



An Association for Retired Professional Engineers

NEWSLETTER August 2024

President's message

Hello again everyone, and a warm welcome to the August Newsletter.

I hope that you are all relaxing during the summer break and looking forward to returning for another season of monthly meetings.

Last season saw a packed programme of talks, and a big 'thanks' must go to Mike, our programme manager, for making all this happen, faced with some last-minute twists and turns that happen, but which you never hear of.

I must also thank all my other fellow committee members for their hard work keeping the show on the road, every one of them having played their part.

This year saw another new venue for the Christmas Lunch and in December 34 members and guests turned up at the Findon Manor Hotel and enjoyed the food and company. Arrangements are in hand for this year's lunch at the same venue, and details will be out when available, but for your diaries, the date will be **Thursday 12th December 2024**.

On 7th May there was a visit to Shoreham Lifeboat Station which was well attended and on 5th June a visit to the AMEX Stadium in Falmer which was unfortunately attended by only 12 people.

A lot of work goes in to arranging these visits and perhaps a discussion point at the AGM is required to ask if this is what the membership wants.

Talking of the AGM (on September 17th), most of the present committee are all prepared to stand again, BUT there is room for any other members who would like to join us. Is this something you feel is for you???

As I said earlier, I would like to thank the entire committee for their work and going forward we will do it all again to bring you a wide range of talks to enjoy in the coming months, all of which are listed in this newsletter.

Keep an eye on your emails as our Membership Officer, Mike, will be sending out details of things you need to know as they crop up.

Enjoy the rest of the summer and I look forward to seeing you all at our first talk and AGM in September.

George Woollard

President

PROGRAMME OF EVENTS September 2024 – March 2025

17 th Sep	Tuesday	AGM and talk – The Journey of Bloodhound SSC (supersonic car) so far.
19 th Sep	Thursday	Coffee – at Spotted Cow, Angmering
26 th Sep	Thursday	Coffee – with Partners at Swallow's Return
8 th Oct	Tuesday	Talk - Where are all the nuclear fusion power plants?
15 th Oct	Tuesday	Visit – Network Rail Electrical Control Centre, Brighton
17 th Oct	Thursday	Coffee – at Spotted Cow, Angmering
31 st Oct	Thursday	Coffee – with Partners at Swallow's Return
12 th Nov	Tuesday	Talk – The BP Magnus Platform
21 st Nov	Thursday	Coffee – at Spotted Cow, Angmering
28 th Nov	Thursday	Coffee – with Partners at Swallow's Return
10 th Dec	Tuesday	Talk – Families, Friends and Foreigners
12 th Dec	Thursday	Christmas Lunch – Findon Manor hotel - details to follow
19 th Dec	Thursday	Coffee – at Spotted Cow, Angmering
14 th Jan	Tuesday	Talk – The Hubble and James Webb telescopes
16 th Jan	Thursday	Coffee – at Spotted Cow, Angmering
30 th Jan	Thursday	Coffee – with Partners at Swallow's Return
11 th Feb	Tuesday	Talk – Why Water Engineering?
20 th Feb	Thursday	Coffee – at Spotted Cow, Angmering
27 th Feb	Thursday	Coffee – with Partners at Swallow's Return
11 th Mar	Tuesday	Talk - A Naval Weapons Engineer's Life Story
20 th Mar	Thursday	Coffee – at Spotted Cow, Angmering
27 th Mar	Thursday	Coffee – with Partners at Swallow's Return

All Talks and Meetings will commence at 2.30 pm and be held in the Pavilion, Field Place, Worthing, unless another venue or time is indicated. Timings for visits and outings will be as printed in the detailed description of the activity. Coffee mornings commence at 10.30 am.

We do sometimes have to cancel/rearrange talks and visits, in which case we will inform our members of changes to our programme by email. Members can always look on our website for up-to-date details of events.

Subscriptions

Subscriptions are due on 1 October this year and should be renewed via Membermojo, which in early September will send you an email requesting you to renew your subscription. This email will contain a link and will invite you to click on this link to connect you to the correct page on the system.

As a reminder the subscription remains this year at £15, and we request life members to contribute £5 to ensure that we retain contact with everyone.

Subs for new members who joined after March will carry their membership over to this year and they will not receive a renewal message until next year.

The system appeared to work well last year, so hopefully will do so this time. If anyone has significant problems, please email the Treasurer at tony.tomkins@bcs.org

Tony Tomkins Treasurer

Website of the RCEA

Our website, www.rceasussex.org.uk carries the very latest information on all our events.

New Members and Speakers for Talks

The RCEA needs new members and speakers to ensure that we can continue as a thriving organisation. Please think of appropriate people you know and encourage them to come along to our talks and hopefully join the RCEA.

We also need more speakers to give talks to us at our monthly meetings on Tuesday afternoons from September to April. We are aware that many members have the knowledge from their working careers to provide interesting talks. If you are willing to give a talk, please let us know.

New Members

Paul Cozens, IEng, MBCS, CITP

Bognor Regis

Service Improvements

The RCEA always strives to improve the service that we offer to our members, and we are pleased to announce that we are purchasing a roving microphone for use at our talks so that members can more easily hear the questions raised following presentations.

Additionally, we have engaged the services of a website designer to overhaul our website, which members are increasingly reliant upon to gain up to date information about our activities, as changes are unfortunately an inevitable consequence of modern life.

RCEA Insurance

Members need to be aware that the insurance policy that the Association holds is solely for the protection for the assets and liabilities for the Association as an entity. The policy does not provide cover for personal injury or loss to individual members. Members attend the Association's events at their own risk although under some circumstances there may be some cover from the insurance arrangements of the venue owner.

Newsletter Entries

If you would like to provide an article for inclusion in a future newsletter it would be very welcome as we are always looking for new material in addition to reports on previous talks and visits/outings. From feedback from our members, we know that the newsletter is particularly appreciated by those who are no longer able to get to our meetings and visits, so if you are able to contribute in this way it would be much appreciated. Articles should preferably be Microsoft Word documents, although we can usually convert both text and pictures (even photographs) into a suitable format. Accompanying pictures are best supplied as separate files which will be embedded within the text during editing.

Brief Detail – Talks, Outings, and other activities. September 2024 – March 2025

Talk

Tuesday, 17th September 2024 - The Journey of Bloodhound SSC (supersonic car) so far.

C. Rickard – member

The talk will follow our AGM and start with how it was decided to design and build a car to do 1,000 mph, and how the team managed to persuade the Ministry to loan them the typhoon jet engines needed for the project, by starting up an education program around STEM.

After that, some short videos will be shown regarding the design process, and the problems and mistakes surrounding the funding for the project. The talk will then move on to talk about the testing done in Newquay to prove to Rolls Royce that the design was suitable for the air intake to get Max Re burn from the EJ 200 standing still.

The presenter will then explain how the project went broke, and the receivers were called in. Fortunately, things were saved at the last minute to proceed to testing in South Africa, which is where the project is currently at the moment.

Talk

Tuesday, 8th October 2024 - Where are all the nuclear fusion power plants?

David James – member

In the late 1960's it was predicted that within 20 years we would have commercial fusion reactors, generating power that was so cheap it would almost be given away.

Today, some 55 years later, there is still no commercial power plant using nuclear fusion. But are things about to change?

After reminding ourselves about the basic physics of the fission and fusion processes, the presenter will look at the technological approaches that have been followed in an attempt to generate power from the fusion of atoms.

Over the intervening decades a lot of research has taken place around the world, so he will review that before looking at the approaches now being followed by private ventures.

Finally, he will get out his crystal ball and look to see how the road to fusion power might develop.

Visit

Tuesday, 15th October 2024 - Network Rail Electrical Control Centre (ECR), Brighton

This is a morning visit, and we will meet at the west end of platform 2 at 10:20 am. The maximum number of attendees is 20, probably split into two groups.

Members should note that there is no car parking available at the ECR.

There is no charge for this visit. Members will get priority over non-members when booking. Mike will send out further details and a booking reply slip well ahead of the visit.

Talk

Tuesday, 12th November 2024 - BP Magnus Platform

Roy Allen - member

In 1982 the Magnus platform was installed in the North Sea. It was the largest steel platform in the North Sea and the most northerly. The project was developed by BP without partners and cost £1.3 billion in 1982.

In 1981 the presenter was asked by the Project Manager to undertake an audit of the survey results to provide confidence that the modules on the platform would fit when lifted onto the jacket by Heerema's Balder, the largest semi-submersible crane vessel in the world (at the time).

The speaker was sent offshore to witness every module lift as BP's official scapegoat if the modules didn't fit. He will describe how the platform was built and installed with photographs and video film. As the jacket was installed there was a major incident which could have jeopardised the whole project - why do few people know about it?

Talk

Tuesday, 10th December 2024

Fran Farrer-Brown (Blue Badge Guide)

The speaker will give a light-hearted look at twenty years of running a bed and breakfast business. What it's like sharing a home with total strangers, the extraordinary things that guests do and say, plus the lowdown on tourist board inspectors!

Christmas lunch

Thursday, 12th December 2024

We are still awaiting menus and prices from the Findon Manor, but as soon as we have them, Mike will be in contact with all members via email along with a booking slip, so please put the date in your diary and join us for what is always a very pleasant occasion.

Talk

Tuesday, 14th January 2025 - The Hubble and James Webb telescopes.

S Wilkins - Professor of Astronomy, University of Sussex.

Dr Wilkins is/has been closely associated with both the Hubble and James Webb telescopes. His talk will discuss the technical problems involved in the design and launch of both telescopes, now positioned in outer space.

More importantly his talk will highlight the successes of both projects, and discuss some of the resulting discoveries, and their contribution to our understanding of the Universe. He will be showing breath taking photos from space.

Talk

Tuesday, 11th February 2025 – Why water engineering?

Geoff Gibbs – member

Geoff's presentation will consist mainly of slides illustrating his career as a Civil Engineer almost entirely involved with water. He will explain how his early experience led to a degree in Civil Engineering and the need to obtain suitable experience to become Chartered.

This experience included the design and construction supervision of a large, tunnelled sewer, a major wastewater treatment plant extension in Worthing. This developed into an interest in the marine treatment of sewage between 1975 and 1990 including an MSc in Water Engineering.

He will talk about European standards of the time and what he learnt from the way Americans dealt with these issues. With the privatisation of English water companies, he moved to the Environment Agency to work on flood risk management. He will explain his involvement in major sea defence and fluvial schemes to reduce flood risk in existing development.

He will then talk about his part in drafting guidance to influence new development and flood risk including Planning Policy Statements, Building Regulations and British Standards.

Finally, he will mention education, in that he encouraged STEM initiatives as a school governor and, for several years, taught civil engineering fluid mechanics part time at university.

Talk

Tuesday, 11th March 2025 – A Naval Weapons Engineer's life story.

Philip Sherwin – member

Philip was employed by the Ministry of Defence for 44 years, principally as a Weapons Engineer Officer but latterly as a Scientist in Whitehall. Despite his first ship being the Dispatch Vessel (Yacht) HMS SURPRISE, armed with 4x 3pdr saluting guns and driven by triple expansion reciprocating machinery, the Navy subsequently required him to take an Electrical Degree and qualify as a professionally recognised Weapons Engineer.

After 3 years learning the trade at sea, the Royal Navy (RN) sent him to the Underwater Research Establishment in a civilian Scientific Officer's post where he learned machine code programming and researched digital command and control systems for future nuclear submarines. The RN, then unaware of the difference of software and hardware, next appointed him to design and teach the six-month digital conversion courses for senior Electrical Artificers.

There followed six years with the first fully digital and all missile, gas turbine propelled, frigate, initially one of three crew when the hull was launched at Yarrow's shipbuilders in Glasgow. Philip will describe the process of 'first-of-class' ship and weapon acceptance trials which included 33 increasingly challenging missile firings.

As Staff Officer (Engineering) in Chatham Dockyard during the Falkland war, he then transferred to MoD Whitehall as 'sponsor' of the proposed Defence Satellite Communications System, SKYNET 4, a rapid learning curve!

A Squadron Weapons Engineer posting, mainly in the Gulf, was followed by a Procurement job investigating possible future weapons and then Naval research customer desk officer in the MoD.

Final Naval appointments were at the 'privatising' Defence Research Establishments at Malvern and Portsmouth. On retirement from the RN he became a Civil Servant, staff assistant to the Chief Scientist at DERA HQ Farnborough, moving to Whitehall as a scientific advisor to the Naval Operational Requirement staff.

Reports

Visit

Tuesday, 7th May 2024 – Shoreham lifeboat station.

A total of 19 members and guests attended the visit. The picture on the right shows some of our members waiting for the tour to start.

We were divided into 2 parties before being given a very full tour of the Station.

Our party had 2 guides brimming over with knowledge, enthusiasm and communication ability. Both guides were volunteers, although Shoreham does have a paid coxswain.

One was a tax civil servant, and the other was ex German navy, now living in England – which neatly illustrates that RNLi people are mainly volunteers from all walks of life. Both guides were 'shore based' as opposed to sea-going crew.



Operations

'Shouts' are communicated using pagers. The coxswain exercises some control over who is paged depending on experience, skills, recent duty etc. The number of operational crew members on an AWB (All Weather Boat – ie Tamar class in this case) call out can vary between 6 and 9.

We were lucky enough to bump into the coxswain in the corridor, and hence managed to ask him when the last AWB was call out. It was 10 days ago, and not life and death. Since then, there have been 3 inshore call outs.

We asked about the rescue of animals. Yes, these are carried out, and interestingly, they can indirectly help to save lives, by dissuading owners (if it's a pet) from putting their own lives at risk by attempting a DIY rescue.

Spreading ashes at sea can also be generally carried out, typically on a training exercise. But this is not highly publicised, relatives are not allowed to accompany the ashes. Apparently, before now, bodies have also been 'buried' at sea – not popular with crews.

It was interesting to note that when launching at night, the station lighting is switched over to dull red, in order to better acclimatise the eyes of the crew to the outside darkness. (This is similar practice to lighting on submarines before periscope operations or surfacing.)

Changing room

Our tour started with the changing room. The yellow waterproofs worn by AWB crew members are individually made (to get the right buoyancy) and cost about £2,500 each. Similar costs apply for the inshore lifeboat crews, but the clothing is more akin to a wet suit because of the increased exposure to water. The iconic, brand-promoting (as seen on TV), white helmets cost £475 each – but tests are being carried out to see if mountaineering type helmets will suffice at £95 each. They are smaller but currently can't carry a camera.

The Tamar class AWB (All Weather Boat)



Shoreham's resident AWB was being serviced in Poole, and hence the Station had 'loan' of a temporary one – which happened to be the first Tamar ever built – see picture on the left.

As usual with all AWBs the author has ever seen, it looked 'new'. Apparently, the crew spend at least half an hour after returning from an outing, washing and leathering the boat. (The rinse water is re-cycled and re-used.)

The boat has conventional propellers, but heavily protected by structural outer fins which also keep the boat upright during ramp launching. Later AWBs are fitted with water propulsion jets and attendant (flush mounted?) intake grilles, which are inherently more robust than propellers.

We did not enter the lifeboat itself, so cannot comment directly on space restrictions in the engine bay, accommodation for survivors, provision of handles to hold onto, a loo? etc. Google tells us that Trent class boats have a small toilet. It also tells us that there are 2 large portholes if you're seasick!

Launching is possible at all states of the tide, but retrieval at low Spring tides has to be delayed until there is sufficient water.

The maximum number of survivors that can be carried is 10 seated and 108! standing.

We heard that the engines are started before launching, which seems to be a sensible requirement. Apparently, they can run for 20 minutes out of the water! (since confirmed by the coxswain/engineer).

The D Class inshore lifeboat

This is a fully inflatable (note no rigid bottom as such) craft, with 10 internal compartments in order to ensure adequate protection against a fabric tear. Although the AWBs are self-righting, the inflatables are not. We were shown pictures of the crew in the water being trained to right their capsized inflatable. The more modern ones have an inflatable balloon at the back to assist with this operation.

Post visit note. On the evening after our visit, there was a rescue shown on TV 'Saving Lives at Sea' where crew in an inflatable attempted to rescue 2 people on an isolated rocky gravel beach in high seas. The inflatable suffered damage to its reversing mechanism whilst reversing back to the beach, with an anchor line being kept taught and paid out from the bow. The swell caused the outboard engine to severely impact the beach, thus putting Reverse out of action; it could have been worse? One wonders whether there is a jet option (see above) for a RIB that would avoid the possibility of propeller and other damage to the outboard engine?

Although our guides could answer almost everything, two questions remained following our visit.

Q1. Does RNLI use drones? And if not, why not?

A: No, not yet. But we engineers can't help wondering whether these might be very useful to assist with search and rescue, especially given 'AI' to help spot people, auto stabilising to cope with bad weather, and auto navigation to carry out pre-defined search patterns. A larger drone might even drop a life vest and a packet of Kendal Mint Cake?

Q2. Why is the 'room' housing the inflatable so tall and empty? See picture on the right.

A: Not sure – it seems to be governed by the overall shape and height of the building. Post visit thought: Perhaps the space could be converted into a café? It would surely be VERY popular with commanding views of the sea, harbour, port operations, and the lifeboat hall itself.



We had a marvellous tour. Thank you again, RNLI.

Mike Wooldridge

Outing

Wednesday, 5th June 2024 – Amex Stadium

On 5th June, 11 members and 2 guests visited the AMEX stadium in Falmer. This was the second visit to the site, the RCEA having previously attended in 2018.

We were met by our guide John who has worked for the Albion since the Goldstone ground days and was extremely knowledgeable about football in general, and the venue, having been around when it was being constructed.

We started the tour in one of the several dining rooms, the largest seating 500. These can be hired out for weddings and other events when not needed for a match event.

We were told that the day before, this same room was filled with 500 NHS staff on a conference, and earlier in the week a couple of hundred foreign students who were taking exams.

On 'special days' like Father's Day and Mother's Day etc ordinary members of the public can turn up for a 2-course lunch in the restaurant overlooking the pitch.



We went into the executive boxes area where each of the ten private boxes has its own 10-person dining table, at a cost of £55k for a season – good value we were told, compared with somewhere like Chelsea who would charge in excess of £1.2 Million.

Season tickets cost between £500 and £1800, but like all tickets, this includes free travel from various park and ride pick up points, and even train stations (eg Eastbourne).

An away game ticket costs £40. In addition to a number of corporate sponsors, and ‘family’ investments from the Bloom family, another revenue stream is from Sky, which, since the club’s promotion to the Premier League, results in a substantial increase in income.



The stadium now seats 32,000 in comfort, of which 3000 are reserved for away team supporters. There are TV studios, commentator positions and even 10 ‘analysts’ who monitor the medical condition of the players (each player is fitted with a chip), as well as game movements.

We were shown around the changing rooms and noticed the differences between those of the home and away teams!

The home team has more space, more facilities, comfortable seats, hot and cold baths, massage tables, more elaborate showers and is horseshoe shaped which is apparently better physiologically.

The away team have pretty spartan facilities, and the changing room is now smaller than it was the last time we visited, due to the new ‘Tunnel Club’ which has been recently built where members can see the players lined up before going on to the pitch.





We were then taken on to the pitch to the tune of 'Sussex by the Sea' which is played at each home match.

During our visit the ground was being prepared for next season and machines travelled up and down the grass removing the topsoil in preparation.

Overall, we had a wonderful tour, full of information and facts.

The stadium still has a feel of newness about it even though it is 13 years old, as if any problem arises, it is rectified quickly.

George Woollard

End of Newsletter