



AUSTRALIAN SOCIETY OF AIR SAFETY INVESTIGATORS

QUARTERLY JOURNAL

Winter 2021

Is this is our New Normal ?

Getting on with it together



In this Issue

- | | |
|--|--|
| 2 - <i>President's Message</i> | 16 - <i>The Student Perspective</i> |
| 3 - <i>State of Play</i> | 21 - <i>Our Sponsors</i> |
| 6 - <i>Robert Sumwalt Retires</i> | 22 - <i>Scholarships</i> |
| 8 - <i>Repurposed Aircraft Components</i> | 23 - <i>Resource Management with a Twist</i> |
| 9 - <i>The Mystery of the Southern Cloud</i> | 24 - <i>Upcoming Seminars</i> |
| 12 - <i>For the Kiddies</i> | 27 - <i>In Memoriam</i> |
| 13 - <i>Future Multi-Modal Investigations?</i> | 28 - <i>Contacts</i> |
| 14 - <i>Meet our New Members</i> | |
| 15 - <i>Announcements</i> | |

Winter2021



Ladies and Gentlemen,

Resilience

Many of us will remember 'the good old days' when we held high hopes and worked hard to attain qualifications, flying hours or multiple endorsements so that we could enter the pointy end of this business. We didn't expect a pandemic, and we certainly didn't believe that things could ever become this difficult to survive. For an industry that has prided itself on the principles of hazard identification and the management of risk we've been blown away into the slipstream.

The Oxford Dictionary defines resilience as *the ability of people or things to recover quickly after something unpleasant, such as shock, injury, etc.* It sounds pretty familiar to anybody employed (or formerly employed) within our industry. Once you get past the buzzwords being thrown around about the topic, it might be time to reflect a little on what it really means to the average person associated with aviation within Australia and also our near neighbours. We used to call them workmates.

Resilience is our ability to bounce back from the stresses of life. It's not about avoiding the stress, but learning to thrive within the stress. Such is our current situation with regard to reluctantly cancelling our 2021 ANZSASI Seminar. Three months ago, we thought it to be a 'no-brainer', getting to the Gold Coast and catching up with old friends and swapping stories with our Kiwi cousins. Who knew?

Some academics tell us that the pillars of personal resilience include *Self-Awareness, Mindfulness, Self Care*, the maintenance of *Positive Relationships* and our own *Sense of Purpose*. There is no backstage pass to escape from the impact of this pandemic but, as investigators, we possess instinctive skills and an ability to look delicately and offer support to our our many friends and colleagues when they may be in need. Are we all doing it, or is it somebody else's problem?

It's a slow burn process but we will emerge into clear air stronger for the experience.

Until next time, stay safe.

John Guselli
ASASI President

The State of Play

We're probably immune to numbers and statistics right now. We get them every day from our State Premiers, the Prime Minister, social media and every other person associated with the pandemic response.

For this edition, we have chosen to focus on the positives that have emerged from COVID -19 with a 'good-news' story from the sadness of our industry.

Grounded pilots' careers in a holding pattern as lockdown grinds on

Australian Financial Review Jul 30, 2021

After 32 years flying for commercial airlines, Rod Anderson considers himself one of the lucky pilots to have been stood down by Qantas. The A380 captain is still doing what he loves, albeit in a much smaller aircraft.

While awaiting a return to his day job, Mr Anderson flies a Beechcraft baron two days a week for Little Wings, a charity that provides free flights to sick children and their families to and from their homes in regional NSW to attend medical appointments in Sydney.



Qantas pilot Rod Anderson is flying twice a week for charity Little Wings. Dominic Lorrimer

With around 100 planes grounded near Alice Springs and airlines warning of fresh stand downs as the COVID-19 pandemic continues to wreak havoc across the world, pilots are unsure when they'll return to the flight deck.

"I would actually consider myself one of the lucky ones to be stood down from Qantas. Flying is my passion and to be able to do this keeps your mind straight and on the right track," Mr Anderson said.

A silver lining of the pandemic is that Little Wings has more volunteer pilots on their roster, with plenty of availability to fly families across the state.

The State of Play

More than 40 per cent of pilots have found work outside the aviation industry during the pandemic, according to a survey of members of the Australian Federation of Air Pilots (AFAP) members conducted in November 2020. Around 10 per cent said they weren't planning to return to aviation.

Captain Marcus Diamond, safety and technical manager of the AFAP, said some pilots have been able to secure other transport-related work such as driving public transport vehicles (trams, trains and buses) or operating computerised harvesters on farms.

Others have taken up more general roles at workplaces as varied as supermarkets, warehouses, factories, public service departments and, in response to a timely and crucial need, government-run quarantine hotels, Mr Diamond said.



Grounded aeroplanes in Alice Springs in May 2020. Getty

“There is the very real concern that many of our members will be forced to turn from part-time or casual secondary employment to full-time jobs away from the aviation industry,” Mr Diamond said.

After being stood down from flying, Qantas pilot Gianni Guarrella repaired bicycles while he looked for work. He eventually landed a role at the Commonwealth Bank as a change manager in the bank's financial crimes compliance program in November 2020.

Mr Guarrella is one of four pilots working on the bank's program to strengthen its financial crime compliance capabilities. He said the bank and his managers had been supportive of the pilots keeping their flying skills intact.

After 422 days on the ground, Mr Guarrella was able to take time away from his desk job and return to flying in May to complete a month of flying for Qantas in Australia and New Zealand.

The State of Play

"It was a really good example of flexible work enabling me to keep my hand in with the little bit of flying that there is to go around, and still be able to maintain my job at Commonwealth Bank," Mr Guarrella said.

"Flying is my passion, it's something that I've wanted to do all my life and I love the job. When there are enough flights there I will head back," he said.

As domestic travel bounced back and the New Zealand travel bubble opened up, airlines were able to bring some pilots back to work. However, Qantas chief Alan Joyce has warned pilots could be stood down again due to COVID-19 outbreaks in NSW, Victoria and South Australia, placing further uncertainty over pilots' careers.

Mr Guarrella called on more employers to hire pilots, who face a long wait before the international border reopens and travel resumes. Passenger numbers are not expected to return to 2019 levels until 2023, according to International Air Transport Association.

"There's a big resource of highly skilled people who are great leaders and great communicators," he said. "They get tested every six months on their skills so you know they're good operators and they can turn their hand to other things. It would be great if more employers could see that and give people a go."

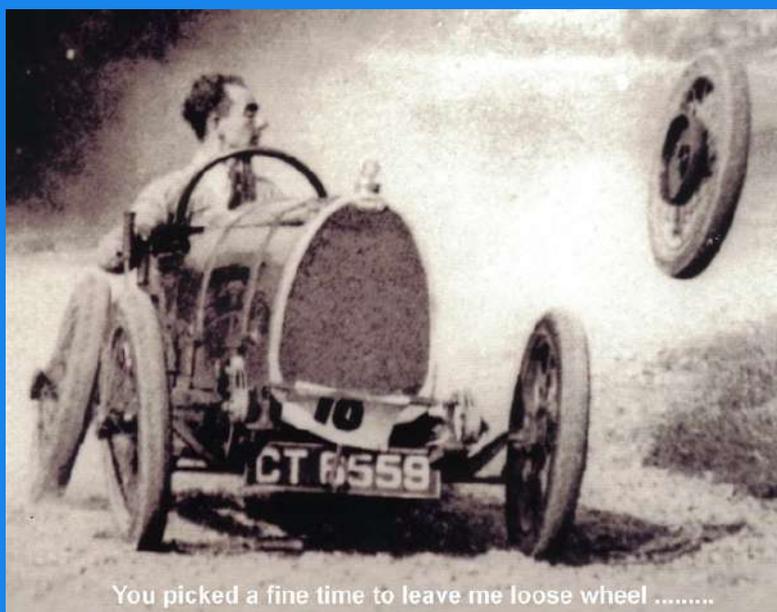
Murray Butt, A380 captain and the president of the Australian and International Pilots Association, said many pilots who returned to fly domestic routes had already let their secondary employment go and a new stand down would put them "put them back at square one".

Murray Butt, A380 captain and the president of the Australian and International Pilots Association, said many pilots who returned to fly domestic routes had already let their secondary employment go and a new stand down would put them "put them back at square one".

"Our biggest concern at the moment is the mental health of the pilot group. They need some certainty," Mr Butt said. Butt, who hasn't flown an aircraft since March 23, 2020, is working as a casual bus driver. He warned the longer pilots were grounded the longer it would take to prepare them to fly again.

The AFAP has previously warned of a potential pilot shortage once travel resumes.

"We believe that enough of our pilots would have been lost because of these uncertain times that we will, for the first time in many, many years, actually have a real pilot shortage," said Mr Diamond said. "If we don't have enough pilots and we have to constrain the capacity of our airlines, then airfares will go up. One pilot has a big effect on the aviation economy."



Robert Sumwalt retires as NTSB Chairman

Robert L. Sumwalt III is the only South Carolinian to ever serve on the five-member National Transportation Safety Board (NTSB). He is stepping down as chairman at the end of June. A native Columbian, he is a graduate of Dreher High School and U of SC. He earned a master's degree from Embry Riddle Aeronautical University. He has served almost 15 years on the NTSB as a board member, vice chairman, and now chairman. He brought a lifetime of dedication, education, talent and experience to transportation safety at NTSB.



His grandfather, Robert L. Sumwalt, became the University Of South Carolina's acting president in 1957 then president in 1959 continuing to 1962. After 36 years of service to the university, he retired and was employed on the professional staff of the Senate Post Office and Civil Service Committee.

Sumwalt began a career of aviation advocacy when he was a freshman at the University of South Carolina organizing and managing the first USC Flying Club.

Sumwalt later served as the first chairman of the Richland County Airport Commission. As a commissioner, he served on the committee that reoriented the runway at Hamilton Owens Airport to make the airport safer.

Sumwalt was manager of aviation for eight years for the SCANA Corporation. For 24 years, Sumwalt was an airline pilot with Piedmont Airlines and then U.S. Airways. He received extensive experience as an airline captain, airline check airman, instructor pilot, and air safety representative.

From 1991 to 1999, Sumwalt conducted aviation safety research as a consultant to NASA's Aviation Safety Reporting System, studying various issues including flight crew performance and air carrier de-icing and anti-icing problems.

He worked on special assignment to the U.S. Airways Flight Safety Department from 1997 to 2004, where he was involved in the development of numerous airline safety programs.

Sumwalt served as a member of the Air Line Pilots Association's (ALPA) Accident Investigation Board from 2002 to 2004, and chaired ALPA's Human Factors and Training Group. He was a cofounder of that organization's Critical Incident Response Program, which provides guidance to airline personnel involved in traumatic events such as accidents.

He co-authored a book on aircraft accidents and has written extensively on aviation safety, having published more than 85 articles and papers in aviation trade publications.

Columbia native has departed NTSB after 15 years

In 2003, Sumwalt joined the faculty of the University of Southern California's Aviation Safety and Security Program, where he was the primary human factors instructor. In recognition of his contributions to the aviation industry, Sumwalt received the Flight Safety Foundation's Laura Taber Barbour Award in 2003 and ALPA's Air Safety Award in 2004.

Sumwalt was sworn in as the 37th Member of the National Transportation Safety Board in August 2006. President Bush designated him as vice chairman of the board for a two-year term.

He has been the board's on-scene representative at 36 accidents, including the 2015 crash of an Amtrak train outside Philadelphia and the 2018 emergency landing of a Southwest Airlines plane that lost one of its engines, killing one person after debris shattered a window.

Not many high school seniors may be inspired to take flying lessons after visiting the scene of a plane crash or spend their free time in college combing through accident reports by National Transportation Safety Board investigators. But Robert L. Sumwalt said he became curious at a young age about how such systems operate and what could be done to make them safer.

Sumwalt said the NTSB's investigations and recommendations have increased safety across transportation systems, ranging from planes to subways to pipelines. He said the agency must stay on top of new technology, including self-driving cars, to ensure they are safe for the public.

When asked, "Is there anything that you think is unfinished? What do you see going forward for the NTSB?" Sumwalt responded, "There are a number of safety issues that need to be done. And as far as the agency itself, I feel like we're leaving the agency in a really good position with the management team we put in place. I think we built the foundation for the agency to be stronger."



"One of the things we're working on is the timeliness of reports. You know there's always that tension between how fast can we get it done and do we sacrifice quality? So we put in place measures to try to use data to see where the bottlenecks are and address those. We've got accountability and better tracking systems so we can track the progress of each investigation. So I think we've put in place measures to help the agency to be more effective and more efficient."

*This article was first published in The Columbia Star on 1 July 2021
Contributed by Jim Hamilton and Staff Reports
Robert L. Sumwalt III Photo courtesy of Washington Post*

Repurposed Aviation Components?

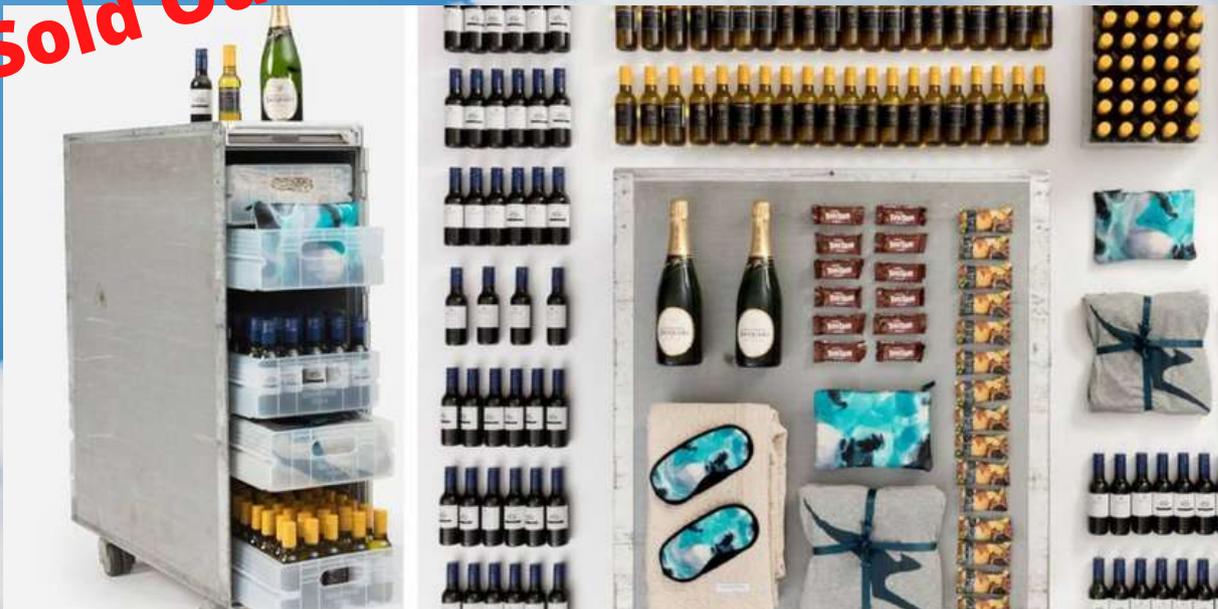
Necessity is said to be the mother of invention, and some major airlines have invented some unusual methods of maintaining cash flow during the pandemic.



From EBay, these are looking simply amazing. Former British Airways A321 branded leather seats converted into stunning office chairs.

A steal at £495 and you don't have another person wedged in beside you.

Sold Out!



Qantas 747 Full Bar Cart Only \$1474.70+

- 40 mini bottles white wine and 40 mini bottles of red wine & 1 bottle of Champagne from the Business class cellar
- 2 Qantas Business Class amenity kit featuring ASPAR Travel Essentials
- 1 Sheridan throw made exclusively for Qantas First Class made of 100% combed cotton
- 2 Qantas Business Class sleeper suits M/L & L/XL (suitable for most shapes and sizes)

+ N.B. the price!

The Southern Cloud mystery solved after 27 years

First published in *The Age* on October 29, 1958

Find in Alps solves mystery of 'The Cloud'. Plane Burned on Crashing

From Our Special Representative in the Alps

Cooma, Tuesday - On a heavily-timbered slope, high in the Snowy Mountains, a search party of seven yesterday confirmed the solution of Australia's biggest aviation mystery - the disappearance of the Southern Cloud, 27 years ago.

Hidden under dense undergrowth and trees, rusted metal framework, half buried engines, smashed instruments and a few human remains, told the story of the last moments of the tri-motor airliner on March 21, 1931.



Evidence at the site indicated that the aircraft burned on crashing, contrary to earlier reports that it was only scorched by more recent bush fires.

Police and Civil Aviation officials have positively identified the airliner from the general features of the wreckage, and a number of identification plates.

Today they will remove any possibility of doubt by returning to the wreckage and excavating the engines to check their serial numbers.

Only trace of the crew of two and six passengers were some remains which have been sent to Cooma police.

Police said last night that an inquest could not be held because individual remains could not be identified. However, a magisterial inquiry could be held. No decision has been made on disposal of the remains, although Cooma police have had several telephone calls from relatives of the victims in Sydney and Melbourne.

Lost

Preliminary inquiries made by the senior inspector of flying safety in the Department of Civil Aviation (Mr. A. H. Green) indicate the aircraft was in trouble at the time of the disaster.



Although it was approximately on its course to Melbourne, and roughly the correct distance along its track for the time it had been in the air, it struck the mountains heading north-easterly - opposite to the direction in which it should have been travelling.

Expert reconstruction of events indicate the plane was lost but had not been lost for long.

The Southern Cloud flies over an uncompleted Sydney Harbour Bridge.

Credit: Barry John Stevens

Too Late

The pilot, Captain T. W. Shortridge, or Mr. C. C. Dunnell, who was assistant pilot, apparently saw the mountain at the last moment, possibly imperfectly through an iced-up windscreen or as the wind swirled away concealing mist or rain.

The angle of the impact shows the plan was banking steeply to starboard, probably to avoid the mountain's threat. But it was too late.

The plane went in full power on its starboard flank. The force of the impact twisted the heavy, old-fashioned and strong metal struts of the fuselage like putty. The wings broke away. The three engines drove deeply into the mountainside, embedding themselves completely.

Fittings Melted

The wreck shows evidence of the fierce heat of the fire that almost certainly followed. Not only are heavy metal fittings melted and twisted to a degree that a bushfire could not account for - one is reported to have burned over the area in 1939 - but there were other pathetic exhibits.

The metal holder of the pilot's windscreen was twisted. Metal coins found just astern of the main engine were fused together.



An aerial view of the Southern Sun, one of the planes used to search for the Southern Cloud at Essendon Aerodrome.

Both police and civil aviation authorities discounted the possibility of anyone being alive after such a smash. The theory is that the plane's eight occupants were flung forward with terrific force as the plane powered full bore into the steep, rocky mountainside. The plane burned, cremating its dead.

The country which the search party traversed to reach the wreck is some of the most rugged mountain terrain in Australia. Search officials said that but for the access roads built for the Snowy Mountains scheme, the wreckage might never have been discovered.

The wreck was found on the south-western slope of the Toolong Range, looking out over the Tooma Gorge. It was about 20 miles beyond Junction Shaft Camp and about two miles and a half up the mountain from the road leading to the Deep Creek access tunnel. So steep and rough is the country between the road and the wreck that the search party took about an hour and a half to cover the distance.

The aircraft was found to have struck the mountain only about 300 or 400 feet from the top of the range. Its estimated altitude was about 4,500 feet.

Twilight

The scrub is so thick and tangled that under it is a perpetual twilight on the brightest day. Trees growing up through the wreckage were 30 to 40 feet high. Digging in the area of the wrecked cabin structure the search party soon uncovered a variety of personal belongings of the passengers. These included shoes and two watches, one of them a gold wrist watch, which had stopped at 1:15.

No Gold

The search party reported that it found no sign of money or bullion amongst the wreckage. Many people had maintained that the aircraft was carrying gold bullion and that one of the passengers had several thousand pounds in cash.

Searchers uncovered an identification plate similar to that which caused police and civil aviation officials to commence the search, and a larger plate measuring 6 ¼ in. by 4 in., naming A. V. Roe as the aircraft manufacturers, and giving details of the aircraft itself.

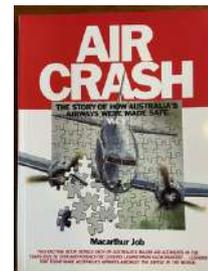
This plate indicated that the aircraft was the first off the production line established by A. V. Roe under licence to the Fokker company, of Holland. Civil aviation officials also uncovered a number of broken and battered instruments from the aircraft's instrument panel. However, nothing was in sufficiently good condition for any reliable technical assessment to be made of the cause of the crash.



Herald Melbourne photographer taking snaps during air search. April 4, 1931.
Credit: The Age Archives

Ref: 'A Great Mystery', in *Air Crash – The Story of how Australia's Airways were made Safe*, Aerospace Publications, Weston Creek, ACT, 1991, pp. 32-46.

The older men recalled the Southern Cloud. Apart from human remains and a few personal effects, no attempt will be made to take out any of the plane. It is almost impossible to carry anything of any size around the steep sides and through the dense bush.



Southern Cloud Park Monument in Cooma N.S.W.



CHOOSE YOUR CAREER!

Do you like solving problems?
BECOME AN AEROSPACE ENGINEER.

Do you like exploring? **BECOME A PILOT.**

Do you like helping people?
JOIN A RESCUE AND AID RELIEF AIRCREW.

Do you like playing I Spy?
BECOME AN AIR TRAFFIC CONTROLLER.

COLOUR ME IN!

AIR TRAFFIC CONTROLLER

I make sure planes take off and land safely. It's like solving a giant puzzle in the sky!

PILOT

My office is in the sky. I love traveling the world and connecting families.

AEROSPACE ENGINEER

My office is in the largest building in the world! I'm designing lighter aircraft to help save the environment.

AIRCRAFT MAINTENANCE ENGINEER

I make sure the plane is safe before the flight. I'm great with tools and gadgets.



Creators of a road vehicle which can transition to an aircraft have carried out a developmental flight between airports in Slovakia, operating a 35min sortie from Nitra to the capital Bratislava.

The KleinVision AirCar, which has already completed over 40h of test flights, carried out the inter-city operation on 28 June 2021.

"After landing, at a click of a button, the aircraft transformed into a sports car in under 3min," says the developer. The wings fold upwards, and then rearwards, and the twin-boom tail also retracts during the conversion."

Arrival of the aircraft (OM-KLZ) brought to 142 the number of landings achieved. The vehicle was subsequently driven to downtown Bratislava by its inventor, professor Stefan Klein.

"This flight starts a new era of dual-transportation vehicles," says Klein, adding that it "returns the freedom originally attributed to cars back to the individual".

Powered by a BMW engine delivering 160hp to a fixed propeller, the initial prototype of the AirCar is fitted with a ballistic parachute. The test-flight programme has included operating to altitudes of 8,200ft and speeds of 103kt, and featured 45° banking.

Slovakian-based KleinVision says the inter-airport flight moves the vehicle "closer to production". A second prototype will have a more powerful 300hp engine and a variable-pitch propeller, and be capable of 540nm range and a cruising speed of 162kt.

This pre-production version will be submitted for European Union Aviation Safety Agency certification and approved for road use.

"AirCar is no longer just a proof of concept," says Klein Vision co-founder Anton Zajac. "It has turned science-fiction into a reality."



After landing at Bratislava the AirCar converted to a road vehicle

Meet our New Members

In each edition we will demonstrate the diversity of practical and academic expertise within our Society. For this Winter Bulletin, ASASI is delighted to introduce our newest members.

Each brings a different facet of specialisation to ASASI and we look forward to meeting them and sharing their experiences. Please make them welcome as we look forward to their individual contributions.



Sam McKendry is currently a First Officer with Virgin Australia. He has extensive experience in commercial flight operations as well as audit qualifications. Sam has a keen interest in Sport and Homebuilt aircraft and is currently building a Pitts Special. He is based in Brisbane.

Kevin Evans is the Safety & Quality Manager with Pionair Australia. His primary duties relate to policies, procedures and the SMS program with the introduction of the E190-E2 & BAe146 Passenger & Freight aircraft operations. He is currently located in Sydney.



Kieran Ashton is the Senior Fuel Systems Operations Consultant with Kiah Consulting. This role encompasses the design, development and delivery of training for high-risk workforce roles within the Defence Fuel Supply Chain. He is based in Canberra.

New Webmaster for our New Website



ASASI is pleased to announce that our new website is under the command of a willing volunteer **Dennis Hill**.

Dennis is Managing Director of *Aviation Auditors* and in his day job, he specialises in managing, leading, advising and coordinating incident and accident investigation, change management and quality / safety management systems and frameworks. More background can be found at www.aviationauditors.com.au

ASASI acknowledges the efforts of our former webmaster Neil Campbell who is now hanging up his keyboard. Thanks Neil.

Are you Linked In?



If you are not already a member of LinkedIn then simply search for this **ASASI** group and click on 'Request to Join'. Our group administrator (currently Neil Campbell) will approve the request (in due course!). Alternatively, simply click the LinkedIn icon to be directed to our ASASI group. The current policy is that non-members of ASASI are allowed to join the group as this will allow us to reach out to more people with an interest in air safety and to better promote the society and events such as conferences.



The Student Perspective

Our first student contribution this month is from **Annie Zhai**. Annie is employed in the Workforce Planning department at Qantas Airways. She graduated with Honours in Aviation Management from the University of New South Wales in 2020. Her thesis topic focused on analysing passenger's shopping behaviours in the airport terminal using spatiotemporal trajectory data and questionnaire survey data.

She spoke with *Amalina Jumary* about her career, so far.



What was it like graduating at the start of the pandemic?

I was lucky enough to have enrolled to study an extra year to complete my Honours well before COVID had hit. This meant that at the peak of it all last March, having been stood down from working as a Customer Service Agent at Qantas domestic, I was still busy in research for my honours project! However, it was definitely difficult not knowing what the future would hold for aviation at that time.

What did you do during your time at university to prepare yourself for employment after graduation?

I spent a lot of my time engaging in extracurriculars at university such as joining the Careers Leaders program, various roles in the Aviation Society and helping as an ambassador for the Science Faculty and School of Aviation. Getting involved in student life and putting myself out there definitely helps to improve my self-confidence, communication skills and ability to build meaningful relationships. I also reached out to several companies for volunteer and internship opportunities where I was able to further build these skills in different roles at Sydney Airport and CAPA Centre for Aviation.

Tell us more how you secured a position in Qantas while still at university.

I started my role as a Customer Service Agent with Qantas back in August 2019 which was in my final term of the 3-year Bachelor's degree. Given it was a customer facing role, the requirements for the job were mainly targeted around having extensive customer service and communication skills. After rounds of video interviews, assessment centres, background, and medical checks, I was offered the role. My best advice to acing any interview is to practice and do many of them. Apply for multiple roles across different companies, and by doing so, interviews will become second nature and not so daunting.

Amalina Jumary is our ASASI Student Editor. She was the recipient of the prestigious Rudolf Kapustin Award at ISASI 2019 at The Hague. Since graduating from UNSW, she is currently employed as the Deputy Audit Program Manager at Avlaw Aviation Consulting in Sydney.



How has university helped you in your current role?

Outside of being able to speak with numerous guest lecturers invited to share their insights in certain courses, the School of Aviation at the University of New South Wales has provided me with many opportunities to represent the school and the Aviation Society. Having acted as the President for my society and an ambassador for the school, I have been able to communicate and liaise with several company representatives and work on creating various projects. Professor Lodewijks and the rest of the aviation staff in the office are always happy to hear out new initiatives, challenges and suggestions for improvements. They also provide the necessary resources and contacts where they are able to help.

How has it been different working pre-covid and during covid now?

After completing my thesis and graduating from my Honour's degree, I have successfully secured a position in Workforce Planning and moved out of frontline operations at the domestic airport.

However, in my time working at the airport, it had definitely been challenging working around the lockdowns and border closures as a result of the COVID-19 pandemic. Aircraft and passenger movements have reduced dramatically, albeit more is happening over at domestic than international currently. The main difference is not the reduction in shifts and the way we work, but rather the ambience and chilling aura in the empty terminal.

What advice would you give to aviation students who are still at university?

There are still many opportunities in aviation despite low levels of traffic and revenue. I believe aviation students should still hold hope that the industry will return. It is an extremely interesting time to be working in any field of aviation – airlines or airports. My advice is to be proactive in both your studies and extra-curricular activities. If the industry is not hiring, put yourself out there with your fellow student colleagues, aviation staff and guest lecturers.

Do you have any advice for your aviation peers who have graduated and are still waiting to join the industry?

Companies are still hiring; you just need to keep an eye out. Be productive and apply. It is always a good idea to be doing something meaningful even if you are unable to secure a job in your dream company right now. Take an extra year of studies, start up your own company, or even try out a different industry.

Our second student contribution comes from Ian Chen. Ian is the recipient of the 2021 UNSW - Dr. Kevin McMurtrie scholarship. The subject matter has always been lurking beneath the surface, no matter how hard air safety investigators have attempted to suppress their natural emotions and appear to be coping at all times.



Managing the Psychological Health and Wellbeing of Air Safety Investigators

Ian Chen

University of New South Wales

In the realm of flight safety, mental health has grown to become an extremely prevalent area of concern, given its tremendous implications on aviation operations. In the interests of enhancing air safety, poor mental health must be addressed for aviation personnel across all domains. In the wake of the Germanwings Flight 9525 accident, the management of a pilot's mental health became a highly publicised issue that was viewed as an imperative challenge to address, for the betterment of aviation (Pasha & Stokes, 2018). Sharing a common objective, this paper seeks to address the psychological challenges imposed on air safety investigators and their mental health and wellbeing in the course of discharging their duties.

The rapid growth of aviation has produced a diachronically widening job scope for air safety investigators. Incumbents of the job are required to manage their professional responsibilities in impartiality and independence along with exemplifying persistence in the course of their investigation. Central to an investigator's duty is the exposure to traumatic stimuli and possibly none more confronting than when the loss of human life occurs. There is also an inherent need to balance sensitivity, professionalism and objectivity as investigators are required at times to interact with family members of the deceased. Such circumstances have the greatest potential to adversely affect an investigator's mental health and psychological wellbeing.

Stressors such as tight reporting deadlines (Valdés & Comendador, 2011) have the potential to further aggravate the problem. Mitchell (2012) insistently opines that, while the occurrence of aircraft accidents will tend to create a grief-stricken impact on the general public, air safety investigators receive an even greater emotional shock; the effects of which can lead to an increased likelihood of obtaining Post-Traumatic Stress Disorder (PTSD). In law enforcement, research reveals that exposure to traumatic events is the leading cause of PTSD with police officers (Gersons, 1989). These findings are consistent with the research of Figley (1995), who outlines that incumbents of assisting occupations such as investigators, social workers, and therapists spend significant amounts of time listening to or reviewing evidence of traumatic events, heightening the likelihood of vicarious traumatisation. Such discoveries highlight the need for effective countermeasures and enable parallels to be drawn with the responsibilities of air safety investigators, underlining the challenge imposed by traumatic exposure and its associated implications on job performance.

Job performance can also be adversely affected by the intrinsic psychological effects and stressors that come attached to the responsibilities of an air safety investigator. Given that air safety investigations take place for the purpose of preventing future occurrences of related incidents/accidents, investigators are responsible for advocating change for the benefit of air safety.

However, change is not always forthcoming as in many jurisdictions around the world, there is no requirement for organisations (i.e. airlines) involved in an incident/accident to adopt the changes proposed by the investigating body. The failure to see positive changes, especially after being confronted with the loss of life, may instil a sense of hopelessness, which has the potential to further adversely affect mental health and psychological wellbeing.

Diehl contends that this lack of authority to enforce change is a flaw that is ingrained within the structure of the National Transportation Safety Board (NTSB), arguing that they lack the standby rule-making authority (2013). Under the current system, safety recommendations only take effect at the discretion and decision of the Federal Aviation Administration (FAA). Diehl emphatically recounts his experience as an investigator at NTSB, during which he grew frustrated at the lack of regulatory power to effect change. This led to his decision to work for the FAA instead as a regulator. Considering the large-scale nature of operations at NTSB, this example encapsulates the psychological effects of stressors on safety investigators that arise when faced with such a conflict.

Evaluating this systemic flaw suggests that this is a significant cause for concern, given that the industry has matured to a stage where unprecedented accidents have become rare occurrences (Braithwaite, Caves & Falkner, 1998). Instead, as contended by Braithwaite et al., aviation accidents frequently feature recurring themes and causal factors that investigators had previously identified and continuously sought to address (1998). For investigators, the accumulative effects of experiencing recurring accidents with the same identified causal factors, interlocked with a lack of enforcement ability, is a definite source of stress that can ultimately compromise on their job performance. This is an error-inducing context which imposes severe implications on an investigator's motivation, ability, and most importantly, mental health.

Adding to the complexity of resolving such psychological challenges is the consideration that recommendations advocating safety may potentially clash with factors beyond the control of investigators. Referencing the trade-off between profitability and safety, many aviation businesses have commercial interests that directly interfere with their ability to foster or improve their safety culture. As an example, in a bid to address fatigue and achieve safety outcomes, the Civil Aviation Safety Authority (CASA) explicitly mandates for pilots to be rostered for no more than 14 hours in a tour of duty. Naturally, an airline will want to maximise the flying time of its pilots, given the expenses incurred for salaries. However, this occurs at a compromise to safety as higher workloads lead to higher levels of fatigue for pilots (Jones, Dorrian, Rajaratnam & Dawson, 2005).

For ultra long-haul flights (e.g. Perth-London), airlines such as Qantas have elected to use the same crew for the purposes of efficiency, despite the implications of fatigue in which CASA seeks to address. In view of this example, it can be observed that investigators are unable to directly effect change for the benefit of safety; the factors present in commercialising aviation serve to exacerbate this problem. The desire to positively influence safety culture is therefore conflicted with the limited level of control, a potentially detrimental outcome on the psychological health and wellbeing of an air safety investigator.

The management of investigators' mental health and wellbeing should involve, at minimum, a three-pronged approach. The imperative component would be to first acknowledge the fact that investigators are subject to potential psychological stressors as part of their job. Seng (2003, p.34) highlights the importance of acknowledgement by remarking that the 'etiologic role of trauma in a health problem' often remains undiscerned and unacknowledged. In view of the rising importance of psychological wellbeing and the impact of stressors on mental health, Seng presents the view that acknowledgement is not only a caring intervention but also a core component in managing an individual's mental health (2003).

Building upon acknowledgement of the implications associated with psychological stressors, the subsequent components entail further research in addressing this as a major challenge for air safety investigators. This is aligned with the perspective of Cooper, who emphasises that research is crucial in addressing the multifaceted field of occupational stress (1983). More specifically, research should primarily seek to generate an understanding of the triggers for poor mental health in investigators. This can be achieved by segmenting investigators based on their mental health, producing two distinct population groups and identifying those who have been afflicted by psychological stressors. Importantly, the focus for those belonging in this category would be to leverage on a fundamental understanding of the pertinent triggers and assess methods of treatment and recovery.

Drawing upon additional research and understanding, the final component should focus on analysing the population of investigators who report steady mental health and wellbeing. For this group, the study should seek to understand the nature of the investigators' coping mechanisms as the employed strategies may merely seek to reduce perceived stress or improve a person's resources to deal with stress (Anshel, 2000). Yun, Kim, Jung and Borhanian summarise this further by outlining that coping can be observed as an outcome variable of stressors, given the fact that certain coping strategies are chosen as a result of the stressors that are apparent (2013). Such research would assist to distinguish effective coping strategies from those that are merely perceived as useful. An analysis of this population of investigators would therefore uncover and discern between the various types of coping mechanisms that are currently employed in the industry, providing a clearer view of the implications of psychological stressors in the long run.

In conclusion, it is evident that air safety investigators face a myriad of psychological challenges which have the potential to significantly implicate mental health and wellbeing as well as job performance. Intrinsic occupational stressors have had subliminal but cumulative psychological effects for investigators, warranting greater awareness and attention from the industry for the benefit of air safety. In a safety-critical industry such as aviation, the focal point of mental health management should expand beyond that of pilots and encompass personnel across all domains. As advocated, the three-pronged approach incorporates acknowledgement, research and analysis of current investigators to provide an understanding of the effects of triggers as well as the coping mechanisms employed in the industry. Ultimately, this approach seeks to enable and empower investigative bodies to comprehensively ameliorate their methodologies in an effort to address the psychological challenges afflicting air safety investigators.

Our Sponsors

We would like to thank our generous sponsors who have supported us despite the impact of COVID-19 on their organisations:





**APPLICATIONS
NOW CLOSING**

23 SEPTEMBER 2021

Macarthur Job Scholarship 2021

ASASI continues its partnership with the Flight Safety Foundation to encourage and assist tertiary-level students involved in the field of aviation safety and aircraft occurrence investigation. The Flight Safety Foundation remains 'Independent, International and Impartial' in championing the cause of aviation safety.

The ASASI - Flight Safety Foundation Macarthur Job Scholarship provides an annual allocation of up to AUD\$2000 to support return travel, accommodation and registration at the annual ANZSASI Seminars held in Australia or New Zealand. (Details on the student area of the ASASI website).

Due to current COVID-19 restrictions, this will be transferred to ISASI Brisbane 2022.



**APPLICATIONS
CLOSING**

30 NOVEMBER 2021



Flight Safety Australia Scholarship 2021

ASASI commends CASA in awarding a scholarship to encourage and assist tertiary-level students involved in the diverse fields of aviation safety and aircraft occurrence investigation. The CASA mission is to promote a positive and collaborative safety culture through a fair, effective and efficient aviation safety regulatory system, supporting our aviation community. This award provides another means to that end.

The ASASI - Flight Safety Australia Scholarship will provide an annual allocation of up to AUD\$2000 to support return travel, accommodation and registration at the annual ANZSASI Seminars held in Australia or New Zealand. (Details and the application process will appear soon on the student area of the ASASI website).

Due to current COVID-19 restrictions, this will be transferred to ISASI Brisbane 2022.

But with Injuries & Suspensions

A physical confrontation between a pilot and flight attendant aboard Donghai Airlines ended with a broken arm, a broken tooth, and potentially two broken careers. The incident happened aboard Donghai Airlines Flight 6297, nearly an hour before they were scheduled to land.

Both the pilot and first-class flight attendant aboard Donghai Airlines Flight 6297 are suspended from work, after an altercation ended with broken arms and broken teeth. The South China Morning Post of 8th March 2021 reports the incident was all over a passenger waiting to use a restroom.

According to the newspaper's account, the incident happened nearly one hour before the flight was scheduled to land at China's Xi'an Xianyang International Airport (XIY). One of the pilots left the flight deck to use the lavatory at the same time a passenger had the same intentions.

The male pilot allegedly told the passenger to go back to their seat while the restroom was occupied. Instead, the flyer elected to stay at the door and wait for the pilot to finish. When the pilot emerged from the lavatory to find them still waiting to use it, he immediately confronted the male first class flight attendant for allegedly "not doing his job properly and affecting flying safety." After a short argument, the confrontation escalated to a physical fight. The reports say the flight attendant suffered a broken arm, while the pilot lost a tooth.

Once the incident went viral on Chinese social media network Weibo, Donghai confirmed that the two would be suspended from working for the airline. While the flight attendant was not allowed to return on the aircraft's next leg, it's unclear what discipline the pilot immediately faced.

"The company attached high importance to the argument among the crew members during flight and conducted a strict internal verification," the translated statement reads, according to the SCMP. "Those staff members involved have been suspended their job to ensure flight safety."

The airline says they will conduct "an overall safety rectification" as a result of the incident.

Although a fight between two staff members on the same airline is a situation in of itself, it's not the first time Donghai has faced troubles for safety violations. In 2018, a different pilot with the airline allegedly allowed his wife to stay in the cockpit across two flights.



For those that missed the news



NEW ZEALAND SOCIETY
OF AIR SAFETY INVESTIGATORS

ANZSASI 2021
Surfers Paradise



***BUT WE'LL BE BACK
AGAIN IN 2023***

Food for Thought?

Risk management is a more realistic term than safety. It implies that hazards are ever-present, that they must be identified, analyzed, evaluated and controlled or rationally accepted.

Save the Date

ISASI 2021

A *Virtual* Conference



**NEXT TUESDAY
31ST AUGUST**

August 31 – September 2, 2021

ISASI is pleased to announce that registration is now open for ISASI 2021 and can be accessed through the ISASI website or by using the link below.

<https://cvent.me/348zY9>

Delegate fees are
\$89.00 US for ISASI members
and
\$99.00 US for non-members

If you work for a company that is a Corporate Member of ISASI, please choose the member price when registering.

The full seminar agenda will be posted on the ISASI website – www.isasi.org – and should be available by the last week of May.

Please note that we will not be offering tutorials this year.

Every effort will be made to stagger the presentations each day to facilitate attendance from different time zones.

Sponsorship and Exhibitor opportunities are available and detailed information can be obtained by contacting Ron Schleede at RonSchleede@aol.com or Barb Dunn at avsafe@shaw.ca

We look forward to your support and participation.

ISASI 2021 Seminar Committee



ISASI 2022 Conference - Brisbane

The Pullman Hotel Brisbane will be our venue for the international conference between **29 August and 1 September 2022**.

The conference will follow the standard ISASI format of Tutorial on the Monday followed by three days of technical programs.

Brisbane is a great venue and there are many options for social activities for partners. More details will be provided in the new year.

Things to do in Brisbane

- Moreton Island
- Story Bridge Climb
- Brisbane River Cruise
- Stradbroke Island
- Wheel of Brisbane
- Lone Pine Koala Sanctuary
- Tangalooma



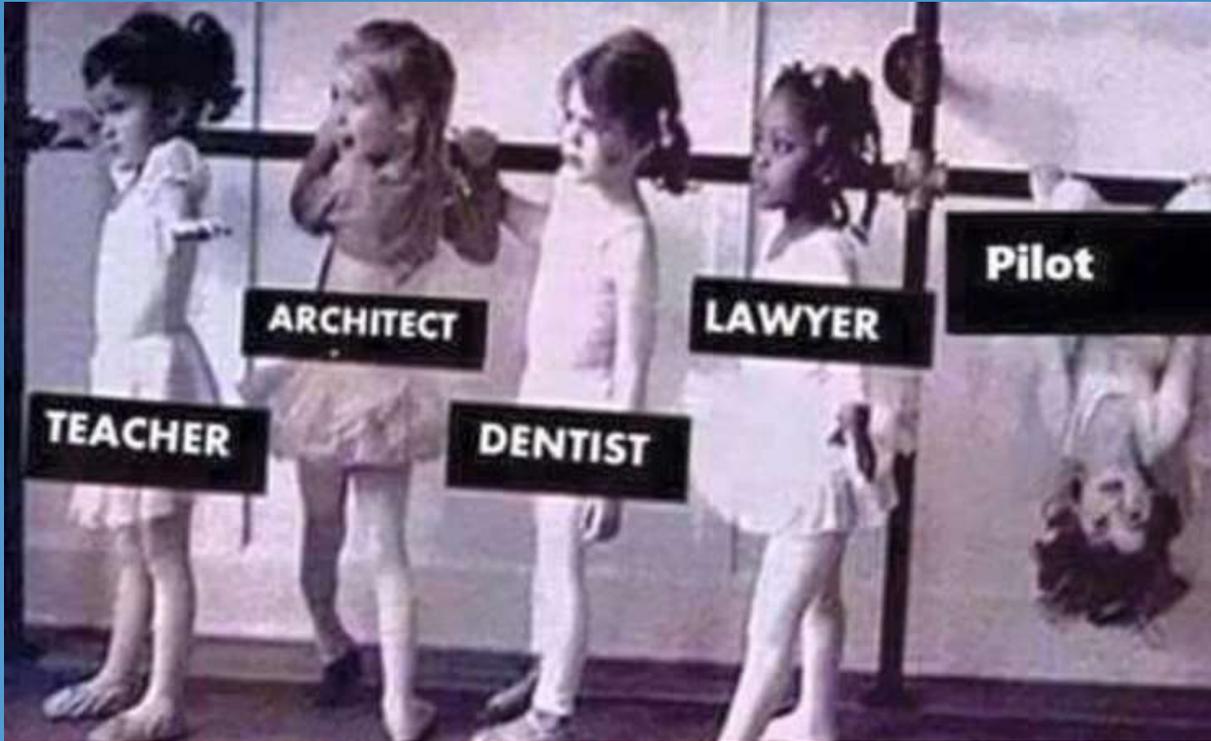
Vale Greg Madden

ASASI was saddened to learn of the sudden passing of Greg Madden on 9th July at his Canberra home. Greg was a highly respected investigator with the ATSB and was universally acknowledged for his technical excellence as well as a most happy and calm disposition.

Greg Madden

31st August 1952 - 9th July 2021





ASASI Contact Details

www.asasi.org
log on: news
password: aviator



www.isasi.org
log on: membership number
password: your Christian name
(all lower case)

President:	John Guselli	0419 015684
Vice President:	Alf Jonas	
Secretary/Treasurer:	Paul Mayes	asasiexecutive@gmail.com
Email:	contactasasi@asasi.org	
Post:	P.O. BOX 399 Bowral NSW 2576	

Disclaimer: ASASI News does not endorse or guarantee the veracity of any items supplied from external sources to this journal.