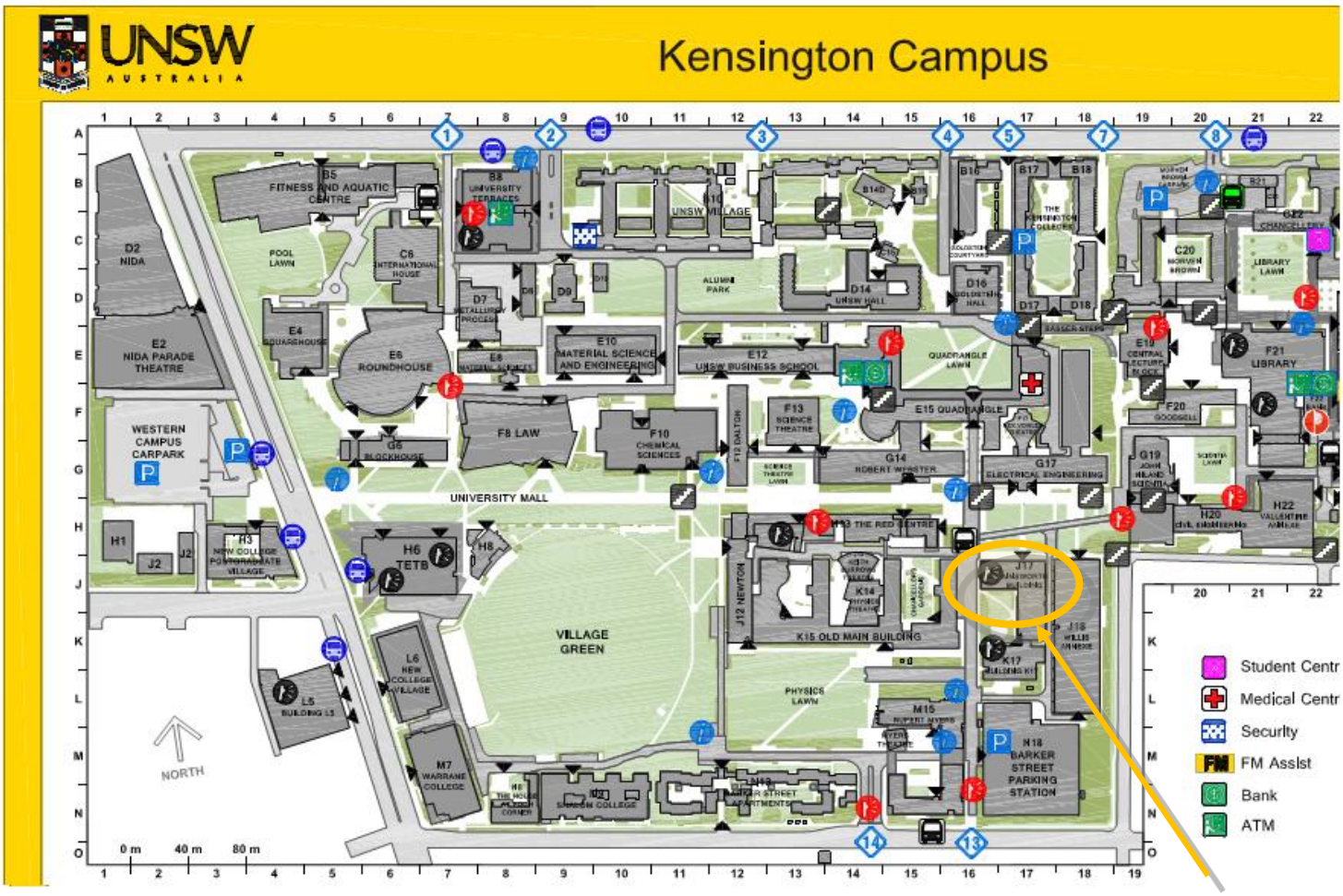
Ron Bartsch answers this question in his recently completed Master of Philosophy thesis, which he will explain in layman's language. This is a unique opportunity to hear and understand the constitutional, legal, regulatory and ethical issues surrounding the flying of these RPASs particularly in terms of safety, privacy and other aspects.

Profile: Ronald Bartsch (BA, BSc, LLB, LLM, Dip Ed, ATPL) is considered one of the world's leading experts on aviation law and aviation safety. As Managing Director of AvLaw Pty Ltd and Chairman of AvLaw International he works with almost 100 specialist aviation consultants and lawyers located across the Asia Pacific region. Ron has wide ranging senior management and operational experience in the aviation industry, occupying positions as Head of Safety and Regulatory Compliance at Qantas Airways Limited and Manager of Air Transport Operations with the Australian Civil Aviation Safety Authority (CASA). As a former Chief Pilot and Chief Flying Instructor Ron has over 7,000 hours flying experience and command aircraft type ratings ranging from Cessna's though to the Boeing 717-200. He is also a former secondary mathematics and science teacher and currently Visiting Senior Fellow at the University of New South Wales' School of Aviation where he has been lecturing in aviation law and safety-related courses for almost two decades. Ron is also a Director of Regional Express Holdings Limited and chair of the Board Safety and Risk Management Committee, Director of Australian Association of Unmanned Systems, Managing Director of UAS International and Chairman of OneSAFE Integrated Risk Management. Ron is also one of only two aviation specialist members of the Federal

Administrative Appeals Tribunal. Ron has written many books on aviation law including Aviation Law in Australia (4th Ed.) and International Aviation Law: A Practical Guide and contributing author for Halsbury's Laws of Australia aviation title and is co-author of the upcoming publication *Drones in Society* to be released later this year.

RSVP: Whilst attendance is free - registration for the evening **is required**. Please register by clicking on/copying and pasting into your URL this link: http://raesjune16.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. Anyone 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), address, 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 www.facilities.unsw.edu.au/sites/all/files/KENC%20Campus%20Map_5.pdf - ref J17)



DINNER: There will **not be a dinner** held afterwards. Instead, pizzas, tea and coffee will be provided after the lecture to allow members and guests to meet with and continue discussions with Ron on the contents of his presentation.

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

Obituary - Milton Lalas FRAeS: Milton Lalas FRAeS, a former Qantas executive, an Australian Division Councillor and Trustee for many years, a committee member of the Sydney Branch and Treasurer, retiring from the Sydney Branch Committee Dec, 2006 passed away aged 90, while travelling in Cyprus. He was a member of the Society for 68 years 6 months and 21 days. The Society extends its sympathy to Milton's family.

Obituary – Fred Burke FRAeS: Retired Flight Engineer Fred Burke FRAeS passed away 6th May, 2016. Fred operated a number of aircraft during his QANTAS career, including the L749, B707 and B747. He was a Senior Check Flight Engineer and involved in developing the specifications for VH-EBA, the first B747 to enter QANTAS service. Fred was a Fellow of both the Royal Aeronautical Society and the Sydney Interline Club. He was a member of the Society for 38 years, a committee member of the Sydney Branch for many years, retiring from the committee in Dec, 2012, and was Chairman of the Sydney Branch a number of times, the last time being in the year 2000 - the last year of the second millennium. Fred's involvement with HARS allowed the Society to enter into 'hands on training' for our student members at HARS - a very innovative achievement which helps both the students and the HARS members in many interesting ways. The Society was one of Fred's passions - after engines! His passing sees the loss of another whose career saw rapid technological change and development. The Society extends its sympathy to his wife Betty and family.

Boeing Celebrates Centennial with 'The Age of Aerospace' Documentary Series: Boeing is pleased to advise that 'The Age of Aerospace' documentary series is now available online at http://theageofaerospace.com/boeing. The five episodes take viewers on an exciting journey from the earliest days of flight captured in grainy footage and fast-forwards through the decades to the high-definition soaring of the 787 Dreamliner. The online documentary series has an interactive library associated with each episode that provides additional information and resources; you can access the interactive library by clicking on the menu icon (three horizontal lines at the top of the page). For more information on Boeing's centennial, visit: www.boeing100.com

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Who runs the Wings Awards? The Wings Awards are run jointly by the Australian Division of the Royal Aeronautical Society and *Australian Flying* magazine.

When do entries open? **When do entries close?** Entries open 28 March 2016 and close 1 July 2016.

Who is eligible to enter the Wings Awards 2016 and where do I need to submit my nomination for a Wings Award? Each award has a different submission, criteria and process to follow. It is recommended entrants first read these prior to nominating by visiting www.australianflying.com.au/wings-awards to submit your nomination.

How will the winners be announced? The winners will be announced in the November-December 2016 issue of *Australian Flying* and on the website: www.australianflying.com.au.

Upgrades to the CH-47 Chinook will allow it to serve until the 2060s: The Australian Army plans to fly its Vietnam-era workhorse CH-47 Chinook cargo helicopter for 100 years by continuously upgrading the platform through a series of ongoing technological adjustments designed to improve lift, weight, avionics and cargo handling, among other things. The Army's goal is to allow the helicopter, which was first produced in the early 1960s, to serve all the way into the 2060s – allowing the aircraft service life to span an entire century. "Our primary goal is maintaining the CH-47F's relevance to the warfighter," Lt. Col. Ricard Bratt said. The latest model, called the Chinook F helicopter, represents the latest iteration of technological advancement in what is a long and

distinguished history for the workhorse cargo aircraft, often tasked with delivering food, troops and supplies at high altitudes in mountainous Afghan terrain. Able to travel at speeds up to 170 knots, the Chinook has a range of 400 nautical miles and can reach altitudes greater than 18,000-feet. Its high-altitude performance capability has been a substantial enabling factor in the mountainous regions of Afghanistan. The aircraft is 52-feet long, 18-feet high and able to take off with 50,000 pounds. The helicopter can fly with a loaded weight of 26,000 pounds. In addition, the aircraft can mount at least three machine guns; one from each window and another from the back cargo opening. The Chinook F is in the process of receiving a number of enhancements to its digital cockpit called the Common Avionics Architecture System, and systems referred to as pilot-vehicle interface. Pilot-vehicle interface involves improved computing technology where faster processor and new software are able to better organize and display information to the crew, allowing them to make informed decisions faster. By 2018, the Army plans to have a pure fleet of 440 F-model Chinooks. By 2020, the Army plans to field a new "Block 2" upgraded Chinook F which will:

Increase the aircraft's ability to function in what's called "high-hot" conditions of 6,000 feet/95-degrees Fahrenheit where lower air pressure makes it more difficult to operate and manoeuvre a helicopter;

Be engineered to accommodate a larger take-off maximum weight of 54,000 pounds, allowing it to sling-load the Army's new Joint Light Tactical Vehicle underneath;

Receive a 20-percent more powerful Honeywell T55-715 engine;

Receive new rotor blades engineered with composites and other materials designed to give the helicopter an additional 4,000 pounds of lift capability; and

Be upgraded with a technology called Cargo-On/Off-Loading-System, or COOLS, which places rollers on the floor of the airframe designed to quickly on and off-load pallets of equipment and supplies and has the added benefit of increasing ballistic protection on the helicopter by better protecting it from small arms fire. The COOLS system is being retrofitted to the existing F fleet. Further information can be found at: http://www.scout.com/military/warrior/story/1650192-army-chinook-helicopter-to-fly-for-100-years

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2016 Diary: **June 20:** The 2016 Winter Solstice 'Physics in the Pub' will be run by Phil Dooley, a magic MC, at the Three Wise Monkeys Pub, 555 George St, Sydney - 18:30 for 19:00 start. For further details email: boris@partnerair.com

July 1: Nominations for 'The 2016 Wings Awards' close. Refer details at: http://www.australianflying.com.au/wings-awards

July 6-8: Australian Youth Aerospace Association will hold its annual Aerospace Futures 2016 - a three-day conference in Sydney, with the launch night on July 5. It is designed to expose over 150 university students to opportunities in the aerospace industry. The Sydney Branch will have a presence and a display during the conference. Refer details at: www.ayaa.com.au/AeroFutures

July 27: Safety Panel. Details still being finalised.

Sept 15-18: Australasian Society of Aerospace Medicine 2016 annual conference, Townsville Qld. Call for papers now open and must be submitted via the online portal by **Thursday 30 June 2016.** Early bird registrations close 30 June, 2016 - refer details at: http://event.icebergevents.com.au/asam-2016/cost-registration

Sept 25-30: ICAS 2016 in Daejeon, Korea – refer for further details: www.icas2016.com The Preliminary Programme is at: www.icas.org/media/ICAS%20Congress%202016%20Preliminary%20Programme.pdf

Oct 25-27: APISAT 2016 in Toyama, Japan – refer details at: www.jsass.or.jp/apisat2016

Feb 28- March 5, 2017: AVALON2017 – Australian International Airshow and Aerospace & Defence Exposition – The Essential Aerospace Forum – is open for business. Refer details at: airshow.com.au/airshow2017/enews/AS2017-Newsletter-ED1.html

Sept 25-29, 2017: The 68th International Astronautical Congress is being held in Adelaide. Thousands of scientists, including some 200 astronauts, will participate in the international space congress. The global economy and security of many nations depends on assured and secure access to satellites that provide communications, timing and navigation services and remote sensing data. Space probes are also vital to our understanding of the solar system and the far universe. The IAC2017 program addresses all of these topics and emphasises the important contribution that space makes to STEM education as well. Refer details at: iac2017.org/