



An Association for Retired Professional Engineers

NEWSLETTER



Happy Christmas
and Best Wishes
for the New Year



Programme of events for 2004

Every Monday 10.30 am. Coffee at the Denton Lounge, Worthing Pier.

13 th Jan.	Tuesday	Talk: "Ships Hulls since Cheops." James Paffett (Member) 2.30 pm Field Place, Durrington, Worthing.
15 th Jan	Thursday	Coffee - at Spotted Cow, Angmering
20 th Jan	Tuesday	Visit: Surrey Satellite Technologies Ltd., the Surrey Space Centre, 2.30 pm at the University of Surrey.
29 th Jan	Thursday	Coffee - with Partners at Beach Hotel, Worthing
3 rd Feb	Tuesday	Outing: 2 pm Glyndebourne Opera House.
10 th Feb	Tuesday	Talk: "Royal Armouries, Fort Nelson" by Nicholas Hall, Keeper at the Museum. 2.30 pm Field Place, Worthing
19 th Feb	Thursday	Coffee - at Spotted Cow, Angmering

26 th Feb	Thursday	Coffee - with Partners at Beach Hotel, Worthing
9 th Mar	Tuesday	Talk: “New Trains for the South East” by Philip Dee of Angel Trains. 2.30 pm Field Place, Worthing.
16 th Mar.	Tuesday	Visit: Rolls Royce, Goodwood (Still to be confirmed).
18 th Mar	Thursday	Lunch - Northbrook College 12.00 for 12.30 pm.
25 th Mar	Thursday	Coffee - with Partners at Beach Hotel, Worthing
7 th Apr.	Wednesday	Outing: 2.30 pm Tangmere Military Aviation Museum
15 th Apr	Thursday	Coffee - at Spotted Cow, Angmering
29 th Apr	Thursday	Coffee - with Partners at Beach Hotel, Worthing
12 th May.	Wednesday	Outing: 2.30 pm Bluebell Railway and Sheffield Park Gardens, East Sussex.
20 th May	Thursday	Coffee - at Spotted Cow, Angmering
27 th May	Thursday	Coffee - with Partners at Beach Hotel, Worthing
6 th Jun.	Sunday	Outing: 2.30 pm British Engineerium, Hove.
16 th Jun.	Wednesday	Outing: 2.30 pm Borde Hill Gardens, Haywards Heath.
17 th Jun	Thursday	Coffee - at Spotted Cow, Angmering
24 th Jun	Thursday	Coffee - with Partners at Highdown Towers, Worthing
14 th Jul.	Wednesday	Outing: 2.30 pm Brooklands Museum
15 th Jul.	Thursday	Coffee - at Spotted Cow, Angmering
29 th Jul.	Thursday	Coffee - with Partners at Highdown Towers, Worthing
19 th Aug.	Thursday	Coffee - at Spotted Cow, Angmering
26 th Aug	Thursday	Coffee - with Partners at Beach Hotel, Worthing

All Talks and Meetings will be commence at 2.30 pm and be held in the Chichester Room, 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 and on the appropriate reply slips.

Coffee mornings commence at 10.30 a.m., except at The Beach, which is from 10.45 a.m

New Members

We welcome the following new members:

Members Handbook

By now everyone should have received a copy of the Members' Handbook.

Anyone who has not received one or who finds an error or omission should contact the Secretary.

Subscriptions for 2003 / 2004

These were due on 1st October. If you have not paid your subscription yet could you please send your cheque for £12 to the Hon. Treasurer, B. Buckroyd, 6 Fosters Close, East Preston, BN16 2TL.

Annual Dinner

The Annual dinner was, unfortunately, poorly attended. Could we have members' views on the format and venue of an annual Dinner/Lunch or indeed whether we should have one in November.

Cooch Lecture

The Cooch Lecture was also poorly attended. Members/guests drifted away at around 4.30 pm. Is this because of the parking problems and if so why don't we hold the event at Field Place where parking is easier ? If we wish to do so, the Secretary needs a show of "hands" so that he can secure the date/venue.

Brief Detail – Talks and Outings - for the 2003/2004 Session

Talk

Tuesday 13 January 2004 2.30 pm Field Place, Durrington, Worthing.

Ships Hulls since Cheops.

A talk by James Paffett (Member). The creations of Design Engineers have been dependent upon the materials available. This is well illustrated in ship construction, where wood was the main material for most of the 5000 recorded years, metals being used as tools and fastenings. Metals became the main ship building material during the last 200 years, with

synthetic materials used increasingly in the latter half of the last century. The characteristics and problems associated with the various materials will be discussed and the human aspects of shipbuilding practice are mentioned.

Visit

Tuesday 20 January 2004 2.30 pm University of Surrey, Guildford.

Small Satellite Engineering.

The Space Centre is home to Surrey Satellite Technology Limited (SSTL), a spin-off company formed by the University of Surrey in 1985 to commercially exploit small satellites developments at the University.

Today, the Centre houses a thriving academic group undertaking research into small satellite technologies alongside postgraduate teaching, and the commercial company, SSTL, which employs 160 professional staff working on the design and build of small satellites for a burgeoning international customer base.

Having pioneered the development of small satellites and launched some 23 missions in 22 years, the Centre remains at the forefront of small satellite technology, continuing to develop a range of ground breaking satellite missions for world-wide customers and commercial service providers. This year, SSTL won the European Space Agency contract to build the first test satellite for the European Galileo navigation system - Europe's greatest adventure into space and SSTL's first venture beyond Low Earth Orbit.

A tour of the Space Centre will provide an opportunity to visit the Mission Control Centre, from where all Surrey's current operational missions are monitored. It is difficult to predict exactly what will be on view in the clean room but the early structure for the Galileo satellite, GSTB-V2/A may be underway by then. There are also life-size models of at least two Surrey missions, plus scaled-down versions of several others. A fully autonomous ground station is incorporated within the Space Centre.

Peter Hurley, who was to have given the December talk on the Space Centre, will conduct the tour and has promised a detailed tour of the facility guided by engineers.

The centre is located at the University of Surrey and a provisional booking has been made for a mini-bus from Worthing to Guildford and return; the booking will be confirmed if sufficient members make a reservation. It is intended that there will be a single pick up point in Worthing where adequate car parking space exists and it is possible, if required that pick up can be arranged outside of Worthing on the direct route.

(Please note, very few applications have been received so far requesting the transport by mini-bus - if there are no new applications within the next week or so, it may be necessary to cancel this arrangement.)

An application slip for the visit will be found at the end of this newsletter, it includes a space to reserve a seat on the mini-bus. The seats (of which, there are 14) will be allocated on a first come first served basis and application must be accompanied by a cheque for the cost of £8.00 per person, but cheques will not be banked until numbers are sufficient and the booking can be confirmed.

Directions for those travelling by car or public transport will be provided on an individual basis in early January 2004

NOTE:

SATELLITE TECHNOLOGY LTD, PARKING ARRANGEMENTS ON THE UNIVERSITY OF SURREY CAMPUS

Visitor parking is now available, only in Car Park 1, the first car park on the left after entering the campus.

Costs for parking are: £1 :00 for up to 2 hours and £2:00 for up to 4 hours

The machines take £1 coins only

It will take approximately 10-minutes to walk from Car Park 1 to the Surrey Space Centre.

Outing

Tuesday 3 February 2004 2.00 pm Glyndebourne, Lewes, E. Sussex.

Glyndebourne Opera House.

An outing consisting of a guided tour of the of one of the world's leading opera houses completely re-built and modernised in recent years. The tour will cover front of the house and backstage facilities, and take approx two hours, including refreshments and a visit to the shop. There will be a few stairs to negotiate, so the tour regrettably is not suitable for persons in wheelchairs.

Such tours take place in only two weeks in any year, with a correspondingly extended waiting list. The RCEA have been fortunate to obtain this booking.

This visit will be preceded by lunch at the Trevor Arms at noon for those who are interested - see reply slip.

Directions to Glyndebourne Opera House.

If travelling from the west, take the A27 and remain on it, using the Lewes bypass. After the bypass, remain on the A27, over the level crossing and over the next roundabout. After approx 1 mile, take the left turn, signposted Glynde, Glyndebourne and Ringmer. Follow the road into Glynde. Just before the rail station, on the left is the Trevor Arms, with its car park immediately before the inn (see reply slip). Proceed out of Glynde to Glyndebourne, approx 2 miles. Use the entrance on the right marked car park.

For those travelling through Lewes, take the A26 signposted Uckfield. Just outside Lewes, take the right fork, B2192 signposted Ringmer. After approx 1 mile, just before Ringmer, take the right turn signposted Glyndebourne and Glynde. Follow this for approx 1 mile to Glyndebourne where the car park is on the left.

The cost of the tour is £6-50 per person. Those members wishing to take part in this outing are requested to complete and return the reply slip at the end of this Newsletter.

Talk

Tuesday 10 February 2004 2.30 pm Field Place, Durrington, Worthing

Royal Armouries, Fort Nelson.

A talk by Nicholas Hall, Keeper, Royal Armouries, Fort Nelson. Fort Nelson houses one of the three Royal Armouries, together with the Tower of London and Leeds. The talk will cover the historical background to the extensive fortifications around Portsmouth, including Fort Nelson. The restoration of the site by the Royal Armouries, its conversion into an attraction, with original emplacements, galleries and barracks will be covered with an engineering emphasis. Current events and future plans will be discussed. This talk follows a successful RCEA visit during the preceding season.

Talk

Tuesday 9 March 2004 2.30 pm Field Place, Durrington, Worthing.

New Trains for the South East

A talk by Philip Dee of Angel Trains. New trains are being delivered to the South East region. They represent a quantum leap in technology and passenger comfort compared with the trains they are replacing. The talk will outline the developments in traction technology, the issues involved and challenges presented when introducing new trains.

Visit

Tuesday 16 March 2004 Goodwood, Sussex. Rolls Royce Ltd.

It is still hoped to arrange a visit to the new production facility at Rolls Royce Ltd., Details will be announced at an RCEA meeting in January or February if we are successful in our application. Currently, Rolls Royce will not commit themselves until the New Year

Northbrook College – Lunch

Thursday 18th March 2004 – Annual Lunch at Northbrook College, Worthing.

12.00 for 12.30pm in the Arundel Room Training Restaurant.

The cost this year will be £ 8.00 and numbers will be limited to 50. Can you please return the reply slip as soon as possible; we will have to allocate places on a “first come, first on the list” basis. If more than 50 members and guests apply, we will prepare a “waiting list”; you will be informed if you are on this list, in all other cases you can assume you have been allocated the places you have applied for. If you were on last years’ waiting list you will be given a preferential booking providing your application is received before the end of January.

Please return reply slip at the end of the Newsletter

Outing

Wednesday 7th April 2004, Tangmere Military Aviation Museum

The Museum, open since 1982, tells the story of military Flying from the earliest days to the present time with special emphasis on the Royal air Force at Tangmere and the Air War over Southern England from 1939 to 1945.

It is divided into four halls. You will find in the Museum, an intimate atmosphere lacking in other museums of this kind, a fact much remarked on by visitors.

We will have a fully guided tour of between 1 and 1.5 hours, starting at 14.30. The cost of the visit will be £3.60 per person.

For those who may wish to gather for lunch, the Gribble Inn at Oving is able to provide for us. Directions for the Gribble Inn are shown with the reply slips.

Those members who wish to take part in this outing are requested to complete the reply slip at the end of the newsletter. Can you please indicate whether you will join the party for

lunch at the Gribble Inn so that an advanced booking for tables can be made. Suggest lunchtime meeting at 12.30 pm.

Please return reply slip at the end of the Newsletter

Outing

Wednesday 12 May 2004 2.00pm Sheffield Park, Sussex. Bluebell Railway and Sheffield Park Garden.

An outing to the famous Bluebell Railway, including a return trip to Kingscote and a guided tour. Members are requested to meet at the Sheffield Park station at 2.00pm in time for the 2.15pm train. This will return by 3.30pm. The tour will take place at approx. 4.00pm. The station includes catering facilities for those who wish to take lunch in advance. The reply slip requests members to indicate if they will be taking advantage of this facility. This is to provide details of numbers only. Payment will need to be made individually after your meal.

This outing includes a visit to the nearby Sheffield Park Garden. This is a 120-acre garden, laid out by 'Capability' Brown, with four large lakes, reflecting the exquisite layout planting of trees and shrubs. There are catering facilities on site. For those wishing to make this visit on a separate occasion, unused tickets are valid for 12 months.

Directions

For those travelling from the west, take the A27 to the start of the Lewes by-pass. At that roundabout, take the first exit towards Lewes town centre. At approx. 1 mile there are cross roads with traffic lights and Lewes prison on the left. Turn left on to the A275. Stay on this road and travel through Cooksbridge and Chailey. From the roundabout at North Chailey, the Bluebell Railway is approx. 1 1/2 miles. Sheffield Park station is to the left and the car park to the right. The road here is winding and not too wide so take care crossing it, also if walking to Sheffield Park Garden, which is approx. 400 metres along the road and on the right.

Cost

The cost per person (in parties over 20) is £10-50. For National Trust and Royal Horticultural Society members the cost is £7-00. Please note that for NT and RHS members, admission to Sheffield Park Garden is by use of your membership card, valid on the day of use.

All wishing to join this outing are requested to complete the reply slip at the end of this Newsletter.

2004/5 Programme of Events

The Committee has received a number of suggestions for activities to fill the 2004/5 calendar and these are currently being examined with a view to producing a proposed programme early next year.

REPORTS

Talk

**Tuesday 14 October 2003 2.30 pm The Barn, Field Place, Durrington, Worthing
Royal Air Force Presentation Team**

100 members and guests attended the opening event of our 2003/04 season. The afternoon was given over to the RAF, in a Presentation from Wing Commander Bob Whitworth and his team. In view of the interest, members of the public had been invited, including local RAF Associations, Probus, and residents at the Princess Marina House, Rustington. This doubled our usual audience.

The Presentation took the form of a 45-minute audio and visual display, interspersed with narration from the Team. Following a short introduction, a film presented various aspects of the RAF, including a contribution from the Chief of the Air Staff, who personally approved this latest version of the Presentation.

A brief history of flight was shown, from the Wright brothers to space satellites. It is remarkable to reflect on the progress made in a century of aviation. Most of our audience would have been witness to the latter half of this, some serving in the Second World War.

The Branches of the RAF were detailed. These included air crew, technical support, bomb disposal, air sea and mountain search and rescue, anti-smuggling, medical, surveillance, transport, security, ceremonial, training and recruitment. In all there are some 70 trades available. For younger audiences, this aspect would be related to recruitment. On a point of detail, the Security Officer of the Team assessed Field Place some days before, was present in the afternoon and inspected the security at local ATC that evening.

Emphasis was given to the worldwide defence role of the RAF and the impressive array of its equipment. Clips were shown of recent action in Bosnia, Afghanistan and Iraq. The future of the RAF was outlined, with some information on new aircraft, from Transport Command Globemasters to unmanned surveillance vehicles, making best use of the 50,000 personnel and civilian support staff in the defence of the UK.

There were two well-produced booklets available. The RAF provided an enjoyable and informative afternoon with a professional Presentation.

Visit

Tuesday 11th November 2003. Fordingbridge plc. Fontwell, Arundel, West Sussex.

Nineteen members participated in the visit and from the comments made afterwards they enjoyed the occasion.

Edward Way the Managing Director and son of the founder of the company greeted us. Edward talked for about half an hour describing the history of the company up to the present day, where it is the market leader in curved roof structures mainly for Garden Centres. The current annual turnover is approximately £4.5 million and they employ 35 staff. Edward told us how the present business evolved from the family glasshouse nursery, how his father built ventilation fans for the glasshouses and how he was asked by other glasshouse owners to make fans for them. He also discussed the application of engineering to the modern glasshouse industry.

Our tour started in the design office where CAD is applied to their structure design and we were shown how their basic structure design is then manipulated to suit clients' concept designs, mainly in conjunction with architects.

A walk followed this through the works to see the space frames being made. The contrast between CAD and manufacture was striking – principles separated by probably 50 years except for the introduction of TIG welding.

The visit concluded with tea and cakes and a very lively discussion with Edward when almost every member took part, with questions covering almost every possible subject from why 'Fordingbridge' in Fontwell to membership of the EU.

51st Annual Dinner, Beach Hotel Worthing

This year the Annual Dinner held at the Beach Hotel in Worthing, was only attended by 40 members and guests. This was a disappointing result for the work that goes into organising these events. However, those of us who did attend had a very pleasant evening with friends and as usual the Beach Hotel provided a meal up to its usual standards for this type of event.

Below is a selection of photographs taken at the event. Colin Pilling our Secretary has prepared a copy of all of the photographs taken at the dinner and these have been available to view at the last two lecture venues. If anyone would like a copy of one or more of these photographs he will arrange to send them to you or e-mail a JPEG image file to you.





The Cooch Memorial Lecture

**Friday 28 November 2003 2.30 pm. Lecture Theatre, Worthing Library, Worthing.
Nuclear Energy-Safe, Reliable Generation. By Stuart Crooks, Project Manager,
Dungeness B Power Station.**

Stuart gave a detailed account of the current power station plant portfolio of British Energy in the UK and followed this with a description of the process of converting nuclear energy to electricity.

He described in some detail the various types of nuclear reactor in the UK and in particular those employed in the generation of electricity at stations such as Dungeness A, a magnox station, Dungeness B an AGR station, and Sizewell a PWR station.

His talk explored the theory of fusion and fission nuclear reactions and the potential for the use of fusion in reactors for use in the generation of electricity at some time in the future.

The talk concluded with a discussion of the merits of nuclear power as a 'green' source of energy and a comparison with other sources of 'green' energy such as wind-power.

The afternoon concluded with a questions and answers session.

Talk

Tuesday 9 December 2003 2.30pm Field Place, Durrington, Worthing.

Small Satellite Engineering.

Keith Clark C.Eng MIEE gave an excellent talk describing the activities of Surrey Satellite Technology Limited (SSTL), its origins, achievements and current business activity. Several satellites launched by the company were described and slides illustrating their components and their construction were shown.

The company, which was founded as a spin off from the University of Surrey, is still located within the University Campus. It has been in existence for 20 years and the staff there have constructed and launched over 20 satellites in that time. They claim to be able to produce small (up to 100kg in weight) commercial satellites at significantly lower costs than those charged by the majority of major industrial producers. This is achieved, in the main, by using commercial grade components rather than military grade components. SSTL claim that the use of these cheaper components, with the appropriate quality checks, has not resulted in any deterioration in expected performance standards, illustrating this with evidence such as the UoSAT-2 satellite which was constructed in this way and it is still working 18 years after its launch.

The illustrated lecture showed the facilities at the SSTL site, gave an insight into the people who work for or with the company, a broad appreciation of their customer base and a basic description of many of the techniques used in satellite technology.

The ensuing discussion was fascinating, illustrating very well just how far modern satellite and communications system have come since the launch of the first satellite by the Russians (Sputnik) in 1966.

This talk was given as a pre-cursor to the RCEA visit to SSTL, organised for January 2004. If the visit is going to be as interesting as the talk, we are going to find the effort of going to Guildford to be very worthwhile and rewarding.

Reply Slips: -

**To: R.W.V. Norton 106 Wallace Avenue, Worthing, BN11 5QA
Tel. 01903 242204.**

I wish to participate in the visit to the Surrey Satellite Centre, Guildford, on Tuesday 20th January 2004 Visit starts at 2.30 pm.

Full Name(Block capitals)

Address
.....
.....

Phone No..... Applications by 6th January 2004

Please reserve places on mini-bus – Cost £8.00 per person (Cheque to be made payable to RCEA)

OR

I will travel by independent means. I will have space in my car for passengers.

To: Colin Harrison, 41 Cluny Street, Lewes, E. Sussex BN7 1LN

I/we wish to join the outing to Glyndebourne on Tuesday 3 February 2004.

Full name.....(Block capitals)

Address.....
.....
.....

Phone no..... Applications by 31December 2003.

I enclose a cheque made payable to RCEA forat £6-50 per person.

I/we wish to join members at the Trevor Arms for lunch at noon.

Please indicate No.

Members joining for lunch will be sent a menu in advance.

**To: B. Buckroyd, 6 Fosters Close, East Preston, BN16 2TL
Tel: 01903 784926**

Please reserve.....places for me for the Northbrook College Lunch on Thursday the 18th March 2003

My guests will be

I/we would like to sit with..... who have agreed to make a reciprocal request

I enclose my cheque for £.....(£8 per person) payable to R.C.E.A.

NAME(Block capitals) Phone No.....
Address
.....
.....

Applications at the latest by 1st March, 2004.

Waiting List will apply for over subscribed applications and you will be notified if you have to be put on this list.

=====
To: Colin Harrison, 41 Cluny Street, Lewes, E. Sussex BN7 1LN

I/we wish to join the outing on Wednesday 7th April 2004 , to Tangmere Military Aviation Museum.

Full name.....(Block capitals)

Address.....
.....
.....

Phone no..... Applications by 25th March 2004

I enclose a cheque made payable to RCEA forat £ 3.60 per person.

I/we wish to join members at the Gribble Inn for lunch at 12.30 pm. Please indicate No....

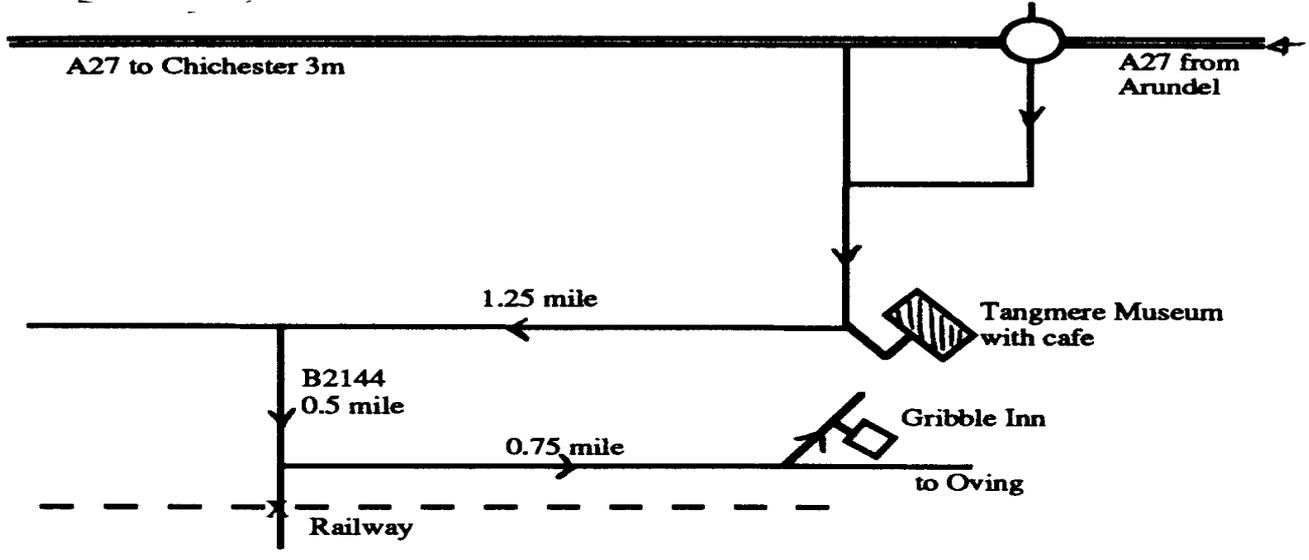
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Directions for Tangmere Military Aviation Museum and Gribble Inn



To Colin Harrison, 41 Cluny Street, Lewes, E. Sussex BN7 1LN.

I/We wish to participate in the joint visit to the Bluebell Railway and Sheffield Park Garden on Wed. 12 May 2004. Outing starts at 2-00pm prompt. (Not 2-30pm as previously indicated), at the Sheffield Park Station

I enclose my cheque for £....., payable to R.C.E.A., being £10-50 per person, or £7-00 per person, for National Trust or Royal Horticultural Society Members.

Full name.....(Block capitals) Phone No.....

Address

Please indicate if you will be taking lunch at Sheffield Park station. **NO/YES.**

Applications by 31 March 2004.