



## ASCSA reaches silver milestone

Source: [Information Age](#), June 05, 2017

The Australian Safety Critical Systems Association has celebrated its 25th anniversary in style, with a champagne toast from ACS President Anthony Wong.



**ACS President Anthony Wong (R) congratulates ASCSA Chairperson BJ Martin on the 25th anniversary of ASCSA.**

The national special interest group (SIG), sponsored by ACS since 1992, promotes the cooperation of various organisations relating to safety systems, particularly in those containing software. It is run by a committee of volunteers.

*"I would like to take this occasion to congratulate ASCSA for 25 years, and to thank all the volunteers. All the contributions made to this success are very important,"* said Wong.

The Treasurer of ASCSA, George Nikandros, said it is an achievement on its own that a committee of volunteers has reached the 25-year milestone.

*"We've gone through a lot of changes as an organisation and done a lot, seeing as we're a bunch of volunteers who contribute in our own time. Having 25 years under our belt is good in terms raising awareness [of systems safety] in the industry."*

This was echoed by ASCSA Chairperson BJ Martin, who said it was a "small miracle" for a group of volunteers to work towards professional outcomes in their spare time.

Nikandros, an original committee member of the SIG, has a positive outlook for the future of the organisation.

*"I hope ASCSA continues to grow stronger. We're now helping to introduce a specialism certification with the ACS, that's another milestone."*

During the toast, President Wong also commented on the crucial role of technology in shaping safety systems.

*"The world needs to know that technology now plays an important role in everything we do, from artificial intelligence to critical systems."*

The celebration was held during ASCSA's annual Australian System Safety Conference, which covered key topics such as safety assurance and cybersecurity. Martin said hosting this annual conference has been one of the biggest contributions the organisation has made to the industry.

*"To be able to hold this event annually and publish papers from international speakers at the cutting edge of safety critical systems design and engineering has been one of our most significant impacts to the community."*

## 7th Australian System Safety Conference a success!

The sixth two-day Australian System Safety Conference and the 22<sup>nd</sup> conference hosted by the aSCSA, was held in June 2017 at the SMF Conference Centre in Sydney. The conference attracted an attendance of 51.



**ASCC 2017 – SMC, Sydney**

The 2017 ASSC focussed on addressing the modern challenges of system safety in design, for today's and tomorrow's complex safety critical systems. Challenges also include how to build, rate and sustain the standards of competence and knowledge of safety engineers and managers.

As in recent conferences, the conference program included invited keynote speakers, two from the UK, and was preceded by a tutorial day.

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## Association Matters

### National Committee

BJ Martin	Chairman (ACT)
Luke Wildman	Secretary (QLD)
George Nikandros	Treasurer (QLD)
Clive Boughton	(ACT)
Drew Rae	(QLD)
Holger Becht	(QLD)
Tariq Mahmood	(VIC)
Derek Reinhardt	(QLD)
Kevin Anderson	(VIC)
Vamsi Madasu	(VIC)
<b>Web Site</b>	<a href="http://www.ascsa.org.au">www.ascsa.org.au</a>

The term of the current committee expires 30 June 2017 but will remain in place until the 2017 Annual General Meeting to be held later in the year. Nominations are now open. BJ Martin will continue as chairman 2017-18. The committee members and positions will be confirmed at the 2017 Annual General Meeting.

## Research Award



In the December 2006 Newsletter, the aSCSA announced the establishment of student research award. The rules governing the award and associated forms are available from the [aSCSA website](http://www.ascsa.org.au).

The purpose of this annual award is to encourage Australian research in the science of software/system engineering or the application of that science for safety and/or mission critical software-intensive systems. At \$5000, it is a substantial award.

*The nominated closing date requirement has now been removed; nominations can now be made any time.*

## From the Chair

It is with great pride (and luck on my part) to be in the Chair of the aSCSA at the marking of the 25th anniversary of the committee that first formed in 1992 in response to a recognition of need for professional knowledge collation and development across industries and sectors in Australian life with respect to safety critical systems engineering. The achievements and honour roll of the committee over the past 25 years were scrolled past the eyes of the 2017 ASSC attendees including the current manager of our slightly older sister organisation in the UK, Professor Tim Kelly. Throughout this time we could not have progressed without the drive of those on the committee and none more notable and constant than our Treasurer and Newsletter Editor - George Nikandros. He has represented the committee, the cause and Queensland Rail over this whole period. I praised George at the closing of the conference and do so again here, along with our encouragement to him to take up the offer for the committee to send him to UK SCSC annual conference in York in Feb 2018. As a Queenslander he has to check his coat rack for wearable wool.

We were grateful with the very-focussed attention received by ACS President Anthony Wong and the following coverage afforded to our interests and profession in the Information Age and Australian Business Review, as linked here in the Newsletter. Also grateful for the continued support for creation of an agreed specialisation framework for safety critical systems professionals Competency Criteria. The UK experience and principles for competency definition and management was presented by Dr Carl Sandom in a keynote to the conference and also provided critique, expectation management advice and sounding board support to the Safety Critical Specialism Sub-Committee.

Thanks to those that attended a successful and enjoyable conference. We will imminently distribute feedback requests and make the presentations from ASSC17 available to attendees and papers available publicly via the updated [ascsa.org.au](http://ascsa.org.au) website, resources link. Finally, after a short pause, the committee will start thinking about an AGM, ASSC2018 and the next 25 years. Standby for announcements via email.

**BJ Martin**  
**Chairman aSCSA**

## Bulletin Boards etc

*ACM Risk Forum* on Risks to the Public in Computers and Related Systems – <http://catless.ncl.ac.uk/Risks>.

*System Safety List* - <http://www.systemsafetylist.org/>

*Safety-Critical Mailing List Forum* formerly hosted by the University of York is now hosted by the University of Bielefeld. Need to join using the form located at [System Safety Info Page](#) for access.

# 2017 System Safety Conference

## From Page 1

This year's conference was supported by five sponsor organisations with seven Gold sponsorships:

- RGB Assurance
- Nova Systems
- Department of Defence (*Capability Acquisition and Sustainment Group*) (3)
- Systra Scott-Lister
- Australian Computer Society (ACS)

As had been the norm for conferences since 2002, this conference was supported by five keynote speakers, namely:

- *Dr Carl Sandom, iSys Integrity, UK*
- *Les Chambers, Chambers & Associates, AUS*
- *Prof Tim Kelly, University of York, UK*
- *Prof Jin-Song Dong, Griffith University, AUS and National University of Singapore*
- *Angela Tuffley, RedBay Consulting, AUS*

The conference was also supported by three pre-conference tutorials:

- *An Introduction to Human Factors and System Safety (Dr Carl Sandom)*
- *Storytelling in Engineering: Explaining, persuading, instilling belief and saving lives through Story (Les Chambers)*
- *Pervasive Model Checking (Prof Jin-Song Dong)*

More information about the conference, the papers and the tutorials can be found in the [conference program](#). Conference papers and presentations are now [available](#) on the aSCSa website.

The aSCSa acknowledges the administrative support of ACS National Office. The aSCSa also acknowledges and very much appreciates the attendance of the ACS President Anthony Wong, not only for organising the impromptu celebration with two magnums of excellent champagne, but staying for some presentations.



The aSCSa Committee and keynote speaker dinner (From left – Tim Kelly, Les Chambers, Angela Tuffley, BJ Martin (aSCSa Chair), Derek Reinhardt (Program Chair), Jin-Song Dong)

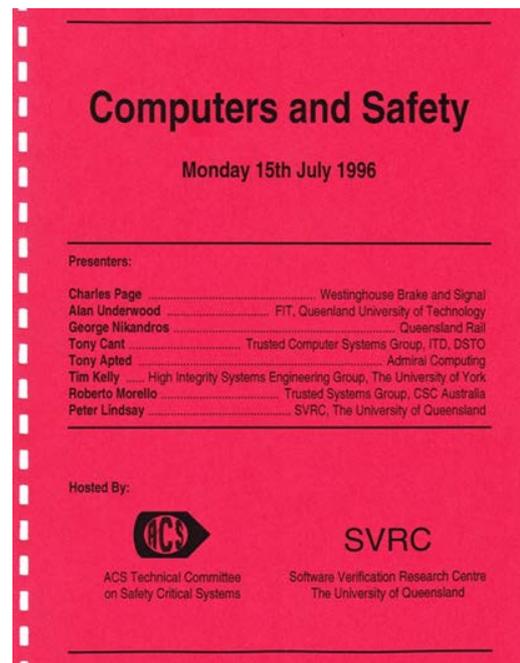


The celebratory champagne corks

## Things you learn at the Australian System Safety Conference

As reported in the January 2017, newsletter, the UK Safety Critical Systems Club celebrated its silver anniversary in 2016, an anniversary that also saw a changing of the guard; the Club has now moved to the University of York and is under the management of Professor Tim Kelly.

Tim was a presenter at the first "conference" of the aSCSa (then the ACS National Technical Committee on Safety-Critical Systems) in July 1996. Tim revealed after being prompted by a slide of the cover of the conference papers, that he was the designer of the cover.



## THE AUSTRALIAN BUSINESS REVIEW

Integrity in technology — the other side of digital disruption — an [opinion](#) by Anthony Wong, ACS President related to the conference and the system safety certified professional specialism.

# Professional Development

## Introduction to System Safety

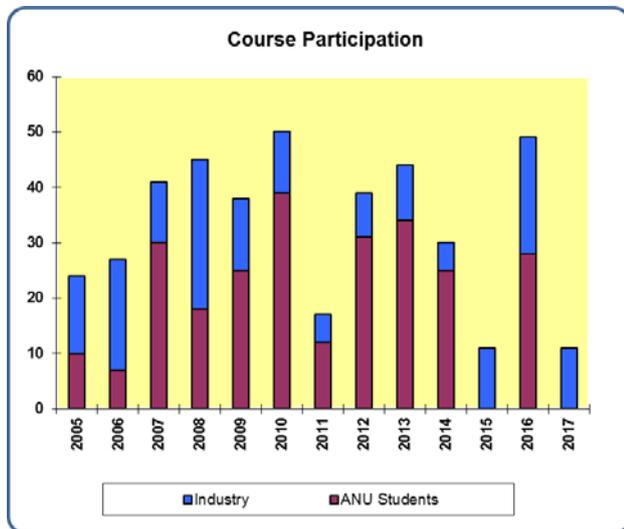


2017 is an “off-year” for the aSCSa ANU biennial University of York Course “Introduction to System Safety”.

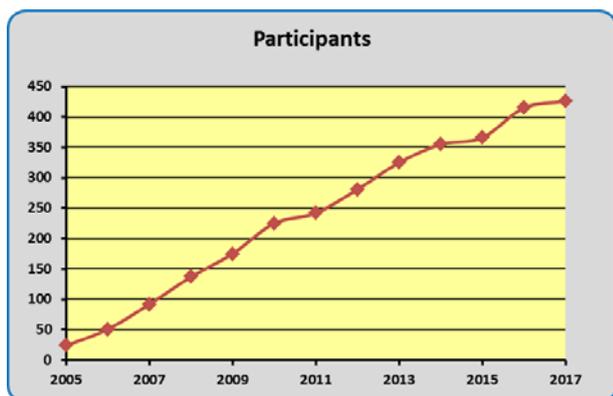


The aSCSa however hosted the “Introduction to System Safety” course in Brisbane in April 2017. The aSCSa contracted Griffith University to deliver the course. The course was delivered by Drew Rae.

This year there were 11 participants. Over the thirteen courses since 2005, there have been a total of 426 participants; 259 students, 167 from industry.



Note that there was no ANU course in 2015 and 2017.



The next Introduction to System Safety course will be hosted jointly by the aSCSa and the ANU in around April 2018.

The registration GST inclusive cost is expected to remain unchanged at \$2970 (ACS and aSCSa members) and \$3300 (non-members).

# ACS Safety Certification Update

As reported in the January 2017 newsletter, the ACS continued the development of the safety-critical systems specialisation certification scheme based on the IET’s Competence Criteria and met with Dr Carl Sandom during the conference in Sydney in May to seek his view of the proposed scheme.

Carl discussed the experience in applying the IET criteria in the UK and whilst the Australian approach will be different, in that rather than have certifications for the individual safety-critical functions defined by IET, there will be one “general” certification, Carl offered suggestions to improve both the value of such certification and the chances for a successful scheme.

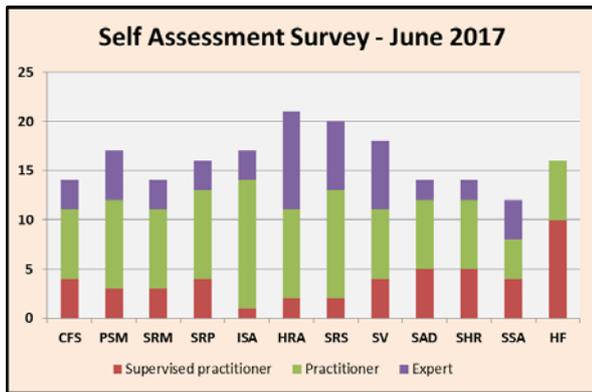
The IET criteria currently does not include cybersecurity in relation to system safety; an omission which is reflective of the committee consensus approach in defining the safety-related functions.

There will now need to be some tweaking of the ACS proposal.

In May, the proposal for the safety-critical specialisation certification was socialised with the ACS Profession Advisory Board and submitted to the ACS Congress. It is expected that the certification scheme will be operational later (October) this year.

The 2017 conference also provided an opportunity to gauge the general level of competence of Australia-based system safety practitioners. A survey was distributed to the conference attendees to self-assess their level of competence with respect to the IET safety-related system functions. There were 21 responses.

Code	IET Function
CFM	Corporate functional safety management
PSM	Project safety assurance management
SRM	Safety-related system maintenance and modification
SRP	Safety-related system or services procurement
ISA	Independent safety assessment
HRA	Safety hazard and risk analysis
SRS	Safety requirements specification
SV	Safety validation
SAD	Safety-related system architectural design
SHR	Safety-related system hardware realisation
SSR	Safety-related system software realisation
HF	Human factors safety engineering



The instructions provided for the survey were broad and given that some people underestimate their capability and others overestimate, not too much should be inferred. The result will be useful in setting the accreditation “pass” bar for the ACS safety critical specialisation competency.

## Pilotless passenger planes

Boeing Co is looking ahead to a brave new world where jetliners fly without pilots and aims to test some of the technology next year, according to Boeing’s Vice President of product development, [Mike Sinnett](#).

The basic building blocks of the technology clearly are available as modern passenger aircraft have the capability to take off, cruise and land using their on-board flight computers. According to Sinnett, pilotless planes have the backing of airlines given the projected need of some 1.5 million pilots over the next 20 years.

**But would YOU put your life in the hands of a computer?**

[Mike Sinnett](#) admitted to The Seattle Times that the development still had to meet the safety benchmark.

*“There’s going to be a transition from the requirement to have a skilled aviator operate the air plane to having a system that operates the vehicle autonomously – if we can do that with the same level of safety. That’s a really big if.*

*“We are not smart enough to pre-program all those things. The machine has to be capable of making the same set of decisions. If it can’t, we cannot go there.”*

## Unwelcomed Digital Disruption

On Saturday around 9.30am, May 27, 2017, a British Airways computer outage caused global delays and cancellation of all London (Heathrow and Gatwick) flights. Screens went blank at BA check-in desks across the globe as the company’s computerised passenger and baggage handling system failed. More than 1,000 flights were affected.



British Airways [CEO Alex Cruz](#) has said the root cause of today’s London flight-grounding IT systems is “a power supply issue” and that the airline has “no evidence of any cyberattack”.

The CEO later attributed the outage to a power surge at its UK data centre. BA has a very large IT infrastructure; it has over 500 data cabinets spread across six halls in two different sites near its Heathrow Waterside HQ, no more than a mile from the eastern end of Heathrow’s two runways.

[Cruz told the BBC](#) this had affected “all the operating of our systems – baggage, operations, power processing.” Backup systems that should have kicked in also failed, he said, adding that there was no evidence of a cyber-attack and “there has been no corruption or any compromise of any customer data.”

**BA IT systems failure: Uninterruptible Power Supply was interrupted**

An IT person from a data centre consultancy has been fingered as the person responsible for “killing” the British Airways’ Boadicea House data centre – and an explanation has emerged as to what killed the data centre.

The Daily Mail [fingered](#) a contractor from CBRE Global Workplace Solutions as the culprit for the power restoration problem. BA said that it was the uncontrolled restoration of power that “fried” the Boadicea House data centre supply rather than the shutdown. The contractor allegedly failed to follow proper procedure at a Heathrow data centre and caused ‘catastrophic physical damage’ to servers.

British Airways [expects](#) to suffer an £80m cost from the IT failure that forced the airline to cancel 726 flights over three days and left at least 75,000 passengers stranded.

BA had launched an “independent investigation” into the event and would provide an update once the probe was completed. There was no indication as to when the investigation would be completed.

Mr Walsh, Chief Executive of BA’s parent company International Consolidated Airlines, blamed an electrical technician employed by an outside supplier for shutting down the “uninterruptible power supply” located in the plant room of the London data centre. There was supposedly a back-up system in place to keep delivering power to the servers until standby generators could take over. However, power was restored minutes later in an “uncontrolled and uncommanded fashion that caused physical damage to the servers and distribution panels.

The BA outage has highlighted the vulnerability of complex businesses to highly disruptive IT failures. The ever increasing reliance on cloud computing and hence large data centres makes us all vulnerable digital disruption. Increasing reliance leads to higher availability expectations. The higher the availability usually means higher [costs](#). Who however carries the risk, the data centre operator or those dependent on the data centre?

## Integrity: Recognising, acting and saving our own souls

Les Chambers in his keynote speech at the 2017 Australian System Safety Conference reminded us of the integrity conflicts that can arise from time to time. At some point in their careers most engineers will face a situation where they must choose to do what they are told or what is right.

The presentation was inspired by personal experience from such a movement in Les' career. As the safety authority on a safety critical system development

circumstance forced Les to choose where his ethical duty lay: to the public or to the client.

From lessons learnt over the years, Les has the "proof" that the root cause of most systemic failures in complex systems is a lack of integrity in human beings. Indeed, at the genesis of all disasters and scandals involving failed technology can be found one or many engineers who knew it would happen and did not or could not take preventive action.

Les concludes that in an environment where the demand for never-fail systems is outstripping the supply of appropriately experienced and morally resolute engineers, the profession must re-evaluate its position in society and, in the interests of protecting property and saving lives, change its role from morally neutral technology servant to aggressive moral actor with the resolve and the capability to intervene.

The speech by Les was one motivation for the opinion piece by the ACS National President, published in the [Australian](#), on June 16, 2017.

### *The 2017 conference coincided with Sydney's vivid light festival.*



Some pictures from Circular Quay taken on way to the aSCSa Committee dinner.

### **We thank our 2017 System Safety Conference Sponsors**

				
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