



**ROYAL
AERONAUTICAL
SOCIETY**

AUSTRALIAN DIVISION

SYDNEY BRANCH INC

NEWSLETTER

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Date: **Wednesday 10th July, 2013**

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

Speaker: **Dr Greg Chamitoff**
NASA Astronaut and
Adjunct Professor at The
University of Sydney



Topic: **“LIVING AND WORKING ON THE
INTERNATIONAL SPACE STATION – OUR
GATEWAY TO THE FUTURE”**

Venue: **New Law Building,**
Camperdown Campus,
The University of Sydney

Co-sponsored by the American Institute of

Aeronautics and Astronautics. www.aiaasydneysection.org



Speaker Profile



Greg Chamitoff was born in Montreal, Canada. He holds a B.S. in Electrical Engineering from California Polytechnic State University, a M.S. in Aeronautical Engineering from Caltech, a Ph.D. in Aeronautics and Astronautics from MIT, and a M.S. degree in Space Science from the

University of Houston Clearlake. At MIT and Draper Labs, he worked on the control analysis for robotic deployment of the Hubble Space Telescope, designed attitude control software upgrades for the Space Shuttle, and developed reconfigurable control strategies for the Space Station. His doctoral thesis was on a new method for robust flight control of hypersonic vehicles. From 1993 to 1995, Greg was a visiting lecturer at the University of Sydney, where he taught courses in flight dynamics and control, and led a research group in the development of flight control techniques for autonomous aircraft.

In 1995, he joined Mission Operations at the Johnson Space Center, where he developed software applications for spacecraft attitude control monitoring, prediction, analysis, and manoeuvre optimisation.

Selected by NASA as an Astronaut Candidate in 1998, Greg 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, he 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, he 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 more than 198 days in space.

Synopsis

As a young boy, Greg Chamitoff was fascinated by the prospect of human beings exploring beyond the bounds of Earth. He was inspired by the science fiction that made everything seem possible, and by the real-life drama that was unfolding in the space race between the USA and Russia.

The technological world of today is the product of a generation of engineers and scientists who were similarly inspired, and grew up with a positive vision for the future and a passion for making it come true.

Greg had the good fortune to live out his dreams by living and working on the International Space Station (ISS). For six months, he was the Flight Engineer and Science Officer for Expeditions 17 and 18.

More recently he flew on the last mission of Space Shuttle Endeavour, during which the final assembly of the ISS was completed.

While the Space Shuttle is now retired, it leaves behind the ISS as its legacy and the gateway to our future. As the most complex engineering project in history, the ISS is a shining example of what human beings can do when working together. It serves as a unique laboratory for a broad range of research and development, and a source of inspiration for the next generation.

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:

<https://raesjuly13.eventbrite.com.au/> Your registration will be confirmed by email with an attached ticket. **You must print the ticket and present the ticket at the door to gain entry to the event.**

Wings over Illawarra 2013

The air of excitement can be felt from the entrance to the airshow. Children and grown-ups alike strode along the eastern runway of Illawarra Regional Airport that has been temporarily turned into a promenade which leads to the admission gates.



Once again, aircrafts under the management of the Historical Aircraft Restoration Society (HARS) such as the PBY Catalina A24-362, Douglas C-47 Dakota, De Havilland Caribou, and many others were

displayed and flown for the 2013 Wings over Illawarra Airshow. The Australian Defence Force also participated in the flying program this year with the RAAF Roulettes, led by Squadron Leader Stephen Baker, impressing the crowd by exhibiting their rather parlous, yet carefully synchronised aerobic prowess over Albion Park. The Australian Navy, on the other hand, had the Squirrel Helicopters of the 723 Squadron displaying incredible formations on air like predatory birds in ritual. The crowd excitement was undeniable and the smoky smell of barbecued steaks and sausages in food stalls was inviting whilst ice cream and other cooling delights also flourished in the warm autumn sun. On the ground, the airshow pièce de résistance was kept inside the hangar. The world's last operational F111C bomber, which saw combat in Vietnam under USAF banner, has now retired and handed over to HARS from RAAF. Despite its retirement, the F111C still looked over aviation enthusiasts with pride as their camera shutters clicked away to capture a piece of aviation history in picture. The airshow has again proved itself to be a success once again. Aviation enthusiasts have gathered everywhere to witness the event and is sure going to be a mark in their diaries next year.

By Dan Constantine Hela, Affiliate (RAeS), StudIEAust

PART 2: HARS have recently concluded a very successful operational period with their Lufthansa colleagues flying in the Connie to retain their currency as the rebuild one of their 1649 Starliner progresses. HARS shared the experience with the residents of the Illawarra, Nowra, South Coast and Sydney Harbour with a very intense programme involving circuits and landings, emergency procedures and upper air work. A cruise ship in Sydney Harbour leaving at sunset had the opportunity of seeing the Connie flying around the harbour as did many residents. The Lufthansa 1649 project is remarkable in that they are rebuilding and bringing it up to standards which will allow it to fly in commercial operations in Europe. It is worthwhile visiting their website, just put in 1649 Lufthansa Starliner.

By Peter Marosszeky

Launch of the new AEROSPACE Magazine

Dear members, The very first issue of the Society's new magazine, AEROSPACE, should have now landed on your doorsteps. The two current magazines, The Aerospace Professional and Aerospace International, have been combined to provide technical knowledge, insightful analysis, and leadership on best practice through thought-provoking features and updates on how the Society's activities continue to play a leading role in influencing opinion on aerospace

and aviation matters. The launch of this new dynamic, contemporary and features-led magazine, AEROSPACE, will ensure that is a must-read publication that better reflects the interests of our members and provides enhanced value for our membership. Past issues of our magazines will still be available online <http://www.aerosociety.com/News/Publications/Aerospace/Aero-Int-Archive> for members to browse as will future issues of AEROSPACE. The June issue has been made publically available as a promotional tool and to widen our reach so please do encourage any of your colleagues who are not members to visit the website and download a copy to see what they are missing out on: www.aerosociety.com/AEROSPACEmagazine

As a valued member of the Society we would welcome your feedback on the magazine so please do let me know your thoughts as to the new design, format and content so we can continue to develop publications that remain relevant and informative. We will be celebrating the launch of the magazine at a breakfast reception at Paris Air Show so if you will be in Paris on Thursday 20 June, please do let me know and I will send you the invitation to join us. I look forward to hearing from you. My email address is: Emma.Bossom@aerosociety.com Kind regards, Emma, Business Development Director, RAeS, No 4 Hamilton Place, London. W1J7BQ

RAeS Ties, Coffee Mugs, and Lapel Pins

Variety of RAeS Ties \$20 each, Sydney Branch coffee mugs (with new logo) & lapel pins available at Branch meetings for \$10 each.

Diary 2012-2013

24-28 June: 10th Annual Meeting Asia Oceania Geosciences Society, Brisbane. For further details refer: www.asiaoceania.org/aogs2013/public.asp?page=sessionProposal.htm

28 July: Quickstep Technologies Lecture/Tour, Quickstep Bankstown. Attendance numbers will be limited and registration will be essential – details to follow.

16-19 August: AUVSI's Unmanned Systems North America 2013, Washington DC, USA. www.auvsi.org/AUVSI/AUVSI/Events/Default.aspx

28 August: Capt David Evans, QF32, Uni of Sydney. Details to follow.

18 Sept: Ian. Q. Thomas, President, Boeing Australia & South Pacific to present the 55th Sir Charles Kingsford Smith Lecture followed by the Annual Branch Dinner to be held at Club Burwood.

7 Nov: The Sydney Branch is participating with Aust Institute of Physics for their 'Physics in Industry – Aerospace Day' to be held at CSIRO West Lindfield. Open to all to attend.

Aerospace Websites

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

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.innovationnewsdaily.com/920-flying-robots-play-007-theme.html www.powerhousemuseum.com/whatson;

www.singapore.com.sg

en.wikipedia.org/wiki/Rolls-Royce_Trent