



Convention lecture summaries and presenter bios

Sunday

Lecture Room 1 - Breadth of amateur radio

HF and VHF Awards Presentations

Summits on the Air (SOTA) - Ian Evans, G10AZB and Dr Esther Harper, G10AZA

The talk on portable activity as an activator or a chaser for the Special Interest Group of Summits on the Air (SOTA) will give an insight for new activators of the award, including discussions around the scheme, the planning of an activation or chase, what you may encounter and what to do after the event.

Chasing the activator will concentrate on common issues that both chaser and activator encounter and how to deal with these. There will be discussions on how to increase success rates and also how to get maximum bonus from more than one Special Interest Group which uses portable activities.

The talk will encourage participation from attendees, the presenter welcomes questions and sharing of information from all attendees or shared examples of your success or perhaps learning from past events. Particular learning will be discussed from the presenter's experience of using aids for hearing and how this works in the field. Finally, a session on technology devices that can enhance and also challenge the user of radio equipment both at home and portable in all weather conditions.

Ian Evans' call sign is G10AZB (previously G16IZY). He also holds the call sign EI3KT, which is used for portable activity in the jurisdiction of Ireland. Ian has had an interest in all aspects of radio transmissions and equipment since the late 1970s. Initially he repaired 11-metre transmitters for local shops and suppliers to Citizen Band Radio operators, then progressing on to repairs of amateur radio equipment and building of amateur radio kits from the early 1980s. He studied for and passed the City & Guilds Radio Amateur Exam and the 'Post Office (GPO) Morse Code Test' in 1985.

Ian is a member of RAYNET NI and active in the Northwest Group. He holds both chasing and activating awards for SOTA throughout various countries and keenly introduces new and existing chasers and activators to the thrill of both activities, as well as visitors to the summits in GI. He is the repeater keeper of the D-Star 70cms repeater GB7DN and the Packet Station MB7UDG, both located in Northwest NI. Ian is a GB2RS newsreader and part of the Operating Advisory Service within his region.

Aircraft Scatter – John Quarmby, G3XDY

This talk will cover the basic concepts of aircraft scatter, appropriate modes and frequency bands for making contacts. Minimum equipment requirements will be explored. Some

internet-based tools for predicting potential paths and setting up contacts will be explored. Recordings of typical contacts will also be included.

John started on 2m back in 1970 and is now active on VHF-UHF from 50MHz to 24GHz, with a particular interest in DX, chasing squares and contests. Inevitably this needs a good background in understanding propagation, and aircraft scatter has been a particular interest since a real time aircraft position reporting system (ADS-B) became widespread some 10-15 years ago. Since then, John has built up a lot of experience in using aircraft scatter as a tool for making long distance contacts.

Aspects of Sporadic-E – Jim Bacon, G3YLA

This talk will look at the main weather-related aspects of Sporadic-E. It will start with a refresher or easy primer about Sporadic-E to give any newcomers to the hobby or Es a starting point. There will be an introduction to the various elements of weather which may have some influence on when or where Sporadic-E forms, including a new parameter which is being evaluated this season. Finally, the talk will end with some 'weather lore' to help you navigate through next year's Sporadic-E season.

Licensed in 1969, Jim has always regarded CW as one of his main interests in amateur radio, second only to his interest in propagation. As a recently retired meteorologist, it's probably obvious why weather has been the driving force behind Jim's interest in propagation and the more he explores the more important that link becomes!

Lecture Room 2 – Operating / General

The Great Seal Bug Project – Neil Smith, G4DBN

Last year, Neil Smith, G4DBN was contacted by RSGB Communications Manager, Heather Parsons, to see if he could provide some technical help to the BBC for its planned series, *The Secret Genius of Modern Life*. The episode in question was to look at RFID systems and the famous Great Seal Bug, a passive unpowered eavesdropping device that worked undetected in the US Ambassador's residence in Moscow for seven years from 1945.

Neil said 'yes' and things escalated rapidly! Could he build a replica? How about a working replica? Would he appear on camera? Would he be interviewed and show the replica to Prof. Hannah Fry on BBC2? What could possibly go wrong? Neil recounts the historical background to the story, the struggles of making the replica, his triumphs and disasters at the BBC, and the technical detail of how the bug really works.

Neil, G4DBN was infected with the amateur radio bug in the early 1970s at school by the Reverend George Dobbs, G3RJV. Neil had been experimenting with electronics and radio since junior school after his mum banned him from dismantling any more clocks. He spent most Saturday mornings visiting John Birkett's shop in Lincoln to spend all his paper round money on his latest project. Fifty years later, nothing has changed other than the size and cost of his projects, and his frequencies of interest, which have all risen by many orders of magnitude!

Neil runs the Machining and Microwaves YouTube channel. His current projects include 3D-printed dielectric lens antenna systems, laser-etched microwave arrays and working replicas of more Cold War spying bugs.

VHF airborne radar in WW2 – searching the seas – Professor Simon Watts, G3XXH

At the start of WWII there was an urgent need for airborne radar to detect U-boats and surface ships. The systems that were rapidly developed were known as ASV (Air to Surface Vessel) and operated at VHF, with wavelengths close to 1.5m. The first system, ASV Mk. I, was quite experimental, but this was quickly followed by a better engineered and higher performance system, ASV Mk. II. By 1942, ASV was starting to make a significant contribution to the battle against the U-boats.

This talk will describe the design and performance of these early systems, which preceded the advent of the magnetron, and discuss the technology used, including the development of high-power pulsed transmitters, broadband receivers using television technology and CRT displays.

Simon Watts was a deputy Scientific Director and Technical Fellow in Thales UK until 2013. He has published many papers and two books on airborne maritime surveillance radar research and also two books on the history of ASV. He was Chairman of the Examination Standards Committee from 2006 to 2016, first with the RCF and latterly with the RSGB. He is a Fellow of the Royal Academy of Engineering and was appointed MBE in 1996 for services to the defence industry.

Working amateur satellites on a budget – Dr Heather Nickalls, M0HMO

In this talk we will take a look at the issues with working satellites, the equipment needed and how to work some of the more common satellites such as the LEOs, the AMSAT data satellites and the Weather Sats. All done with the most basic of equipment and some home-grown antennas.

Heather has been an electronics and software engineer for most of her career, working on projects ranging from high power electric motors, automotive instrumentation through to cellular base stations and android phone. She retired a few years ago and got into amateur radio and is yet to find a part of the hobby she doesn't enjoy.

Heather has always been fascinated by all things space so, when the opportunity to combine amateur radio and satellites came along, she jumped at the chance. She started with a simple RTL dongle receiving the International Space Station and it all just grew from there.

3Y0J Pushed Bouvet Outside of Top Ten Most Wanted DXCC – Cezar Trifu, VE3LYC

Bouvet Island, ranked #2 Most Wanted DXCC, was re-activated in January 2023 by 3Y0J, after a 16-year hiatus. Located in the southern Atlantic, inside the Antarctic convergence, this protected nature reserve is nicknamed *the world's most remote island*. A team of 12 operators set sail from Port Stanley, Falklands, and arrived at the island after 14 days at sea.

Following a re-evaluation of the landing approach, eight operators reached the island in two groups, pulling themselves to shore using a loop system. Following this they brought in about 670kg of equipment and supplies, the latter supplemented by another 70kg several days later. The team set up camp and operated for eight days using two Elecraft K3S rigs and three vertical antennas for 15 (originally 12), 17, and 30 m.



The team logged 18,623 QSOs, of which 63.1% in CW, 12.0% in SSB, and 24.9% in FT8. A total of 8,657 contacts or 46.5% were with unique stations in 133 DXCCs. The presentation focuses on the landing process, activity on the air, life on the island, and the decision to end radio operations and leave.

Cezar is an avid DXer, IOTA chaser and DXpeditioner. He is member of FOC, A1-Op Club, and CDXC. Cezar serves on the Board of Directors of IOTA Ltd and is the Operations Manager and Deputy General Manager for the IOTA Programme. He operated from 27 remote and rare IOTA references, which includes 15 solo activations and ten new references, spanning the globe from the High Arctic to Antarctic waters. His book 'Dream Big and Dare to Fail' which summarises the exploits of his expeditions, was acquired by hams from 54 DXCCs on all continents.

In 2023, Cezar was part of Team Bouvet, which operated as 3Y0J in January. In May he operated as 3D2LYC from the remote island of Yanuca (OC-189), Fiji, and in late October and November is scheduled to operate as V62P from Pulap (OC-155) and V62S from Satawal (OC-299 New), Federated States of Micronesia.

Amateur radio relief for Ukraine by UK amateurs - Linden Allen, M0TCF and Richard Staples, G4HGI

Having taken the excellent idea from the Torbay Communications Fair in August 2022 back up North, it occurred to Richard that the NARSA Association (Northern Amateur Radio Societies Association) could be the basis of an excellent donation opportunity to support the Zaporizhizia Radio Club in their rebuild. Generosity from NARSA Club members was overwhelming with the NARSA Committee fully backing the project which culminated in the final collection at the Norbreck Black Pool Rally in April 2023. Also, with the donations of all types from rigs, cables and components ZAP Radio Club have rebuilt their workshop to repair damaged radio equipment for members and the Civilian Emergency Services.

Linden (Lin) left home at the age of 16 and joined the Army. He served with the colours for 15 years, in various roles, before being pensioned out of the service on medical grounds. As an active member of the Torbay Amateur Radio Society, Lin has served as the Vice Chairman, PRO committee member, and until very recently ran a highly successful training team, he has also contributed articles on various subjects to RadCom over the years.

Not long after the invasion of Ukraine (which had a personal dimension for him), by pure chance Lin picked up a request for assistance from a Nick UR6QV. That initial contact has led to the ongoing crusade to bring awareness of the grave situation in Zaporizhizia, to keep the issues firmly in the public eye and at the same time garner much needed supplies and equipment for the Zaporizhizia University Radio Club Station (UR4QWW) and other public service groups working in Ukraine.

Richard has been active on VHF/UHF since the mid '70s DX working and contesting. He is a member of the RSGB VHF Contest Committee and current Chairman of Bolton Wireless Club. Richard was also the VHF/UHF Columnist in RadCom for 5+ years and is committed to encouraging new radio amateurs into this fine technical hobby whether on HF, VHF, UHF or SHF.



Lecture Room 3 – Technical / General

Living With a Four-Letter Call Sign – Derek Cooper, M0YAW

An illustration of what life was like working as a Radio/Electronics Officer in the British Merchant Navy, including my experience on the BP ship MV British Wye/GRUT when it was under MoD charter in the Falklands War 1982.

Derek has worked in a technical field since his first employment as a Radio and Electronics Officer on BP's ocean-going tanker fleet. He served in that capacity for about seven years, leaving the sea in 1983 to follow varied career paths in semiconductor manufacture and sales. In 1992 Derek began work as a Technical Author, working in the marine, aviation, medical, and scientific fields both as an employee and in a self-employed capacity. Derek continues that work and is a Fellow of the Institute of Scientific and Technical Communicators.

In 2021, Derek started volunteering at the RSGB National Radio Centre in Bletchley Park. He passed the Foundation and Intermediate exams within a few weeks of each other, and after a pause to concentrate on work and personal issues, passed the Full exam at the RSGB Convention in 2022.

Youngsters on the Air – Hungary 2023 – YOTA Team

Alex, 2E0FMZ and Henry-James, M7HJR from the YOTA Hungary team will provide an overview of YOTA and its aims. They will talk about the lectures and activities they took part in and share their highlights from the camp. They will also look at how they can drive more interest in YOTA activities in the UK.

2Tone RTTY - A journey of discovery – David Wicks, G3YYD

The presentation will be about David's RTTY journey from the mid '70s to today. It will include how expertise was gained and key techniques used.

David Wicks, G3YYD was licensed in 1969 while at school. His first RTTY QSO was in 1974 with a homebrew terminal unit. In 1977 he built a 6800 microcomputer that was used for RTTY and AMTOR from 1978 onwards. He came across MMTTY for use with N1MM in the early 2000s. His assessment was MMTTY could be substantially improved upon by simplifying the human interface and improving its receive and transmit performance. When he retired in 2008, David needed a project and knew he could write his own RTTY decoder that would give him a contest advantage. 2Tone was born.

Care and Feeding of your Nano VNA – Richard Ranson, G3ZTB

The advent of devices like the Nano VNA bring new measurement capabilities within the budget of amateur radio enthusiasts. This presentation will focus on practical aspects of making measurements and getting the most out of your device.

It is important to understand the need for calibration, how to verify a calibration and some of the limitations. Then, using some illustrative examples, one and two port measurements are

described with practical tips on interpreting the measurements and how to improve them. All but the newest devices have very small screens, so the presentation will show one of the recommended computer programs that is easy to install and use. Finally, some of the additional capabilities such programs offer to enhance the usefulness of your device are described.

Dr. Richard G. Ranson has been a licensed radio amateur since being a schoolboy. That interest not only led him to pursue a BSc and later PhD in Electrical and Electronic Engineering at the University of Leeds, but also a thoroughly rewarding career as an Electrical Engineer.

He has worked for over 40 years in the RF and microwave electronics industry in the UK, US and more recently at his own consulting company Radio System Design. He has specialised in various types of receiver system, but never lost interest in the technical challenges of HF radio. His current interests are on high dynamic range SDR radios and the Raspberry Pi computing platform. He is a past fellow of the IET and a life fellow of the IEEE.

The work of the IARU Region 1 EMC Committee and its Noise Measurement Campaign (NMC) - David Lauder, G0SNO

David, G0SNO, Chair, IARU Region 1 EMC Committee Noise Measurement Campaign (NMC) Subgroup outlines the work of the IARU Region 1 EMC Committee (Chair OE1MHZ) and explains the DARC Electrical Noise Area Measurement (ENAMS) system (project leader DL6SES). He also shows initial results and how to measure your own LF/MF/HF radio noise floor using readily available equipment.

David Lauder first obtained his Class B amateur radio licence about 40 years ago followed by Class A in 1992. He has been a member of RSGB EMC Committee for over 30 years and has written the EMC column in RadCom since October 1996. He is a member of the Investigations Group of the RSGB EMC Committee and he is also Chair of the Noise Measurement Campaign (NMC) Subgroup of the IARU Region 1 EMC Committee.

Lecture Room 4 – Technical

23cm Update: 'So will the RNSS changes kill off 23cms?' - Barry Lewis, G4SJH; John Worsnop, G4BAO and Dave Crump, G8GKQ

A review of what might still be possible on 23cms once any restrictions are implemented.

John, G4BAO is a Chartered Engineer, former wage slave, radio amateur, Moonbouncer, RadCom GHz bands columnist, radio propagation nerd and RF PA design nut.

Dave, G8GKQ gained his licence at the age of 14. Within a year he was active on ATV on 70cms, starting with 405 line black and white but graduating to 625-line colour as soon as homebrew designs became available.

After University Dave joined the Royal Air Force as a pilot and continued to construct and operate ATV equipment from all corners of the UK and in Germany. He has been on the British Amateur TV Club (BATC) Committee for over 15 years and now leads the design team for the BATC's Portsdown Digital Amateur TV Transceiver project.



Ofcom and beyond – Murray Niman, G6JYB

RSGB Spectrum Forum Chair Murray Niman, G6JYB will provide another informative session on the Ofcom consultation as well as looking ahead to other changes in prospect across HF to microwaves from IARU and the ITU World Radio Conference this autumn.

He will outline the RSGB's response to the Consultation and take questions about the next steps. To give more opportunity for questions and discussion, this update is being held as a forum outside the shorter programme presentation slots.

Murray is the chair of RSGB Spectrum Forum which leads on licensing matters with Ofcom as well as IARU and band planning. He is no stranger to the area having previously held the post of Microwave Manager, during 2007-2016, whilst also busy with activity at his local clubs. Murray also has a seat on the Exam Standards Committee.