RSGB Convention 2025
Lecture summaries and presenter biographies
Sunday

Lecture Room 1 – Discover

HF and VHF Awards Presentations

The biggest nerd she's ever met: my TV adventures with Hannah Fry
Neil Smith, G4DBN

Neil, G4DBN takes you behind the scenes of BBC2's programme "The Secret Genius of Modern Life" and his memorable on-screen adventures with mathematician and best-selling author, Professor Hannah Fry and the BBC Science Unit. Recently, Neil recreated another of Leon Theremin's inspired inventions, this time from the 1920s. The device was a mechanical CCTV system that used HF radio to transmit images to a large-screen display and helped launch Theremin's extraordinary shadow career in surveillance technology and espionage. In this talk, Neil shares how he brought the system to life, what it was like to work with the production team, and how he learned to shape complex ideas into stories that connect with a broad audience - without losing the magic of the technology.

Neil, G4DBN has been building technical contraptions since the 1960s, starting in a childhood workshop shed that still stands near Lincoln. These days, his setup includes a CNC machine shop, electrochemistry lab, video studio, a collection of military and aeronautical microwave electronica, and more test gear than some small countries. Neil's life got even more interesting when he began saying 'yes' to oddball project requests, including two that landed him on BBC2 with Hannah Fry. Neil runs a niche manufacturing business making microwave antenna system components, wrangles two Chihuahuas for sake of his sanity, shows off on YouTube as "Machining and Microwaves" and moonlights as an IT Security Architect. His radio interests stretch from the high GHz bands up to light, and down to the murky depths between DC and 2MHz.

Polar modulation SSB - high performance and efficiency at low cost
Hans Summers, G0UPL

This lecture will introduce the concept of polar modulation SSB, along with the story of the practical implementation of polar modulation SSB in the QRP Labs QMX and QMX+ transceivers. The significant benefits of polar modulation will also be discussed: higher efficiency, lower cost, higher performance.

First licensed in 1994, Hans, G0UPL is a keen homebrewer who never owned or operated any commercial radios. After a 22-year corporate career in IT in banking, Hans now runs QRP Labs kits full-time from his home in Turkey.

Was that Solar Cycle 25? What did we learn?
Steve Nichols, G0KYA

During this lecture Steve will look at how the solar cycle developed including the high points and the lows. He will also look at official predictions and how they panned out.

Steve, G0KYA is the Chair of the RSGB Propagation Studies Committee, with an interest in HF and the ionosphere. He wrote the RSGB book "Radio Propagation Explained". He prepares the weekly propagation segment for GB2RS and is a regular speaker at RSGB Conventions.

Lecture Room 2 – Learn

PCB design for low voltage switch mode power supplies
Dan McGraw, M0WUT

Low voltage switch-mode power supplies are an essential part of modern-day electronics yet many radio amateurs choose not to use them in their projects. This is because of the fear of them being noisy, EMC causing monsters that must be kept far away from their delicate sine waves. While they require slightly more careful handling than the classic 7805, they can achieve similar levels of output noise while offering much higher efficiency if used properly. One of the dominating, and often overlooked, aspects of noise coming off a SMPS is the layout of the PCB. This talk aims to draw on the author's experience in the design of ultra-low emissions devices to explain the root cause of many of the EMC issues encountered by amateurs and how you can avoid them in your next project.
Dan was first licensed at the age of 11 and since then has enjoyed nearly every aspect of it. His main areas of interest are construction and HF contesting with the Camb-Hams. He carried on his enthusiasm for radio into his professional life, where he spent seven years designing high-performance SDRs with a major focus on design for EMC. He now works at ARM focussing on the design, simulation and verification of PCBs containing a large number of high-speed data buses.

Radio industry, STEM and engaging youngsters
Radio Communications Foundation Trustee, Andy Webster, G7UHN

Amateur radio in the modern world is about understanding technology and the application of science, computers, programming and problem solving to achieve exciting results. It is a hobby with many facets and activities including electronics, satellites, experimentation, construction, systems thinking, acquiring knowledge and learning new skills. It has a rich toolbox that can inspire people. In this talk, Andy will give examples of how radio technology can be used to engage non-radio amateurs in Science, Technology, Engineering and Maths (STEM) education settings, as well as how it can connect people to the invisible world of signals around them.

Andy, G7UHN is a communications engineer who has worked for over 20 years in research and development, systems engineering and support to science operations. His professional experience in communications spans across the spectrum from shortwave radio in remote regions, through to cutting-edge broadband satellite communications. Andy was drawn into communications engineering by an early interest in amateur radio and is now an active volunteer providing STEM opportunities for young people. He is a Trustee of the Radio Communications Foundation (RCF), a charity that provides support to people and projects encouraging interest in radio communications and its associated careers

Women in amateur radio
Panel Chair - Heather Nickalls, M0HMO
Charlotte Hayes, 2M0LVY; Katelyn How, M7KFH; Lyndsay Latimer, M6YMB; and Gillian Sandell, M0OVW

Four women who enjoy different aspects of amateur radio will discuss the various opportunities, challenges and potential barriers to engaging more girls and women with amateur radio and STEM careers.

Panel Chair Heather, M0HMO has always been fascinated by engineering – anything from taking old radios apart to see how they work, to pondering how a sewing machine can possibly do what it does. She has always sat on the fence doing both electronics and software throughout her career and still gets a kick out of making something and getting it working. When not holding a soldering iron or hitting a keyboard Heather plays with vintage cars. She started in amateur radio in 2012 and has been dabbling in all aspects of the hobby ever since.

Charlotte, 2M0LVY was first licensed in November 2024 and is currently studying for her Full licence. She feels her adventures in radio have only just begun, although has already taken part in POTA, tried some SOTA and had a go at contesting and satellite work. She has been on a DXpedition to Bornholm operating as 5POTA. Charlotte has been on the European Ham Radio Show on YouTube discussing various topics relating to amateur radio, from failed antenna builds to getting your licence. She finds something inherently magical about putting up a piece of wire and seeing who she can speak to and hopes to encourage more women into the hobby.

Gillian, M0OVW has been an engineer in the broadcasting industry for the last 35 years working at transmitter sites and satellite uplink stations. She took up amateur radio after her husband (G4HQB) started doing SOTA. It combines Gillian's love of hills with her love of radio. The pair also run JOTA stations most Octobers for the Ludlow Scouts and have encouraged some youngsters to do their Foundation licence.

Katelyn, M7KFH first became interested in amateur radio after taking part in 'Jamboree on the Air' with the Scouts in 2018. In 2021, shortly after she gained her Foundation licence, she joined North Humber RAYNET (Radio Amateurs Emergency Network), who she still volunteers with when she is home from university. Katelyn is studying Materials Science.

Lyndsay, M6YMB has been a Foundation licence holder for around eight years. She is part of the team behind both British Inland Waterways on the Air and Mills on the Air. Lyndsay became a radio amateur shortly after her husband Stefan, M0OSL. Although not the most active operator, Lyndsay enjoys rallying people together, into spaces and places that might

not normally be seen by radio amateurs and introducing the hobby to people who may never even have been aware it existed.

An overview of ARDC's programs: grants and 44Net
Steve Bunting, M0BPQ

The Amateur Radio Digital Communications (ARDC) is a California-based foundation with roots in amateur radio and the technology of internet communication. During this talk you'll learn about its vision and strategy, which was released in 2025, along with updates on its activities and grant making efforts. The session will cover key grants programme topics, as well as findings from its Grants Evaluation Team (GET) regarding past grant making activities. ARDC is also actively improving 44Net, and you'll be given an overview of new techniques for accessing and utilising the 44Net addresses. This will help amateur radio projects improve TCP/IP connectivity, expanding innovation and enhancing communication capabilities. Learn more about ARDC at ardc.net

Steve, M0BPQ is a volunteer at ARDC and is currently serving his first year on its Grants Advisory Committee (GAC). Trained in neuroanatomy and transplantation, Steve works in a research-intensive environment at University College London (UCL), where he frequently writes grant applications. Using this experience to give back to the hobby, Steve joined the GAC, where he takes a particular interest in applications that aim to get more young people involved in amateur radio. Steve became licensed as soon as he was old enough in 1988. His interests have since ranged from VHF and AMSAT to G3GHN field days. A self-proclaimed keen constructor, he has a willingness to try many of the things that amateur radio has to offer.

Signals from the shore – portable operating in paradise
Ben Lloyd, GW4BML

Ben will give a brief summary on portable operating and explain what it means. He will then give some examples of portable operating, speaking a little about the equipment he uses, finishing off with some examples of remote Islands he has operated from across the world.

Ben's passion for amateur radio started at the age of 12 when a local radio amateur in his village noticed his interest in electronics. Glyn, GW0JA, let him visit his shack and patiently explained and demonstrated the hobby. Glyn, or Jelly and Ice cream as some of you may know him, ignited a lifelong interest in radio that led to Ben's career in electronics. Other hobbies came along, including football, learning to drive, rally driving, and a passion for Landrovers, until COVID-19 hit. When he began to work from home, Ben found himself digging around in the shed for his radio equipment. With time on his hands, he decided to study for his Foundation licence. One thing led to another and a year later he had his Full licence.

Lecture Room 3 – Progress

Can we ‘DX’ over an IoT mesh?
Paul Galwas, M0WLG

During this presentation Paul will describe an exploration of multi-hop IoT ‘mesh’ networks, comparing its performance to more traditional HF point-to-point operations. IoT mesh networks, such as Meshtastic, are accessible, flexible systems that use open-source protocols to route multi-hop V/UHF paths. There are some ten thousand Meshtastic nodes across the globe. You can deploy a node using low-cost QRP transceivers (such as the LilyGo TTGO boards with Semtech SX12xx radio chips), and a homebrewed antenna. LoRa (with CSMA/CA modulation) is used for linking, but the chips also support other modulations. It is hoped this introduction will inspire you to join explorers of these exciting technologies.

Paul, M0WLG obtained his UK amateur radio licences during 2024, Paul was instinctively drawn to HF and QRP, and to modest construction using embedded software components. The material for this talk grew out of wanting a ‘meaty’ project to help qualify his first HF station, as well as to experiment with recent developments in the Internet of Things (IoT). With a background in information and communication technology and security, he has worked commercially and with governments, developing products and in research. He now mentors early high-tech companies and pursues interests in the history of sigint.

Coaxial cable and connectors: making the right choice
George Frazer, GI4SJQ

This presentation covers an important part of the amateur radio shack: the connection between the rig and antennas and empowering radio amateurs to make the right choice. The talk covers, at a basic level, the decibel, coaxial cable choice, connector choice and how to practically make that decision and measure it.
George was first licensed in 1979 and obtained his full licence and call sign, GI4SJQ, in March 1983. He enjoys operating on 160m to 70cms and is mostly interested in HF contests and DXing, mainly on CW. He also works LEO satellites. George used to do a lot of home brew construction at HF. He also enjoys playing with PMR radio equipment and tinkering with various radio technologies. In his professional life, he spent 25 years working in IT and cyber security.

Travelling Ionospheric Disturbances: effects on HF propagation
Gwyn Griffiths, G3ZIL

Travelling Ionospheric Disturbances (TIDs) are periodic, wave-like variations in the ionosphere's electron density. Radio amateurs operating on the HF bands are well accustomed to the effects on propagation of the daily, seasonal and sunspot cycles of electron density variations. TIDs produce faster propagation fluctuations: cycling over tens of minutes to a few hours. They modulate the distance of the skip zone, cause signals to fade, and, at night, can cause a closed upper HF band to open. This talk describes the types and origins of TIDs, their characteristic periods, wavelengths and propagation speed. Graphics composed of thousands of WSPR reports illustrate several on their effects on propagation. Precision frequency measurements by amateurs of Doppler shift induced by TIDs show their

characteristics in detail. We can also reverse the story: start with a curious night-time propagation event and trace its origin to a TID. The connection becomes clear, but it contravenes existing assumptions of ionospheric physics. Radio propagation at HF is not 'done and dusted'.

Gwyn was first licenced at GW3ZIL in 1970 aged 15. Inactive for many years he returned to amateur radio in 2012 after a career developing technology for marine science, retiring as Chief Technologist at the UK National Oceanography Centre. He discovered WSPR as a means of investigating HF propagation and fell in with clusters of like-minded amateurs. He is a member of the RSGB Propagation Studies Committee and was honoured with the Society's Wortley Talbot Trophy in 2024 for experimental work on ionospheric propagation. Gwyn's interest in Travelling Ionospheric Disturbances comes from seeing the amazing Doppler spectrograms produced by the receivers in the Ham Radio Science Citizen Investigation (HamSCI) network and wondering what they tell us about propagation.

Making connections with DIY amateur radio software
Steven Dodd, M0SNZ

Steven believes that connection and creativity are core tenets of amateur radio, from the many social aspects, to the physical real-life hardware and the virtual world of software. This presentation will focus on useful real-world examples of connectivity between physical hardware, software and website APIs using the python programming language allowing you to create modular software components to enhance your amateur radio tool kit.

Steven has been hooked on technology since he was a child in the 80s and spent most of his career in IT from before the start of the Internet boom in the late 90s. Computers and electronics gravitated him towards amateur radio where he enjoys many aspects of the hobby. This includes creating solutions for various platforms, such as an ATmega based RTTY HAB tracker, a budget antenna rotator controller and full featured SDR control software for his transceiver.

Leave no antenna behind
Walt Hudson, K4OGO, also known as "Salty Walt"

This presentation will be about using every possible antenna you can and experimenting with them so that you can continue to learn and enjoy amateur radio. Walt will also discuss different types of antennas and his experience with them when portable.

Walt Hudson, K4OGO, known as "Salty Walt" on his YouTube channel Coastal Waves & Wires, is a design engineer in the shipbuilding industry and enjoys designing, sketching and building portable antennas. Walt has been a radio amateur for over 50 years and enjoys medium wave DXing, shortwave listening and ham radio. Many of his antenna building sketches and experiences are published in his ARRL book "Salty Walt's Portable Antenna Sketchbook".

EFHW workshop

Mark Jones, G0MGX

Mark has held voluntary roles at the Radio Society of Great Britian (RSGB) since 2013 and has been on a Board Director since 2024. Mark currently heads up the RSGB strategy and has responsibility for several areas of the RSGB's work. His personal amateur radio activities primarily include software and construction. Mark enjoys CW operation and is currently a student with the CW Academy in the advanced class to further his skills in the area.

Mark has a professional background in Nuclear Physics and Aviation, with the last ten years of his professional career spent specialising in fuel efficiency and carbon emissions in civil aviation. During his professional career, Mark was a Chartered Engineer with the British Computer Society. Mark holds qualifications in both Nuclear Physics and Software Engineering.

As a keen homebrewer, Mark enjoys QRP CW operation with homemade equipment. His home-lab allows construction on bands up to microwave frequencies and Mark has made equipment for use up to 10GHz.

Mark is the author of the RSGB book "Microcontroller Knowhow" and as a retired software professional, Mark is keen to share his insights into amateur radio related use of software with others.

Mark led the MCU workshop at the RSGB 2024 Convention, which received very positive feedback.