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Pekka Eskelinen
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Helsinki University of Technology, Finland
Norwegian Defence Research Establishment, Norway

REGISTRATION

Please register not later than 18 May. The Conference fee is SEK 10600 and for students SEK 5300 (excl VAT), which includes full board and lodging from arrival on Monday to departure on Friday. Shared quarters cannot be avoided due to the limited number of rooms. Family quarters are available. Participants using their caravans as lodging will get a discount of SEK 2000. Please see the enclosed HF 04 Information sheet and Registration form for details.

In your own interest, please apply early. Invoice and detailed information will be sent upon receipt of registration. Register on our website or for credit card payment by fax or letter to:

HF 04
AerotechTelub AB
SE-351 80 VÄXJÖ, Sweden
Fax: +46-470 420 42

Please visit our web site www.nordichf.org for further information, or contact Olov Carlsson (+46 470 421 49) or Winnie Svensson (+46 470 421 19, winnie.svensson@aerotechtelub.se).

The camp will be open on adjoining weekends for private use and for business meetings.

The Nordic Radio Society welcomes authors, participants, exhibitors and family members to Fårö and HF 04. We will meet in an excellent conference theatre, in an interesting exhibition, in the internet café and in a camp near Mother Nature, well suited to you and your family. We look forward to seeing you at the HF 04 Conference on Fårö in August 2004.

Åke Blomquist
SNRVSNRV
Chairman of NRS

Carl-Henrik Walde
Chairman of the Organising Committee



10-12 AUGUST 2004

FÅRÖ

Nordic HF Conference

10-12 August 2004
FBU Kursgård, Fårö

Invitation and provisional programme

The seventh Nordic HF conference, HF 04, will be held on Fårö in the Baltic Sea. The previous conferences have all gathered a large number of international participants. Industry will have the opportunity to display their products in the exhibition area.

We invite participants to yet another successful conference. Send registrations not later than **18 May, 2004** to HF 04, AerotechTelub AB, SE-351 80 Växjö, Sweden, or register at www.nordichf.org. Early registrations will guarantee your participation.

In connection with your trip to Sweden you can also take the opportunity to visit the rest of Gotland, or Grimeton Radio with its 200 kW VLF alternator on the Swedish mainland. Travel information will be available on the HF 04 website.





10-12 AUGUST 2004

FÅRÖ

The Nordic Radio Society (a foundation cooperating with SNRV, the Swedish National Committee of URSI) sponsors the 7th Nordic HF Conference: **2004 – HF systems for the future**. Since the first conference in 1986, each Nordic HF conference has gathered around 150 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 FBU Training Camp.

HF communications technology has advanced significantly over the last few years, with significant trends towards a higher degree of automation and signal processing that now can be cost-effectively implemented to achieve affordable performance even in small systems. Mobile Internet is pervasive, however the radio environment and especially HF does not provide the distortion-free high bandwidth channel of an optical fibre. There is a significant challenge to meet users' expectations of affordable communications anywhere, anytime. High capacity multi-media 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. Integration of HF with these networks requires developments in modulation and coding, link management and network management to be able to provide a service level acceptable by the network users. Automatic networking aspects and information transparency play an increasing role to achieve full subscriber connectivity, area coverage and highly reliable communications with HF possibly being only one of several available communications alternatives.

We are happy to announce that the invited speech "Extracting Very Weak Signals from Noise" will be delivered by **Joe Taylor**, K1JT. Professor Joseph H Taylor is with Princeton University and was awarded the Nobel prize in physics in 1993. Per Kjellnäs, former Director General of FRA, the National Defence Radio Establishment, will give a historic review of SIGINT on HF.

Provisional programme

Joe Taylor	Extracting very weak signals from noise
Per Kjellnäs	Swedish SIGINT on HF – a Historic Review
Heikki Heikkilä et al	Installing HF systems on armoured vehicles
Jukka Ruoskanen et al	HF radio as a way to synchronize a radar network
Pascal Bourdon et al	A content-based alternative to error correction for joint source/channel coding and transmission of still images through a noisy channel
Frederick Raab	High-efficiency 250-watt class-E power amplifier for HF and VHF
Andreas Ahrens et al	Equalizer design for multicarrier transmission systems

Christoph Lange et al	Comparison of several base functions for multicarrier transmission
Leif Festin	Simulation of Electronic Warfare in HF communication
Arne Ehrck et al	Real-time channel simulator for the HF range
James Kilgallen	A demography of worldwide HF communications
Jürgen Escher et al	Implementation of S'4539 HDR Waveform using Turbo Equalization Techniques
Jochem Egle et al	Performance of the STANAG 4538 burst waveforms
Niclas Appleby et al	Realistic data/speech in a radio communication simulation
Steve Hubbard	A High Dynamic Range VLF to HF Active Receive Whip Antenna
Eric Koski	Effective Communications for C3I Applications Using Third-Generation HF
George Robertson	Secure Digital Telephony over HF
Ken Eddie	Multi-Station HF Network; Challenges and Solutions
Bill Furman	Advanced Listen Before Transmit Capabilities
Erwin Hirschmüller	The Selective Multicoupler – a High Efficient Combiner for up to Five 1 kW Transmitters
Roald Otnes	Ideas for new serial-tone HF waveforms, optimized for turbo equalization
John Nieto	Higher Data Rates Over HF: Current Issues and Waveform Design Choices
Bill Beamish	The Evolution of HF into the JTRS Architecture
David Gauld	Implementation of an Integrated HF Voice and Data Network
Vivianne Jodalen et al	On-air testing of HF as a bearer service for NATO formal messages
Bodil Farsund et al	The influence of mountainous and irregular terrain on HF ground wave propagation
Klaus Würde	Stanag 4444 – First implementation and current status of work
Olivier Florens	Effect of the channel time variation on HF capacity
Nikolay Zaalov et al	HF radio propagation along the mid-latitude trough and within the Polar Cap
Håkan Bergzén	A software based ALE for the Swedish Home Guard
Roger Karlsson et al	Three-Channel Digital Radio Receiver: Overview and Demonstration
Jan Bergman	Present and future applications of information dense antennae
Tobia Carozzi	Blind separation of O-mode and X-mode components in HF radio links
Karl-Arne Markström	100 years of aeronautical radio communications – A journey "from spark to space"
Nigel Davies	A Radio Frequency HF Channel Simulator Employing Software Radio Techniques