RSG

# Convention 2024 lecture summaries and presenter biographies: Saturday

### Lecture Room 1 – Getting started in amateur radio

Official Opening – John McCullagh MBE, GI4BWM, RSGB President

# Keynote speaker: The future of amateur radio licensing and education – Rafal Lukawiecki, EI6LA

Rafal's keynote is based on a three-year IRTS training and examination project. There might be a way to make the airwaves kinder and friendlier by refocusing international amateur radio licensing goals, examinations, and teaching curricula, without losing the important technical focus. We all know there is a growing problem. What if we could solve it with the existing tools?

Although Rafal did an SWL stint as a teenager in 1980s Poland, he only got his licence in 2021, in Ireland. His reawakened enthusiasm for amateur radio, and his professional qualifications and educational experience, were quickly put to good use. Having helped the Irish Radio Transmitters Society (IRTS) prepare and win their latest bid for a new Harmonised Amateur Radio Examination Certificate (HAREC) exam contract, Rafal led the projects to modernise the Irish licence teaching curriculum, helped update the exam syllabus, edited and co-wrote the 400-page 4th edition of the IRTS Study Guide. He started the National Short Wave Listeners Club (NSWLC), an online organisation that has trained over 360 students, of which 140 got their HAREC licences in Ireland in the last three years.

Rafal is also part of the International Amateur Radio Union (IARU) Region 1 working group tasked with modernising the IARU Ethics and Operating Procedures guide, and he also regularly participates in an international amateur radio EMF oversight group.

Rafal is an avid RTTY, CW and SSB contester, and although temporarily off-air, he is still ranking 3rd in Ireland's WARCA standings.

Professionally, Rafal has worked in IT all his life, having studied at Imperial College, London, in the '90s. As a data scientist, he focuses on making advanced analytics, machine learning, and artificial intelligence easy and useful for his clients. Rafal is also known for his work in business intelligence, data protection with cryptography, enterprise architecture, and IT solution delivery.

He has been a popular speaker at major IT conferences since 1998 and has shared keynote platforms with Bill Gates and Neil Armstrong.

# YOTA and schools: Inspiring the next generation – Chris Aitken, MM0WIC and Rhys Williams, M0WGY/AJ6XD

Chris will talk about the challenges, successes and opportunities in setting up a school radio club. How can this be expanded to other schools and what can you do to help? Chris will also look at how the local community can offer support.

This summer, Rhys represented the Radio Society of Great Britain (RSGB) at the 2024 Youngsters on the Air (YOTA) summer camp in Prague. Attended by over 20 countries, the



YOTA camp is an action-packed week full of expert lectures, radio operation, and kit building. After learning all about other teams' youth engagement, he's really excited to tell you all about his ideas for bringing amateur radio to university students back here in the UK!

Chris Aitken, MMOWIC is a Computing Science teacher at Wick High School, Caithness, in the very far north of mainland Scotland. Chris is a multi-award winning teacher who has always aimed to ensure that his students are not disadvantaged by their remote location, whether that is trekking through the Belizean rainforest to presenting to the Vice President of Microsoft in their Seattle boardroom. Since 2023, Chris has been running the Wick High School Radio Club, GMOWHS, providing students with a wide range of experiences in amateur radio. He has four students who have passed their Foundation licence and are now taking on leadership roles within the club and assisting the latest cohort in their studies.

Rhys has been a radio ham since 2021 and achieved his Full licence in October 2023. He was first introduced by the hobby by his uncle Roland AE6VL and has worked through the RSGB licences with his dad, Alun MØWQE. Rhys has used ham radio as a means to improve his knowledge of electronics. His interest in QRP homebrew was kindled by a visit to the FDIM event at the 2022 Dayton Hamvention, which he visited during his year abroad in the USA. It was also during this year that he achieved his American Amateur Extra licence. Rhys is starting a PhD in Aerospace Engineering at the University of Oxford having recently completed a Masters degree at the University of Cambridge. He also holds a private pilot's licence. Outside of his studies, he is a keen musician and rows for his college.

#### Parks on the Air (POTA), April Jones, M7APR

Parks on the Air is a rapidly growing programme around the world. This talk will give you a guide on the programme, from terms used, logging and equipment, as well as the most important question: how do you get started?

April, M7APR, is one of the England's country administrators for Parks on the Air (POTA). She has held a licence since 2019 and is also a keen contester. She looks after the day-today POTA needs for England.

# Spanning the Globe – the story of the beginning of global radiocommunication Don Beattie, G3BJ

October 2024 marks the centenary of the first two-way trans-global radio communication between the UK and New Zealand. Don Beattie will be discussing the very different amateur radio environment of 1924, and the history and events of that momentous month, using archival material and media. He will also look at events that are taking place to celebrate the centenary.

Don Beattie is a former President of the Radio Society of Great Britain and is also a life Vice President. He has also been Secretary and then President of the International Amateur Radio Union (IARU) Region 1. He is an active DXer and contester with his contest call, G5W. He continues to work with the IARU in the area of EMC, particularly in Wireless Power Transmission.



#### DMR Demystified – Nigel Spear, G4RWI

Many people are put off by DMR because it seems overly complicated, filled with technical jargon that doesn't make sense. Even those who have successfully used a DMR radio often remain a bit unclear on how it really works. This presentation will break it down and show that DMR is actually much simpler than it seems. By understanding a few basic concepts, you'll be ready to get started with an affordable hotspot and radio.

Nigel has been into amateur radio since 1983 and has tried out many areas of the hobby. After getting back into it seriously in 2010, he's been especially interested in how software is opening up new possibilities. Now retired after a career in the semiconductor and software industries, he now splits his time between Europe and the Southern Hemisphere. Nigel's radio operating is mostly portable and low power, and he loves volunteering at the RSGB National Radio Centre whenever he can.

### Radio and spectrum management at the Paris Olympics – John Dundas, GM0OPS

John, GM0OPS was the spectrum consultant at the largest sporting event in the world. He will share his experience of this – the good and the bad!

Licensed in the 1980s, John, GM0OPS enjoys CW and contesting. His interest in amateur radio takes him all round the world.

#### Have I got Modes for you! – Andy Cook, G4PIQ; Tony Canning G2NF; Rich Brokenshaw, M5RIC; and Nick Totterdell, G4FAL along with compere Bob Beebe, GU4YOX

Join the panel as they aim to convince you that their chosen mode should be the first choice for your next contest. This will be a light-hearted comparison of the speakers' favourite contesting styles with opportunities to pick up some useful hints and tips from the panellists.

The session plans to use audience participation so, if possible, bring along a smartphone or other device that can access the Internet.

*Andy Cook, G4PIQ* has been a dyed-in-the-wool contester for well over 40 years and has entered contests on all bands from 160m to 3.4GHz, using all the common modes and with a 70dB power range. However, he started life primarily as an SSB contester and likes nothing better than to be running a big, fast, well-controlled phone pile-up.

**Tony Canning, G2NF** is a past Merchant Navy R/O, CW music is his bag and in his DNA. When Tony was 10 years old, he was intrigued by his family's domestic AM/FM valve RX, and soon followed with his own Home Brew TX. He now loves a high-rate CW contest, as to him it's the most fun mode, even the "trying to keep awake" bit.

**Rich Brokenshaw, M5RIC** was licensed at 12 and took an interest in contesting on VHF locally, which quickly turned to HF competing around the UK. Having operated abroad at 18 the travelling bug hit, and he has now operated from 20 DXCC countries including many trips for CQWW contests. Although happy operating SSB he needed something different to focus on and over the last 10 years has turned to operating RTTY contests.



**Nick Totterdell, G4FAL** enjoys contesting with a variety of modes, but with many HF operators moving to FT8 and FT4, he is keen to encourage more competitive use of data modes.

### Lecture Room 2 – Operating / General

### 145 Alive and UKBOTA: operator participation opportunities – Mark Savage, M0XIC

Mark will give an overview of two increasingly popular events:145 Alive and UK Bunkers on the Air (UKBOTA). He will look at how they work and how you can get involved.

He will look at how the 145 Alive event was started, and how it is an event that is exclusively operator focused to promote the use of 145FM.

Mark will also give some background on UKBOTA, which was started in 2023 and is run by a small team of radio operators: M0ICR; M0DXT; M0XIC; G7TVB; M1EGP; and 2E0JIV. Since the scheme was launched there has been an average of approximately 150 bunkers activated each month, although there were well over 400 when the Historic Counties event that ran in April.

Mark, M0XIC is the organiser of 145 Alive with his colleague John Alexander, M0JXA. He is also the Award Manager for UKBOTA and WWBOTA. Mark is the RSGB Regional Representative for Region 5 and a member of Dudley District Amateur Radio Society and Telford and District Amateur Radio Society. Mark is specifically interested in developing opportunities for other radio amateurs to start radio operation and to inspire others to commence or indeed rejoin radio operation. He is interested in mobile or portable operation opportunities.

#### DXpedition: Lesotho trip – Enda Broderick, El2II (IRTS President)

The EIDX Group 2023 DXPedition to Lesotho: a presentation of the fundamentals of putting together a DXpedition on a budget, the experience, fun and the lessons learned.

Enda, El2II hails from County Galway in the west of Ireland and has been involved in amateur radio since the mid 90s. His main interests include station construction, occasional contesting and of course chasing and participating in DXpeditions. He currently serves as President of the Irish Radio Transmitters Society and is Treasurer of the Galway Radio Experimenters Club. Enda is also a founding member of the EIDX Group and member of CDXC and the Shannon Basin Radio Club. Previous DXpeditions include Nepal 9N7EI, Malawi 7Q7EI, Kosovo Z66X, Togo 5V7EI, Antigua and Barbuda V26EI, and Lesotho 7P8EI.

#### A discussion with the RSGB Board

The RSGB Board Chair will give a brief update on the strategic priorities and the activities used to implement them this year. The session will then move onto a Q&A about the strategy and after that to a more general Q&A.



The session will be hosted by VHF Contest Committee Chair, Andy Cook, G4PIQ.

## HF propagation tips to improve your performance in DXing and contests – Frank Donovan, W3LPL

Frank's presentation describes how solar maximum will affect HF propagation for DXers and contesters over the next two years. It also provides practical tips about easy-to-use tools for real time HF propagation assessment.

Frank began his amateur radio adventures at age 12 during the W1OP/1 Providence Radio Association 1959 Field Day. His multi-operator teams have made more than one million DX contacts in CQWW and ARRL DX contests. Frank retired 13 years ago as a chief engineer at General Dynamics Corporation. Frank can be reached at <u>donovanf@erols.com</u>

## 92 years of Practical Wireless (and my 12 years at the helm) – Don Field, G3XTT

Don Field, G3XTT has been an amateur radio journalist since 1983, contributing to Amateur Radio Magazine, Ham Radio Today, RadCom and, for the past 12 years, as editor of Practical Wireless (PW). PW is the last surviving independent amateur radio magazine in the UK, having been founded by the redoubtable FJ Camm in 1932. Don looks back at its distinguished history, those who have contributed over the years, the changes in its content and approach and how it has stood the test of time while others have come and gone.

Don, G3XTT gained his licence in 1968 and has been active, mainly on HF as a DXer and contester, ever since. He is also a regular DXpeditioner, having operated from well over 50 countries. He and Martin, G3ZAY took over producing the RSGB's DX News Sheet in 1983 and this led to Don becoming an HF columnist for Amateur Radio Magazine, then Ham Radio Today and finally, for 13 years for RadCom. Don then, in 2012, took over as editor of Practical Wireless. Don has also edited the RSGB Operating Manual and authored three editions of his guide to 6 and 4m operation.

#### WRTC 2026 sites: levelling the playing field – Andy Cook, G4PIQ

World Radiosport Team Championship (WRTC) 2026 brings the Olympics of amateur radio to the UK in July 2026. The event will bring around 50 teams of two to compete on a level playing field in the same geographic region using identical antennas, output power and other operating conditions. Prospective team members are currently competing fiercely to qualify for the competition. The team draw their operating site, their referee and call sign and then they all go off and operate the 24hour International Amateur Radio Union 2026 Contest. There will be live scoreboards available, which will add to the excitement of this competition for the many visitors expected, as well as for the wider community watching offline.

Making that playing field as level as possible is an important and interesting technical challenge. This presentation will look in more detail at what makes up a station, what has been done in the past to ensure even-handedness, and how the team is planning to learn from all that accumulated knowledge to make the UK event a great success.



Andy Cook, G4PIQ obtained his licence at the age of 16, having spent a number of years as an SWL prior to this. He spent his first 10 months working DX and contesting on HF with simple equipment, before he became exposed to the delights of VHF DX.

VHF DXing and contesting is a long-standing passion, and over time Andy has built up to a station capable of CW EME and competitive at a European level for 2m contests. He has taken part in VHF expeditions to Iceland and the Faroes, HF contest expeditions to West Africa, and some HF and VHF operating as part of a team providing communications to the overland Camel Trophy event from 1992 to 2000 in many unusual locations on four continents.

Andy has always been excited by any form of contesting, and in 1990 started working with Bob, G4BAH (sadly now Silent Key) and a wider team to build what became the M6T contest station. He became a WRTC team leader in 2002 and 2010 and continues to operate in as many contests as time allows. He is also Director of Sites and Stations for WRTC2026.

In addition, Andy is a long-standing member of the RSGB's Contest Committees, and has been chair of the VHF Contest Committee for over 10 years in two stints.

#### 60 years of IOTA – Roger Balister, G3KMA

Roger Balister G3KMA will talk about 60 years of the Islands On The Air (IOTA) programme and particularly his 40 years as IOTA Manager. It will start with mention of the programme's founder, Geoff Watts, a well-known and respected SWL at the time who in 1964 started SWLs and amateurs alike on the quest for island contacts.

Those attending will hear how IOTA progressed to becoming the second most popular programme after DXCC, with some placing it at number one. Roger will explain the reasons for the decision, in 2016, to agree with the RSGB Board that IOTA's future best lay outside the Society where it could register under its own name as a not-for profit company, albeit in

partnership with the RSGB. In March 2025, Roger will have been IOTA Manager for 40 years and takes pride in saying that the programme is rigorously structured and the company financially viable and resilient. For those who follow IOTA, this a talk not to be missed.

Roger Balister G3KMA, now aged 86, first acquired his licence in 1955 after six years as an SWL. He joined the Foreign and Commonwealth Office in 1961 where he served for eight years including a three-year stint in Tehran as British Vice-Consul. In 1969, he subsequently moved to the Department of Trade and Industry spending five years in its Radiocommunications Division.

Roger took over as IOTA Manager in 1985 and retirement enabled him to devote all his time to running and promoting the IOTA Programme, both in the UK and overseas. From early years as a licensed amateur Roger had been a keen DXer – he currently has a score of 340 current DXCC and 378 all-time, and, as an IOTA enthusiast in Geoff Watts' time, it was a natural move to take over management of the programme for the RSGB.

Personally, Roger was a Founder Member of the Chiltern DX Club and subsequently its President. In 2016, he was inducted into the CQ DX Hall of Fame in the United States, and this was followed by awards from the RSGB of the Calcutta Cup, the Founders Trophy and the ROTAB Trophy.



### Lecture Room 3 – Technical / General

#### The history of KW Electronics and its radios – Steve Shorey, G3ZPS

KW Electronics was a very big player in the UK amateur radio market during the 1960s and as a teenage ham back then, presenter Steve always wanted to own its gear. In later life he has been able to build up and restore a collection of classic KW products. His talk charts the company's history and looks back at some of their most well-loved radio equipment from over 50 years ago.

Steve Shorey G3ZPS, is Fellow of the Institute of Engineering and Technology (IET). He became licensed at age 16 in 1970 very near the end of G3 calls. He is one of the youngest radio amateurs to hold a G3 call sign that has not been re-issued. His work includes 30 years in the Met Police where he became a key player in updating its ageing radio communications technology. He loves restoring old ham radio gear and has given a number of talks on the subject across the UK, as well as remotely via Zoom to American audiences.

#### Design and production of PCBs: getting to grips with Surface Mount Technology – John Linford, G3WGV

Surface Mount Devices (SMD) offer the prospect of PCBs with significantly higher component density, however using them for the first time can be a daunting prospect for the home constructor. This presentation will look at how PCBs using SMDs can be designed, produced and repaired using readily available, inexpensive tools. Component selection and PCB layout issues are also discussed and a simple SMD PCB is designed.

John, G3WGV obtained his licence in 1967, and has since been a keen HF/VHF CW DXer as well as an inveterate constructor. Starting with homebrewing valve radios in the 1960s he continues to design and build electronics projects, many of them for his shack. With a longstanding interest in software engineering, he designs numerous PC and single board computer projects for his amateur radio station. Outside of amateur radio he enjoys hillwalking in his native Lake District, is a light aircraft pilot and plays the pipe organ.

## EMC and EMF Update – Dr John Rogers, M0JAV, Peter Zollman, G4DSE and Ian White, GM3SEK

This presentation will update you on recent developments in the areas covered by the RSGB Electromagnetic Compatibility (EMC) Committee. Reports to the EMC helpdesk are summarised and highlight two of the most commonly raised topics.

The first is more advice on how to find, and minimise the impact of, the sources of RFI. The second, on the concern about developing technologies using switching in conversion of AC to DC or DC to AC causing more and more interference on our bands. Various options for tools to locate RFI are given along with examples of signatures for different sources. This presentation will focus on Solar PV.

Amateur radio licences require users to assess EMF strengths against Ofcom prescribed limits. Methods to conduct these assessments include using the calculator app, modelling, measurements or reference to Pre-Assessed Equipment Configurations (PAEC). The impact of new power limits is also covered, along with proposed modelling or measurements to broaden the scope of the PAECs is outlined. Suggestions on how to manage any areas where people should not be present because the EMF limits may be exceeded.



This talk is complemented by a clinic this afternoon in Room G07 at 14.30 where you can ask members of the EMC/EMF teams to help you with any issues you may have. The clinic will also have demonstrations of tools which you can use to locate RFI or to assess EMF.

John Rogers studied communications at Imperial College London. His PhD thesis, in 1974, was in signal processing for speech recognition. Following this he took a fellowship at Adelaide University designing and building one of the first Harvard Architecture signal processors (1976) for real time speech analysis. Most of his working life was with Racal Electronics working on Electronic Warfare and Software processes. When he retired in 2006 he returned to amateur radio and took on the Chair of the RSGB EMC committee. Other volunteering roles within the RSGB have included as District Representative, as well as two periods on the Board. With the EMC Committee John undertook a number of investigations including tools for RFI location, VDSL RFI mapping, EMF field calculation and measurements to show compliance with new licence requirements.

Peter Zollman, G4DSE started his working life at Vodafone in the 1980s overseeing cellular radio coverage measurements, computation, and interference tracing. He moved into standards development and for the final 13 years of employment worked in RF health and safety for the Vodafone group engaging with industry, researchers, and regulators in the UK and globally chairing a number of committees. Since retirement in 2013, he has continued to be involved in the UK BSI standards group overseeing EMF compliance standards and is active in IEEE ICES EMF standards where he co-chairs one of the sub-committees. In 2020, he joined the RSGB EMF Team and has performed extensive NEC-4 and NEC-5 modelling for amateur EMF compliance to help augment/complement the capabilities of the RSGB EMF calculator with pre-assessed equipment configurations. He co-ordinates a small informal international amateur EMF group currently with expert members from UK, USA, Ireland, and Sweden.

Ian White, GM3SEK is a well-known author on a wide range of technical subjects in amateur radio, but in working life he was a Chartered Professional in radiation protection. In 2020, when Ofcom proposed to amend the UK amateur licence to require compliance with internationally agreed limits for EMF exposure, he joined the newly formed RSGB EMF Team.

#### Where has all the power gone? - Peter Duffet-Smith, GM3XJE

Peter has heard it said that, in order to achieve best results, you must match your antenna to the feeder; that any mismatch causes reflections and therefore loss of power. But does it? He will investigate this question, looking particularly at the progress of RF power output from the transmitter as it makes its way through the ATU, along the feeder, and into the antenna. How much of this is actually radiated as radio waves, and what can you do to maximise it? Where does the rest of the power go, and how can you minimise the loss? Do you need to match your antenna? The answer may be a surprise.

Peter, GM3XJE acquired a very old, large but defunct, family radio when he was eight, and found that he could give himself an electric shock when he disconnected a nine-volt battery from across the mains plug. From then on, he was hooked. His grandfather taught him the basics and soon gained his class A radio amateur licence. He completed a PhD at Cambridge, and joined the Mullard Radio Astronomy Observatory at the Cavendish Laboratory under Nobel prize winners Professors Martin Ryle and Antony Hewish. He spent a happy working life investigating the cosmos, tinkering with antennas, and teaching Physics



to undergraduates until retirement in 2013. He now lives in Scotland, continuing to tinker with antennas and delving into other interesting radio projects. He is the editor of RadCom Plus, Technical Editor of RadCom, and also a member of the Propagation Studies Committee and the Technical Forum.

#### Why is Sporadic-E propagation so weird? – Dr Chris Deacon, G4IFX

Sporadic-E (Es) is different from other forms of ionospheric propagation, regularly supporting long distance contacts well into the VHF range. It's also well-known to be really hard to predict, with signals that are highly unstable and localised. But why? What is it about the physical properties of sporadic-E layers that make it behave that way? Chris will explain not just what scientists know about Es, but also how they know - touching on a range of approaches to investigating the ionosphere along the way. Finally, he will give an update on his own Es research and consider where that might go next.

Chris was first licensed in 1971 as G8EUB, upgrading to G4IFX in 1979. In the early '80s he became interested in Band I DXTV, which led him on to 50 MHz and an enduring fascination with radio propagation. Since retiring from corporate life, he has been actively engaged in propagation research, publishing several academic papers. In 2023 he gained a PhD from the University of Bath with his thesis entitled "Radio Propagation via Ionospheric Sporadic E". Chris is the Secretary of the RSGB Propagation Studies Committee, and past Chair of the UK Six Metre Group.

# Using AI to write simple amateur radio applications – Dr Stewart Bryant, G3YSX

Large language models such as ChatGPT and Google Bard/Gemini have the ability to transform the way that we write software. Using software such as these can significantly improve productivity and bring the ability to write effective software within the reach of more people. This talk provides insight into the tools and approach that Stewart used in writing a small amateur radio application which is due to be published in the Autumn 2024 edition of RadCom Plus. He hopes that this work will encourage others to experiment with these new methods of writing software.

Stewart has volunteered for Board roles at the Radio Society of Great Britian (RSGB) since 2013. He was President of the RSGB from 2021 to 2023, and is currently the Chair of the RSGB Board. He has championed improvements in operating and technical skills in all age groups by organising and sponsoring a number of competitive amateur radio activities. His personal amateur radio activities include technology, construction and contesting as well as travelling to better understand the international amateur radio environment.

Professionally, Stewart gained a PhD in laser physics from Imperial College London. This led Stewart into a career in telecommunication where he held a number of leading research and innovation roles in the creation of new Internet routing technologies. Stewart spent four years as Routing Area Director at the Internet Engineering Taskforce where he led the specification and standardisation of the Internet's routing system. He is an author of 46 Internet Specifications (RFCs) and is an inventor of over 80 patents.

Stewart is a visiting Professor at the University of Surrey and volunteers with the Institute of Engineering and Technology as an interviewer of candidates who wish to become chartered engineers.



Amateur radio in Scouting played a major role in Stewart's journey from a secondary modern school in South London to senior leadership positions in advanced engineering.

#### The Raspberry Pi Pico and Outreach – John Hislop, G7OHO

John's talk will focus on the Raspberry Pi Pico and its suitability for outreach activities in schools and youth clubs. He will compare it with the BBC micro:bit in terms of learning about electronics, coding and amateur radio.

John is a retired physics teacher, and he is heavily involved in outreach activities, including being a member of the Radio Society of Great Britian's Outreach Team. He runs an electronics, coding and amateur radio club for youngsters and has written easy to understand manuals for Foundation, Intermediate, Full and Direct to Full.

### After-dinner speaker – William Eustace, M0WJE

William Eustace, M0WJE first became interested in wireless communication whilst at school through high-altitude balloon projects. However, it wasn't until university, where he was a member of the Cambridge University Wireless Society (CUWS), that he became licensed. Following this, he promptly caught the HF DX bug, working over 200 "entities" during his three years at university. He also later became President of the CUWS.

William now works as a software engineer in the financial industry in London. When time allows, he enjoys getting on the air, and is a regular at G6UW's CQWW SSB entry. He also aspires to mount a solo entry each year to CQWW CW, and he says that his error rate is usually extremely competitive (that is to say, one of the highest).

### EMC and EMF Clinic (Room G07)

#### Dr John Rogers, M0JAV and members of the RSGB EMC Committee

#### EMF: Led by Ian White, GM3SEK and Peter Zollman, G4DSE

This forum is intended to be an interactive session in which people can ask general questions or seek guidance on specific issues relating to compliance with the Ofcom EMF licence conditions.

Have you had any difficulty in demonstrating compliance at your station? Are there any technical issues that you would like to clarify?

To get the ball rolling there will be some initial material presented covering the following:

- 1. Recap on the EMF licence condition
- 2. Demo of EMF calculator
- 3. What you need to do as well as evaluate fields
- 4. What to do if your first assessment suggests "non-compliant"
- 5. What to do if you get randomly selected by Ofcom

Peter, G4DSE will show some graphics, including videos, of EM fields around antennas. The graphics are developed using the professional versions of the NEC modelling software and



his analysis code. This will demonstrate that while the fields can be complex, the aim is to make compliance assessment simple using the "pre-assessed equipment configuration" (PAEC) approach agreed with Ofcom.

#### EMC: Led by John Rogers, M0JAV, David Lauder, G0SNO and John Livesey, G4JJL

This is your chance to discuss RFI/EMC problems and concerns directly with EMC Committee members and seek advice on how to minimise your problems impact. They will also be able to advise on how you can pursue your problem with the owners of the source and the enforcement authorities. Please bring along any evidence you have collected in trying to locate the source of RFI.

Equipment and methods that were mentioned in the morning's EMC and EMF Update presentation to monitor interference and to locate its source will be demonstrated. Results from noise floor measurements in IARU Region 1 will be shown.

The session will also discuss some recent and planned investigations including:

- 1. Non-compliant SMPSU / LED lighting
- 2. Solar PV
- 3. Vehicle charging
- 4. Heat pumps
- 5. HVDC power /Wind farms

The investigations planned for the next year will also be explained.

John Rogers studied communications at Imperial College London. His PhD thesis, in 1974, was in signal processing for speech recognition. Following this he took a fellowship at Adelaide University designing and building one of the first Harvard Architecture signal processors (1976) for real time speech analysis. Most of his working life was with Racal Electronics working on Electronic Warfare and Software processes. When he retired in 2006 he returned to amateur radio and took on the Chair of the RSGB EMC committee. Other volunteering roles within the RSGB have included as District Representative, as well as two periods on the Board. With the EMC Committee John undertook a number of investigations including tools for RFI location, VDSL RFI mapping, EMF field calculation and measurements to show compliance with new licence requirements.

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internationally agreed limits for EMF exposure, he joined the newly formed RSGB EMF Team.

David Lauder, G0SNO studied Telecommunications Engineering at the University of Essex. He then worked for GEC-Marconi and ITT/STC before taking a job as a Senior Lecturer at Hatfield Polytechnic which became the University of Hertfordshire. He was first licensed at G1OSC and joined the RSGB EMC Committee in 1989. He got his Class "A" licence G0SNO in 1992 and has been writing the EMC Column in Radio Communication since the early 1990s. David studied a part-time PhD at University of Hertfordshire with the research topic Electromagnetic Compatibility in Wireline Communications. This included analysis and measurement of Powerline (Tele)Communications (PLC/PLT) and ADSL/VDSL. He is currently active in the RSGB EMC Committee Investigations Group and he has investigated and tested car battery chargers, LED lighting, solar Photovoltaic systems, air source heat pumps and onshore wind farms.