ELEctromagnetic DIAgnostics Research Center

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SEMINAR:

Innovative Methodologies for the Solution of Inverse Scattering Problems in Breast Cancer Detection Applications

Speaker: **Prof. Takashi Takenaka**
(Nagasaki University – Nagasaki - JAPAN)

Date: 8 August 2013 @ 11:30 AM

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

Note: The seminar will be held in English

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Breast cancer imaging through microwave technologies is an intriguing topic in the field of early screening methodologies because of its low cost, low risks, and reliability. Unfortunately, the solution of microwave inverse problems arising in breast cancer detection is a challenging task both from the theoretical and from the practical viewpoint. Accordingly, several methodologies have been proposed to suitably address the non-uniqueness and ill-posedness of the inversion problem. After a brief resume of the fundamentals of the problem, the aim of the seminar is therefore to present the most recent advances in Microwave Breast Imaging strategies and techniques. Open problems related to current limitations and possible improvements of such technologies are also discussed.

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About the Speaker

Prof. Takashi Takenaka received the B.E., M.E., and D.E. degrees from Kyushu University, Fukuoka, Japan, in 1973, 1975, and 1979, respectively, all in communication engineering.

In 1978, he joined the Department of Computer Science and Communication Engineering, Kyushu University. In 1989, he worked with Nagasaki University, Nagasaki, Japan, where he is currently a Professor with the Department of Electrical and Electronic Engineering. His current research interests are in direct/inverse scattering problems and complex materials in electromagnetics.