

NEWSLETTER



Sydney Branch AUGUST 2011

Vol 2011-8

PO Box 573, Mascot, NSW 2020

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www.raes.org.au

Date: **Tuesday 2nd August, 2011**

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

Speaker: **Gregory Chamitoff,
Astronaut and Adjunct**

Professor at the University of Sydney

Topic: **“A JOURNEY THROUGH SPACE:
THE FINAL FLIGHT OF THE SPACE
SHUTTLE ENDEAVOUR”**

Venue: **Seymour Centre, the University of Sydney**

Presented by the Dean's International Lecture Series at the Faculty of Engineering and Information Technologies. Supported by the Royal Aeronautical Society Australian Division – Sydney Branch and the American Institute of Aeronautics and Astronautics.



Personal Data: Originally from Montreal, Canada. Married to Chantal Caviness, M.D., Ph.D. They have two children, Natasha and Dimitri. His mother, Shari Chamitoff, and brother, Ken Chamitoff, live in Southern California. His father was the late Ashley Chamitoff. His recreational interests include scuba diving, backpacking, flying, skiing, Aikido, magic, guitar and chess. Dr. Chamitoff is a certified divemaster and instrument-rated pilot.



Education: Blackford High School, San Jose, California, 1980.

B.S., *Electrical Engineering, California Polytechnic State University, 1984.* M.S., *Aeronautical Engineering, California Institute of Technology, 1985.* Ph.D., *Aeronautics and Astronautics, Massachusetts Institute of Technology, 1992.* M.S., *Space Science (Planetary Geology), University of Houston Clear Lake, 2002.*

Special Honors: NASA Distinguished Service Medal; NASA Space Flight Medals; California Astronaut Hall of Fame; Cal Poly Honored Alumni Award; AIAA Associate Fellow; AIAA Technical Excellence Award; NASA Silver Snoopy Award; NASA/USA Space Flight Awareness Award; C.S. Draper Laboratory Graduate Fellowship; IEEE Graduate Fellowship; Tau Beta Pi Honor Society Fellowship; Phi Kappa Phi Honor Society; Eta Kappa Nu Honor Society; Applied Magnetics Scholarships; Academic Excellence Award; Most Outstanding Senior Award; Degree of Excellence and California Statewide Speech Finalist; Eagle Scout.

Experience: As an undergraduate student at Cal Poly, Dr. Chamitoff taught lab courses in circuit design and worked summer internships at Four Phase Systems, Atari Computers, Northern Telecom and IBM. He developed a self-guided robot for his undergraduate thesis project. While at MIT and Draper Labs (1985 to 1992), Dr. Chamitoff worked on several NASA projects. He performed stability analysis for the deployment of the Hubble Space Telescope, designed flight control upgrades for the Space Shuttle autopilot and developed attitude control system software for the Space Station. In his doctoral thesis, he developed a new approach for robust intelligent flight control of hypersonic vehicles. From 1993 to 1995, Dr. Chamitoff was a visiting professor at the University of Sydney, Australia, where he led a research group in the development of autonomous flight vehicles and taught courses in flight dynamics and control. Currently, he holds adjunct professor positions with both the University of Sydney and Texas A&M University. He has published numerous papers on aircraft

and spacecraft guidance and control, trajectory optimization and Mars mission design.

NASA Experience: In 1995, Dr. Chamitoff joined Mission Operations at the Johnson Space Center, where he led the development of software applications for spacecraft attitude control monitoring, prediction, analysis, and maneuver optimization. One of these applications is the 3-D “big screen” display of the International Space Station (ISS) and Space Shuttle used by Mission Control.

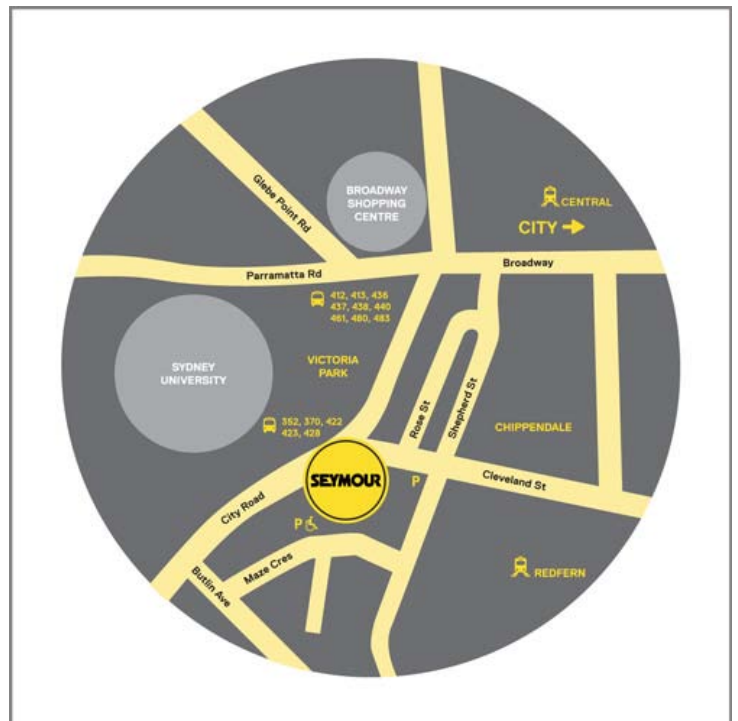
Selected by NASA as an Astronaut Candidate in 1998, Dr. Chamitoff has worked on Space Station Robotics, served as Lead CAPCOM for ISS Expedition 9, supported the training of ISS Expedition 6 as a Crew Support Astronaut and helped to develop procedures and displays for ISS operations. In 2002, Dr. Chamitoff was a crewmember on the NEEMO-3 Mission (NASA Extreme Environment Mission Operations), living and working on the Aquarius undersea research habitat for 9 days.

In 2008, Dr. Chamitoff served as the Flight Engineer and Science Officer for a 6-month mission aboard the International Space Station during Expeditions 17 and 18. He launched to the station on Shuttle Mission STS-124 and returned to Earth on Shuttle Mission STS-126.

In 2011, Dr. Chamitoff served as a Mission Specialist on the last flight of Space Shuttle Endeavour, STS-134. During this mission, he performed operations with the Shuttle and Station Robotic Arms, including the installation of a pallet of spare equipment (ELC-3) and a particle physics observatory called the Alpha Magnetic Spectrometer (AMS), which holds great promise for fundamental breakthroughs in our understanding of the Universe. He also performed two spacewalks, the last of which marked the completion of ISS assembly and was the final spacewalk of the Space Shuttle Program. To date, Dr. Chamitoff has logged a total of 198 days in space.

Dinner: There will **not** be a dinner afterwards due to Dr Chamitoff's commitments.

Parking: Parking is available in the Sheppard St Car Park - free parking after 18:00 hours, which is next door to the Mechanical



Engineering Building. Please observe parking restrictions and allow time to drive to the University of Sydney, park, and walk to the venue. (Refer map)

RSVP: Attendance registration for the presentation is essential. Please register by clicking on this link:

http://sydney.edu.au/sydney_ideas/lectures/2011/professor_gregory_chamitoff.shtml.

Your registration will be confirmed by email. **You must print the email confirmation and present a copy of the confirmation at the door.**

Date: **Wednesday 31st August, 2011**

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

Speaker: **Gregory Dunstone, BE Hons, FRAeS
Specialist Engineer, Airservices Australia**

Topic: **"The Australian Automatic Dependent Surveillance Broadcast (ADS-B) Program"**

Venue: **Lecture Theatre 145, Level 1**

Old Main Building, University NSW, Kensington

Enter via Gate 14, Barker St. Refreshments will be available prior to the commencement of the meeting

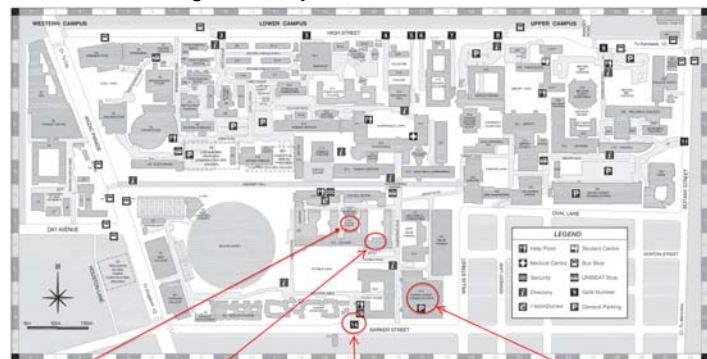
Profile Greg Dunstone has more than forty years experience as a specialist engineer on radar and air traffic control systems with Airservices Australia, after graduating from the University of NSW with an honours degree in Electrical Engineering.



Greg was in charge of technical aspects of the acquisition of radars in Australia in the early 1990s and then technical manager of the deployment of the ATC automation system used in Australia today. He now works in the Technical Asset Services Division as Surveillance Program lead, planning ATC surveillance within Airservices including Automatic Dependent Surveillance Broadcast (ADS-B), radar, surface movement radar, wide area multilateration and Precision Runway Monitoring.

He is chairman of ICAO's Asia Pacific ADS-B Task Force. He also leads the Airservices Australia ADS-B program, and is chairman of the Australian Strategic Planning Group's Surveillance Technology Working group (STWG). In 2011 he was awarded the Royal Aeronautical Society's Lawrence Hardgrave Award for his leadership of the Australian ADS-B Program.

Synopsis: Australia has deployed ADS-B receivers across the continent and 70% of international flights now get the safety & efficiency benefits of the technology. The presentation will provide an overview of the ADS-B technology and its application in Australia including its history, current status and future.



Parking: Limited parking is available in surrounding streets with paid parking within the University of NSW car park tower, entry via Gate 14, Barker Street. Please observe parking restrictions and allow time to drive to the Univ of NSW, park and walk to the venue. (Refer map)

Dinner: After the presentation Greg has indicated that he will join us for dinner as a guest of the committee. Members and visitors are invited to attend the dinner to be held at Mamma Teresa's Italian Restaurant, 412 Anzac Parade, Kingsford. (approximately \$30 pp including soft drink and wine.)

RSVP: Attendance registration for the Presentation & Dinner afterwards is essential. Please register by clicking on this link: www.raes.org.au/events or email by lunchtime Wed 31st August to: sydneybranch@raes.org.au

Monthly Newsletters by email: The Sydney Branch Committee reminds our members that the monthly newsletter can be received more quickly and in colour by email. This also has the advantage of reducing printing costs, eliminating folding and enveloping them, postage costs, and time taken to deliver the mail. Additionally, the current month's newsletter is always online and can be viewed using www.raes.org.au/ and then clicking on 'Sydney' in the bottom right hand corner of the webpage. Should you wish to receive an electronic delivery please email the editor via sydneybranch@raes.org.au who will add your email address to the email list and remove you from the paper version list.

SAFESKIES: THE STORY Safeskies is preparing to host its 10th biennial conference in Canberra from 25 to 27 October this year. The first Safeskies event was held in late 1993 and the keynote speaker was USAF Colonel, airline pilot and novelist John Nance. Other highlights of the first conference included presentations by Capt Danny Maurino from ICAO, Dr John Lauber from the US NTSB, and Don Kendall of Kendall Airlines. Safeskies went forward plagued by financial challenges and there was a clear need for a focused effort to raise \$50,000 to drive the next event. That task fell to committee member Peter Lloyd who was also asked to take on the Chairmanship. Peter stood down as Executive Chairman of Safeskies in 2008 and continued his honorary work as President.

Peter Lloyd AO OBE MiD has had a long business and aviation career as founder, director, chairman or CEO/managing director or a director of a number of public companies and some private enterprises in Australia, France, UK and the USA. He has worked closely with world leaders in France, UK, USA, Russia and several other countries, and has been honoured by them one way or another. Peter's career involvement covers the motor industry, aviation, tourism, finance and the film industry and as a grazier/farmer on the Snowy River.

Peter introduced the idea of opening the next Safeskies in 1997 with a high-profile international guest speaker and a formal dinner. The speaker slot became a fixture from then on, branded as the Ansett Memorial Lecture in honour of airline founder and aviation philanthropist Sir Reginald Ansett. The first Ansett Memorial lecturer was Bill Gaubatz, an American rocket scientist. Subsequent lecturers were Captain John Young USN (Ret), a senior NASA astronaut, Captain Etienne Tarnowski, an experimental test pilot with Airbus, Geoff Dixon, CEO of Qantas, Burt Rutan, renowned aerospace engineer, Sir Rod Eddington, former CEO of British Airways and Alan Joyce, current Qantas CEO. Peter and Safeskies also scored a coup with the appointment of Dr Rob Lee to the committee. Aviation safety guru Rob Lee, who was a key speaker at Safeskies from the very first event, had previously run Australia's Bureau of Air Safety Investigation (BASi) before moving to the role of Director Human Factors, Systems Safety and Communications at the new multi-modal Australian Transport Safety Bureau. He is now a much-travelled consultant on transport safety. Rob's global network of aviation safety experts has contributed much to Safeskies and continues to do so. "We picked a theme for each conference over the years, but the story that we really wanted to tell was that aviation safety doesn't happen by accident," says Peter.

But Safeskies is not about "talking heads talking to talking heads". The committee (now board) has been determined that the conference be accessible and of interest to anyone working in aviation at any level. As Peter says: "Our target was the people who needed most to come, which is not the heads of departments but the fellows in the third and fourth level, anything to do with aviation". Safeskies has also been a facilitator for putting focus of specific safety issues in an Australian context. And a good example is the work it has done around flight instruction. "Two conferences ago the standard of flight instruction was identified as a potential major problem," says Peter. "We had formal discussions with the people at CASA and they decided to use the Safeskies conference as a platform around which they could build a senior instructors' forum. This year will be the third time it takes place at the same time as Safeskies." But Safeskies is more than a biennial conference, with the board active throughout the intervening months promoting aviation safety and raising funds to

support the work. An example of this is the Safeskies mini-seminar held in conjunction with the Avalon Airshow this year. CASA has been a vital part of Safeskies right from the start. "The CASA thing grew through the work we put in with them and the benefit they got out of it," Peter says. "They make a generous annual contribution to the running of Safeskies."

There has also been significant support from airlines such as Qantas and Air New Zealand, from manufacturers like Thales and Airbus, other industry operators such as Cobham and also from companies not specifically aviation related such as Bevingtons and BHP Billiton.

The 10th biennial Safeskies Aviation Safety Conference will be held on Wednesday 26 and Thursday 27 October at the Hyatt Hotel in Canberra. It will be preceded by the Ansett Memorial Lecture 2011, which will be a joint presentation by Australian astronaut Dr Andy Thomas and his wife, fellow astronaut Dr Shannon Walker. The conference will open on the Wednesday with a powerful panel of the four members of the Aviation Policy Group: Mike Mrdak, the Secretary of the Department of Infrastructure and Transport, Air Marshal Mark Binskin, Chief of Air Force, John McCormick, Director of CASA and Greg Russell, CEO of Airservices Australia. Other high-profile speakers invited to contribute include:

- Kevin Humphrey, Director Safety Regulation, Irish Aviation Authority
- Martin Dolan, Chief Commissioner ATSB
- Dr Kathy Abbott, NASA Ames/FAA project
- Group Captain Alan Clements, Director Defence Aviation and Air Force Safety
- Lt Col Raymond E King, USAF
- Yanick Malinge, Head of Safety Airbus
- Greg Marshall, BHP Aviation, BARS Program Manager
- Vince Galotti, Deputy Head, Air Navigation Bureau, ICAO

For more information: www.safeskiesaustralia.org

Diary 2011 31 July: Call for papers extended – now closing 31st July, 2011 for the 28th Congress of the International Council of the Aeronautical Sciences to be held in Brisbane 23 – 28 September, 2012. www.icas.org

16-19 August: AUVSI's Unmanned Systems 2011, Washington DC, USA. www.auvsi.org/AUVSI/AUVSI/Events/Default.aspx

19-21 August: The Wide Bay Australia International Airshow - Barnstorming Bundaberg, Qld. www.widebayairshow.com.au

25-27th October: Safeskies Conference 2011, Hyatt Hotel Canberra. www.safeskiesaustralia.org/

26 October: To be advised.

30 November: Andrew Dudgeon, Chief Executive Officer, Rolls-Royce Australasia.

14 Dec: Annual General Meeting, Sydney Branch.

23-28 September, 2012: 28th Congress of the International Council of the Aeronautical Sciences, Brisbane, QLD www.icas.org

Aerospace Websites

www.aerosocietychannel.com/aerospace-insight/2010/12/exclusive-qantas-qf32-flight-from-the-cockpit/

www.aerosocietychannel.com/aerospace-insight/2011/07/space-shuttle-the-end-of-the-beginning/

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;

www.boxkite2014.org: The Boxkite project.

www.powerhousemuseum.com/whatson; www.singapore.com.sg

en.wikipedia.org/wiki/Rolls-Royce_Trent

RAeS Ties, Coffee Mugs, and Lapel Pins:

Variety of RAeS Ties \$20 each, Sydney Branch coffee mugs & lapel pins available at Branch meetings for \$10 each