

#### Organising Committee

Anders Wigh	Combitech AB	HF 25 chairman
Olov Carlsson	Nordic HF	Chairman, retired
Rickard Berg	FMV	
Erik Higbie	FMV	
Mats Nilson	SNRV and NRS	
Karl-Arne Markström	SNRV and NRS	
Louice Eek	Combitech AB	Head conference hostess

#### Programme Committee

Rickard Berg	FMV	Committee chairman
Håkan Bergzén	Combitech AB	Secretary
Jonas Mentzer	Combitech AB	
Karl-Arne Markström	SNRV and NRS	
Kjell Brethack	FMV	
Jens Zander	KTH	Professor Emeritus
Rolf Gustavsson	FOI	
Peter Johansson	FOI	

#### Conference Secretariat

Combitech AB	Office, Mobile phone:	+46 734 372 207
HF 25, Attn: Anders Wigh		
Ljungadalsgatan 2B		
SE-35180 Växjö Sweden	E-mail:	<a href="mailto:info@nordichf.org">info@nordichf.org</a>

The conference fee of SEK 14500 + VAT 3625 (SEK 5000 + VAT 1250 for seniors paying out of their own pockets and for students), includes all social events as well as full board and lodging from Sunday afternoon 10 August to Wednesday afternoon 13 August. The lodging standard has been improved considerably over 39 years and rooms are comfortable but still somewhat basic, more so for late registrations. Some will have to share rooms, an excellent way to meet new friends. Registration for the conference will close 1 August 2025, but please be early as priority will be based on the date of receiving the conference fee. Companions are very welcome at SEK 2400 incl VAT (free for children age 0 – 3, SEK 600 for children 4 – 9, SEK 1200 for youngsters 10 – 14 years); stays on adjoining days are possible. The Gotland banquet on Tuesday evening is included for participants and costs SEK 550 for companions above 15 years and SEK 225 for children age 4 – 14.

You are recommended to arrive at Fårö not later than Sunday afternoon August 10. HF 25 free buses will leave from Visby airport (VBY) and ferry terminal on Sunday; return transportation will catch Wednesday flights and ferries. Further information will be available on our website.

For networking outside the conference sessions we have the Rohde & Schwarz Bavarian buffet Sunday 1700-2200, the traditional sightseeing tour on Fårö, lunch music, the concert in Fårö church, the exhibitors' party, the HF radio direction finding competition, the amateur radio station SL1HF and the banquet in Gotland style. For companions, we have plans to arrange extended bus tours to see more of Gotland. You can visit the nearby Ingmar Bergman Center.

On Monday August 11 at 0800 sharp, HF 25 will open up (flag ceremony at 07:45). On Wednesday August 13 at around 1400, HF 25 will close down. NRS welcomes authors, participants, exhibitors and family members to Fårö and HF 25.

Mats Nilson



Anders Wigh



11-13 AUGUST 2025

FÅRÖ

## Nordic HF Conference HF 25

11-13 August 2025  
Fårö Kursgård, Fårö

### Second invitation and provisional programme

On Monday-Wednesday August 11-13, 2025, the 14th Nordic HF Conference HF 25 will be held, as always in week 33 at the usual camp on Fårö just north of Gotland in the Baltic Sea. The dates have been chosen to allow meetings in Stockholm on the following Thursday and Friday.

We suggest that you plan to arrive no later than Sunday, August 10. The camp will be open on weekends for private use and for business meetings. The industry will be able to exhibit their products during the conference.

You should access "My Pages" on our website [www.nordichf.org](http://www.nordichf.org) to register for the conference and perhaps apply for exhibition space and scholarships. Early registrations will guarantee your participation and lodging in the camp area.

You may take the opportunity to visit the rest of Gotland. The preceding week 32 is the Medieval Week, check out [www.medeltidsveckan.se/en/](http://www.medeltidsveckan.se/en/).

HF 25 is organised by NRS, the Nordic Radio Society, assisted by Combitech AB and the Swedish Defence Materiel Administration (FMV). NRS is a foundation co-operating with SNRV, the Swedish National Committee of URSI (Union Radio-Scientifique Internationale). Combitech is an independent technical consulting company and part of the defence and security group Saab AB.

As always, NRS welcomes authors, participants, exhibitors and family members to Fårö. We will meet in an excellent conference theatre, an interesting exhibition, with internet access and amateur radio station SL1HF, all in a camp near Mother Nature, well suited to you and your family.



SNRV

SVENSKA NATIONALKOMMITTÉN FÖR  
RADIOVETENSKAP  
THE SWEDISH NATIONAL COMMITTEE OF URSI

## HF systems – fields of increasing importance

Conferences are important venues where users, scientists, engineers and manufacturers meet and have the opportunity to discuss both needs and solutions. Since the first conference in 1986, each Nordic HF conference has gathered over 100 participants who have enjoyed the relaxed atmosphere and stimulating company of colleagues in the informal setting provided by the unique nature of Fårö and the Fårö Training Camp.

Topics focus on radio communication, radio location and radio navigation technology "beyond the horizon" with emphasis on HF, but they also include LF, VLF.

As at earlier HF conferences, HF technology has advanced significantly, with trends towards a high degree of automation and signal processing. High capacity multimedia networks carry not only analogue voice and data messages in a store-and-forward manner but also digitized high quality voice, streaming data and streaming video. Wideband HF and staring receivers will be used. Automatic networking and information transparency play an increasing role to achieve full subscriber connectivity, area coverage and highly reliable communications also under disturbed conditions.

Defence forces are the major professional users and defence applications are the foremost technology driver. In many cases HF, LF and VLF are the primary and sometimes the only way of providing communications. In our modern days of advanced communication systems HF radio is even more than before important for users having needs of control of the messaging paths – no intermediate nodes or functions out of your control are required.

### PROVISIONAL LIST OF AUTHORS AND PRESENTATIONS

Author(s)	Abstract title
Jens Zander	Simple HF antenna efficiency comparisons using the WSPR system
Jens Zander	Simple HF antenna pattern measurement using low-cost drones
Steve Kille	Transparent switching between HF and fast IP
Harald Wickenhäuser	The sad end of radio DARC's HF broadcasts from Vienna by end of 2024 and their happy new start in 2025 from Woofferton (UK)
Harald Wickenhäuser	Common mode currents ("Sheath Waves") – Baluns – Radiation patterns
Petter Gärdin	The rising electromagnetic threat to military operations caused by civilian infrastructure.
Eric Corrigan, Maria Elenius, Gunnar Eriksson	HF propagation modelling with parabolic equation techniques
Harri Viittala	The study of HF communications taking advantage of the GSM technology
Jean-Yves Bernier, Bertrand Ravera	HF-XL sea transmissions experimentation between frigates
Stefan Boesch	Algorithm based arbitrage trading over radio frequencies – RF use cases from a banker's perspective
Mark Jorgenson	Understanding the potential for communication signals exploitation at HF
Karl-Arne Markström	Field measurements of emissions in the HF range from consumer-grade solar-power installations

Author(s)	Abstract title
Mikko Kyllönen	HF broadcast communications using wideband and staring receiver techniques
Albert Haug, Alfons Sailer, Tobias Bliersch, Juergen Escher	Real life experiences with direct sampling HF radio systems
Brandon Hunt, Brian Nelson, Brandon Starks, Hussein Moradi, Behrouz Farhang-Boroujeny	Noncontiguous spread-spectrum communications for robust high frequency links
Alex Pilosov	Low-latency HF systems, phased arrays and spectrum coexistence
Jaco Boshoff, Stephan Isebeck, Janus Krause, Danie van Wyk	IP data over WBHF
William Batts, William Furman, John Nieto	A re-examination of HF avalanche techniques and their application to resilient HF communication systems
William Batts, William Furman, John Nieto	The optimization of burst HF waveforms for improved performance in various HF channel conditions
Stephan Isebeck, Abri Coetzee	Extensions to STANAG 5069 to cater for contested spectrum scenarios in a GPS-denied environment
Stephan Isebeck, Ian Venter	Proposed extensions to MIL-STD-188-141D to cater for contested spectrum scenarios in a GPS-denied environment
Paul Hirschausen	A new congestion model of 2G ALE HF Networks
Rickard Berg, Jonas Mentzer	Spectrum sharing in four dimensions
Axel Meiton	Challenges with radio communication in the polar regions: experience from working on icebreakers in the Arctic and Antarctica
Klaus Eichel, Andreas Lock	5 years of operations of ENAMS – Results & outlook
Kalle Kantola, Aatu Koivisto	IP over HF

Proceedings from HF 25 will be available on electronic media and also provided as a paperback volume. Proceedings of HF 25 and earlier conferences will be available on electronic media. Our website will list titles and authors of all papers for Internet search and access to the topics. There will be "print on demand" facilities at the venue.

### EXHIBITION, SPONSORSHIPS

For exhibition and sponsorship issues please contact Anders Wigh, [anders.wigh@combitech.se](mailto:anders.wigh@combitech.se). Documents on these matters are available on the Nordic HF website.

### REGISTRATION

Please create a user account and register using "My Pages" at [www.nordichf.org](http://www.nordichf.org) where you will find links to all HF 25 practical information. Participants are registered in order of payment.