

SEMINAR:

Radar Adaptivity: Antenna Based Signal Processing Techniques

Speaker: Ing. Alfonso Farina
(Selex ES Company)

Date: 09/12/2013 @ 2:30 PM

Location: Room A203 – Polo Scientifico F. Ferrari - Povo

Note: The seminar will be held in English

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The lecture discusses the following topics:

- Introducing Radar: from its conception to recent industrial achievements,
- Operational needs requiring adaptivity,
- Side lobe blanking and cancellation techniques,
- Adaptive arrays of antennas,
- Some practical application examples of adaptivity,
- Conclusions and way ahead.

Each part is structured with some mathematical background, presentation of key processing algorithms, performance evaluation of the algorithms either in closed form or via Monte Carlo simulation, practical engineering implications related to the implementation of processing algorithms and, finally, examples of application potentials. A comprehensive set of technical references is also provided for further study and investigation.

• **About the Speaker**

Alfonso Farina FREng, FIET, FIEEE, Fellow of EURASIP received the laurea degree in EE, University of Rome (I), 1973. In 1974 he joined Selenia, now Selex ES, where he was Director of the Analysis of Integrated Systems Unit and subsequently of Engineering of Large Business Systems Division. In 2012, he was the Chief Technology Officer of the Company reporting directly to the President. Today he is Senior Advisor to CTO. From 1979 to 1985 he was also Professor of Radar Techniques at the University of Naples (I). He has provided innovative technical solutions to detection, signal-data-image processing, tracking and fusion for the main radar systems conceived, designed, and developed in the Company. He has provided leadership in many projects, at international level also, in surveillance for ground and naval applications, in airborne early warning and in imaging radar. He is author of more than 600 peer-reviewed technical publications and of books and monographs (published worldwide), some of them also translated in Russian and Chinese. He received many awards, some of which are: leader of the team that won the 2004 First Prize Award for Innovation Technology of Finmeccanica; International Fellow of the Royal Academy of Engineering, U.K. (2005): the Fellowship was presented to him by HRH Prince Philip, the Duke of Edinburgh; IEEE Dennis J. Picard Medal for Radar Technologies and Applications (2010): "For continuous, innovative, theoretical and practical contributions to radar systems and adaptive signal processing techniques".