ROYAL AERONAUTICAL SOCIETY

Prestwick Branch Newsletter

April 2015

Editorial

Our April lecture is always a crossroads event. On one hand, spring is (or at least should be!) in the air and summer is just around the corner. On the other, yet another lecture season has swept by and we prepare for the inevitable changes that the next one will bring. This year, two long term stalwarts of the Branch Committee are standing down - Len Houston and Jim Hood. Len has served extended terms as Branch Secretary and Branch Chairman, while Jim has worked quietly and effectively to support the delivery of the Branch lecture programme in more ways than he believes, and is the senior member of the Branch Committee (aside from the Vice President). Our thanks and best wishes go to you both.

Len and Jims' departure brings with it a number of problems. Firstly, it means that 'yours truly' is now the senior serving Branch Committee member (VP excepted) - how did that happen? More importantly, it means that we are a man down, one of the resulting vacancies having been filled by Enda Healey, a young engineer from GE Caledonian, who has recently been persuaded to join us and brings a welcome youthful perspective. Welcome Enda. If anyone feels the urge to step up to the plate and help to run the Branch, please let us know.

This focus on the Committee reminds me that those serving tend to be a bit of a low-key, secretive bunch so I have taken the opportunity to identify them with the recent photograph below. Gentlemen take a bow, you deserve it. If you want to know about the things we get up to, please refer to the excellent 2014 Branch Annual Report collated and edited by Branch Secretary, Ian Adams.

Whilst on the subject of Branch business, this month's lecture will be preceded by the Branch AGM which will get underway promptly at 7.00 pm to allow the normal 7.30 pm start for the speaker. This month it is the turn of an old NATS colleague of mine, Danny Anderson. Danny is the proprietor of Irvine-based, Zysys Events who's successes include the running of the Stirling Hogmanay event and the Armed Forces Day event at the same location. More locally, Danny was the driving force behind the successful delivery of the Scottish Air Show in 2014, and that is his topic for tonight. Welcome, Danny.

It is not often these days that I find myself inspired, but in the past month I have found myself in this welcome situation no less than four times. First up was last month's McIntyre lecture, then there was the visit to the University of Strathclyde's Advanced Forming Research Centre at Inchinnan, which I drive by on an almost daily basis without really knowing what went on there. Then, as part of the preparation for our third STEM event with Holmston School, I was introduced to many of the students carrying out project work in Ayrshire College. That their work was first class, was evident from the pride their Supervisor had for them. And then there was third Holmstone event itself. More details of at least three of these 'inspirations' can be found in the rest of the newsletter.

Have a great summer.

Dave

Outgoing Prestwick Branch Committee

Picture Stephen Kunz

Standing - Jim Hood, David Lacey, Stephen Kunz, Andy Gribble, Ian Adams, John Wragg, Ray Draper, Brian Gordon, Kevin Beaumont. Seated - John Hopkins, Dugald Cameron. Absent - John Russell, David Coldbeck, Len Houston, Murray Weir.

Prestwick Branch/Ayrshire College/Holmston Primary Outreach Event Number 3

Words David Lacey, pictures Stephen Kunz

The third of the Prestwick Branch's STEM-based Outreach events with Holmstone School took place on Tuesday 24th March. The event had been delayed by a week to allow the children involved to compete in the Ayr Music Festival, which they duly won!

This event was called "Operation of Aircraft" - a title that provides an enormous canvas on which to work. In putting together a programme, the challenge was more one of 'what to leave out?' than 'what to include?' The previous two Holmston events had been all about the discussion and demonstration of physical concepts. This one would be more about application, and was more amenable to participation by the children.

When the adults accompanying the children were introduced, one newcomer stood out - David Freil, otherwise known as Captain David Freil of Ryanair - no pressure, then!

The day began with a short video, showing examples of aircraft involved in various tasks which we would come back to later. We then moved on to a VFR navigation planning exercise, routing from Prestwick to Perth using 1:500000 charts, measuring tracks and distances and generating a navigation log (PLOG). The square protractors came in for particular comment.

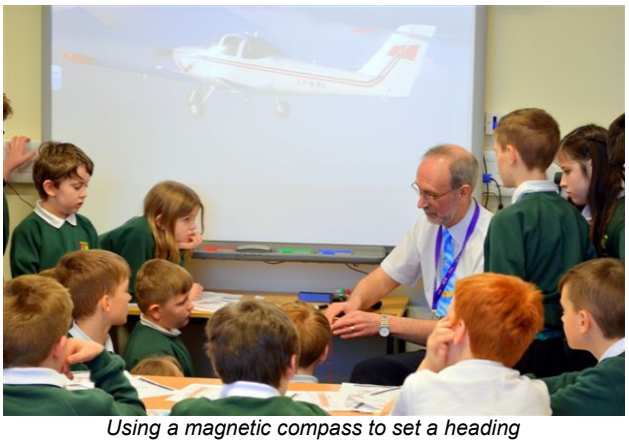
That task completed, college lecturer Gordon Keary demonstrated the Boeing 737 simulator 'in flight', with particular focus on primary flight controls and instruments. As Gordon 'flew' the aircraft from the left hand seat, the children watched the effects on representations of the aircraft on an adjacent screen.

Weight and balance of an aircraft as a concept had already been covered in the first event, and this event built on this by using an MS-Excel derived virtual Britten Norman Trislander model to allow the children to see the effects of loading it with 16 passengers, their baggage and some freight.

The final exercise saw the children embark upon a visual 'pre-flight inspection' of the College's Bulldog. Needless to say, they found many more faults than those seeded on the aircraft for the occasion! The day finished with a short review of the content of the video shown at the start of the day.

My thanks go to Ian Adams, Stephen Kunz, John Russell and Hugh Lorimer from the Branch who helped pull it all together on the day; to Marti Anderson and Gordon Keary from Ayrshire College who supported us magnificently; to Ruth Shanta, Fiona McLaren, Judith Hannigan and David Freil who brought the children and who proactively mucked in when required; but mainly to the children who made the day such a treat. Well done everyone.

Our final event of this series takes place at Ayrshire College on Tuesday, 28th April and will cover "Careers in Aviation".

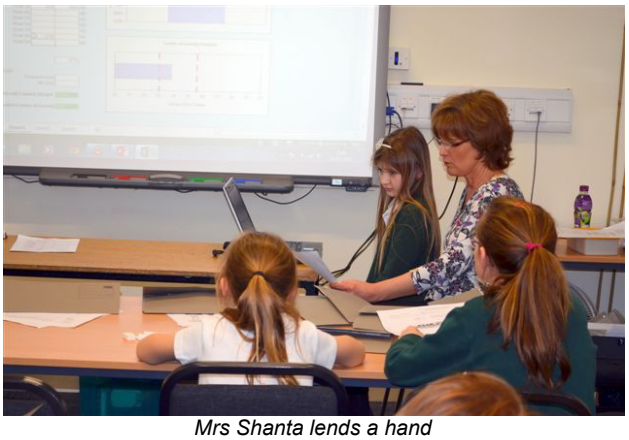


Using a magnetic compass to set a heading

Some of the tools of the trade

Gordon introduces the simulator

In flight!



Mrs Shanta lends a hand

Virtual Trislander successfully loaded

Design competition winners (see March edition) - Ford Caldwell and Magnus Freil

An enjoyable day!

Additional copies of this edition, plus a full archive can be down-loaded from www.raesprestwick.org.uk

The 2015 David Fowler McIntyre Evening

Words David Lacey, Picture John Wragg

The Prestwick Branch's annual named event, the David Fowler McIntyre Lecture took place on Monday, 9th March. As usual, the lecture was preceded by a dinner at the Parkstone Hotel in Prestwick. As noted by the President during his address at the dinner, this year we were honoured by three generations of McInyre - David Fowler McIntyre, through the named event, his son Dougal, and his son Stuart, now heavily engaged in the endeavour to bring the UK Spaceport to Prestwick.

This year also saw a representative from RAeS Headquarters attend the lecture for the first time since 2011, with Scott Phillips making the long trek from 4 Hamilton Place. To be fair to the Society, their non-attendance of late has been largely due to our re-scheduling of the 'McIntye' to a date which conflicts with a major Main Society event. This will be rectified next year, and the RAeS President already has our event in his calendar.

The lecture itself was delivered by Rod Buchanan from BAE Systems at Warton, and his subject 'Jetstream Autonomous Operations'. Much of what was described was new to this author, and it was fascinating to learn of aspects of the work which have the potential to have a very positive impact on routine general aviation operations, as well as the military and commercial applications which the company no doubt has in mind. Great stuff!

Our external guest list this year included - Scott Phillips (RAeS), John Scott MSP, Alistair Muir (NATS, Prestwick Centre), Flying Officer William Taylor (1138 (Ardrossan) Squadron, Air Training Corps), Sean McGovern (BAE Systems Regional Aircraft), Mike Laing (GE Caledonian), Stuart and Caroline McIntyre (Scottish Spaceport), Pherose Mehtar (IMechE), Andrew Miller (Chairman, Glasgow Prestwick Airport), Alison Blackman (Commercial Department, Glasgow Prestwick Airport), Professor Roderick Galbraith (University of Glasgow), Alistair Heron (Ayrshire College), and Bob Chandler (RAFA).

The picture shows the Branch President, Dugald Cameron delivering his address at the dinner with Scott Phillips, John Wragg (Branch Vice-Chairman), Rod Buchanan and Dougal McIntyre beyond.

Branch Visit to the Advanced Forming Research Centre, Inchinnan

Words Ray Draper, Picture Stephen Kunz

On Wednesday, March 18th, branch members were treated to a fascinating insight into the operations of the Advanced Forming Research Centre (AFRC) which is sited at Inchinnan, just to the north of Glasgow Airport.

The AFRC is a collaborative venture between the University of Strathclyde, Scottish Enterprise, the Scottish Government and leading multi-national engineering companies. It develops metal forming and forging techniques to support the design and manufacture of structures used in aircraft, engines, cars, ships, medical devices and the power generation industries.

Prior to the visit, our group of 15 gathered for lunch in the nearby R34 Cafe. The cafe is located in the modern, airship inspired, extension (see picture) to the art deco, India Tyres headquarters building which used to front that company's tyre factory. The factory had been established by William Beardmore and Co. during the First World War for the production of airships. Its most famous product was R34, the first aircraft to cross the Atlantic twice in July 1919.

Our two hours at AFRC began with coffee and an introductory overview of the facility before we divided for guided tours of the laboratories and workshops. Of the latter, the 'Hot' Workshop deals with metal forming at high temperatures, using furnaces and forges, and with 'flow forming' at normal ambient temperatures by application of compression to rotating preforms. We can testify to the forge being red hot as they opened one for us to view - it was a memorable sensation.

The second, 'Cold' Workshop contains equipment used for the preparation, cutting and finishing of metal samples and components. For this work the AFRC has the use of some extremely advanced - and expensive - machinery. The Centre's analytical laboratories were equally interesting and utilise state-of-the-art metrology and even scanning electron microscopy equipment. The enthusiastic AFRC staff were obviously well-used to visitors and made every effort to explain the tooling and samples that we were allowed to see.

From airships to the AFRC, with the Rolls-Royce jet engine plant next door and Glasgow Airport just over the fence, our members had experienced an extraordinary aeronautical journey through time during this visit.