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#### Conference Secretariat

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The conference fee of SEK 12600 ex VAT (SEK 4200 ex VAT for emeriti paying out of their own pockets and for students) will include all social events as well as full board and lodging from Sunday afternoon 14 August to Wednesday afternoon 17 August. The lodging standard has been improved considerably over 30 years and rooms are comfortable but still somewhat spartan, 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 2016, but please be early as priority will be based on the date of receiving the conference fee. Companions are very welcome at SEK 2000 incl VAT (SEK 500 for youngsters 4-9, SEK 1000 for 10-15); stays on adjoining days are possible.

You are recommended to arrive at Fårö not later than Sunday afternoon August 14. HF 16 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 where the famous film director Ingmar Bergman is laid to rest, the exhibitors' party, the HF radio direction finding competition, the amateur radio station SL1HF and the banquet, Gotland style. In your spare time, if any, you may visit the nearby Ingmar Bergman Center.

On Monday August 15 at 0800 sharp, HF 16 will be opened. On Wednesday August 17 at around 1400, HF 16 will close.

NRS welcomes authors, participants, exhibitors and family members to Fårö and HF 16.

Mats Nilson

Olov Carlsson



THE NATIONAL COMMITTEE  
FOR RADIO SCIENCE  
THE ROYAL SWEDISH ACADEMY OF SCIENCES



## Nordic HF Conference HF 16 with Longwave Symposium LW 16

15-17 August 2016  
Fårö Kursgård, Fårö

### Second invitation and provisional programme

On Monday-Wednesday August 15-17 2016, the 11th Nordic HF Conference HF 16 will be held, as always in week 33 and 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 not later than Sunday 14. The camp will be open on weekends for private use and for business meetings; industry will be able to exhibit their products.

Unless already done, please access "My pages" on our website [www.nordichf.org](http://www.nordichf.org) and create a personal page to register for the conference and to apply for exhibition area 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 [www.medeltidsveckan.se](http://www.medeltidsveckan.se)

HF 16 is organised by NRS, the Nordic Radio Society, assisted by WRAP International. NRS is a foundation co-operating with SNRV, the Swedish National Committee of URSI (Union Radio-Scientifique Internationale); WRAP develops and supplies software for radio spectrum management and network planning.

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

## HF, LF and VLF 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 1986, each Nordic HF conference has gathered over 100 participants having 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, LF and VLF, but they also include long-haul VHF/UHF.

As at earlier HF conferences, VLF, LF and HF technology has advanced significantly, with significant 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 digitised high quality voice, streaming data and even streaming video. Automatic networking and information transparency play an increasing role to achieve full subscriber connectivity, area coverage and highly reliable communications.

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.

We are happy to have two keynote speakers, viz. professor emeritus Eric E. Johnson of New Mexico State University and Diplom-Ingenieur Harald Wickenhäuser, retired from Rohde & Schwarz.

### KEYNOTES

Wickenhäuser, Harald	Active HF Antennas – Truths and Myths – A System Design Engineer's View
Johnson, Eric	Wideband ALE - The next generation of HF

### PROVISIONAL PROGRAMME

Markström, Karl-Arne	Design considerations in a switching, remote control and transmission infrastructure for aeronautical HF communications
Kille, Steve	Optimizing Applications and Data Link for HF Radio Intermediate Term Variation: Can you Ride the Wave?
Scheible, Maureen	MITRE/AFRL Wideband HF Communications Demonstration
Johansen, Arnie	A direction finding capability for a High Frequency system
Saarnisaari, Harri	Short range HF radio channel measurements: Multipath channel models
Lamy-Bergot, Catherine	Wideband HF transmissions: operating in a crowded spectrum

Rauh, Sebastian	Next Generation Short-Wave Communications: HF-Spectrum Occupancy Measurements in the centre of Germany
Ritchie, Samuel	HF Broadcasting - Spectrum utilisation and trends
Vanninen, Teemu	The wideband HF state of the art and beyond
Komulainen, Arwid	Study on spectrum usage in the VLF band (15-30 kHz)
Lindgren, Tore	Evaluation of HF Antenna Integration using the Partial Element Equivalent Circuit Method
Immonen, Antti	Improving FDF HF communications systems performance by methods of spectrum sensing cognitive radio
Wiklundh, Kia	Improved receiver performance for VLF/LF communication in atmospheric noise
Koski, Eric	Concepts and prospects for delivery of IP traffic over wideband HF
Warrington, Michael	Progress towards a propagation prediction service for HF communications with aircraft on trans-polar routes
Jodalen, Vivianne	HF in the Arctic
Furman, William	On Air Operation of the Harris Adaptive Wideband Cognitive ALE
Furman, William	Understanding HF Channel Characteristics for Bandwidths Up To 48 kHz
Batts, William	Performance of a Transatlantic Long-Haul Wideband HF System
Carlsson, Torbjorn	Experiences from HF deployment in DRC and NIGER and experiences from practical NVIS tests from vehicles
Berg, Rickard	Future challenges in military radio communications
Bergzén, Håkan	Loop antenna measurements

A few contributions may be added if you have recent findings; if so, please email your abstract to [info@nordichf.org](mailto:info@nordichf.org).

Proceedings of HF 16/LW 16 will be available on electronic media and also provided as a paperback volume. Proceedings of HF 13/LW 13 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 Olov Carlsson [olov.carlsson@wrap.se](mailto:olov.carlsson@wrap.se)

### REGISTRATION

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

[www.nordichf.org](http://www.nordichf.org)